

Watershed Management Program Appendix 3

# A-3-1 MCM Guidance

DRAFT

# Public Information and Participation Program

## Introduction

*Permit §VI.D.5.a (LA)/ §VII.F.1 (LB)*

Each participating city is required to develop and implement a Public Information and Participation Program (PIPP) that includes the requirements listed in Permit §VI.D.5.a (LB §VII.F). This document provides guidance that the participating cities can follow to implement a PIPP in compliance with the Permit.

The objectives of the PIPP are to:

- Measurably increase the knowledge of the target audiences about the MS4, the adverse impacts of stormwater pollution on receiving waters and potential solutions to mitigate the impacts.
- Measurably change the waste disposal and stormwater pollution generation behavior of target audiences by developing and encouraging the implementation of appropriate alternatives.
- Involve and engage a diversity of socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of stormwater pollution.

## PIPP Implementation

*Permit §VI.D.5.b (LA)/§VII.F.2 (LB)*

The PIPP is implemented using the following approaches:

- By participating in a County-wide PIPP,
- By participating in one or more Watershed Group sponsored PIPPs, and
- individually within its jurisdiction.

Cities participating in a County-wide or Watershed Group PIPP provide contact info for their staff responsible for stormwater public education activities to the designated PIPP coordinator. Changes in contact information are provided within 30 days of the date that the change occurred.

## Public Participation

*Permit §VI.D.5.c (LA)/§VII.F.3 (LB)*

### Public Reporting

The means for public reporting of clogged catch basin inlets and illicit discharges/dumping, faded or missing catch basin labels, and general stormwater and non-stormwater pollution prevention information is provided through the use of the countywide 888-CLEAN-LA hotline. In addition, each participating city:

- Includes the reporting information – updated when necessary – in public information and the government pages of the telephone book as they are developed or published.
- Identifies staff or departments who will serve as the contact person(s) and will make this information available on its website.
- Provides current, updated hotline contact information to the general public within its jurisdiction.

## Events

Events are organized to target residents and population subgroups. The purpose of the events is to educate and involve the community in stormwater and non-stormwater pollution prevention activities, such as education seminars, clean-ups, and community catch basin stenciling.

## Residential Outreach Program

*Permit §VI.D.5.d (LA)/§VII.F.4 (LB)*

With the exception of item 5, which is no longer an element of the countywide PIP Program, each city implements the following activities for the Residential Outreach Program as part of a countywide program:

1. Conduct stormwater pollution prevention public service announcements and advertising campaigns
2. Prepare public education materials that include information on the proper handling (i.e., disposal, storage and/or use) of:
  - a. Vehicle waste fluids
  - b. Household waste materials (i.e., trash and household hazardous waste, including personal care products and pharmaceuticals)
  - c. Construction waste materials
  - d. Pesticides and fertilizers (including integrated pest management (IPM) practices to promote reduced use of pesticides)
  - e. Green waste (including lawn clippings and leaves)
  - f. Animal wastes
3. Distribute activity specific stormwater pollution prevention public education materials at the following points of purchase:
  - a. Automotive parts stores
  - b. Home improvement centers / lumber yards / hardware stores/paint stores
  - c. Landscaping / gardening centers
  - d. Pet shops / feed stores
4. Maintain stormwater websites or provide links to stormwater websites via each participating city's website. This includes educational material and opportunities for the public to participate in stormwater pollution prevention and clean-up activities listed in Part VI.D.4 of the Permit.
5. Provide independent, parochial, and public schools within each participating city's jurisdiction with materials to educate school children (K-12) on stormwater pollution. Material may include videos, live presentations and other information. A useful source of materials to work with, or leverage, is other statewide agencies and associations. These associations include the State Water Board's "Erase the Waste" educational program and the California Environmental Education Interagency Network (CEEIN) to implement this requirement.
6. When implementing the above activities, use effective strategies to educate and involve ethnic communities in stormwater pollution prevention through culturally effective methods.

# Industrial/Commercial Facilities Program

Each participating city is required to implement an industrial/commercial facilities program that includes the provisions listed in Permit § VI.D.6 (LB §VII.G). This document provides guidance that the participating cities can follow to implement an industrial/commercial facilities program in compliance with the Permit.

## Introduction

*Permit § VI.D.6.a (LA)/ §VII.G.1 (LB)*

The Industrial/Commercial Facilities Program is designed to prevent illicit discharges into the MS4 and receiving waters, reduce industrial/commercial discharges of stormwater to the maximum extent practicable, and prevent industrial/commercial discharges from the MS4 from causing or contributing to a violation of receiving water limitations. The program consists of the following components:

- Track,
- Educate,
- Inspect and
- Ensure compliance with municipal ordinances at industrial/commercial facilities determined to be critical sources of pollutants in stormwater.

## Track Critical Industrial/Commercial Sources

*Permit § VI.D.6.b (LA)/ §VII.G.2 (LB)*

The critical sources to be tracked are listed in Table ICF-1.

Table ICF-1: Critical Sources

Facility Category	Facility	
Commercial Facilities	Restaurants	
	Automotive service facilities (including those located at automotive dealerships)	
	Retail Gasoline Outlets	
	Nurseries and Nursery Centers (Merchant Wholesalers, Nondurable Goods, and Retail Trade)	
Industrial Facilities	USEPA “Phase I” Facilities <sup>1</sup>	
	Other federally-mandated facilities <sup>2</sup>	Municipal landfills
		Hazardous waste treatment, disposal, and recovery facilities
	Industrial facilities subject to § 313 “Toxic Release Inventory” reporting requirements of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) <sup>3</sup>	
General Facilities	All other commercial or industrial facilities determined to potentially contribute a substantial pollutant load to the MS4.	

<sup>1</sup> as specified in 40 CFR §122.26(b)(14)(i)-(xi)

<sup>2</sup> as specified in 40 CFR §122.26(d)(2)(iv)(C)

<sup>3</sup> 42 U.S.C. § 11023



Critical source facilities are tracked in an electronic database management system. The information stored for each critical source in the inventory is listed in Table ICF-2.

Table ICF-2: Inventory Information for Critical Sources

Information Category		Information
General	Name	Facility Name
	Location	Facility address
		Facility latitude and longitude coordinates
		Receiving water
	Contact	Owner/operator name
		Mailing address
		Phone number
Email (if available)		
Business Type	Standard Industrial Classification (SIC) code and/or North American Industry Classification System (NAICS) code	
	Narrative description of the activities performed and/or principal products produced	
Water quality	Status of exposure of materials to stormwater	
	Pollutants generated by facility activities (A-ICF-1)	
	Identification of whether the facility is tributary to a waterbody segment with impairments <sup>4</sup> for pollutants that are also generated by the facility.	
Prioritization	High, medium or low. The default priority is medium.	
NPDES Permit	For applicable facilities, identify coverage under the State Water Board's General NPDES Permit for the Discharge of Stormwater Associated with Industrial Activities (Industrial General Permit) or other individual or general NPDES permits or any waiver issued by the Regional or State Water Board pertaining to stormwater discharges.	
	For Industrial General Permit facilities, identify whether the facility has filed a No Exposure Certification with the State Water Board.	

### Update Inventory

The critical sources inventory is updated at least annually. The update is accomplished through the collection of new information from sources such as field activities and readily available inter/intra-agency records (e.g. business licenses, pretreatment permits, sanitary sewer connection permits and the State Water Resources Control Board's Storm Water Multiple Application and Report Tracking System (SMARTS)).

<sup>4</sup> CWA § 303(d) listed or subject to a TMDL

### Prioritization

Prioritizing facilities by their potential water quality impact provides an excellent opportunity to optimize the effectiveness of the Industrial/Commercial Facilities Program. The three inventory fields under the “Water Quality” category of Table ICF-2 provide information that allows for such a facility prioritization. Based on these fields, the following tables establish a method to prioritize all industrial/commercial facilities into three graded tiers – High, Medium and Low. The City may follow an alternative prioritization method provided it is based on water quality impact and results in a similar three-tiered scheme. In order to maintain a minimum inspection frequency equivalent to the mandates of the MS4 Permit, a condition must be applied to the prioritization process. This condition is explained on the following page.

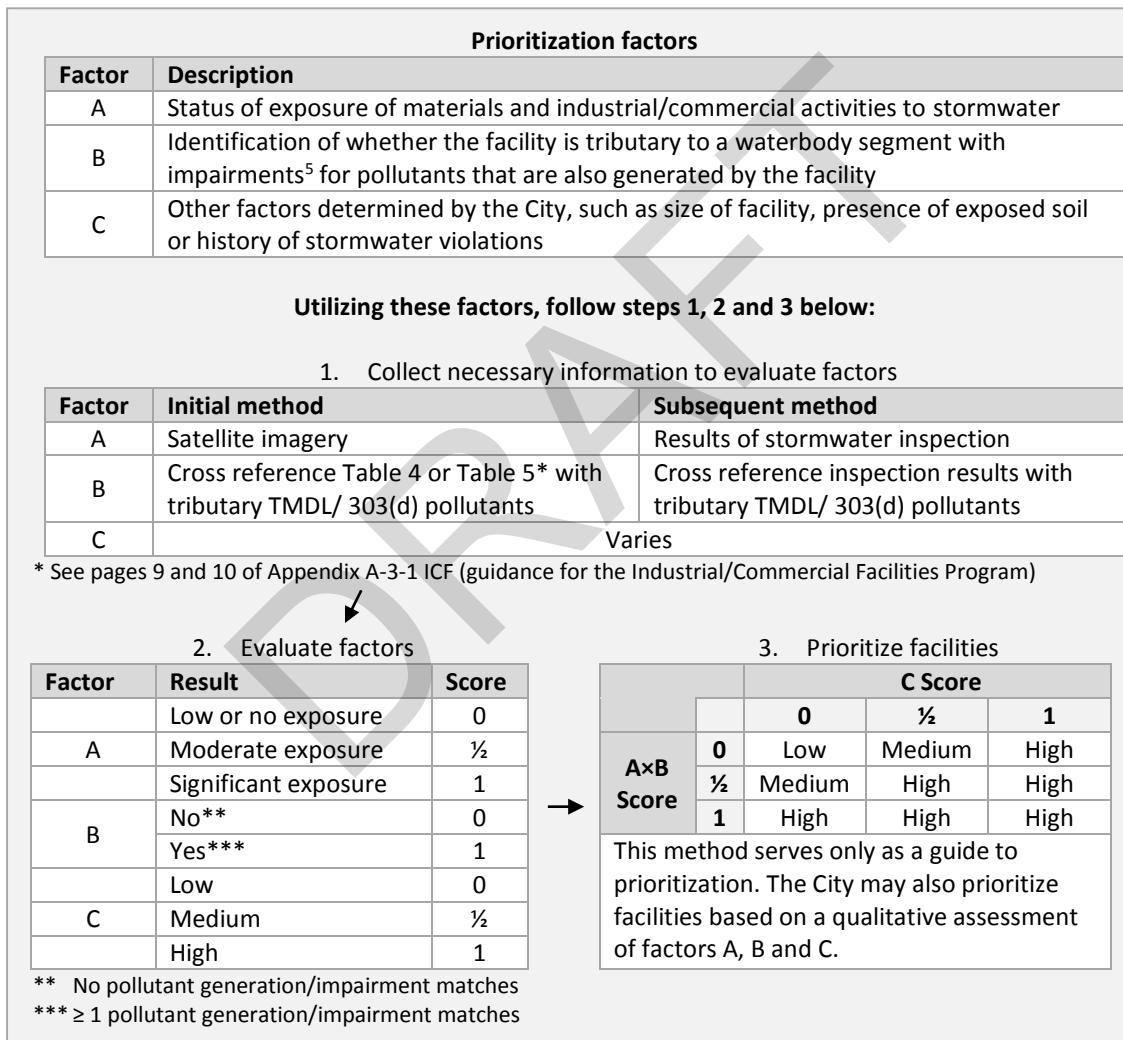


Figure ICF-1: Industrial/Commercial Facility Prioritization Scheme

Step 3 may also be expressed by the relationships  $A \cdot B + C \geq 1 \rightarrow$  High,  $1 > A \cdot B + C > 0 \rightarrow$  Medium and  $A \cdot B + C = 0 \rightarrow$  Low. The purpose of multiplying A and B is to scale the impact of the presence of the

<sup>5</sup> CWA §303(d) listed or subject to a TMDL

pollutants at a facility (B) by the likelihood that they will be discharged to the MS4 (A). Factor C quantifies water quality concerns that are independent of A or B and as such is incorporated through addition. The purpose of this numerical approach is to provide consistency to the prioritization process. It is intended solely as a guide. The City may also prioritize facilities based on a qualitative assessment of factors A, B and C as listed in Figure ICF-1.

**Prioritization Condition**

The facility prioritization impacts the inspection frequency. In fact the main objective of prioritizing the facilities is to adjust the inspection schedule to focus efforts on water quality priorities. The intent is not to reduce the total number of inspections. In order to maintain a total number of inspections in line with the expectations of the MS4 Permit (i.e. result in the same number of average inspections per year as a semi-quinquennial frequency), one additional condition must be imposed:

*The total number of low priority facilities is less than or equal to 3 times the number of high priority facilities.*  
*Prioritization condition*

**Prioritization Frequency**

The default priority for a facility is Medium. Facilities will be reprioritized as necessary following the results of routine inspections. The City may also use any readily available information that clarifies potential water quality impacts (e.g., satellite imagery) in order to prioritize a facility before the initial inspection. Reprioritization may also be conducted at any time as new water quality based information on a facility becomes available. During reprioritization, the ratio of low priority to high priority facilities will remain at 3:1 or lower. Figure ICF-2 is a flowchart of the prioritization process.

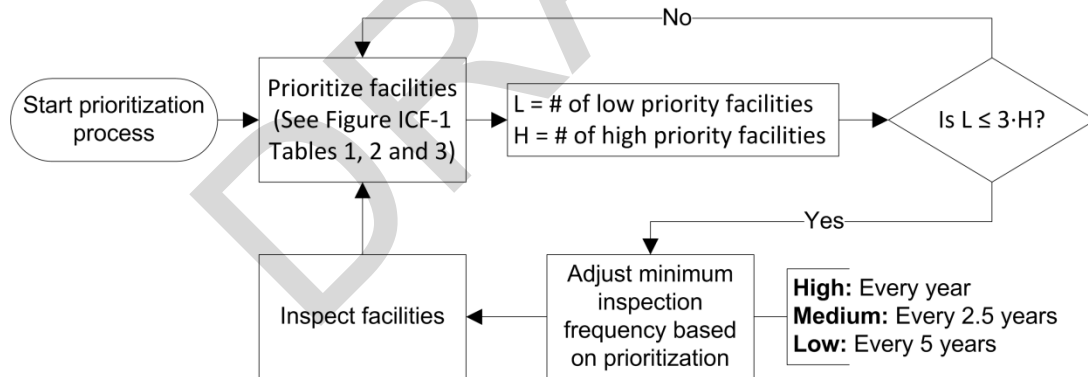


Figure ICF-2: Prioritization Process

**Educate Industrial/Commercial Sources**

*Permit § VI.D.6.c (LA)/ §VII.G.3 (LB)*

At least once during the five-year period of the MS4 Permit, the owner/operator of each of the inventoried critical sources is notified of the BMP requirements applicable to the facility/source.

**Business Assistance Program**

The Business Assistance Program provides technical information to businesses to facilitate their efforts to reduce the discharge of pollutants in stormwater. Assistance is targeted to select business sectors or

small businesses upon a determination that their activities may be contributing substantial pollutant loads to the MS4 or receiving water. Assistance may include technical guidance and provision of educational materials. The Program includes at least one of the following components:

- **Technical Guidance** – Provide on-site technical assistance, telephone, or e-mail consultation regarding the responsibilities of businesses to reduce the discharge of pollutants, procedural requirements, and available guidance documents. Guidance methods include but are not limited to:
  - Technical guidance through the critical source inspection program. During an inspection the inspector provides to the business owner/operator 1) on-site technical assistance and 2) contact information for continued consultation. The inspector may also refer staff to relevant fact sheets from the *CASQA Industrial and Commercial BMP Handbook*.
  - Technical guidance initiated with businesses through an informational letter, email, webpage or social media. The notice provides contact information of relevant stormwater staff for business assistance as well as hyperlinks to available guidance documents such as the *CASQA Industrial and Commercial BMP Handbook*.
- **Educational Materials** – Distribute stormwater pollution prevention educational materials to operators of 1) auto repair shops, car wash facilities, restaurants and 2) mobile sources including automobile/equipment repair, washing, or detailing, power washing services, mobile carpet, drape, or upholstery cleaning services, swimming pool, water softener, and spa services, portable sanitary services and commercial applicators and distributors of pesticides, herbicides and fertilizers, if present. Material sources and distribution methods include but are not limited to:
  - Distribution method – The presence of these businesses within an agency’s jurisdiction may be determined through business licenses or other readily available inter/intra-agency records.
  - Material sources – Educational materials are available at USEPA’s Nonpoint Source (NPS) Outreach Toolbox at <http://cfpub.epa.gov/npstbx/index.html>. The toolbox is a database of nationwide public education materials that is intended for use by state and local campaigns. The toolbox contains a variety of resources to help develop an effective and targeted outreach campaign.

## Inspect Critical Industrial/Commercial Sources

*Modified from Permit §VI.D.6.d-e (LA)/ §VII.G.4-5(LB)*

### Frequency of Inspections

Following the facility prioritization method described in this guidance document, the City will inspect high priority facilities annually, medium priority facilities semi-quinquennially (once every 2.5 years) and low priority facilities quinquennially (once every five years). The frequencies may be altered by the exclusions defined in the following section. The prioritization condition on Page ICF-4 ensures at least the same average number of inspections conducted per year as the semi-quinquennial frequency defined in the MS4 Permit.

The City will conduct the first compliance inspection of industrial/commercial facilities within one year of the approval of the Watershed Management Program by the Executive Officer. There will be a minimum interval of six months between the first and the second mandatory compliance inspections.

### **Exclusions to the Frequency of Industrial Inspections**

#### Exclusion of Facilities Previously Inspected by the Regional Water Board

The State Water Board's Stormwater Multiple Application and Report Tracking System (SMARTS) database<sup>6</sup> is reviewed at defined intervals to determine if an industrial facility has recently been inspected by the Regional Water Board. The first interval is two years after the effective date of the MS4 Permit (LA: December 28, 2014, LB: March 28, 2016) and the second interval is four years after the effective date (LA: December 28, 2016, LB: March 28, 2018). If it is determined through the review that the Regional Water Board conducted an inspection of a facility within the prior 24 month period, then the facility does not require an inspection.

#### No Exposure Verification

The initial inspection identifies those facilities that have filed a No Exposure Certification with the State Water Board. Three to four years after the effective date of the MS4 Permit, a second inspection is performed for at least 25% of the facilities identified to have filed a No Exposure Certification. The purpose of this inspection is to verify the continuity of the no exposure status.

### **Scope of Inspections**

A template inspection form is included as Attachment ICF-A.

#### **Scope of Commercial Inspections**

Commercial critical source facilities are inspected to confirm that stormwater and non-stormwater BMPs are effectively implemented in compliance with municipal ordinances. At each facility, inspectors verify that the operator is implementing effective source control BMPs for each corresponding activity. The implementation of additional BMPs is required where stormwater from the MS4 discharges to a significant ecological area (SEA), a water body subject to TMDL provisions<sup>7</sup>, or a CWA §303(d) listed impaired water body. For those BMPs that are not adequately protective of water quality standards, additional site-specific controls may be required.

#### **Scope of Mandatory Industrial Facility Inspections**

At each industrial critical source the inspector confirms that the facility

- Has a current Waste Discharge Identification (WDID) number for coverage under the Industrial General Permit, and that a Storm Water Pollution Prevention Plan (SWPPP) is available on-site; or
- Has applied for, and has received a current No Exposure Certification for facilities subject to this requirement;
- Is effectively implementing BMPs in compliance with municipal ordinances. Facilities must implement the source control BMPs identified in Table ICF-3, unless the pollutant generating activity does not occur. Additional BMPs must be implemented where stormwater from the MS4

<sup>6</sup> SMARTS is accessible at <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

<sup>7</sup> As described in Part VI.E of the MS4 Permit

discharges to a water body subject to TMDL Provisions in Part VI.E of the MS4 Permit, or a CWA § 303(d) listed impaired water body. If the specified BMPs are not adequately protective of water quality standards, additional site-specific controls may be required. For critical sources that discharge to MS4s that discharge to SEAs, operators must implement additional pollutant-specific controls to reduce pollutants in stormwater runoff that are causing or contributing to exceedances of water quality standards.

- Applicable industrial facilities identified as not having either a current WDID or No Exposure Certification are notified that they must obtain coverage under the Industrial General Permit and will be referred to the Regional Water Board per the Progressive Enforcement Policy procedures identified in Part VI.D.2 of the MS4 Permit.

### **Source Control BMPs**

*Permit § VI.D.6.f (LA)/ §VII.G.6 (LB)*

Effective source control BMPs for the activities listed in Table ICF-3 are implemented at commercial and industrial facilities, unless the pollutant generating activity does not occur:

### **Significant Ecological Areas (SEAs)**

*Permit § VI.D.6.g (LA)/ §VII.H (LB)*

For critical sources that discharge to MS4s that discharge to SEAs, each Permittee will require operators to implement additional pollutant-specific controls to reduce pollutants in stormwater runoff that are causing or contributing to exceedances of water quality standards.

### **Progressive Enforcement**

*Permit § VI.D.6.h (LA)/ §VII.I (LB)*

Each Permittee will implement its Progressive Enforcement Policy to ensure that Industrial / Commercial facilities are brought into compliance with all stormwater requirements within a reasonable time period. See Part VI.D.2 of the MS4 Permit for requirements for the development and implementation of a Progressive Enforcement Policy.

Table ICF-3: Source Control BMPs at Commercial and Industrial Facilities

<b>Pollutant-Generating Activity</b>	<b>BMP Description</b>	<b>BMP Fact Sheet*</b>
Unauthorized Non-Storm water Discharges	Effective elimination of non-stormwater discharges	SC-10
Accidental Spills/ Leaks	Implementation of effective spills/ leaks prevention and response procedures	SC-11
Vehicle/ Equipment Fueling	Implementation of effective fueling source control devices and practices	SC-20
Vehicle/ Equipment Cleaning	Implementation of effective equipment/vehicle cleaning practices and appropriate wash water management practices	SC-21
Vehicle/ Equipment Repair	Implementation of effective vehicle/ equipment repair practices and source control devices	SC-22
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices	SC-31
Outdoor Equipment Operations	Implementation of effective outdoor equipment source control devices and practices	SC-32
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices	SC-33
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/ handling practices and appropriate control measures	SC-34
Building and Grounds Maintenance	Implementation of effective facility maintenance practices	SC-41
Parking/ Storage Area Maintenance	Implementation of effective parking/ storage area designs and housekeeping/ maintenance practices	SC-43
Stormwater Conveyance System Maintenance	Implementation of proper conveyance system operation and maintenance protocols	SC-44
<b>Pollutant-Generating Activity</b>	<b>BMP Description from Regional Water Board Resolution No. 98-08</b>	
Sidewalk Washing	1. Remove trash, debris, and free standing oil/grease spills/leaks (use absorbent material, if necessary) from the area before washing; and 2. Use high pressure, low volume spray washing using only potable water with no cleaning agents at an average usage of 0.006 gallons per square feet of sidewalk area.	
Street Washing	Collect and divert wash water to the sanitary sewer – publically owned treatment works (POTW). Note: POTW approval may be needed.	

\* Source: CASQA Industrial and Commercial Stormwater BMP Handbook, 2003

Table ICF-4: Potential Pollutants from Industrial Activities\*

Activity or Facility Type	Potential Pollutants								
	Sediments	Nutrients	Metals	Organics and Toxicants**	Floatable Materials	Oxygen-Demanding Substances	Oil and Grease	Bacteria	Pesticides
Vehicle & Equipment Fueling			X	X					
Vehicle & Equipment Washing and Steam Cleaning	X	X	X	X		X	X		
Vehicle & Equipment Maintenance and Repair			X	X			X		
Outdoor Loading & Unloading of Materials	X	X	X	X	X	X	X		
Outdoor Container Storage of Liquids		X	X	X		X	X		X
Outdoor Process Equipment Operations and Maintenance	X		X	X			X		
Outdoor Storage of Raw Materials, Products, and Byproducts	X	X	X	X	X	X	X		
Waste Handling & Disposal			X	X	X	X	X	X	
Contaminated or Erodible Surface Areas	X	X	X	X	X	X	X	X	
Building and Grounds Maintenance	X	X	X		X	X		X	X
Building Repair, Remodeling, and Construction	X		X		X	X			
Parking/Storage Area Maintenance			X	X	X		X		

\* Source: CASQA Industrial and Commercial Stormwater BMP Handbook, 2003

\*\* This includes all toxic pollutants other than pesticides



Table ICF-5: Potential Pollutants by Industrial/Commercial Facility Type\*

Activity or Facility Type	Potential Pollutants								
	Sediments	Nutrients	Metals	Organics and Toxicants**	Floatable Materials	Oxygen-Demanding Substances	Oil and Grease	Bacteria	Pesticides
Vehicle mechanical repair, maintenance, fueling, or cleaning	X	X	X	X		X	X		
Airplane mechanical repair, maintenance, fueling, or cleaning	X	X	X	X		X	X		
Boat mechanical repair, maintenance, fueling, or cleaning	X	X	X	X		X	X		
Equipment repair, maintenance, fueling, or cleaning	X	X	X	X		X	X		
Automobile and other vehicle body repair or painting			X	X			X		
Mobile automobile or other vehicle washing	X	X	X			X	X		
Automobile (or other vehicle) parking lots and storage			X		X		X		
Retail or wholesale fueling			X	X	X		X		
Pest control services									X
Eating or drinking establishments		X		X	X	X	X	X	X
Mobile carpet, drape or furniture cleaning	X			X					
Cement mixing or cutting	X								
Masonry	X								
Painting and coating			X	X			X		
Botanical or zoological gardens and exhibits	X	X			X	X		X	X
Landscaping	X	X			X	X		X	X
Nurseries and greenhouses	X	X			X	X		X	X
Golf courses, parks and other recreational areas/facilities	X	X			X	X		X	X
Cemeteries	X	X			X	X		X	X
Pool and fountain cleaning		X	X	X	X	X		X	
Marinas			X	X	X	X	X	X	
Port-a-Potty servicing		X			X	X		X	

\* Source: Orange County Drainage Area Management Plan, 2003

\*\* This includes all toxic pollutants other than pesticides

# Planning and Land Development Program

The Cities are required to implement a Planning and Land Development program that includes the provisions listed in the MS4 Permit (LA MS4 Permit §VI.D.7, LB MS4 Permit §VII.J). This document provides guidance that the participating cities can follow to implement a Planning and Land Development program in compliance with the MS4 Permit.

## Introduction

*Permit §VI.D.7.a (LA)/§VII.J.1 (LB)*

The Planning and Land Development Program for all New Development and Redevelopment projects subject to the MS4 Permit includes measures to:

- Lessen the water quality impacts of development by using smart growth practices such as compact development, directing development towards existing communities via infill or redevelopment, and safeguarding of environmentally sensitive areas.
- Minimize the adverse impacts from stormwater runoff on the biological integrity of Natural Drainage Systems and the beneficial uses of water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code §21000 et seq.).
- Minimize the percentage of impervious surfaces on land developments by minimizing soil compaction during construction, designing projects to minimize the impervious area footprint, and employing Low Impact Development (LID) design principles to mimic pre-development hydrology through infiltration, evapotranspiration and rainfall harvest and use.
- Maintain existing riparian buffers and enhance riparian buffers when possible.
- Minimize pollutant loadings from impervious surfaces such as roof tops, parking lots, and roadways through the use of properly designed, technically appropriate BMPs (including Source Control BMPs such as good housekeeping practices), LID Strategies, and Treatment Control BMPs.
- Properly select, design and maintain LID and Hydromodification Control BMPs to address pollutants that are likely to be generated, reduce changes to pre-development hydrology, assure long-term function, and avoid the breeding of vectors.<sup>1</sup>
- Prioritize the selection of BMPs to remove stormwater pollutants, reduce stormwater runoff volume, and beneficially use stormwater to support an integrated approach to protecting water quality and managing water resources in the following order of preference:
  - On-site infiltration, bioretention and/or rainfall harvest and use.
  - On-site biofiltration, off-site groundwater replenishment, and/or off-site retrofit.

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<sup>1</sup> Treatment BMPs when designed to drain within 96 hours of the end of rainfall minimize the potential for the breeding of vectors. See California Department of Public Health *Best Management Practices for Mosquito Control in California* (2012) at <http://www.westnile.ca.gov/resources.php>

**Applicability***Permit §VI.D.7.b (LA)/§VII.J.2-3 (LB)***New Development Projects**

The New Development and Redevelopment categories below will require a Standard Urban Stormwater Mitigation Plan (SUSMP), also known as a Low Impact Development (LID) Plan, containing stormwater mitigation measures in compliance with MS4 Permit requirements. Development projects subject to conditioning and approval for the design and implementation of post-construction controls to mitigate stormwater pollution, prior to completion of the project(s), are listed below:

1. All development projects (including single family hillside homes) equal to 1 acre or greater of disturbed area and adding more than 10,000 square feet of impervious surface area
2. Industrial parks with 10,000 square feet or more of surface area
3. Commercial malls with 10,000 square feet or more surface area
4. Retail gasoline outlets with 5,000 square feet or more of surface area
5. Restaurants (SIC 5812) with 5,000 square feet or more of surface area
6. Parking lots with 5,000 square feet or more of impervious surface area, or with 25 or more parking spaces
7. Automotive service facilities (SIC 5013, 5014, 5511, 5541, 7532-7534 and 7536-7539) with 5,000 square feet or more of surface area
8. Projects located in or directly adjacent to, or discharging directly to a Significant Ecological Area (SEA), where the development will:
  - a. Discharge stormwater runoff that is likely to impact a sensitive biological species or habitat; and
  - b. Create 2,500 square feet or more of impervious surface area
9. Redevelopment projects in subject categories that meet Redevelopment thresholds identified below

**Redevelopment Projects**

Redevelopment projects subject to agency conditioning and approval for the design and implementation of post-construction controls to mitigate stormwater pollution, prior to completion of the project(s), are:

1. Land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site on development categories identified above.
2. Where Redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post-construction stormwater quality control requirements, the entire project must be mitigated.
3. Where Redevelopment results in an alteration of less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post-construction stormwater quality control requirements, only the alteration must be mitigated, and not the entire

development.

4. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency Redevelopment activity required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways which does not disturb additional area and maintains the original grade and alignment, is considered a routine maintenance activity. Redevelopment does not include the repaving of existing roads to maintain original line and grade.
5. Existing single-family dwelling and accessory structures are exempt from the Redevelopment requirements unless such projects create, add, or replace 10,000 square feet of impervious surface area.

### **Special Provisions**

1. Street and road construction of 10,000 square feet or more of impervious surface area
  - a. These projects will follow an approved green streets manual to the maximum extent practicable. Street and road construction applies to standalone streets, roads, highways, and freeway projects, and also applies to streets within larger projects. The Cities will require a Standard Urban Mitigation Plan (SUSMP), also known as a Low Impact Development (LID) Plan, containing stormwater mitigation measures in compliance with the approved green streets manual requirements.
2. Single family hillside homes will require a less extensive plan. To the extent that an agency may lawfully impose conditions, mitigation measures or other requirements on the development or construction of a single-family home in a hillside area as defined in the applicable agency's Code and Ordinances, the Cities will require that during the construction of a single-family hillside home, the following measures are implemented:
  - a. Conserve natural areas
  - b. Protect slopes and channels
  - c. Provide storm drain system stenciling and signage
  - d. Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability
  - e. Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.

New Development/ Redevelopment  
Project Performance Criteria

Permit §VI.D.7.c (LA)/§VII.J.4 (LB)

**Integrated Water Quality/Flow Reduction/Resources Management Criteria**

All New Development and Redevelopment projects identified above will control pollutants, pollutant loads, and runoff volume emanating from the project site by: (1) minimizing the impervious surface area and (2) controlling runoff from impervious surfaces through infiltration, bioretention and/or rainfall harvest and use.

Projects will retain on-site the Stormwater Quality Design Volume (SWQDv) defined as the runoff from the 0.75-inch, 24-hour rain event or the 85th percentile, 24-hour rain event, as determined from the Los Angeles County 85th percentile precipitation isohyetal map<sup>2</sup>, *whichever is greater*. Exceptions include technical infeasibility, opportunity for regional groundwater replenishment, local ordinance equivalence, or hydromodification, as described in the sections below.

When evaluating the potential for on-site retention, the Cities will consider the maximum potential for evapotranspiration from green roofs and rainfall harvest and use.

**Alternative Compliance for Technical Infeasibility or Opportunity for Regional Groundwater Replenishment**

In instances of technical infeasibility or where a project has been determined to provide an opportunity to replenish regional groundwater supplies at an offsite location, the Cities may allow projects to comply with the MS4 Permit through the alternative compliance measures as described below:

1. To demonstrate technical infeasibility, the project applicant must demonstrate that the project cannot reliably retain 100 percent of the SWQDv on-site, even with the maximum application of green roofs and rainwater harvest and use, and that compliance with the applicable post-construction requirements would be technically infeasible by submitting a site-specific hydrologic and/or design analysis conducted and endorsed by a registered professional engineer, geologist, architect, and/or landscape architect. Conditions where technical infeasibility may result including those indicated in

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<sup>2</sup> Found at <[http://ladpw.org/wrd/publication/engineering/Final\\_Report-Probability\\_Analysis\\_of\\_85th\\_Percentile\\_24-hr\\_Rainfall1.pdf](http://ladpw.org/wrd/publication/engineering/Final_Report-Probability_Analysis_of_85th_Percentile_24-hr_Rainfall1.pdf)>

2. Table PLD- 1 below. To utilize alternative compliance measures to replenish groundwater at an offsite location, the project applicant will demonstrate *(i)* why it is not advantageous to replenish groundwater at the project site, *(ii)* that groundwater can be used for beneficial purposes at the offsite location, and *(iii)* that the alternative measures will also provide equal or greater water quality benefits to the receiving surface water than the Water Quality/Flow Reduction/Resource Management Criteria.

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Table PLD- 1: Technical Infeasibility Criteria

1. The infiltration rate of saturated in-situ soils is less than 0.3 inch per hour and it is not technically feasible to amend the in-situ soils to attain an infiltration rate necessary to achieve reliable performance of infiltration or bioretention BMPs in retaining the SWQDv on-site.
2. Locations where seasonal high groundwater is within 5 to 10 feet of the surface,
3. Locations within 100 feet of a groundwater well used for drinking water,
4. Brownfield development sites where infiltration poses a risk of causing pollutant mobilization,
5. Other locations where pollutant mobilization is a documented concern. Pollutant mobilization is considered a documented concern at or near properties that are contaminated or store hazardous substances underground.
6. Locations with potential geotechnical hazards
7. Smart growth and infill or Redevelopment locations where the density and/ or nature of the project would create significant difficulty for compliance with the on-site volume retention requirement.

**Alternative Compliance Measures**

When a project applicant has demonstrated that it is technically infeasible to retain 100 percent of the SWQDv on-site, or is proposing an alternative offsite project to replenish regional groundwater supplies, the agency will require one of the following mitigation options:

1. On-site Biofiltration

If using biofiltration due to demonstrated technical infeasibility, then the project must biofiltrate 1.5 times the portion of the SWQDv that is not reliably retained on-site, as calculated by Equation 1 below.

$$B_v = 1.5 * [SWQD_v - R_v] \tag{Equation 1}$$

Where:

Bv = biofiltration volume

SWQDv = the stormwater runoff from a 0.75 inch, 24-hour storm or the 85th percentile storm<sup>3</sup>, whichever is greater.

Rv = volume reliably retained on-site

The MS4 Permit does not mention flowrate based biotreatment BMPs; however, proprietary biotreatment systems are often sized using flowrate rather than volume. Additionally, in cases where a pump is needed prior to entering the biotreatment BMP, the system requires sizing based on the controlled flow from the pump. Therefore, if it is infeasible to size a biotreatment BMP with volume-based calculations, the flowrate may be substituted in lieu of volume. Similarly, the flow rate must be determined using the design storm of 0.75 inch, 24-hour storm event or the 85th percentile storm<sup>1</sup>, whichever is greater.

Conditions for On-site Biofiltration include the following:

- a. Biofiltration systems will meet the design specifications provided in Attachment H to the MS4 Permit unless otherwise approved by the Regional Water Board Executive Officer.

<sup>3</sup> Found at <[http://ladpw.org/wrd/publication/engineering/Final\\_Report-Probability\\_Analysis\\_of\\_85th\\_Percentile\\_24-hr\\_Rainfall1.pdf](http://ladpw.org/wrd/publication/engineering/Final_Report-Probability_Analysis_of_85th_Percentile_24-hr_Rainfall1.pdf)>

- b. Biofiltration systems discharging to a receiving water that is included on the Clean Water Act section 303(d) list of impaired water quality-limited water bodies due to nitrogen compounds or related effects will be designed and maintained to achieve enhanced nitrogen removal capability. See Attachment H of the MS4 Permit for design criteria for underdrain placement to achieve enhanced nitrogen removal.

## 2. Offsite Infiltration

Offsite infiltration when implemented will use infiltration or bioretention BMPs to intercept a volume of stormwater runoff equal to the SWQD<sub>v</sub>, less the volume of stormwater runoff reliably retained on-site, at an approved offsite project and provide pollutant reduction (treatment) of the stormwater runoff discharged from the project site in accordance with the Water Quality Mitigation Criteria. The required offsite mitigation volume will be calculated by Equation 2 below.

$$M_v = 1.0 * [SWQD_v - R_v] \quad \text{Equation 2}$$

Where:

$M_v$  = mitigation volume

$SWQD_v$  = runoff from the 0.75 inch, 24-hour storm event or the 85<sup>th</sup> percentile storm<sup>4</sup>, whichever is greater

$R_v$  = the volume of stormwater runoff reliably retained on-site.

## 3. Groundwater Replenishment Projects

Regional projects to replenish regional groundwater supplies at offsite locations may be proposed, provided the groundwater supply has a designated beneficial use in the Basin Plan. Regional groundwater replenishment projects must use infiltration, groundwater replenishment, or bioretention BMPs to intercept a volume of stormwater runoff equal to the SWQD<sub>v</sub> for New Development and Redevelopment projects, subject to conditioning and approval for the design and implementation of post-construction controls, within the approved project area. The projects must provide pollutant reduction (treatment) of the stormwater runoff discharged from development projects, within the project area, subject to conditioning and approval for the design and implementation of post-construction controls to mitigate stormwater pollution in accordance with the Water Quality Mitigation Criteria.

Regional groundwater replenishment projects being implemented in lieu of onsite controls will mitigate the volume as calculated using Equation 2 above.

Regional groundwater replenishment projects will be located in the same sub-watershed (defined as draining to the same HUC-12 hydrologic area in the Basin Plan) as the New Development or Redevelopment projects which did not implement on-site retention BMPs. Locations outside of the HUC-12 but within the HUC-10 subwatershed area may be considered if there are no opportunities within the HUC-12 subwatershed or if greater pollutant reductions and/or groundwater

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<sup>4</sup> Found at <[http://ladpw.org/wrd/publication/engineering/Final\\_Report-Probability\\_Analysis\\_of\\_85th\\_Percentile\\_24-hr\\_Rainfall1.pdf](http://ladpw.org/wrd/publication/engineering/Final_Report-Probability_Analysis_of_85th_Percentile_24-hr_Rainfall1.pdf)>



replenishment can be achieved at a location within the expanded HUC-10 subwatershed. *The use of a mitigation, groundwater replenishment, or retrofit project outside of the HUC-12 subwatershed is subject to the approval of the Executive Officer of the Regional Water Board.*

#### 4. Offsite Project -Retrofit Existing Development

Use infiltration, bioretention, rainfall harvest and use and/or biofiltration BMPs to retrofit an existing development, with similar land uses as the New Development or land uses associated with comparable or higher stormwater runoff event mean concentrations (EMCs) than the new development. Comparison of EMCs for different land uses will be based on published data from studies performed in southern California. The retrofit plan will be designed and constructed to:

- a. Intercept a volume of stormwater runoff equal to the mitigation volume (Mv) as described above in Equation 2, except biofiltration BMPs will be designed to meet the biofiltration volume or flowrate as described in Equation 1, and
- b. Provide pollutant reduction (treatment) of the stormwater runoff from the project site as described in the Water Quality Mitigation Criteria.

#### 5. Conditions for Offsite Projects

Project applicants seeking to utilize these alternative compliance provisions may propose other offsite projects, which the agency in which the project is located may approve if they meet the requirements of this subpart.

- a. Location of offsite projects. Offsite projects will be located in the same sub-watershed (defined as draining to the same HUC-12 hydrologic area in the Basin Plan) as the New Development or Redevelopment project. Locations outside of the HUC-12 but within the HUC-10 subwatershed area may be considered if there are no opportunities within the HUC-12 subwatershed or if greater pollutant reductions and/or groundwater replenishment can be achieved at a location within the expanded HUC-10 subwatershed. *The use of a mitigation, groundwater replenishment, or retrofit project outside of the HUC-12 subwatershed is subject to the approval of the Executive Officer of the Regional Water Board.*
- b. Project applicant must demonstrate that equal benefits to groundwater recharge can be met on the project site.
- c. A prioritized list of potential offsite mitigation, groundwater replenishment and/or retrofit projects will be developed within each agency, and when feasible, the mitigation will be directed to the highest priority project within the same HUC-12 or if approved by the Regional Water Board Executive Officer, the HUC-10 drainage area, as the New Development project.
- d. Infiltration/bioretention will be the preferred LID BMP for offsite mitigation or groundwater replenishment projects. Offsite retrofit projects may include green streets, parking lot retrofits, green roofs, and rainfall harvest and use. Biofiltration BMPs may be considered for retrofit projects when infiltration, bioretention or rainfall harvest and use is technically infeasible.
- e. The agency in which the project is located will develop a schedule for the completion of offsite projects, including milestone dates to identify, fund, design, and construct the projects. Offsite

projects will be completed as soon as possible, and at the latest, within 4 years of the certificate of occupancy for the first project that contributed funds toward the construction of the offsite project, unless a longer period is otherwise authorized by the Executive Officer of the Regional Water Board. For public offsite projects, the agency in which the project is located must provide in their annual reports a summary of total offsite project funds raised to date and a description (including location, general design concept, volume of water expected to be retained, and total estimated budget) of all pending public offsite projects. Funding sufficient to address the offsite volume must be transferred to the agency (for public offsite mitigation projects) or to an escrow account (for private offsite mitigation projects) within one year of the initiation of construction.

- f. Offsite projects must be approved by the agency in which the project is located and may be subject to approval by the Regional Water Board Executive Officer, if a third-party petitions the Executive Officer to review the project. Offsite projects will be publicly noticed on the Regional Water Board's website for 30 days prior to approval.
- g. The project applicant must perform the offsite projects as approved by either the agency or the Regional Water Board Executive Officer or provide sufficient funding for public or private offsite projects to achieve the equivalent mitigation stormwater volume.

#### 6. Regional Stormwater Mitigation Program

An agency or agency group may apply to the Regional Water Board for approval of a regional or sub-regional stormwater mitigation program to substitute in part or wholly for New and Redevelopment requirements for the area covered by the regional or sub-regional stormwater mitigation program. Upon review and a determination by the Regional Water Board Executive Officer that the proposal is technically valid and appropriate, the Regional Water Board may consider for approval such a program if its implementation meets all of the following requirements:

- a. Retains the runoff from the 85th percentile, 24-hour rain event or the 0.75 inch, 24-hour rain event, whichever is greater;
- b. Results in improved stormwater quality;
- c. Protects stream habitat;
- d. Promotes cooperative problem solving by diverse interests;
- e. Is fiscally sustainable and has secure funding; and
- f. Is completed in five years including the construction and start-up of treatment facilities.

#### 7. Water Quality Mitigation Criteria

All New Development and Redevelopment projects that have been approved for offsite mitigation or groundwater replenishment projects will also provide treatment of stormwater runoff from the project site. These projects will design and implement post-construction stormwater BMPs and control measures to reduce pollutant loading as necessary to:

- a. Meet the pollutant specific benchmarks listed in Table PLD2 at the treatment systems outlet or prior to the discharge to the MS4, and

- b. Ensure that the discharge does not cause or contribute to an exceedance of water quality standards at the agency’s downstream MS4 outfall.

The project proponent may be allowed to install flow-through modular treatment systems including sand filters, or other proprietary BMP treatment systems with a demonstrated efficiency at least equivalent to a sand filter. The sizing of the flow through treatment device will be based on a rainfall intensity of 0.2 inches per hour, or the one year, one-hour rainfall intensity as determined from the most recent Los Angeles County isohyetal map, *whichever is greater*.

Table PLD- 2: Benchmarks Applicable to New Development Treatment BMPs.

Conventional Pollutants					
Pollutant	Suspended Solids mg/L	Total P mg/L	Total N mg/L	TKN mg/L	
<b>Effluent Concentration</b>	14	0.13	1.28	1.09	
Metals					
Pollutant	Total Cd µg/L	Total Cu µg/L	Total Cr µg/L	Total Pb µg/L	Total Zn µg/L
<b>Effluent Concentration</b>	0.3	6	2.8	2.5	23

New developments and redevelopments will not cause or contribute to an exceedance of applicable water quality-based effluent limitations established in the MS4 Permit pursuant to Total Maximum Daily Loads (TMDLs).

8. Hydromodification (Flow/ Volume/ Duration) Control Criteria

All New Development and Redevelopment projects located within natural drainage systems will implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic stormwater runoff discharge rates, velocities, and duration. This will be achieved by maintaining the project’s pre-project stormwater runoff flow rates and durations.

Description

Hydromodification control in natural drainage systems will be achieved by maintaining the Erosion Potential (Ep) in streams at a value of 1, unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as a result of flow increases from impervious surfaces and prevent damage to stream habitat in natural drainage system tributaries<sup>5</sup>. Hydromodification mitigation approaches should meet the criteria below:

- a. Hydromodification control may include one, or a combination of on-site, regional or sub-regional hydromodification control BMPs, LID strategies, or stream and riparian buffer restoration measures. Any in-stream restoration measure shall not adversely affect the beneficial uses of the natural drainage systems.
- b. Natural drainage systems that are subject to the hydromodification assessments and controls,

<sup>5</sup> See Attachment J of the MS4 Permit, “Determination of Erosion Potential”

as described in this section, include all drainages that have not been improved (e.g., channelized or armored with concrete, shotcrete, or rip-rap) or drainage systems that are tributary to a natural drainage system, except as provided in Exemptions to Hydromodification Controls, see below. The clearing or dredging of a natural drainage system does not constitute an “improvement.”

- c. Until the State Water Board or the Regional Water Board adopts a final Hydromodification Policy or criteria, the Hydromodification Control Criteria described in this section will be implemented to control the potential adverse impacts of changes in hydrology that may result from New Development and Redevelopment projects located within natural drainage systems.

### **Exemptions to Hydromodification Controls**

New Development and Redevelopment projects may be exempt from implementation of hydromodification controls where assessments of downstream channel conditions and proposed discharge hydrology indicate that adverse hydromodification effects to beneficial uses of Natural Drainage Systems are unlikely. Conditions for exemptions include the following:

- a. Projects involving replacement, maintenance or repair of an agency’s existing flood control facility, storm drain, or transportation network.
- b. Redevelopment Projects in the center of urban areas that do not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.
- c. Projects that have any increased discharge directly or via a storm drain to a sump, lake, area under tidal influence, into a waterway that has a 100-year peak flow (Q100) of 25,000 cfs or more, or other receiving water that is not susceptible to hydromodification impacts.
- d. Projects that discharge directly or via a storm drain into concrete or otherwise engineered (not natural) channels (e.g., channelized or armored with rip rap, shotcrete, etc.), which, in turn, discharge into receiving water that is not susceptible to hydromodification impacts.
- e. LID BMPs implemented on single family homes are sufficient to comply with hydromodification criteria.

### **Hydromodification Control Criteria**

The Hydromodification Control Criteria to protect natural drainage systems are as follows:

- a. Except for exemptions described above, projects disturbing an area greater than 1 acre but less than 50 acres within natural drainage systems will be presumed to meet pre-development hydrology if one of the following demonstrations is made:
  - i. The project is designed to retain on-site, through infiltration, evapotranspiration, and/or harvest and use, the stormwater volume from the runoff of the 95<sup>th</sup> percentile, 24-hour storm, or

- ii. The runoff flow rate, volume, and velocity for the post-development condition do not exceed the pre-development condition for the 2-year, 24-hour rainfall event and the duration for the post-development condition is not less than the pre-development condition for the 2-year, 24-hour rainfall event. This condition may be substantiated by simple screening models, including those described in Hydromodification Effects on Flow Peaks and Durations in Southern California Urbanizing Watersheds (Hawley et al., 2011) or other models acceptable to the Executive Officer of the Regional Water Board, or
- iii. The Erosion Potential (Ep) in the receiving water channel will approximate 1, as determined by a Hydromodification Analysis Study and the equation presented in Attachment J of the MS4 Permit. Alternatively, agencies can opt to use other work equations to calculate Erosion Potential with Executive Officer approval.
- b. Projects disturbing 50 acres or more within natural drainage systems will be presumed to meet pre-development hydrology based on the successful demonstration of one of the following conditions:
- i. The site infiltrates on-site at least the runoff from a 2-year, 24-hour storm event, or
  - ii. The runoff flow rate, volume, and velocity for the post-development condition does not exceed the pre-development condition for the 2-year, 24-hour rainfall event and the duration for the post-development condition is not less than the pre-development condition for the 2-year, 24-hour rainfall event. These conditions must be substantiated by hydrologic modeling acceptable to the Regional Water Board Executive Officer, or
  - iii. The Erosion Potential (Ep) in the receiving water channel will approximate 1, as determined by a Hydromodification Analysis Study and the equation presented in Attachment J of the MS4 Permit.

The MS4 Permit states projects will meet Hydromodification Control Criteria if "The...duration for the post-development condition **does** not exceed the pre-development condition for the 2-year, 24-hour rainfall event." The runoff duration (Tc) is generally associated with longer values resulting in lower concern for hydromodification impacts. Implementation of LID BMPs generally results in runoff not immediately (or not at all) discharging from the site, increasing the time of concentration. Thus, the interpretation presented herein is that Hydromodification Control Criteria would be met if the runoff duration for the post-development condition is **not less than** the pre-development condition for the 2-year, 24-hour rainfall event.

### Alternative Hydromodification Criteria

The requirement for Hydromodification Controls will be satisfied by implementing the hydromodification requirements in the County of Los Angeles Low Impact Development Manual (2009) for all projects disturbing an area greater than 1 acre within natural drainage systems.

### 3. Watershed Equivalence

Regardless of the methods through which applicants implement alternative compliance measures,

the subwatershed-wide (defined as draining to the same HUC-12 hydrologic area in the Basin Plan) result of all development must be at least the same level of water quality protection as would have been achieved if all projects utilizing these alternative compliance provisions had complied with the Integrated Water Quality/Flow Reduction/Resource Management Criteria, described herein.

#### 4. Annual Report

Annual Reports will be provided to the Regional Water Board to include a list of mitigation project descriptions and estimated pollutant and flow reduction analyses (compiled from design specifications submitted by project applicants, as approved. Within 4 years of the MS4 Permit adoption, the Annual Reports will include a comparison of the expected aggregate results of alternative compliance projects to the results that would otherwise have been achieved by retaining on site the SWQDv.

#### Implementation

*Permit §VI.D.7.d (LA)/§VII.J.5 (LB)*

#### **Local Ordinance Equivalence**

Alternative requirements in the local ordinances for the agencies of this WMP will provide equal or greater reduction in stormwater discharge pollutant loading and volume as would have been obtained through strict conformance with the Integrated Water Quality/Flow Reduction Resources Management Criteria, Alternative Compliance Measures for Technical Infeasibility, or Opportunity for Regional Groundwater Replenishment sections herein and, if applicable, the Hydromodification (Flow/Volume Duration) Control Criteria section herein.

#### **Project Coordination**

A process for effective approval of post-construction stormwater control measures will be developed to include:

- a. Detailed LID site design and BMP review including review of BMP sizing calculations, BMP pollutant removal performance, and municipal approval; and
- b. An established structure for communication and delineated authority between and among municipal departments that have jurisdiction over project review, plan approval, and project construction through memoranda of understanding or an equivalent agreement.

#### **Maintenance Agreement and Transfer**

Prior to issuing approval for final occupancy, the Cities will require that all New Development and Redevelopment projects subject to post-construction BMP requirements, with the exception of simple LID BMPs implemented on single family residences, provide an operation and maintenance plan, monitoring plan, where required, and verification of ongoing maintenance provisions for LID practices, Treatment Control BMPs, and Hydromodification Control BMPs including but not limited to: final map conditions, legal agreements, covenants, conditions or restrictions, CEQA mitigation requirements, conditional use permits, and/ or other legally binding maintenance agreements (see Attachments PLD-A and PLD-B for MCA and MCA Termination sample templates, respectively). Agencies will require maintenance records be kept on site.

Verification at a minimum will include the developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either:

- a. A signed statement from the public entity assuming responsibility for BMP maintenance; or
- b. Written conditions in the sales or lease agreement, which require the property owner or tenant to assume responsibility for BMP maintenance and conduct a maintenance inspection at least once a year; or
- c. Written text in project covenants, conditions, and restrictions (CCRs) for residential properties assigning BMP maintenance responsibilities to the Home Owners Association; or
- d. Any other legally enforceable agreement or mechanism that assigns responsibility for the maintenance of BMPs.

All development projects subject to post-construction BMP requirements will provide a plan for the operation and maintenance of all structural and treatment controls. The plan will be submitted for examination of relevance to keeping the BMPs in proper working order. Where BMPs are transferred to agency for ownership and maintenance, the plan will also include all relevant costs for upkeep of BMPs in the transfer. Operation and Maintenance plans for private BMPs will be kept on-site for periodic review by agency inspectors.

A tracking system and an inspection and enforcement program will be maintained for New Development and Redevelopment post-construction stormwater as shown in Table PLC-3. Enforcement action will be taken per the established Progressive Enforcement Policy as appropriate based on the results of the inspection. See Section for requirements for the development and implementation of a Progressive Enforcement Policy (Appendix A-3-1\_PEP).

Table PLD-3: Tracking, Inspection, and Enforcement Program Components

Program	Description	Components	
GIS or other Electronic System	A GIS or other electronic system will be implemented for tracking projects that have been conditioned for post-construction BMPs.	<ul style="list-style-type: none"> <li>- Municipal Project ID</li> <li>- State WDID No.</li> <li>- Project Acreage</li> <li>- BMP Type and Description</li> <li>- BMP Location (coordinates)</li> <li>- Date of Maintenance Agreement</li> <li>- Date of Acceptance</li> </ul>	<ul style="list-style-type: none"> <li>- Maintenance Records</li> <li>- Inspection Date and Summary</li> <li>- Corrective Action</li> <li>- Date Certificate of Occupancy Issued</li> <li>- Replacement or Repair Date</li> </ul>
Inspections <sup>6</sup>	Inspect all development sites upon completion of construction and prior to the issuance of occupancy	Proper installation of: <ul style="list-style-type: none"> <li>- LID measures,</li> <li>- Structural BMPs,</li> </ul>	

<sup>6</sup> The inspection may be combined with other inspections provided it is conducted by trained personnel.

	certificates.	<ul style="list-style-type: none"> <li>- Treatment control BMPs, and</li> <li>- Hydromodification control BMPs.</li> </ul>
Operation and Maintenance <sup>7</sup>	Verify proper operation and maintenance of post-construction BMPs. Inspection at least once every 2 years after project completion.	<ul style="list-style-type: none"> <li>- Follow a Post-construction BMP Maintenance Inspection checklist (See Attachment PLD-C)</li> <li>- Assess operation and maintenance conditions relating to post-construction BMPs, including BMP repair, replacement, or re-vegetation.</li> </ul>

**Plan Certification**

Each SUSMP/LID Plan should contain proper certifications. The following approach is suggested for SUSMP/LID Plan submittals:

- Form signed by the property owner/applicant stating the category in which the project falls under to easily define the NPDES requirements (see Attachment PLD-D for Form PC sample template).
- Form signed by the property owner/applicant certifying that the BMPs will be implemented, monitored, and maintained per SUSMP/LID Plan requirements (see Attachment PLD-E for Form P1 sample template).
- Form signed and stamped by a California registered civil engineer stating the proposed structural BMPs and certifying the methods and requirements are in compliance with the MS4 Permit requirements (see Attachment PLD-F for Form P2 sample template).

<sup>7</sup> For post-construction BMPs operated and maintained by parties other than the agency in which the BMP(s) is located, the agency will require the other parties to document proper maintenance and operations.



# Development Construction Program

The Cities are required to develop, implement and enforce a construction program that includes the provisions listed in MS4 Permit §VI.D.8 (LB §VII.K). This document provides guidance to assist the Cities in implementing a construction program in compliance with the MS4 Permit.

## Objectives

*Permit §VI.D.8.a (LA)/§VII.K.1 (LB)*

The objectives of the construction program are to:

- Prevent illicit construction-related discharges of pollutants into the MS4 and receiving waters.
- Implement and maintain structural and non-structural BMPs to reduce pollutants in stormwater runoff from construction sites.
- Reduce construction site discharges of pollutants to the MS4 to the MEP.
- Prevent construction site discharges to the MS4 from causing or contributing to a violation of water quality standards.

## Erosion and Sediment Control Ordinance

*Permit §VI.D.8.b (LA)/ §VII.K.1 (LB)*

The construction program requires an established, enforceable erosion and sediment control ordinance for all construction sites that disturb soil.

## Applicability

*Permit §VI.D.8.c (LA)/ §VII.K.1.v (LB)*

The construction program addresses construction activity as defined in Table DC-1.

Table DC-1: Definitions

<b>Construction Activity</b>	
Definition	Any construction or demolition activity, clearing, grading, grubbing, or excavation or any other activity that results in land disturbance.
Examples	Grading, vegetation clearing, soil compaction, paving, repaving and linear underground/overhead projects (LUPs) that result in land disturbance.
Exclusions	Emergency construction required to immediately protect public health and safety, <i>routine maintenance</i> as defined below and agricultural activities.
<b>Routine Maintenance (construction program exclusion)</b>	
Definition	Projects required to maintain the integrity of structures, including but not limited to the following:
Examples	Maintaining the original line and grade, hydraulic capacity, or original purpose of the facility.
	Performing restoration work to preserve the original design grade, integrity and hydraulic capacity of flood control facilities.
	Performing road shoulder work, regrading dirt/gravel roadways/shoulders and cleaning out ditches.
	Update existing lines (includes replacing with new materials or pipe) and facilities to comply with applicable codes, standards, and regulations regardless if such projects result in increased capacity.
	Repair leaks
Exclusion	New lines (i.e. not associated with existing facilities and not part of a project to update or replace existing lines) or facilities constructed to comply with applicable codes, standards and regulations.

The greater part of the construction program is dedicated to construction sites that disturb one acre or more of soil (with the exception of agricultural activities). This coincides with the size threshold for coverage under the State Water Resources Control Board's NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities. The program provisions exclusive to sites less than one acre are addressed first.

### Construction Sites Less than One Acre

*Permit §VI.D.8.d (LA)/§VII.K.1.vi (LB)*

#### BMPs (< 1 acre)

Through the use of the erosion and sediment control ordinance and/or building permit, construction sites are required have in place an effective combination of erosion and sediment control BMPs from Table DC-2 to prevent erosion and sediment loss and the discharge of construction wastes.

Table DC-2: Applicable Set of BMPs for All Construction Sites

BMP Type	BMP
Erosion Controls	Scheduling
	Preservation of Existing Vegetation
Sediment Controls	Silt Fence
	Sand Bag Barrier
	Stabilized Construction Site Entrance/Exit
Nonstormwater Management	Water Conservation Practices
	Dewatering Operations
Waste Management	Material Delivery and Storage
	Stockpile Management
	Spill Prevention and Control
	Solid Waste Management
	Concrete Waste Management
	Sanitary/Septic Waste Management

#### Inventory (< 1 acre)

All construction sites with soil disturbing activities that require a permit, regardless of size, are identified and stored in an inventory. Existing permit databases or other tracking systems may be used to file this information. The list of permitted sites is provided to the Regional Water Board upon request.

#### Inspections (< 1 acre)

Construction sites are inspected on as needed based on the evaluation of the factors that are a threat to water quality. In evaluating the threat to water quality, the following factors are considered: soil erosion potential, site slope, project size and type, sensitivity of receiving water bodies, proximity to receiving water bodies, nonstormwater discharges, past record of noncompliance by the operators of the construction site and any water quality issues relevant to the particular MS4.

#### Enforcement (< 1 acre)

The Progressive Enforcement Policy (MS4 Permit §VI.D.2) is implemented to ensure that construction sites are brought into compliance with the erosion and sediment control ordinance within a reasonable time period.

**Construction Sites One Acre or Greater**

Operators of public and private construction sites within a city’s jurisdiction are required to select, install, implement, and maintain BMPs that comply with the erosion and sediment control ordinance.

**Construction Site Inventory / Electronic Tracking System**

*Permit §VI.D.8.g (LA)/§VII.K.1.ix (LB)*

An electronic system is used to inventory all issued grading permits, encroachment permits, demolition permits, building permits, or construction permits (and any other municipal authorization to move soil and/ or construct or destruct that involves land disturbance). A database management system or GIS system is recommended. This inventory is continuously updated as new sites are permitted and sites are completed. The inventory / tracking system contains at a minimum the items listed in Table DC-3.

Table DC-3: Inventory Information for Constructions Sites

Information Type		Information
General	Name	Project Name
	Location	Site address and/or latitude and longitude coordinates
		Receiving water
	Contact	Names of owner and contractor
		Mailing addresses of owner and contractor
		Phone numbers of owner and contractor
		Emails (if available) of owner and contractor
Status	Start and end dates	
	Permit approval date and anticipated completion date	
	Erosion and Sediment Control Plan (ESCP) approval date	
	Status of NOI submittal and CGP coverage	
	Current construction phase (where feasible)	
Size	Size of project and area of disturbance	
Water quality	Proximity to waterbodies listed as impaired <sup>1</sup> by sediment related pollutants	
	Proximity to waterbodies for which a sediment-related TMDL has been adopted and approved by USEPA	
	Status as a significant threat to water quality (based on a consideration of factors listed in Appendix 1 to the CGP)	
Inspection	Inspection frequency	
Post construction	List of post-construction structural BMPs subject to O&M requirements	

**Construction Plan Review and Approval Procedures**

*Permit §VI.D.8.h (LA)/§VII.K.1.x (LB)*

Plan review procedures are developed and implemented such that the following minimum requirements are met:

- Prior to issuing a grading or building permit, each operator of a construction activity within the city’s jurisdiction of which the project is located is required to prepare and submit an ESCP prior to the disturbance of land for review and written approval. The construction site operator is prohibited from commencing construction activity prior to receipt of written approval by the city of which the project is located. An ESCP is not approved unless it contains appropriate site-

<sup>1</sup> CWA §303(d) listed or subject to a TMDL

specific construction site BMPs that meet the minimum requirements of the erosion and sediment control ordinance.

- ESCPs must include the elements of a Storm Water Pollution Prevention Plan (SWPPP). SWPPPs prepared in accordance with the requirements of the Construction General Permit can be accepted as ESCPs.
- At a minimum, the ESCP must address the following elements:
  - Methods to minimize the footprint of the disturbed area and to prevent soil compaction outside of the disturbed area.
  - Methods used to protect native vegetation and trees.
  - Sediment/Erosion Control.
  - Controls to prevent tracking on and off the site.
  - Nonstormwater controls (e.g., vehicle washing, dewatering, etc.).
  - Materials Management (delivery and storage).
  - Spill Prevention and Control.
  - Waste Management (e.g., concrete washout/waste management; sanitary waste management).
  - Identification of site Risk Level as identified per the requirements in Appendix 1 of the Construction General Permit.
- The ESCP must include the rationale for the selection and design of the proposed BMPs, including quantifying the expected soil loss from different BMPs.
- The ESCP must be developed and certified by a Qualified SWPPP Developer (QSD).
- All structural BMPs must be designed by a licensed California Engineer.
- The landowner or the landowner's agent must sign a statement on the ESCP as follows (see Attachment DC-A for sample OC-1 template):

*"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/ or inaccurate information, failing to update the ESCP to reflect current conditions, or failing to properly and/ or adequately implement the ESCP may result in revocation of grading and/ or other permits or other sanctions provided by law."*

- Prior to issuing a grading or building permit, the city of which the project is located verifies that the construction site operators have existing coverage under applicable permits, including, but not limited to the State Water Board's Construction General Permit, and State Water Board 401 Water Quality Certification.
- A checklist is used to conduct and document review of each ESCP (see Attachment DC-B for the ESCP Checklist sample template).

### **BMP Implementation Level**

*Permit §VI.D.8.i (LA)/§VII.K.1.xi (LB)*

The Cities will implement technical standards for the selection, installation and maintenance of construction BMPs for all construction sites within its jurisdiction.

The BMP technical standards require:

- The use of BMPs that are tailored to the risks posed by the project. Sites are ranked from Low Risk (Risk 1) to High Risk (Risk 3). Project risks are calculated based on the potential for erosion from the site and the sensitivity of the receiving water body. Receiving water bodies that are listed on the Clean Water Act (CWA) Section 303(d) list for sediment or siltation are considered High Risk. Likewise, water bodies with designated beneficial uses of SPWN, COLD, and MIGR are also considered High Risk. The combined (sediment/receiving water) site risk is calculated using the methods provided in Appendix 1 of the Construction General Permit. At a minimum, the BMP technical standards include requirements for High Risk sites as defined in Table DC-7.
- The use of BMPs for all construction sites, sites equal or greater to 1 acre, and for paving projects per Table DC-6 and Table DC-8.
- Detailed installation designs and cut sheets for use within ESCPs.
- Maintenance expectations for each BMP, or category of BMPs, as appropriate.

Permittees are encouraged to adopt respective BMPs from latest versions of the California BMP Handbook, Construction or Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices (BMPs) Manual and addenda. Alternatively, Permittees are authorized to develop or adopt equivalent BMP standards consistent for Southern California and for the range of activities presented in Tables DC-5 through DC-8.

The local BMP technical standards are readily available to the development community and are clearly referenced within the Cities' stormwater or development services websites, ordinances, permit approval processes and/or ESCP review forms. The local BMP technical standards are also readily available to the Regional Water Board upon request.

Local BMP technical standards are available for the BMPs listed in Tables DC-5 through DC-8.

Table DC-4: Minimum Set of BMPs for All Construction Sites

BMP Type	BMP
Erosion Controls	Scheduling
	Preservation of Existing Vegetation
Sediment Controls	Silt Fence
	Sand Bag Barrier
	Stabilized Construction Site Entrance/Exit
Nonstormwater Management	Water Conservation Practices
	Dewatering Operations
Waste Management	Material Delivery and Storage
	Stockpile Management
	Spill Prevention and Control
	Solid Waste Management
	Concrete Waste Management
	Sanitary/Septic Waste Management

Table DC-5: Additional BMPs Applicable to Construction Sites Disturbing 1 Acre or More

BMP Type	BMP
Erosion Controls	Hydraulic Mulch
	Hydroseeding
	Soil Binders
	Straw Mulch
	Geotextiles and Mats
	Wood Mulching
Sediment Controls	Fiber Rolls
	Gravel Bag Berm
	Street Sweeping and/ or Vacuum
	Storm Drain Inlet Protection
	Scheduling
Additional Controls	Check Dam
	Wind Erosion Controls
	Stabilized Construction Entrance/ Exit
	Stabilized Construction Roadway
Non-Storm Management	Entrance/ Exit Tire Wash
	Vehicle and Equipment Washing
	Vehicle and Equipment Fueling
Waste Management	Vehicle and Equipment Maintenance
	Material Delivery and Storage
	Spill Prevention and Control

Table DC-6: Additional Enhanced BMPs for High Risk Sites

<b>BMP Type</b>	<b>BMP</b>
Erosion Controls	Hydraulic Mulch
	Hydroseeding
	Soil Binders
	Straw Mulch
	Geotextiles and Mats
	Wood Mulching
	Slope Drains
Sediment Controls	Silt Fence
	Fiber Rolls
	Sediment Basin
	Check Dam
	Gravel Bag Berm
	Street Sweeping and/or Vacuum
	Sand Bag Barrier
	Storm Drain Inlet Protection
Additional Controls	Wind Erosion Controls
	Stabilized Construction Entrance/Exit
	Stabilized Construction Roadway
	Entrance/Exit Tire Wash
	Advanced Treatment Systems*
Nonstormwater Management	Water Conservation Practices
	Dewatering Operations (Ground water dewatering only under NPDES Permit No. CAG994004)
	Vehicle and Equipment Washing
	Vehicle and Equipment Fueling
	Vehicle and Equipment Maintenance
Waste Management	Material Delivery and Storage
	Stockpile Management
	Spill Prevention and Control
	Solid Waste Management

\*Applies to public roadway projects.

Table DC-7: Minimum Required BMPs for Roadway Paving or Repair Operation (For Private or Public Projects)

#	BMP
1.	Restrict paving and repaving activity to exclude periods of rainfall or predicted rainfall unless required by emergency conditions.
2.	Install gravel bags and filter fabric or other equivalent inlet protection at all susceptible storm drain inlets and at manholes to prevent spills of paving products and tack coat.
3.	Prevent the discharge of release agents including soybean oil, other oils, or diesel to the stormwater drainage system or receiving waters.
4.	Minimize non stormwater runoff from water use for the roller and for evaporative cooling of the asphalt.
5.	Clean equipment over absorbent pads, drip pans, plastic sheeting or other material to capture all spillage and dispose of properly.
6.	Collect liquid waste in a container, with a secure lid, for transport to a maintenance facility to be reused, recycled or disposed of properly.
7.	Collect solid waste by vacuuming or sweeping and securing in an appropriate container for transport to a maintenance facility to be reused, recycled or disposed of properly.
8.	Cover the "cold-mix" asphalt (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting during a rainstorm.
9.	Cover loads with tarp before haul-off to a storage site, and do not overload trucks.
10.	Minimize airborne dust by using water spray or other approved dust suppressant during grinding.
11.	Avoid stockpiling soil, sand, sediment, asphalt material and asphalt grindings materials or rubble in or near stormwater drainage system or receiving waters.
12.	Protect stockpiles with a cover or sediment barriers during a rain.

### Construction Site Inspection

*Permit §VI.D.8.j (LA)/§VII.K.1.xii (LB)*

The Cities' legal authority is used to implement procedures for inspecting public and private construction sites. The inspection procedures are implemented as follows:

#### Inspection Frequency

- Inspect the public and private construction sites as specified in Table DC-8.
- All phases of construction are inspected as follows:
  - Prior to Land Disturbance – Prior to allowing an operator to commence land disturbance, each Permittee shall perform an inspection to ensure all necessary erosion and sediment structural and non-structural BMP materials and procedures are available per the erosion and sediment control plan.
  - During Active Construction, including Land Development<sup>2</sup> and Vertical Construction<sup>3</sup> – In accordance with the frequencies specified in Table DC-8, inspections are performed to ensure all necessary erosion and sediment structural and non-structural BMP materials and procedures are available per the erosion and sediment control plan throughout the construction process.
  - Final Landscaping / Site Stabilization<sup>4</sup> – At the conclusion of the project and as a condition of approving and/or issuing a Certificate of Occupancy, the constructed site is inspected to ensure that all graded areas have reached final stabilization and that all

<sup>2</sup> Activities include cuts and fills, rough and finished grading; alluvium removals; canyon cleanouts; rock undercuts; keyway excavations; stockpiling of select material for capping operations; and excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer system and/or other drainage improvement.

<sup>3</sup> The build out of structures from foundations to roofing, including rough landscaping.

<sup>4</sup> All soil disturbing activities at each individual parcel within the site have been completed.



trash, debris, and construction materials, and temporary erosion and sediment BMPs are removed.

- Based on the required frequencies above, each construction project is inspected a minimum of three times.

Table DC-8: Inspection Frequencies for Sites One Acre or Greater

Site	Inspection Frequency Shall Occur
All sites 1 acre or larger that discharge to a tributary listed by the state as an impaired water for sediment or turbidity under the CWA §303(d)	(1) when two or more consecutive days with greater than 50% chance of rainfall are predicted by NOAA <sup>5</sup> , (2) within 48 hours of a ½-inch rain event and at (3) least once every two weeks
Other sites 1 acre or more determined to be a significant threat to water quality <sup>6</sup>	
All other construction sites with 1 acre or more of soil disturbance not meeting the criteria above	At least monthly

### Inspection Standard Operating Procedures

Standard operating procedures are implemented, and revised as necessary, that identify the inspection procedures followed by the Cities' inspectors (see Attachment DC-C for suggested standard operating procedures). Inspections of construction sites – and the standard operating procedures – include, but are not limited to:

1. Verification of active coverage under the Construction General Permit for sites disturbing 1 acre or more, or that are part of a planned development that will disturb 1 acre or more and a process for referring non-filers to the Regional Water Board.
2. Review of the applicable ESCP and inspection of the construction site to determine whether all BMPs have been selected, installed, implemented, and maintained according to the approved plan and subsequent approved revisions (see Attachment DC-B for the ESCP Checklist sample template).
3. Assessment of the appropriateness of the planned and installed BMPs and their effectiveness.
4. Visual observation and record keeping of nonstormwater discharges, potential illicit discharges and connections, and potential discharge of pollutants in stormwater runoff.
5. Development of a written or electronic inspection report generated from an inspection checklist used in the field (see Attachment DC-D and DC-E for the Large Site and Small Site<sup>7</sup> Inspection Forms, respectively).
6. Tracking of the number of inspections for the inventoried construction sites throughout the reporting period to verify that the sites are inspected at the minimum frequencies listed in Table DC-8.

### **Enforcement**

*Permit §VI.D.8.k (LA)/§VII.K.1.xiii (LB)*

The Progressive Enforcement Policy is implemented to ensure that construction sites are brought into compliance with all stormwater requirements within a reasonable time period.

<sup>5</sup> [www.srh.noaa.gov/forecast](http://www.srh.noaa.gov/forecast)

<sup>6</sup> In evaluating the threat to water quality, the following factors shall be considered: soil erosion potential; site slope; project size and type; sensitivity of receiving water bodies; proximity to receiving water bodies; nonstormwater discharges; past record of non-compliance by the operators of the construction site; and any water quality issues relevant to the particular MS4.

<sup>7</sup> A "large site" refers to a site greater than or equal to 1 acre while a "small site" refers to a site less than one acre.

**Permittee Staff Training***Permit §VI.D.8.l(LA)/§VII.K.1.xiv(LB)*

Staff whose primary job duties are related to implementing the construction stormwater program are adequately trained.

The Cities may conduct in-house training or contract with consultants. Training is provided to the following staff positions of the MS4:

- Plan Reviewers and Permitting Staff – Staff and consultants are trained as qualified individuals, knowledgeable in the technical review of local erosion and sediment control ordinance, local BMP technical standards, ESCP requirements, and the key objectives of the State Water Board QSD program. The training is provided either internally to staff or staff is required to obtain QSD certification.
- Erosion Sediment Control/Stormwater Inspectors – Inspectors are either 1) knowledgeable in inspection procedures consistent with the State Water Board sponsored program QSD, 2) a Qualified SWPPP Practitioner (QSP) or 3) a designated person on staff trained in the key objectives of the QSD/QSP programs supervises inspection operations. The training is provided either provided internally to staff or staff is required to obtain QSD/QSP certification. Each inspector is knowledgeable of the local BMP technical standards and ESCP requirements.
- Third-Party Plan Reviewers, Permitting Staff, and Inspectors – If outside parties are utilized to conduct inspections and/or review plans, these staff are trained per the requirements listed above. Outside contractors can self-certify, providing they certify they have received all applicable training required in MS4 Permit §VI.D.8 and have documentation to that effect.

# Public Agency Activities Program

Each participating city is required to develop and implement a program for public agency facilities and activities that includes the requirements listed in MS4 Permit §VI.D.9 (LB §VII.L). This document provides guidance to assist the Cities in implementing a public agency activities program in compliance with the MS4 Permit.

## Objectives

*Permit §VI.D.9.a (LA)/§VII.L.1 (LB)*

The objectives of the Public Agency Activities program are to:

- Minimize stormwater pollution impacts from Permittee-owned or operated facilities.
- Minimize stormwater pollution impacts from public agency activities.
- Identify opportunities to reduce stormwater pollution impacts from areas of existing development.

MS4 Permit requirements for Public Agency Facilities and Activities consist of the following components which will be discussed in more detail in the sections below:

- Public Construction Activities Management
- Public Facility Inventory
- Inventory of Existing Development for Retrofitting Opportunities
- Public Facility and Activity Management
- Vehicle and Equipment Wash Areas
- Landscape, Park, and Recreational Facilities Management
- Storm Drain Operation and Maintenance
- Streets, Roads, and Parking Facilities Maintenance
- Emergency Procedures
- Municipal Employee and Contractor Training

## 1. Public Construction Activities Management

*Permit §VI.D.9.b (LA)/§VII.L.2 (LB)*

Each participating city is required to develop and implement a Development Construction Program that meets the requirements the Development Construction Section of this WMP, and Part VI.D.8 of the LA MS4 Permit at municipally owned or operated (i.e., public or Permittee sponsored) construction projects. In addition, each participating city is required to develop and implement a Planning and Land Development Program that meets the requirements in the Planning and Land Development Section of this WMP, and the MS4 Permit at municipally owned or operated (i.e., public or Permittee sponsored) construction projects.

## 2. Public Facility Inventory

*Permit §VI.D.9.c (LA)/§VII.L.3 (LB)*

The Public Agency Activities Program requires the maintenance of an inventory of all Permittee-owned or operated (i.e., public) facilities that are potential sources of stormwater pollution. The incorporation of facility information into a GIS is recommended. Sources that are tracked include but are not limited to the following:

- Animal control facilities
- Chemical storage facilities
- Composting facilities

- Equipment storage and maintenance facilities (including landscape maintenance-related operations)
- Fueling or fuel storage facilities (including municipal airports)
- Hazardous waste disposal facilities
- Hazardous waste handling and transfer facilities
- Incinerators
- Landfills
- Materials storage yards
- Pesticide storage facilities
- Fire stations
- Public restrooms
- Public parking lots
- Public golf courses
- Public swimming pools
- Public parks
- Public works yards
- Public marinas
- Recycling facilities
- Solid waste handling and transfer facilities
- Vehicle storage and maintenance yards
- Stormwater management facilities (e.g., detention basins)
- All other Permittee-owned or operated facilities or activities that are determined to contribute a substantial pollutant load to the MS4.

The following minimum fields of information are included in the inventory for each Permittee-owned or operated facility:

- Name of facility
- Name of facility manager and contact information
- Address of facility (physical and mailing)
- A narrative description of activities performed and potential pollution sources.
- Coverage under the Industrial General Permit or other individual or general NPDES permits or any applicable waiver issued by the Regional or State Water Board pertaining to stormwater discharges.

The inventory is updated at least once during the 5-year MS4 Permit term. The update are accomplished through collection of new information obtained through field activities or through other readily available inter and intra-agency informational databases (e.g., property management, land-use approvals, accounting and depreciation ledger account, and similar information).

### **3. Inventory of Existing Development for Retrofit Opportunities**

*Permit §VI.D.9.d (LA)/§VII.L.4 (LB)*

The Public Agency Activities Program requires the development of an inventory of retrofitting opportunities. Retrofit opportunities are identified within the public right-of-way or in coordination with a TMDL implementation plan(s). The goals of the existing development retrofitting inventory are to address the impacts of existing development through regional or sub-regional retrofit projects that

reduce the discharges of stormwater pollutants into the MS4 and prevent discharges from the MS4 from causing or contributing to a violation of water quality standards as defined in the MS4 Permit.

Existing areas of development are screened to identify candidate areas for retrofitting using watershed models or other screening level tools. The areas of existing development identified during the screening process are then evaluated and ranked to prioritize retrofitting candidates. Criteria for this evaluation may include, but is not limited to the following:

- Feasibility, including general private and public land availability;
- Cost effectiveness;
- Pollutant removal effectiveness;
- Tributary area potentially treated;
- Maintenance requirements;
- Landowner cooperation;
- Neighborhood acceptance;
- Aesthetic qualities;
- Efficacy at addressing concern; and
- Potential improvements to public health and safety.

The results of this evaluation are considered in the following programs:

- Highly feasible projects expected to benefit water quality are given a high priority to implement source control and treatment control BMPs in the WMP.
- High priority retrofit projects are considered as candidates for off-site mitigation projects per LA MS4 Permit §VI.D.7.c.iii(4)(d) (LB §VII.J.4.iii(4)).
- Where feasible, the existing development retrofit program is coordinated with flood control projects and other infrastructure improvement programs per LA MS4 Permit §VI.D.9.e.ii(2) (LB §VII.L.5.ii(2)).

Site specific retrofit projects are encouraged through cooperation with private landowners. The following practices are considered in cooperating with private landowners to retrofit existing development:

- Demonstration retrofit projects;
- Retrofits on public land and easements that treat runoff from private developments;
- Education and outreach;
- Subsidies for retrofit projects;
- Requiring retrofit projects as enforcement, mitigation or ordinance compliance;
- Public and private partnerships;
- Fees for existing discharges to the MS4 and reduction of fees for retrofit implementation.

#### **4. Public Facility and Activity Management**

*Permit §VI.D.9.e (LA)/§VII.L.5 (LB)*

##### **4.1. Industrial General Permitted Facilities**

*Permit §VI.D.9.e.i & §VI.D.9.e.v (LA)/§VII.L.5.i (LB)*

All Permittee owned or operated facilities where industrial activities are conducted that require coverage are required to obtain coverage under the Industrial General Permit by submitting a Notice of Intent (NOI) to the State Water Resources Control Board (State Board) and preparing a Stormwater

Pollution Prevention Plan (SWPPP). Facilities that may require coverage are listed by category in 40 Code of Federal Regulations (CFR) Section 122.26(b)(14), and include:

- Facilities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR Subchapter N)
- Manufacturing facilities
- Mining and oil and gas facilities
- Hazardous waste treatment, storage, or disposal facilities
- Landfills, land application sites, and open dumps that receive industrial waste
- Recycling facilities
- Steam electric generating facilities
- Transportation facilities
- Sewage treatment plants
- Certain facilities if materials are exposed to stormwater

Municipally owned or operated facilities that have obtained coverage under the IGP implement and maintain BMPs consistent with the associated SWPPP, and are therefore not required to implement and maintain the activity specific BMPs as described in the sections below.

#### **4.2. Flood Management Projects**

*Permit §VI.D.9.e.ii (LA)/§VII.L.5.ii (LB)*

The following measures are implemented for municipally owned or operated flood management projects:

- Procedures are developed to assess the impacts of flood management projects on the water quality of receiving water bodies;
- Existing structural flood control facilities area evaluated to determine if retrofitting the facility to provide additional pollutant removal from stormwater is feasible.

#### **4.3. Contracted Public Agency Activities**

*Permit §VI.D.9.e.iv (LA)/§VII.L.5.iv (LB)*

Any contractors hired to conduct Public Agency Activities, including, but not limited to the following must be contractually obligated to implement and maintain the activity specific BMPs outlined in the sections below:

- Storm and/or sanitary sewer system inspection and repair,
- Street sweeping,
- Trash pick-up and disposal, and
- Street and right-of-way construction and repair

It is the responsibility of each Permittee to ensure that these BMPs are being properly implemented and maintained through oversight of contracted activities. Example contractor/lessor contract language is provided in attachment PA-A.

#### 4.4. BMPS for Municipal Activities

*Permit §VI.D.9.e.iii & Permit §VI.D.9.e.vi (LA)/§VII.L.5.iii & VII.L.5.vi (LB)*

Municipal maintenance and field staff are the ones responsible for implementing effective source control BMPs<sup>1</sup>, such as those described in Table PA-1 (or an equivalent set of BMPs) when such activities occur at municipally owned or operated facilities and field operations (i.e. project sites). These sites include, but are not limited to the facility types identified in the Public Facility Inventory, and at any area that includes the activities described in Table PA-1, or that have the potential to discharge pollutants in stormwater. The Caltrans Stormwater Quality Handbook Maintenance Staff Guide (Caltrans Handbook)<sup>2</sup> is an additional resource that describes BMPs to prevent the stormwater-related pollutants most likely to come from common maintenance facility operations and field activities. It provides a straightforward working-level approach to implementing BMPs for common maintenance activities by categorizing these activities into Families, and associating each Family with certain types of BMPs in Activity Cut Sheets. The activities described in Sections 5-10 below are representative of typical municipal operations, and correspond to the activities and BMPs listed in Table PA-1. Where appropriate, each section will identify the appropriate Maintenance Activity Family and corresponding Caltrans Activity Cut Sheets from this table for ease of reference.

Although Table PA-1 and the CalTrans Handbook are excellent references for selecting BMPs for some of the most common municipal activities, they may not represent a comprehensive inventory of activities encountered by maintenance staff and field personnel. Likewise, for those BMPs that are not adequately protective of water quality standards, additional site-specific BMPS may be needed. For example, the implementation of additional BMPs is required where stormwater from the storm drain system discharges to a water body subject to a TMDL, a Clean Water Act §303(d) listed water body, or a significant ecological area (SEA). Attachment PA-B contains a map of SEAs in LA County and Attachment K of the LA MS4 Permit contains a matrix of Permittees and TMDLs.

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<sup>1</sup> BMP is defined by the California Stormwater Quality Association as “any program, technology, process, siting criteria, operating method, measure, or device which controls, prevents, removes, or reduces pollution”. Source Control BMPs are operational practices that prevent pollution by reducing potential pollutants at the source. They typically do not require maintenance or construction, and may consist of programmatic controls such as street sweeping. Treatment Control BMPs are methods of treatment to remove pollutants from stormwater, and can include constructed treatment devices such as an infiltration basin.

<sup>2</sup> The handbook is available at

[http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/pdfs/management\\_ar\\_rwp/CTSW-RT-02-057.pdf](http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/pdfs/management_ar_rwp/CTSW-RT-02-057.pdf) and may also be found by entering the words “Caltrans Stormwater Quality Handbook Maintenance Staff Guide” in a web search engine.

Table PA-1: General and Activity Specific BMPs and Their Associated Caltrans Handbook Activity Cut Sheet

Maintenance Activity Family	BMP	Caltrans Activity Cut Sheet Number
<b>General BMPs</b>	Scheduling and Planning	B-4
	Spill Prevention and Control	
	Sanitary/Septic Waste Management	
	Material Use	
	Safer Alternative Products	
	Vehicle/Equipment Cleaning, Fueling and Maintenance	
	Illicit Connection Detection, Reporting and Removal	
	Illegal Spill Discharge Control	
<b>Flexible Pavement</b>	Maintenance Facility Housekeeping Practices	
	Asphalt Cement Crack and Joint Grinding/ Sealing	B-9
	Asphalt Paving	B-10
	Structural Pavement Failure (Digouts) Grinding and Paving	B-11
	Emergency Pothole Repairs	B-13
<b>Rigid Pavement</b>	Sealing Operations	B-14
	Portland Cement Crack and Joint Sealing	B-15
	Mudjacking and Drilling	B-16
<b>Slope/ Drains/ Vegetation</b>	Concrete Slab and Spall Repair	B-17
	Shoulder Grading	B-19
	Nonlandscaped Chemical Vegetation Control	B-21
	Nonlandscaped Mechanical Vegetation Control/Mowing	B-23
	Nonlandscaped Tree and Shrub Pruning, Removal	B-24
	Fence Repair	B-25
	Drainage Ditch and Channel Maintenance	B-26
	Drain and Culvert Maintenance	B-28
<b>Litter/ Debris/ Graffiti</b>	Curb and Sidewalk Repair	B-30
	Sweeping Operations	B-32
	Litter and Debris Removal	B-33
	Emergency Response and Cleanup Practices	B-34
<b>Landscaping</b>	Graffiti Removal	B-36
	Chemical Vegetation Control	B-37
	Manual Vegetation Control	B-39
	Landscaped Mechanical Vegetation Control/ Mowing	B-40
	Landscaped Tree and Shrub Pruning, Removal	B-41
	Irrigation Line Repairs	B-42
<b>Environmental</b>	Irrigation (Watering), Potable and Nonpotable	B-43
	Storm Drain Stenciling	B-44
	Roadside Slope Inspection	B-45
	Roadside Stabilization	B-46
	Stormwater Treatment Devices	B-48
<b>Public Facilities</b>	Traction Sand Trap Devices	B-49
	Public Facilities	B-50
<b>Bridges</b>	Welding and Grinding	B-52
	Sandblasting, Wet Blast with Sand Injection, Hydroblasting	B-54
	Painting	B-56
	Bridge Repairs	B-57
<b>Other Structures</b>	Pump Station Cleaning	B-59
	Tube and Tunnel Maintenance and Repair	B-61
	Tow Truck Operations	B-63
	Toll Booth Lane Scrubbing Operations	B-64
<b>Electrical &amp;</b>	Sawcutting for Loop Installation	B-65
<b>Traffic Guidance</b>	Thermoplastic Striping and Marking	B-67
	Paint Striping and Marking	B-68
	Raised/ Recessed Pavement Marker Application/Removal	B-70



	Sign Repair and Maintenance	B-71
	Median Barrier and Guard Rail Repair	B-73
	Emergency Vehicle Energy Attenuation Repair	B-75
<b>Storm Maintenance</b>	Minor Slides and Slipouts Cleanup/ Repair	B-78
<b>Management and Support</b>	Building and Grounds Maintenance	B-80
	Storage of Hazardous Materials (Working Stock)	B-82
	Material Storage Control (Hazardous Waste)	B-84
	Outdoor Storage of Raw Materials	B-85
	Vehicle and Equipment Fueling	B-86
	Vehicle and Equipment Cleaning	B-87
	Vehicle and Equipment Maintenance and Repair	B-88
	Aboveground and Underground Tank Leak and Spill Control	B-90

**5. Vehicle and Equipment Wash Areas**

*Permit §VI.D.9.f (LA)/§VII.L.6 (LB)*

*This section corresponds to Maintenance Activity Family Management and Support and corresponding Caltrans Activity Cut Sheet B-87.*

Vehicle and equipment cleaning at a municipal facility may introduce a number of potential pollutants into the storm drain system. Municipal maintenance and field staff are responsible for implementing and maintaining the activity specific BMPs listed in Table PA-1 for all fixed vehicle and equipment washing; including fire fighting and emergency response vehicles. In addition, maintenance and field staff are responsible for preventing discharges of wash water from entering the storm drain system. Table PA-2 shows the potential pollutants associated with vehicle and equipment cleaning.

Table PA-2: Potential Pollutants Generated from Cleaning Activities

Activity	Potential Pollutants					
Vehicle and Equipment Cleaning	Sediment	Nutrients	Trash	Metals	Oil & Grease	Organics

Discharges of wash waters to the storm drain system are prevented by implementing the following measures at existing facilities with vehicle or equipment wash areas:

- Wash water is self-contained and hauled away for proper disposal offsite.
- Wash areas are equipped with a clarifier, or an alternative pre-treatment device, and water is plumbed to the sanitary sewer in accordance with applicable waste water provider regulations.
- Wastewater from all new vehicle and equipment wash facilities, or redeveloped or replaced existing facilities is prevented from discharging to the MS4 by equipping the facility with a clarifier, or an alternative pre-treatment device, and plumbing water to the sanitary sewer in accordance with applicable waste water provider regulations, or by self-containing all water water/wash water and hauling to a point of legal disposal.

**6. Landscape, Park, and Recreational Facilities Management**

*Permit §VI.D.9.g (LA)/ §VII.L.7 (LB)*

*This section corresponds to multiple Activity Cut Sheets within the Slope/Drains/Vegetation, Landscape, Environmental, and Management and Support Families.*

Maintenance practices at parks and recreational facilities generally include fertilizer and pesticide applications, vegetation maintenance and disposal, irrigation, swimming pool chemical maintenance and draining, and trash and debris management. All of these maintenance practices have the potential to contribute pollutants to the storm drain system. Municipal maintenance and field staff are responsible for implementing and maintaining the activity specific BMPs listed in Table PA-1 for all public right-of-

ways, flood control facilities and open channels, lakes and reservoirs, and landscape, park, and recreational facilities and activities. Table PA-3 shows the potential pollutants associated with recreational facilities..

Table PA-3: Potential Pollutants Generated from Recreational Facilities

Activity	Potential Pollutants				
Vehicle and Equipment Cleaning	Sediment	Nutrients	Trash	Bacteria	Pesticides

**6.1 Model Integrated Pest Management Program**

*Permit §VI.D.9.g.ii & VI.D.9.g.iii (LA)/§VII.L.7.ii & VII.L.7.iii (LB)*

An IPM policy is in place to minimize pesticide and fertilizer use, and encourage the use of IPM techniques for Public Agency facilities and activities. The attached IPM Program template (Attachment PA-C), adapted from the Orange County Drainage Area Management Plan (DAMP) IPM Policy developed by the University of California, Division of Agriculture and Natural Resources, provides an example of an effective IPM program. This IPM Program template is based on regulations, management guidelines, and research-based recommendations established by federal, state and local agencies and universities with particular expertise in pest management.

As part of the IPM policy, a commitment and schedule to reduce the use of pesticides that cause impairment t of surface waters is implemented through the following procedures:

- An inventory of all pesticides used by municipal departments, divisions, and operational units is prepared and updated annually.
- Pesticides used by staff and hired contractors are quantified.
- The use of IPM alternatives is demonstrated, where feasible, to reduce pesticide use.

Municipal maintenance and field staff applying pesticides are certified in the appropriate category by the California Department of Pesticide Regulation, or are under the direct supervision of a pesticide applicator certified in the appropriate category.

**7. Storm Drain Operation and Maintenance**

*Permit §VI.D.9.h (LA)/ §VII.L.8 (LB)*

*This section corresponds to the Litter/Debris/Graffiti Family: Litter and Debris Removal Cut Sheet, pg. B-33, and the Environmental Family: Storm Drain Stenciling Cut Sheet, pg. B-44*

The storm drain system functions primarily to collect and convey surface runoff to receiving waters during storms in order to prevent flooding. It is a common municipal activity to maintain the storm drain system so that it functions hydraulically as intended during storms. Municipal maintenance and field staff are responsible for implementing and maintaining the activity specific BMPs listed in Table PA-1 for storm drain operation and maintenance, and ensuring that all material removed from the MS4 does not reenter the system by dewatering solid material in a contained area and disposing of liquid material in accordance with any of the following measures:

- Self-containing and hauling off for legal disposal; or
- Applying to the land without runoff; or
- Equipping with a clarifier or alternative pre-treatment device and plumbing to the sanitary sewer in accordance with applicable waste water provider regulations.

Table PA-4 shows potential pollutants generated during storm drain operation and maintenance.

Table PA-4: Potential Pollutants Generated from Storm Drain Operation and Maintenance

Activity	Potential Pollutants								
	Sediment	Nutrients	Trash	Metals	Bacteria	Oil & Grease	Organics	Pesticides	Oxygen Demanding Substances
Inspection and Cleaning of Conveyance Structures	X	X	X		X		X		X
Controlling Illicit Connections and Discharges	X	X	X	X	X	X	X	X	X
Controlling Illegal Dumping	X	X	X	X	X	X	X	X	X
Maintenance of Inlet and Outlet Structures	X		X		X	X			

**7.1 Catch Basin Cleaning**

*Permit §VI.D.9.h.iii (LA)/ §VII.L.8.iii (LB)*

There is no preferred method for cleaning catch basins as long as the method used is successful in removing accumulated sediment and debris. The methods used are determined in the field with the goal of minimizing the amount of escaped material, and preventing this material from entering the storm drain system. A template catch basin cleaning log is provided in Attachment PA-D.

**7.1.1 Catch Basins Cleaning in Areas not Subject to a Trash TMDL**

In areas that are not subject to a trash TMDL, catch basin inlets are prioritized based on the amount of trash generated, and inspected according to the schedule in Table PA-5.

Table PA-5: Inspection Frequencies for Catch Basin Inlets

Trash Generating Frequency	Priority	Inspection Frequency
Consistently generates the highest volumes of trash and/or debris	A	A minimum of three times during the wet season (October-April) and once during the dry season every year
Consistently generates moderate volumes of trash and/or debris	B	A minimum of once during the wet season and once during the dry season every year
Generates low volumes of trash and/or debris	C	A minimum of once per year

An inventory of catch basins is maintained and updated regularly. This inventory includes the following components:

- GPS coordinates of each catch basin
- Priorities for inspection
- Rationale or data to support catch basin priority designations
- Inspection and cleaning records

Catch basins are cleaned as necessary based on the inspections conducted. At a minimum, catch basins determined to be at least 25% full of trash are cleaned out.

### **7.1.2 Catch Basin Cleaning in Areas Subject to a Trash TMDL**

In areas subject to a Trash TMDL, all applicable provisions of LA MS4 Permit Section VI.E (LB Part Part VIII) in conformance with the appropriate TMDL implementation schedule, are implemented. This includes an effective combination of full capture, partial capture, institutional controls, or minimum frequency of assessment and collection as described in LA MS4 Permit Section VI.E (LB Part Part VIII).

### **7.2 Catch Basin Labels and Open Channel Signage**

*Permit §VI.D.9.h.vi (LA)/ §VII.L.8.vi (LB)*

All municipally owned storm drain inlets are labeled with a “No Dumping, Drains to Ocean” message, and inspected for legibility prior to the wet season (October-April) every year. Catch basins with illegible labels are recorded and re-stenciled or re-labeled within 180 days of inspection. In addition, signs referencing local code(s) that prohibit littering and illegal dumping are posted at designated public access points to open channels, creeks, urban lakes, and other relevant water bodies.

### **7.3 Trash Management**

*Permit §VI.D.9.h.iv-v & Permit §VI.D.9.h.vii (LA)/§VII.L.8.iv-v (LB)*

The following Trash Management BMPs described below are employed to mitigate the impacts of anthropogenic trash on receiving waters.

#### **7.3.1 Trash Management at Public Events**

The following measures are implemented for any event in the public right of way or wherever it is foreseeable that substantial quantities of trash and litter may be generated, including events located in areas that are subject to a trash TMDL:

- Proper management of trash and litter generated; and
- Arrangement for temporary screens to be placed on catch basins; or
- Provide clean out of catch basins, trash receptacles, and grounds in the event area within one business day subsequent to the event.

#### **7.3.2 Trash Receptacles**

Covered trash receptacles are located in areas identified as high trash generation areas and maintained and cleaned out as necessary to prevent trash overflow. Examples of areas that may be considered high trash generating areas include:

- High vehicle or pedestrian traffic areas
- Commercial areas
- Industrial areas
- Construction areas
- High density residential areas
- Areas adjacent to vacant lots

#### **7.3.3 Additional Trash Management Practices**

In areas that are not subject to a trash TMDL, additional trash management practices will be employed no later than five years after the effective date of the LA MS4 Permit (4 years after the effective date of the LB MS4 Permit). Trash excluders or equivalent devices must be installed on or in catch basins or outfalls to prevent the discharge of trash to the MS4 or receiving waters, unless the installation of such BMP(s) alone will cause flooding (not due to lack of maintenance). Alternatively, additional trash BMPs

that provide substantially equivalent removal of trash may be implemented. Additional BMPs may include, but are not limited to:

- Increased street sweeping
- Adding trash cans near trash generation sites
- Prompt enforcement of trash accumulation
- Increased trash collection on public property
- Increased litter prevention messages or trash nets within the MS4

The BMPs chosen will provide equivalent trash removal performance as excluders, and will be demonstrated through the annual report. When outfall trash capture is provided, revision of the schedule for inspection and cleanout of catch basins will also be reported in the annual report.

The State Water Resources Control Board (State Water Board) is considering the adoption of amendments to the Water Quality Control Plans for Ocean Waters of California and for the Inland Surface Water, Enclosed Bays, and Estuaries of California for Trash (Trash Amendments) citing a strong need for statewide consistency in trash management. The proposed Trash Amendments will include five elements: (1) Water Quality Objective, (2) Prohibition of Discharge, (3) Implementation, (4) Compliance Schedule, and (5) Monitoring, which will outline NPDES Permittee requirements for trash management. The development of the Trash Amendments will continue to be monitored, and any additional required trash management practices in areas not subject to a trash TMDL will be implemented per the guidance provided by these amendments.

#### **7.4 Storm Drain Maintenance**

*Permit §VI.D.9.h.viii (LA)/§VII.L.8.viii (LB)*

The following BMPs constitute the Storm Drain Maintenance Program:

- Municipally-owned open channels and drainage structures are visually inspected for debris at least annually.
- Trash and debris from is removed from open channel storm drains a minimum of once per year, before the storm season.
- The discharge of contaminants is minimized during MS4 maintenance and clean outs;
- Material removed is properly disposed of by containing and hauling away for legal disposal

#### **7.5 Infiltration from Sanitary Sewer to MS4/Preventive Maintenance**

*Permit §VI.D.9.h.ix (LA)/§VII.L.8.ix (LB)*

Thorough, routine, preventive surveys and maintenance of both municipally owned and operated Storm Drain Systems as well as Sanitary Sewer Systems infiltration and seepage of contaminants from the sanitary sewer system into the storm drain system is prevented. Sanitary Sewer System routine preventative maintenance is described in the Sewer System Management Plan (SSMP), which is a component of the Statewide General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems.

Where necessary, controls implemented to limit infiltration of seepage from sanitary sewers to the MS4 include:

- Adequate plan checking for construction and new development;
- Incident response training for its municipal employees that identify sanitary sewer spills;
- Code enforcement inspections;
- MS4 maintenance and inspections;
- Interagency coordination with sewer agencies; and

- Proper education of its municipal staff and contractors conducting field operations on the MS4 or its municipal sanitary sewer (if applicable).

**7.6 Permittee Owned Treatment Control BMPs** *Permit §VI.D.9.h.x (LA)/§VII.L.8.x (LB)*

All municipally owned treatment control BMPs, including post-construction BMPs, are regularly inspected and maintained to ensure their proper operation.

Any residual water generated during BMP maintenance is disposed of using one of the following procedures:

- Hauled away and legally disposed of; or
- Applied to the land without runoff; or
- Discharged to the sanitary sewer system; or
- Treated or filtered to remove bacteria, sediments, nutrients, and meet the limitations set in Table PA-6 below prior to discharge to the storm drain system.

Table PA-6: Discharge Limitations for Dewatering Treatment BMPs

Parameter	Units	Limitation
Total Suspended Solids	Mg/L	100
Turbidity	NTU	50
Oil and Grease	Mg/L	10

**8. Streets, Roads, and Parking Facilities Maintenance**

*Permit §VI.D.9.i(LA)/§VII.L.9 (LB)*

*This section corresponds to multiple Activity Cut Sheets within the Flexible Pavement, Rigid Pavement, Litter/Debris/Graffiti, Traffic Guidance, and Management and Support Families.*

Streets and roads may collect litter and debris from nearby activities, as well as from vehicular traffic. They also require routine maintenance that may generate waste materials. Table PA-7 shows potential pollutants generated from street, road, and parking facilities maintenance.

Table PA-7: Potential Pollutants Generated from Street, Road, and Parking Facility Maintenance

Activity	Potential Pollutants						
	Sediment	Trash	Metals	Bacteria	Oil & Grease	Organics	Oxygen Demanding Substances
Street and Road Maintenance	✗	✗	✗		✗	✗	
Parking Facility Maintenance	✗	✗	✗	✗	✗	✗	✗

**8.1 Street Sweeping**

*Permit §VI.D.9.i.i-ii(LA)/§VII.L.9.i-ii (LB)*

Streets and/or street segments are swept according to the following designations:

- Priority A: Streets and/or street segments that are designated as consistently generating the highest volumes of trash and/or debris should be swept at least two times per month.
- Priority B: Streets and/or street segments that are designated as consistently generating moderate volumes of trash and/or debris should be swept at least once per month.
- Priority C: Streets and/or street segments that are designated as generating low volumes of trash and/or debris shall be swept as necessary but in no case less than once per year.

## 8.2 Road Reconstruction

*Permit §VI.D.9.iii (LA)/§VII.L.9.iii (LB)*

Projects that include roadbed or street paving, repaving, patching, digouts, or resurfacing roadbed surfaces implement the following BMPS:

- Restricting paving and repaving activities to exclude periods of rainfall or predicted rainfall unless required by emergency conditions.
- Installing sand bags or gravel bags and filter fabric at all susceptible storm drain inlets and at manholes to prevent spills of paving products and tack coat;
- Preventing the discharge of release agents including soybean oil, other oils, or diesel into the MS4 or receiving waters.
- Preventing non-stormwater runoff from water use for the roller and for evaporative cooling of the asphalt.
- Cleaning equipment over absorbent pads, drip pans, plastic sheeting or other material to capture all spillage and dispose of properly.
- Collecting liquid waste in a container, with a secure lid, for transport to a maintenance facility to be reused, recycled or disposed of properly.
- Collecting solid waste by vacuuming or sweeping and securing in an appropriate container for transport to a maintenance facility to be reused, recycled or disposed of properly.
- Covering the “cold-mix” asphalt (i.e., pre-mixed aggregate and asphalt binder) with protective sheeting during a rainstorm.
- Covering loads with tarp before haul-off to a storage site, and not overloading trucks.
- Minimizing airborne dust by using water spray during grinding.
- Avoiding the stockpiling of soil, sand, sediment, asphalt material and asphalt grindings materials or rubble in or near MS4 or receiving waters.
- Protecting stockpiles with a cover or sediment barriers during a rain.

## 8.3 Parking Facilities Maintenance

*Permit §VI.D.9.iv (LA)/ §VII.L.9.iv (LB)*

Municipally owned parking lots that are uncovered and exposed to stormwater are kept clear of debris and excessive oil buildup by inspecting lots at least 2 times per month and cleaning at least once per month.

## 9. Emergency Procedures

*Permit §VI.D.9.j (LA)/ §VII.L.10 (LB)*

Participating Agencies may conduct repairs of essential public service systems and infrastructure in emergency situations with a self-waiver of the provisions of the MS4 Permit as follows:

- Cities will abide by all other regulatory requirements, including notification to other agencies as appropriate.
- Where the self-waiver has been invoked, Cities will submit to the Regional Water Board Executive Officer a statement of the occurrence of the emergency, an explanation of the

circumstances, and the measures that were implemented to reduce the threat to water quality, no later than 30 business days after the situation of emergency has passed.

Minor repairs of essential public service systems and infrastructure in emergency situations (that can be completed in less than one week) are not subject to the notification provisions. Appropriate BMPs to reduce the threat to water quality will be implemented.

#### **10. Municipal Employee and Contractor Training** *Permit §VI.D.9.k (LA)/Permit §VII.L.11 (LB)*

An annual training program on the requirements of the overall stormwater management program is implemented for all municipal field staff whose interactions, jobs, and activities affect stormwater quality prior to June 30 every year. The Cities also ensure that contractors performing privatized/contracted municipal services have appropriate training in the stormwater management program. The goals of the annual training are to:

- Promote a clear understanding of the potential for municipal activities to pollute stormwater
- Identify opportunities to require, implement, and maintain appropriate BMPs in their line of work

In addition to the annual stormwater program training, the Cities implement an annual training program to train all of their employees and contractors who use or have the potential to use pesticides or fertilizers (whether or not they normally apply these as part of their work). Training programs address:

- The potential for pesticide-related surface water toxicity
- Proper use, handling, and disposal of pesticides
- Least toxic methods of pest prevention and control, including IPM
- Reduction of pesticide use

Outside contractors can self-certify, providing they certify they have received all applicable training required in the MS4 Permit and have documentation to that effect.



# Illicit Connections & Illicit Discharges Elimination Program

Each participating city is required to develop and implement an Illicit Connections & Illicit Discharge Elimination (IC/ID) Program that includes the requirements listed in Permit §VI.D.10.a (LB §VII.M). This document provides guidance to assist the Cities in implementing an IC/ID program in compliance with the Permit.

## Introduction

*Permit §VI.D.10.a (LA)/§VII.M.1 (LB)*

Illicit connections and illicit discharges (IC/IDs) as defined in Table ICID-1 are potential significant sources of pollutants into and from the MS4. The Illicit Connection and Illicit Discharge (IC/ID) Program provides a comprehensive process for detecting, investigating and eliminating IC/IDs in an efficient and timely manner. The program consists of the following components:

- Procedures for conducting source investigations for IC/IDs
- Procedures for eliminating the source of IC/IDs
- Procedures for public reporting of illicit discharges
- Spill response plan and
- IC/ID education and training for City staff.

The purpose of this program is to effectively prohibit illicit discharges into the MS4.

Table ICID-1: IC/IDs Defined

Prohibition	Definition	Examples
Illicit Connections	Any man-made conveyance that is connected to the MS4 without a permit, excluding roof drains and other similar type connections.	Unpermitted channels, pipelines, conduits, inlets or outlets that are connected directly to the MS4.
Illicit Discharges	Any discharge into the MS4 or from the MS4 into a receiving water that is prohibited under local, state, or federal statutes, ordinances, codes or regulations. This includes any non-stormwater discharge, except those authorized in MS4 Permit §III.A.10.2.	Sanitary wastewater, Vehicle wash water, wash-down from grease traps, motor oil, antifreeze and fuel spills into or from the MS4.

## Legal Authority

Adequate Legal Authority is required to prohibit IC/IDs to the MS4 and enable enforcement capabilities to eliminate the sources of IC/IDs.

## Illicit Discharge Source Investigation and Elimination

*Permit §VI.D.10.b (LA)/ §VII.M.2 (LB)*

The purpose of the IC/ID Program is accomplished in part by developing clear, step-by-step written procedures for conducting investigations of illicit discharges.

## Investigation

Standardized procedures for conducting investigations to identify the source of all suspected illicit discharges are included in as an attachment (Illicit Discharge Investigation and Elimination Guidance). Procedures include the following:

- **Initiation** – Investigate the source of all observed discharges. After becoming aware of an illicit discharge, conduct an investigation to identify and locate the source within 72 hours.
- **Prioritization** – Investigate illicit discharges suspected of being sanitary sewage and/or significantly contaminated first.
- **Tracking** – Track all investigations and document the information listed in Table ICID-2.

Table ICID-2: Recorded Information for Illicit Discharge Investigations

Item	Information
1	Date(s) the illicit discharge was observed
2	Results of the investigation
3	Follow-up of the investigation
4	Date the investigation was closed

## Elimination

Standardized procedures to eliminate illicit discharges once the sources are located are included as an attachment. Procedures include the following:

- **Notification** – Immediately notify the responsible party (RP)/parties of the problem and require the responsible party to initiate all necessary corrective actions to eliminate the illicit discharge.
  - If it is determined that an illicit discharge originates within an upstream jurisdiction, notify the upstream jurisdiction and the Regional Board. The Notification is conducted within 30 days of determination and information is collected regarding combined efforts to identify the source.
- **Spill response** – The Spill Response Plan is implemented when the source for illicit discharges cannot be traced to a suspected RP. Permanent solutions to such discharges are described in the following section (Flow Diversion).
- **Follow-up** – Conduct and document follow-up investigations upon notification that an illicit discharge has been eliminated to verify that it has been satisfactorily eliminated and cleaned-up.
- **Enforcement** – Enforcement procedures are included in the Progressive Enforcement Policy. The Progressive Enforcement Policy includes a list of enforcement actions.

## Progressive Enforcement Policy

The Progressive Enforcement Policy is implemented to ensure that illicit discharges/ illicit connections are eliminated within a reasonable time period. The procedures are followed when the source of the nature of the discharges is known. Procedures typically include:

- Written warnings for minor violations
- Formal notice of violation with specific actions and time frames for compliance
- Compensation from the RP for any costs related to remediation, inspection, investigation, clean-up and oversight activities
- Cease and desist orders

- Civil penalties (infractions), or referral for criminal penalties or further legal action.

### Flow Diversion

In the event that an ongoing illicit discharge cannot be eliminated (following the full execution of legal authority and in accordance with the Progressive Enforcement Policy) or the RPs cannot be identified, the discharge is either treated or diverted to the sanitary sewer. In either instance, the Regional Board is notified within 30 days of such determination. Notification includes the following information:

- Written plan that describes the efforts that have been undertaken to eliminate the discharge.
- Description of actions to be undertaken.
- Anticipated cost and
- Schedule for completion.

### Identification and Response to Illicit Connections

*Permit §VI.D.10.c (LA)/§VII.M.3 (LB)*

Illicit connections can be concentrated sources of pollutants either through direct discharge or infiltration of sewage or other prohibited discharges into the MS4. To reduce this source of pollutants, the following program is implemented for the identification of illicit connections. Key components of this program include investigating and responding in order to actively prevent and eliminate illicit connections.

#### Investigation

Standardized procedures for identifying illicit connections are included as an attachment (Illicit Connection Investigation Guidance). Procedures include the following:

- **Initiation** – Investigate within 21 days from the discovery or upon receiving a report of a suspected illicit connection. The elements of the investigation are listed in Table ICID-3.
- **Tracking** – Track all investigations and document the information listed in Table ICID-3.

#### Response

If the source investigation concludes that a connection to the MS4 is both 1) permitted or documented and 2) discharging only stormwater or nonstormwater allowed under WMP NSW SECTION or other individual or general NPDES Permits/WDRs, then the investigation is closed and no further action is taken. Upon confirmation of a connection to the MS4 is illicit, one of two options is taken:

1. **Permit or document the connection.** The permitted or documented connection may only discharge stormwater and nonstormwater allowed under WMP NSW SECTION or other individual or general NPDES Permits/WDRs. Retaining a record of the connection and its investigation qualifies as documentation.
2. **Eliminate the connection.** The connection is eliminated within 180 days of completion of the investigation, using formal enforcement authority if necessary.

Table ICID-3: Recorded Information for Illicit Connection Investigations

Item	Information
1	Any relevant illicit discharge information from Table ICID-2
2	Source of the connection
3	Nature and volume of the discharge through the connection
4	RP for the connection (if identified)
5	Response including any formal enforcement taken

### **Public Reporting of Non-Stormwater Discharges and Spills** *Permit §VI.D.10.d (LA)/§VII.M.4 (LB)*

#### **Central Point of Contact**

Public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s through a central contact point are promoted, publicized, and facilitated. This includes phone numbers and an internet site for complaints and spill reporting. The reporting hotline is provided to staff to leverage the field staff that has direct contact with the MS4 in detecting and eliminating illicit discharges.

The LACFCD, in collaboration with the County, provides the central point of contact and through the 888-CLEAN-LA reporting hotline and internet site.

#### **Open Channels**

Signage is posted adjacent to open channels (see MS4 Permit IV.D.9.h.vi.(4)). The signage includes information regarding dumping prohibitions and public reporting of illicit discharges.

#### **Complaints**

Written procedures are maintained that document how complaint calls are received, and tracked to ensure that all complaints are adequately addressed in the attached form (Record Keeping & Documentation). Following the adaptive management process outlined in the MS4 Permit, the procedures are periodically evaluated to determine whether changes or updates are needed to ensure that the procedures accurately document the employed methods. After the evaluation, any identified changes will be made to the procedures.

Documentation is maintained for all complaint calls. This includes recording the location of the reported spill or IC/ ID and the actions undertaken in response the complaint, including referrals to other agencies.

### **Spill Response Plan**

*Permit §VI.D.10.e (LA)/§VII.M.5 (LB)*

A spill response plan (Attachment ICID-E) is implemented for all sewage and other spills that may discharge into its MS4. The spill response plan identifies agencies responsible for spill response and cleanup, telephone numbers and e-mail address for contacts, and contains the following:

- **Agency Coordination** – Coordinate with spill response teams throughout all appropriate departments, programs and agencies so that maximum water quality protection is provided.
- **Spill Response** – Respond to spills for containment within 4 hours of becoming aware of the

spill, except where such spills occur on private property, in which case respond within 2 hours of gaining legal access to the property. Initiate investigation of all public and employee spill complaints within one business day of receiving the complaint to assess validity.

- **Reporting** – Spills that may endanger health or the environment are reported to appropriate public health agencies and the California Emergency Management Agency (Cal EMA).

### **Illicit Connection and Illicit Discharge Education and Training** *Permit §VI.D.10.f (LA)/§VII.M.6 (LB)*

A training program regarding the identification of IC/IDs is implemented for all municipal field staff, who, as part of their normal job responsibilities (e.g., street sweeping, storm drain maintenance, collection system maintenance, road maintenance), may come into contact with or otherwise observe an illicit discharge or illicit connection to the MS4. Contact information, including the procedure for reporting an illicit discharge, is readily available to field staff.

#### **Applicable Staff**

Table ICID-4 is a list of field programs where program staff may come into contact with or otherwise observe an illicit discharge or illicit connection to the MS4. Appropriate field staff, supervising staff and contractors involved in these programs require training in IC/ID identification and reporting following the schedule provided in Table ICID-5.

#### Contracted Staff

Contractors that provide these municipal services may attend city training or certify to the participating city and retain documentation that staff has received applicable training. Otherwise this provision is accomplished through a contractual requirement for contracted staff to receive the training.

Table ICID-4: Municipal Field Programs

Main Field Program Types	Sub-Category Types/Activities
Lake Management	Fertilizer & Pesticide Management
	Mowing, Trimming/Weeding, Planting
	Managing Landscape Waste
	Controlling Litter
	Erosion Control
	Controlling Illegal Dumping
	Bacteria Control
	Monitoring
Landscape Maintenance	Mowing, Trimming/Weeding, Planting
	Irrigation
	Fertilizer & Pesticide
	Managing Landscape Waste
	Erosion Control
Roads, Streets, and Highways Operations and Maintenance	Sweeping & Cleaning
	Street Repair & Maintenance
	Bridge & Structure Maintenance
Fountains, Plazas, and Sidewalk Maintenance and Cleaning	Surface Cleaning
	Graffiti Cleaning
	Sidewalk Repair
	Controlling Litter
	Fountain Maintenance
Solid Waste Handling	Solid Waste Collection
	Waste Reduction & Recycling
	Hazardous Waste Collection
	Litter Control
Water and Sewer Utility O&M	Water Line Maintenance
	Sanitary Sewer Maintenance
	Spill/Leak/Overflow Control
Fire Department Activities	Emergency/Post-Emergency Fire Fighting Activities
	Fire Fighting Training
	Fire Station Activities

**Training Schedule**

The training schedule for all applicable staff is listed in Table ICID-5.

Table ICID-5: IC/ID Program Training Schedule

Category	Schedule
Current Staff	Twice during the term of the MS4 Permit
New Staff	Within 180 days of starting employment

**Training Elements**

The IC/ID elements addressed by the training program are listed in Table ICID-6.

Table ICID-6: Minimum IC/ID Training Program Elements

<b>Item</b>	<b>Information</b>
1	IC/ID identification, including definitions and examples
2	Investigation
3	Elimination
4	Clean-up
5	Reporting
6	Documentation

**Documentation**

Documentation of training program activities and training modules are retained and made available for review by the Regional Board.

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# PROGRESSIVE ENFORCEMENT POLICY

2014

Stormwater Enforcement Guide

DRAFT





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- Deficiencies/Violation Degrees Table
- Progressive Enforcement Flow Chart

# PROGRESSIVE ENFORCEMENT POLICY

## STORMWATER ENFORCEMENT GUIDE

### INTRODUCTION

This Stormwater Progressive Enforcement Policy (PEP) provides procedures to enforce provisions of the Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4 Order No. R4-2012-0175. Pursuant to Section VI.D.2.a of the Order, Permittees are required to develop and implement a PEP to ensure that (1) regulated Industrial/ Commercial facilities, (2) construction sites, (3) development and redevelopment sites with post-construction controls, and (4) illicit discharges are each brought into compliance with all storm water and non-storm water requirements. The PEP provides the City with a guidance for enforcing the MS4 Permit Provisions and identifies enforcement procedures designed to encourage a timely response.

### PROGRESSIVE ENFORCEMENT

Progressive enforcement is an escalating series of actions that allows for the efficient and effective use of enforcement. In some situations, an informal response (written warning/inspection report) is sufficient to inform the responsible party that there is a deficiency and to require the responsible party to return to compliance. If violations continue, the enforcement response should be quickly escalated to increasingly more formal and serious actions until compliance is achieved. Progressive enforcement is not appropriate in all circumstances. For example, where there is a situation needing immediate response, immediate issuance of a cleanup and abatement order may be appropriate.

### COMPLIANCE CRITERIA

The City conducts on-site compliance inspections and conducts investigations, in response to complaints, under their authority provided in their municipal code and ordinances to verify compliance. Typical noncompliance issues related to stormwater may include:

- Prohibited discharges to the storm drain system.
- Site's existing condition is likely to result in exposure of pollutants to stormwater contact and possible pollutant discharge to the storm drain system such as:
  - Poor housekeeping activities that results in pollutant exposure.
  - Unattended spills and leaks.
  - Uncovered or improperly stored wastes, materials, or other items of concern.
  - Open waste receptacles such as tallow bins, compactors, and trash bins.
  - Leaky or contaminated equipment stored or used outdoors.
  - Track-out of dirt and sediment or other materials to street or outdoor areas.
- Illicit connections to the storm drain system.
- Best Management Practices (BMPs) are not in place to address pollutant generating activities, which may include erosion and sediment controls and post construction controls.

## Complaint Response

The City may receive complaints regarding stormwater ordinance from their staff members, public, local agencies, or the Regional Water Board. The City initiates, within one business day,<sup>1</sup> investigation of complaints from facilities within its jurisdiction. The initial investigation includes, at minimum, a limited inspection of the facility to confirm validity of the complaint and to determine if the facility is in compliance with municipal storm water ordinance and, if necessary, to oversee corrective action. Emergency complaints are investigated immediately.

## PROGRESSIVE ENFORCEMENT GUIDELINES

### Informal Enforcement

The City implements professional judgment regarding the circumstances surrounding an enforcement action and chooses to resolve routine noncompliance quickly and efficiently through informal means that are not accompanied by sanctions (e.g., civil charges or penalties). When deemed appropriate, the City employs the procedures described below to correct noncompliance informally.

#### Written Warning/ Inspection Report

Under circumstances where an inspection reveals routine noncompliance that can be corrected within a reasonably short time, staff may choose to issue a written warning/inspection report that describes the minor deficiencies/violations and includes a schedule for correcting the noncompliance<sup>2</sup>. The purpose of the written warning is to give the responsible party an opportunity to comply voluntarily and thus avoid sanctions that might be imposed by an escalated enforcement response.

For residential zones, the City employs an informal enforcement process and escalates to formal enforcement actions for those residents that do not comply with stormwater regulations.

### Formal Enforcement / Administrative Enforcement

In the event that the City determines, based on an inspection or illicit discharge investigation conducted, that a responsible party has failed to adequately comply with the informal enforcement process within the required timeframe, the City may initiate administrative enforcement actions or will implement enforcement actions as established through authority in its municipal code. The City's goal is to achieve compliance through an extensive inspection program, educational outreach efforts and, if necessary, the initiation of appropriate enforcement action(s). The goal of any enforcement action is to: (1) return the facility to compliance in a timely manner; (2) eliminate economic benefit realized by the noncompliant facility; and (3) punish violators and prevent future noncompliance.

#### Notice of Violations

Under circumstances where the responsible party has failed to comply with the informal enforcement process or where the violations are significant, the City may choose to issue a Notice of Violation (NOV). The purpose of an NOV is to inform the responsible party of the observed violations, the applicable stormwater municipal codes that the responsible party has failed to comply with and the

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<sup>1</sup> The City may comply with the Permit by taking initial steps (such as logging, prioritizing, and tasking) to "initiate" the investigation within that one business day. However, the Regional Water Board would expect that the initial investigation, including a site visit, to occur within four business days (per MS4 Order No.R4-2012-0175 Section VI.D.2.b)

<sup>2</sup> The City may choose to issue/write inspection report on site or provide to the responsible party at a later time.

potential consequences of failing to correct the violations. The NOV also gives the responsible party an opportunity to correct the violations described in the NOV within a specified time. Under circumstances where the responsible party fails to adequately respond to the NOV by failing to address or correct the violations noted in the NOV, the severity of the enforcement response will continue to escalate as described below.

### **Failure to Return to Compliance/ Second Notice of Violation**

The City's municipal code stormwater ordinance authorizes assessment of administrative penalties which can be carried out by issuing a Failure to Return to Compliance Notice or second NOV . The second NOV is a stronger enforcement option which may be used in circumstances where the responsible party has failed to comply with the requirements as indicated on the first NOV.

### **Cease and Desist Order**

In the event the City's municipal code stormwater ordinance authorizes a Cease and Desist Order (CDO), the City may issue a CDO, as an alternative to the second NOV, when immediate action by the responsible party is necessary to eliminate a continuing or threatened serious violation of the stormwater ordinance.

### **Misdemeanors**

The City's may escalate enforcement when evidence of noncompliance indicates that the violator of the stormwater ordinance has acted intentionally with intent to cause, allow to continue or conceal a discharge in violation of the ordinance.

### **Issuance of Citation/Infractions**

At the discretion of the City's, and as established through authority in its municipal code, the City may issue citations and/or infractions.

### **Cost Recovery**

In the event that a complaint response or violation requires clean-up and or extensive investigation, the City has the authority, as established in the municipal code, to require the responsible party to reimburse the city or County for all costs incurred by the related violation. Cost recovery fees that may be collected include, but are not limited to, investigation, enforcement, compliance assistance, damage, control, and clean-up.

### **Abatement**

When a responsible party fails to cease or control a nuisance condition that results in or is likely to result in further or continuing violations, the City's may request abatement of conditions on private property if necessary, or in the event of imminent danger to public safety or the environment, the City itself may abate the nuisance condition.

### **Permit Revocation**

Sites violating the stormwater permit may be subject to permit revocation procedures as authorized in the City's municipal code.

### **City's/District Attorney**

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Severe or continuing violations should be referred to the City's or District Attorney for consideration of criminal charges.

## TIMEFRAMES FOR CORRECTING DEFICIENCIES/VIOLATIONS

Depending upon the nature of the deficiencies/violations observed, City's may specify compliance deadlines for the responsible party in the inspection report or NOV.

- Prohibited discharges: discharges are to be stopped immediately and up to two weeks. The City may require the responsible party to provide a written description of correction, long-term compliance plan.
- Illicit connection: discharge via the illicit connection are to be stopped immediately and up to two weeks. The City may require the responsible party to provide proof that connection was permanently terminated. Re-inspection typically is required.
- Pollutant exposure/prohibited conditions violations: Up to two weeks to correct violations. The City may require the responsible party to provide proof of compliance for the observed violations.

## EXTENSIONS OF COMPLIANCE DEADLINES

There are instances when a responsible party is not able to comply with requirements within the time frame specified. The City may grant a reasonable extension to the responsible party if the City determines that an extension is warranted, as follows:

- A request for extension must be received in writing (mail, e-mail, fax, hand delivered, etc.) by the City no later than the last day of the initial specified compliance deadline date.
- The extension request must explain why the extension is needed and warranted, as well as include a summary of actions taken to date by the responsible party to comply with requirements of the NOV.
- No more time is provided than should reasonably be needed for the responsible party to competently correct the noted deficiencies/violations. The City grants shorter extensions during the wet season.

Appropriate reasons to grant an extension may include, but are not limited to:

- Confirmed delays due to contractor or other service provider outside of responsible party's control.
- Extensive corrections involving work that would conceivably take longer than the time frame provided.
- In general, extensions should not be granted to allow the continuation of unauthorized non-storwater discharges.

The City may require an action plan or statement to be submitted by the responsible party within the initial compliance time frame, as a condition of granting an extension. The action plan or statement should specify the corrections that are to be made and specify an anticipated time frame for completion. The action plan or statement should be signed and dated by the responsible party.

## REFERRALS TO THE REGIONAL BOARD

The City may refer violations of its municipal storm water ordinance and/or California Water Code section 13260 by industrial and commercial facilities and construction site operators to the Regional Water Board provided that the City has made a good faith effort of applying enforcement procedures to achieve compliance with its own ordinance. At a minimum, the City's good faith effort must be documented with:

- Two follow-up inspections, and
- Two warning letters or notices of violation.

### **Referral of Violations of the General Industrial/Construction Permits**

For those facilities or site operators in violation of municipal stormwater ordinances and subject to the Industrial and/or Construction General Permits (IGP/CGP), the City may escalate referral of such violations to the Regional Water Board (promptly via telephone or electronically) after one inspection and one written notice of violation (copied to the Regional Water Board) to the facility or site operator regarding the violation. In making such referrals, the City shall include, at a minimum, the following documentation:<sup>3</sup>

- Name of the facility or site,
- Operator of the facility or site,
- Owner of the facility or site,
- WDID Number (if applicable),
- Records of communication with the facility/site operator regarding the violation, which shall include at least one inspection report,
- The written notice of violation (copied to the Regional Water Board),
- For industrial sites, the industrial activity being conducted at the facility that is subject to the Industrial General Permit, and
- For construction sites, site acreage and Risk Factor rating.

## RECORDS RETENTION

City shall maintain records, per their existing record retention policies, and make them available on request to the Regional Water Board, including inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating a good faith effort to bring facilities into compliance.<sup>4</sup>

<sup>3</sup> Pursuant to Order No. R4-2012-0175 Section VI.D.2.a.v

<sup>4</sup> Pursuant to Order No. R4-2012-0175 Section VI.D.2.a.iii

Sources

Los Angeles County Stormwater Quality Management Program (2001)

Orange County Municipal Storm Water Drainage Area Management Plan (2003)

Sacramento County Environmental Management Department. Inspection & Enforcement Policy - Commercial/Industrial Stormwater Compliance Program (2012).

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### Deficiencies/ Violation Degrees

Minor	Moderate	Major
<p>Typically involves conditions that threaten to result in pollutant discharge to the storm system and/or waterways, if not corrected. The immediate threat to human health or the environment is low.</p> <p><b>Examples:</b></p> <ol style="list-style-type: none"> <li>1. Unattended automotive fluid drips and spills likely to result in moderate discharges to the storm drain system.</li> <li>2. Discharge of a moderate amount of car body wet sanding effluent from a single vehicle to outdoor pavement that has not yet impacted the storm drain system.</li> <li>3. Unattended spilled restaurant grease on outdoor pavement. Spill appears to be recent, is less than a quart, has not yet impacted the storm drain system and poor housekeeping do not appear to be habitual.</li> <li>4. Oily, uncovered engines, or other oily, possibly leaky items stored outside.</li> <li>5. Open and missing dumpster and tallow bin lids.</li> </ol>	<p>Typically involves less significant pollutant discharges to the storm system and/or receiving waters or conditions that threaten to result in minor to moderate pollutant discharges to the storm system and/or receiving waters.</p> <p>May include small or incidental discharges of hazardous or toxic substances. The violation does not present a major threat to human health and safety, but is likely to result in degradation of receiving water quality.</p> <p><b>Examples:</b></p> <ol style="list-style-type: none"> <li>1. Discharge of moderate amounts of automotive fluids to storm drain system results from neglected spills and poor housekeeping.</li> <li>2. Discharge of moderate amount (less than 20 gallons of diluted effluent) of auto body wet sanding effluent to storm drain system.</li> <li>3. More than a quart of spilled restaurant grease on outdoor pavement is neglected, possibly getting tracked out of trash enclosure. Neglect appears to be habitual but so far, impact to storm drain is moderate.</li> <li>4. Moderate amount of Oil/fluids leaking from improperly stored engines and parts discharge to storm drain system.</li> <li>5. Repeat minor violations may be considered moderate.</li> </ol>	<p>Includes significant pollutant discharges to the storm system and/or receiving waters as well as creation of conditions that threaten imminent discharge of significant pollutants to the storm system and/or receiving waters. This also includes, but is not limited to, significant discharges of hazardous or toxic substances.</p> <p>Major violations have the potential to present a major threat to human health or safety and/or the environment. The intent of the violator should be considered: Patterns of willful disregard for safety and the environment, recalcitrance, and repeat violations should contribute to designation of a violation as major, but are not necessary.</p> <p><b>Examples:</b></p> <ol style="list-style-type: none"> <li>1. Intentional discharge of waste oil to the storm drain.</li> <li>2. Discharge of significant volumes of auto body wet sanding effluent to storm drain from work on multiple vehicles, as practice. Especially where repeat violations or evidence of habitual discharge is evident.</li> <li>3. Significant amount of spilled restaurant grease is intentionally washed into storm drain, especially if hazardous degreasing agent is used.</li> <li>4. Significant amount of Oil/fluids leaking from improperly stored engines and parts discharge to storm drain system, especially if repeat violation.</li> <li>5. Repeat moderate violations may be considered major.</li> </ol>





Watershed Management Program Appendix 3

# Attachments to MCM Guidance

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# CITY STORMWATER PROGRAM INDUSTRIAL/COMMERCIAL FACILITY INSPECTION REPORT

Facility:	Address:
Contact:	Title:
Email:	Phone:
Inspector:	Date:
Inspection Type: <input type="checkbox"/> Routine <input type="checkbox"/> Follow-up <input type="checkbox"/> Response to Complaint	BMP materials provided and explained: <input type="checkbox"/> Yes <input type="checkbox"/> No
SIC/NAICS code and/or business type:	

### Industrial Facilities Only

(1) Covered under IGP (WDID is current) or other NPDES Permit:  Yes  No      (2) NEC filed:  Yes  No      SWPPP on-site:  Yes  No

If (1) and (2) above are "No", notified contact of need for IGP coverage and will refer facility to Regional Board:  Yes  No

### CHECKLIST FOR STORMWATER BMP (BEST MANAGEMENT PRACTICE) COMPLIANCE

BMP		Yes	No	N/A	BMP		Yes	No	N/A
Vehicle & Equipment Maintenance	<b>Fueling</b> - Effective fueling source control devices & practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Facility Maintenance	<b>Building &amp; grounds maintenance</b> – Effective maintenance practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Cleaning</b> – Effective cleaning practices & wash water management practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<b>Parking &amp; storage area maintenance</b> – Effective designs & housekeeping/maintenance practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Repair</b> – Effective repair practices & source control devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<b>Stormwater conveyance system maintenance</b> – Proper operation & maintenance protocols	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equipment Operations	<b>Outdoor equipment operations</b> – Effective source control devices & practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Spills, Leaks & Discharges	<b>Sidewalk washing</b> – Remove debris & free standing oil/grease. Use high pressure/low volume spray washing with potable water, no cleaning agents & average rate of 0.006 gal/ft <sup>2</sup> .	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storage & Handling	<b>Outdoor liquids</b> – Effective source controls & practices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<b>Accidental spills/leaks</b> – Effective spill/leak prevention & response procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Outdoor raw materials</b> – Effective source control practices & structural devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<b>Unauthorized nonstormwater discharges</b> – Effective elimination	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<b>Solid waste</b> – Effective storage & handling practices & appropriate control measures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

### COMMENTS AND CORRECTIVE ACTIONS (IF REQUIRED)

Include description of activities performed and/or principal products produced

**ENFORCEMENT:**       None required       Corrective Action Notice (complete section below)       Other (see comments)

### CORRECTIVE ACTION NOTICE (IF REQUIRED)

If corrective actions have been noted above, then the responsible party (facility owner, occupant or person responsible) is in noncompliance with the City's Stormwater Quality Ordinance. The responsible party may be subject to enforcement actions under this ordinance if the corrective actions are not implemented by:

\_\_\_\_\_ Corrective Action Due Date

### ACKNOWLEDGEMENT OF RECEIPT OF CORRECTIVE ACTION NOTICE

\_\_\_\_\_  
Site Representative Signature

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Date

**Recording requested by and mail to:**

Name: City of [Insert City]  
Department of Public Works  
**ATTN: Director of Public Works**  
Address: [Insert City Address Line1]  
[Insert City Address Line2]



\*\*\*\*\* Space Above This Line For Recorder's Use \*\*\*\*\*

**MASTER COVENANT AND AGREEMENT**  
REGARDING ON-SITE BMP MAINTENANCE

The undersigned hereby certifies I am (we are) the owner(s) of the hereinafter legally described real property located in the City of [Insert City], County of Los Angeles, State of California (please give legal description: assessor's ID, tract no., lot no., etc.):

Site Address \_\_\_\_\_

Owner(s) do hereby covenant and agree to and with the City of [Insert City] to maintain all on-site structural Best Management Practices (BMPs) in accordance with the Site Map and the Operations & Maintenance (O&M) Plan set forth in Attachment 1 hereto and incorporated herein by this reference. The specific structural BMPs are listed as follows:

Owner(s) shall maintain the listed drainage devices above on the property indicated and as shown on plans permitted by the City of [Insert City] in a good and functional condition to safeguard the property owners and adjoining properties from damage and pollution.

Owner(s) hereby consent to inspection of the Property by an inspector authorized by the City Manager, or his or her designee, for the purpose for verifying compliance with the provisions of this Agreement.

Owner(s) shall provide printed educational materials with any sale of the property which provide information on what stormwater management facilities are present, the type(s) and location(s) of maintenance signs that are required, and how the necessary maintenance can be performed.

Owner(s) shall provide actual notice of this Agreement and its terms to any respective successor(s) in interest to the Property prior to transfer of said interest to such successor(s) in interest. This covenant and agreement shall run with the land and shall be binding upon any future owners, encumbrances, their successors, heirs or assigns and shall continue in effect until the City of [Insert City] approves its termination.

\_\_\_\_\_  
(Print Name of Property Owner) (Print Name of Property Owner)

\_\_\_\_\_  
(Signature of Property Owner) (Signature of Property Owner)

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_.

\*\*\*\*\* Space Below This Line For Notary's Use \*\*\*\*\*

ALL PURPOSE ACKNOWLEDGEMENT

State of \_\_\_\_\_ }  
County of \_\_\_\_\_ }

On \_\_\_\_\_ before me, \_\_\_\_\_ personally appeared  
(Insert Name of Notary Public and Title)

\_\_\_\_\_, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf on which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_ (Seal)

**Recording requested by and mail to:**

Name: City of [Insert City]  
Public Works Department  
**ATTN: Director of Public Works**



Address: [Insert City Address Line1]  
[Insert City Address Line2]

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**MASTER TERMINATION OF COVENANT AND AGREEMENT**  
REGARDING ON-SITE BMP MAINTENANCE

The undersigned hereby certifies I am (we are) the owner(s) of the hereinafter legally described real property located in the City of [Insert City], County of Los Angeles, State of California (please give legal description: assessor's ID, tract no, lot not, etc.):

Site Address \_\_\_\_\_

We do hereby, with approval of the City of [Insert City], Engineering Division, terminate the covenant and agreement entered into with the City of [Insert City] as recorded on the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_, as Document No.

This covenant and agreement is terminated for the reason that:

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
(Print Name of Property Owner) (Print Name of Property Owner)

\_\_\_\_\_  
(Signature of Property Owner) (Signature of Property Owner)

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

Termination approved by: \_\_\_\_\_ Date: \_\_\_\_\_  
(Authorized City Representative)

\*\*\*\*\* Space Below This Line For Notary's Use \*\*\*\*\*

ALL PURPOSE ACKNOWLEDGEMENT

State of \_\_\_\_\_ }  
County of \_\_\_\_\_ }

On \_\_\_\_\_ before me, \_\_\_\_\_ personally appeared  
(Insert Name of Notary Public and Title)

\_\_\_\_\_, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf on which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature \_\_\_\_\_ (Seal)



**City of [Insert City] NPDES Program  
POST-CONSTRUCTION BMP VERIFICATION & INSPECTION FORM**

<b>PROJECT INFORMATION</b>	
Facility/Project Name:	Inspection Date:
Address:	Inspector:
Contact Name:	Contact Phone:

**Project Category**

Priority Project   
  Small Site LID Project   
  Single Family Residence   
  Green Street  
 Public Project   
  Private Project

**Project Type:**

Commercial   
  Industrial   
  Residential   
  Multi-Use  
 Road/Street   
  Parking Lot   
  Automotive repair   
  Restaurant   
 Other:

**Operation/Maintenance:**

Reviewed   
  Not Reviewed   
  Not Available

Preparer's Name: \_\_\_\_\_   
 Preparer's Title: \_\_\_\_\_  
 Address: \_\_\_\_\_   
 City: \_\_\_\_\_   
 Zip: \_\_\_\_\_   
 Phone: \_\_\_\_\_

**Inspection Type**

Prior to Certificate of Occupancy   
 Special Investigation   
 Response to Complaint  
 Routine Inspection (Annual)   
 Follow-up Inspection

**CHECKLIST FOR ROUTINE SOURCE CONTROL BMPs**

Requirement	No. of BMPs (if Applicable)	BMP in place per approved LID Plan/SUSMP?	Corrective Action Required
Storm Drain System Stenciling/Signage		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Outdoor Material Storage Areas		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Trash Storage Areas		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Efficient Irrigation Systems & Landscape Design		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Protect Slopes & Channels		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Loading Dock Areas		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Maintenance Bays		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vehicle Wash Areas		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Outdoor Process Areas		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Equipment Wash Areas		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Fueling Areas		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hillside Landscaping		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Wash-water Controls for Food Prep Areas		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Community Car Wash Racks		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

**CHECKLIST FOR STRUCTURAL BMPs**

Requirement	No. of BMPs (if Applicable)	BMP in place per approved LID Plan/SUSMP?	Corrective Action Required
Infiltration Trench/Basin		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Infiltration Well/Dry Well		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Detention Basin		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Porous Pavement		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bio-infiltration		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Vegetated Swale		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bio-filtration		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Proprietary Control Measure (describe):		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Media Filtration		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Filter Insert		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Regional or Watershed BMPs		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Other (describe):		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

**INSPECTION RESULTS:**

- Visible / No Apparent Problems
- BMP Failure
- Significant Engineering / Design Flaws
- Unauthorized Modifications
- BMP Missing / Removed / Not Located
- Trash / Debris Exceeding Cap. (bypass)
- Evidence of Pollution / Dumping
- Vector Control Issues (Mosquitoes)
- Inadequate Maintenance

**DESCRIPTION OF CORRECTIVE ACTION(S) REQUIRED:**

**CORRECTIVE ACTION NOTICE (IF REQUIRED)**

If any corrective actions have been noted above, then based on this verification inspection, you are in noncompliance with Municipal Code Chapter [       -       ]. You must implement the required corrective action(s) by:

\_\_\_\_\_ Corrective Action Due Date

**After this date, your facility will be re-inspected to verify that all necessary corrective measures have been taken. FAILURE TO IMPLEMENT THE CORRECTIVE ACTION(S) WILL SUBJECT YOU TO ELEVATED ENFORCEMENT, WHICH CAN INCLUDE INFRACTION OR MISDEMEANOR PENALTIES.**

**ACKNOWLEDGEMENT OF RECEIPT OF CORRECTIVE ACTION NOTICE**

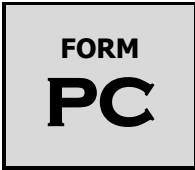
\_\_\_\_\_ Contact Signature

\_\_\_\_\_ Printed Name

\_\_\_\_\_ Date



# STORMWATER PLANNING PROGRAM PRIORITY PROJECT CHECKLIST



Project Name	Owner Name	Developer Name
Project Address	Owner Address	Developer Address
Plan Check #	Owner Phone	Developer Phone

## TYPE OF PROJECT

Does the proposed project fall into one of the following categories? Please check Yes/No

YES	NO
-----	----

### PRIORITY PROJECTS

1. A new project equal to 1 acre or greater of disturbed area and adding more than 10,000 square feet of impervious* surface area		
2. A new industrial park with 10,000 square feet or more of surface area		
3. A new commercial mall with 10,000 square feet or more surface area		
4. A new retail gasoline outlet with 5,000 square feet or more of surface area		
5. A new restaurant (SIC 5812) with 5,000 square feet or more of surface area		
6. A new parking lot with either 5,000 ft <sup>2</sup> or more of impervious* surface or with 25 or more parking spaces		
7. A new automotive service facility (SIC 5013, 5014, 5511, 5541, 7532-7534 and 7536-7539) with 5,000 square feet or more of surface area		
8. Projects located in or directly adjacent to, or discharging directly to a Significant Ecological Area (SEA)*, where the development will: <ul style="list-style-type: none"> <li>a. Discharge stormwater runoff that is likely to impact a sensitive biological species or habitat; and</li> <li>b. Create 2,500 square feet or more of impervious surface area</li> </ul>		
9. Redevelopment*		

### SPECIAL PROVISION PROJECTS

10. Green street* project		
11. Single family hillside* home		

If checked YES, numerical criteria will apply to items 1,2,6-9 and items 3-5 (for project areas of 5,000 ft<sup>2</sup> or more of surface area.) If any of the boxes are checked YES, this project will require the preparation of a Low Impact Development (LID) Plan and a Maintenance Agreement Transfer\*

\* Defined on back.

\_\_\_\_\_

Applicant Name

\_\_\_\_\_

Applicant Signature

\_\_\_\_\_

Applicant Title

\_\_\_\_\_

Date



## DEFINITIONS:

**Impervious** are those surfaces that do not allow stormwater runoff to percolate into the ground. Typical impervious surfaces include: concrete, asphalt, roofing materials, etc. However, some specially designed concrete/asphalt do allow water to percolate (pervious).

**Hillside** means property where the slope is 25% or greater and where grading contemplates cut or fill slopes. Single family hillside homes will require a less extensive plan. During the construction of a single-family hillside home, the following measures are implemented:

- a. Conserve natural areas
- b. Protect slopes and channels
- c. Provide storm drain system stenciling and signage
- d. Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability
- e. Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.

**Green Streets** means any street and road construction of 10,000 square feet or more of impervious surface area

- a. These projects will follow an approved green streets manual to the maximum extent practicable. Street and road construction applies to standalone streets, roads, highways, and freeway projects, and also applies to streets within larger projects. Stormwater mitigation measures must be in compliance with the approved green streets manual requirements.

**Redevelopment** means land-disturbing activities that result in the creation, addition, or replacement of 5,000 ft<sup>2</sup> or more of impervious surface area on an already developed site.

Redevelopment does not include routine maintenance activities that are conducted to maintain the original line and grade, hydraulic capacity, or original purpose of facility, nor does it include modifications to existing single family structures, or emergency construction activities required to immediately protect public health and safety.

**Significant Ecological Area** means an area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and would be disturbed or degraded by human activities and developments. Also, an area designated by the City as approved by the Regional Water Quality Control Board.

**Maintenance Agreement and Transfer:** All developments subject to LID and site specific plan requirements provide verification of maintenance provisions for Structural and Treatment Control BMPs, including but not limited to legal agreements, covenants, CEQA mitigation requirements, and/or conditional use permits. Verification at a minimum shall include:

- The developer's and/or owner's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and
- A signed statement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance and conduct a maintenance inspection at least once a year; or
- Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or
- Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural and Treatment Control BMPs; or
- Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.



**STORMWATER PLANNING PROGRAM**  
**PRIORITY DEVELOPMENT &**  
**REDEVELOPMENT PROJECTS**  
**PLAN CHECK # \_\_\_\_\_**

**FORM**  
**P1**

Project Name _____
Project Location _____
Company Name _____
Address _____
Contact Name / Title _____
Phone / FAX / Email _____

**GENERAL PROJECT  
CERTIFICATION**

*A completed original of this form must accompany all LID Plan submittals.*

**Best Management Practices (BMPs) have been incorporated into the design/maintenance/construction of this project to accomplish the following:**

1. Minimize impacts from stormwater runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC § 13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances.
2. Maximize the percentage of pervious surfaces to allow more percolation of stormwater into the ground.
3. Minimize the amount of stormwater directed to impermeable surfaces and to the MS4.
4. Minimize pollution emanating from parking lots through the use of appropriate Treatment Control BMPs and good housekeeping practices.
5. Minimize breeding of Vectors
6. Reduce pollutant loads in stormwater from the development site.

I certify that this Low Impact Development Plan and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered/evaluated the information submitted.

**Post Construction / Maintenance Certification**

As the responsible party, I certify that the proposed BMPs will be implemented, monitored and maintained to ensure their continued effectiveness. In the event of a property transfer, the new owner/lessee will be notified of the BMPs in use at this site and I will include written conditions in the sales or lease agreement, which requires the new owner (or lessee) to assume responsibility for maintenance and conduct a maintenance inspection at least once a year. The information contained herein is, to the best of my knowledge and belief, true, accurate, and complete.

In consideration of the execution of City of [Insert City] approval of the proposed Low Impact Development (LID) Plan including any proposed treatment system, the applicant hereby agrees to indemnify, save and keep the City of [Insert City], its officers, agents and employees free and harmless from and against any and all claims for injury, damage, loss, liability, cost and expense of any nature whatsoever, which the City of [Insert City], its officers, agents, or employees may suffer, sustain, incur, pay out as a result of any and all actions, suits, proceedings, claims and demands which may be brought, made, or filed against the City of [Insert City], its officers, agents or employees by reason of or arising out of, or in any manner connected with any and all operations permitted by this approval. This indemnification extends to further agree that the City of [Insert City] is not responsible for any additional requirements or restrictions due to changes in regulations, policies or enforcement practices of the California Regional Water Quality Control Board, or any other applicable regulatory agencies.

\_\_\_\_\_  
Property Owner Name

\_\_\_\_\_  
Property Owner Signature

\_\_\_\_\_  
Applicant Title

\_\_\_\_\_  
Date

## PLANNING BEST MANAGEMENT PRACTICES

BMP Name	BMP Identification Number and Name	✓ if to be used
Car Wash Facility	<a href="#">SC-21</a> : Vehicle and Equipment Cleaning	
Constructed Wetlands	<a href="#">MP-20</a> : Wetlands	
Control of Impervious Runoff	-N/A-	
Efficient Irrigation	-N/A-	
Energy Dissipaters	<a href="#">EC-10</a> : Velocity Dissipation Devices	
Extended Detention Basins	<a href="#">TC-22</a> : Extended Detention Basin	
Infiltration Basins	<a href="#">TC-11</a> : Infiltration Basins	
Infiltration Trenches	<a href="#">TC-10</a> : Infiltration Trenches	
Inlet Trash Racks	-N/A-	
Landscape Design	<a href="#">EC-2</a> : Preservation of Existing Vegetation <a href="#">EC-4</a> : Hydro seeding <a href="#">EC-6</a> & <a href="#">EC-8</a> : Straw & Wood Mulching	
Linings for Urban Runoff Conveyance Channels	-N/A-	
Materials Management	<a href="#">SC-30</a> : Outdoor Loading/Unloading	
Media Filtration	<a href="#">TC-40</a> : Media Filter	
Motor Fuel Concrete Dispensing Areas	<a href="#">SC-20</a> : Vehicle and Equipment Fueling	
Motor Fuel Dispensing Area Canopy	<a href="#">SC-20</a> : Vehicle and Equipment Fueling	
Water Quality Inlets	<a href="#">TC-50</a> : Water Quality Inlet	
Outdoor Storage	<a href="#">SC-31</a> : Outdoor Liquid Container Storage <a href="#">SC-33</a> : Outdoor Storage of Raw Materials	
Porous Pavement and/or Alternative Surfaces	-N/A-	
Protect Slopes and Channels	<a href="#">EC-11</a> : Slope Drains <a href="#">EC-12</a> : Streambank Stabilization	
Self-Contained Areas for Vehicle or Equipment Washing, Steam Cleaning, Maintenance, Repair, or Material Processing	<a href="#">SC-21</a> : Vehicle and Equipment Cleaning <a href="#">SC-22</a> : Vehicle and Equipment Repair <a href="#">SC-32</a> : Outdoor Equipment Operations	
Storm Drain System Stenciling and Signage	<a href="#">SC-34</a> : Waste Handling and Disposal (Signage Section)	
Trash Container Areas	<a href="#">SC-34</a> : Waste Handling and Disposal	
Vegetated Swales and Strips	<a href="#">TC-32</a> : Bioretention	
Wet Ponds	<a href="#">TC-20</a> : Wet Ponds	
Other:	<ul style="list-style-type: none"> <li>•</li> <li>•</li> <li>•</li> <li>•</li> <li>•</li> </ul>	

**Please refer to the California Storm Water Best Management Practice Handbooks for more information.**



Insert  
City  
Seal

# STORMWATER TREATMENT CERTIFICATION

FORM  
**P2**

### SITE NAME and ADDRESS

### APPROXIMATE PROJECT CHARACTERISTICS

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Plan Check # \_\_\_\_\_

Planning # \_\_\_\_\_

Roofed Area \_\_\_\_\_ ft<sup>2</sup>

Roadway/Parking Area (exposed) \_\_\_\_\_ ft<sup>2</sup>

Landscaped/Vegetation \_\_\_\_\_ ft<sup>2</sup>

Other Ground Level Impervious Areas  
(Ex: Outdoor work or storage areas) \_\_\_\_\_ ft<sup>2</sup>

Other: \_\_\_\_\_ ft<sup>2</sup>

**TOTAL** \_\_\_\_\_ ft<sup>2</sup>

## STRUCTURAL/TREATMENT BMPs

(attach additional sheets as necessary) or see back

Area Designation (must correspond with plans)	Tributary Area (ft <sup>2</sup> )	Average Impervious Factor	Estimated Flow Rate or Volume*	Anticipated Potential Pollutants	Type of BMP (include size, make, and model, if any)	BMP Location (briefly describe)	Design Treatment Flow Rate or Volume Capacity

**By stamping this form, I acknowledge that each treatment BMP is provided with adequate bypass or overflow so as not to contribute to localized flooding or soil instability.**

\*Flow rates and volumes based on the 0.75 inch, 24-hour rain event or the 85th percentile, 24-hour rain event, whichever is greater.

I certify that I am a Professional Civil Engineer registered in the State of California, and that the treatment methods and capacities herein comply with the requirements established by the California Regional Water Quality Control Board, Los Angeles Region, and the State Water Resources Control Board for Low Impact Development (LID) Plans.

**Affix Registered Engineer  
Wet Ink Stamp Here:**



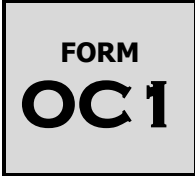
\_\_\_\_\_

**Print Name**                      **Signature**                      **Date**





# OWNER'S CERTIFICATION MINIMUM BMPs FOR ALL CONSTRUCTION SITES



PLAN CHECK # \_\_\_\_\_

Project Name _____ Project Location _____	BUILDING/GRADING PERMIT NUMBER _____
Owner Name _____ Address _____ Phone _____ FAX/Email _____	Contractor Name _____ Address _____ Phone _____ FAX/Email _____

The National Pollutant Discharge Elimination System (NPDES) is the portion of the Clean Water Act that applies to the protection of receiving waters. Under permits from the Los Angeles Regional Water Quality Control Board (RWQCB), certain activities are subject to RWQCB enforcement. To meet the requirements of the Los Angeles County Municipal Stormwater Permit (CAS004001), minimum requirements for sediment control, erosion control and construction activities must be implemented on each project site. Minimum requirements include:

- **EROSION CONTROL:** Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs, such as the limiting of grading activities during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.
- **SEDIMENT CONTROL:** Eroded sediments from areas disturbed by construction and from stockpiles of soil shall be retained on site to minimize sediment transport from the site to streets, drainage facilities and/or adjacent properties via runoff, vehicle tracking or wind.
- **NON-STORMWATER MANAGEMENT:** Non-stormwater runoff from equipment and vehicle washing and any other activity shall be contained at the project site.
- **WASTE MANAGEMENT:** Construction related materials, wastes, spills or residues shall be retained on site to minimize transport from the site to streets, drainage facilities or adjoining properties by wind or runoff. Runoff from equipment and vehicle washing shall be contained at construction sites unless treated to remove sediment and pollutants.

*Examples of Minimum BMPs include: (1) Soil piles must be covered with tarps or plastic, (2) leaking equipment must be repaired immediately, (3) refueling must be conducted away from catch basins, (4) catch basins must be protected when working nearby, (5) vacuum all concrete saw cutting, (6) never wash concrete waste into the street, (7) keep the site clean, sweep the gutters at the end of each working day and keep a trash receptacle on site.*

As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on stormwater quality. The project owner and contractor are aware that the selected BMPs shall be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity.

\_\_\_\_\_  
Architect/Engineer of Record Name  
\_\_\_\_\_  
Title

\_\_\_\_\_  
Architect/Engineer of Record Signature  
\_\_\_\_\_  
Date

I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/ or inaccurate information, failing to update the ESCP to reflect current conditions, or failing to properly and/ or adequately implement the ESCP may result in revocation of grading and/ or other permits or other sanctions provided by law.

\_\_\_\_\_  
Landowner or Landowner's Agent Name  
\_\_\_\_\_  
Title

\_\_\_\_\_  
Landowner or Landowner's Agent Signature  
\_\_\_\_\_  
Date



# EROSION AND SEDIMENT CONTROL PLAN (ESCP) REVIEW CHECKLIST

These requirements apply to all activities involving soil disturbance with the exception of agricultural activities. Applicable activities include but are not limited to grading, vegetation clearing, soil compaction, paving, re-paving and linear underground/overhead projects (LUPs).

Prior to issuing a grading or building permit, each operator of a construction activity within its jurisdiction must prepare and submit an ESCP prior to the disturbance of land.

Contact Name:	Tracking #:
Contact Title:	Site Name:
Company Name:	Site Address:
Mailing Address:	Type of Facility:
City, State, Zip:	Submittal Date:
Phone Number:	Plan Return Date:
Fax Number:	Disturbed Area:

First Review

ESCP Received on:

Review Completed on:

Second Review

ESCP Received on:

Review Completed on:

Third Review

ESCP Received on:

Review Completed on:

Fourth Review

ESCP Received on:

Review Completed on:

Fifth Review

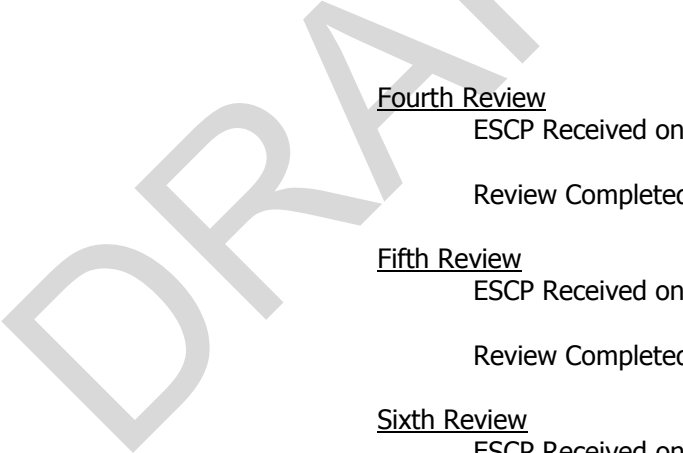
ESCP Received on:

Review Completed on:

Sixth Review

ESCP Received on:

Review Completed on:



ESCP Review Checklist

ESCP REQUIREMENT	SATISFACTION			COMMENTS
	YES	NO	N/A	
<b>General Information</b>				
Contact information (e.g., name, address, phone, email, etc.) provided for the owner and contractor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Basic site information including location, status, size of the project and area of disturbance is provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Proof of existing coverage under applicable permits, including, but not limited to the State Water Board's Construction General Permit, and State Water Board 401 Water Quality Certification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Meets the minimum requirements of the jurisdictional erosion and sediment control ordinance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes the elements of a Storm Water Pollution Prevention Plan (SWPPP) prepared in accordance with the requirements of the Construction General Permit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Developed and certified by a Qualified SWPPP Developer (QSD).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Identifies the proximity all water bodies, water bodies listed as impaired by sediment-related pollutants, and water bodies for which a sediment-related TMDL has been adopted and approved by the USEPA.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Identifies any significant threat to water quality status, based on consideration of factors listed in Appendix 1 to the Construction General Permit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The project start date and anticipated completion date is provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes Identification of site Risk Level as identified per the requirements in Appendix 1 of the Construction General Permit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Contains a language signed by the landowner or the landowner's agent stating as follows:  <i>"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/ or inaccurate information, failing to update the ESCP to reflect current conditions, or failing to properly and/ or adequately implement the ESCP may result in revocation of grading and/ or other permits or other sanctions provided by law."</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



ESCP REQUIREMENT	SATISFACTION			COMMENTS
	YES	NO	N/A	
<b>Best Management Practices</b>				
All structural BMPs are designed by a licensed California Engineer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes Sediment/Erosion Control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes controls to prevent tracking on and off the site.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes non-stormwater controls (e.g., vehicle washing, dewatering, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes Materials Management (delivery and storage).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes Spill Prevention and Control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes Waste Management (e.g., concrete washout/waste management; sanitary waste management).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes methods to minimize the footprint of the disturbed area and to prevent soil compaction outside of the disturbed area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes methods used to protect native vegetation and trees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Includes the rationale for the selection and design of the proposed BMPs, including quantifying the expected soil loss from different BMPs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Post-Construction Structural BMPs subject to Operation and Maintenance Requirements are identified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Site Plan</b>				
Full sized plans showing the site with all proposed BMPs and water quality notes have been signed and stamped with wet ink application by the appropriate individual.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Plan includes a title block containing at least the project name, address, and owner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All figures, maps, plot plans, etc. have a legend, including a North arrow and scale.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All facilities are labeled for the intended function.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All areas of outdoor activity are labeled.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
All structural BMPs are indicated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Drainage flow information depicted.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Project location shown.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Site boundary indicated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

# Agency Standard Operating Procedures

Each agency will use the suggested language below to develop, implement, and revise as necessary agency-specific Standard Operating Procedures (SOPs) that identify the procedures each agency will follow.

## CGP Coverage Verification

- Verification of active coverage under the Construction General Permit for sites disturbing 1 acre or more, or that are part of a planned development that will disturb 1 acre or more and a process for referring non-filers to the Regional Water Board.

Prior to releasing any permits relating to and/or allowing for construction activities on a site resulting in one (1) acre or more of soil disturbance, a Notice of Intent (NOI), a Storm Water Pollution Prevention Plan (SWPPP), and all other Permit Registration Documents (PRDs) must be filed with the Regional Water Resources Control Board (Regional Board) through the State Water Board's Storm water Multi-Application and Report Tracking System (SMARTS) website and a Waste Discharge ID (WDID) number must be obtained from the Regional Board. This requirement will be included as a condition of approval. In cases where construction activities have commenced on a qualifying site and the project has not yet filed all PRDs (along with an explanation for filing late) with the Regional Board, a Notice of Violation (NOV) will be sent to the responsible person. Any work orders released will be stopped and fines may be enforced. The Regional Board will be notified of the discharger's non-compliance. Work will not be allowed to commence until the NOI has been accepted by the Regional Board and WDID number issued.

## ESCP Review

- Review of the applicable ESCP and inspection of the construction site to determine whether all BMPs have been selected, installed, implemented, and maintained according to the approved plan and subsequent approved revisions.

Prior to issuing a grading or building permit, each operator of a construction activity within its jurisdiction must prepare and submit an Erosion and Sediment Control Plan (ESCP) prior to the disturbance of land. The ESCP Requirement Checklist will be used to ensure required information is submitted by the responsible person. These requirements apply to all activities involving soil disturbance with the exception of agricultural activities. Applicable activities include but are not limited to grading, vegetation clearing, soil compaction, paving, re-paving and linear underground/overhead projects (LUPs).

## BMP Assessment

- Assessment of the appropriateness of the planned and installed BMPs and their effectiveness.

Prior to releasing any permits relating to and/or allowing for construction activities on a site resulting in one (1) acre or more of soil disturbance a Qualified SWPPP Practitioner (QSP) must be identified by the developer. Prior to beginning any construction activities, the QSP must review the ESCP and determine if the following requirements are being met:

1. Erosion and sediment controls are incorporated to provide effective reduction or elimination of sediment related pollutants in stormwater discharges and authorized non-stormwater discharges from the site.

2. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.
3. Non-stormwater control BMPs are selected to control sediment on the construction site.
4. Materials and waste management pollution control BMPs are incorporated to minimize stormwater contact with construction materials, wastes and service areas; and to prevent materials and wastes from being discharged off-site.

If the QSP identifies potential problematic areas of the ESCP, a revision to the ESCP must be submitted for review and approval.

Once the BMPs are installed, inspections must be conducted at the frequency identified in the Watershed Management Program (WMP). All BMPs not functioning as intended must be repaired, replaced, or changed to a more effective BMP. Inspection and maintenance procedures must be in accordance with the CASQA handbook.

### **Discharge Reporting**

- Visual observation and record keeping of non-stormwater discharges, potential illicit discharges and connections, and potential discharge of pollutants in stormwater runoff.

Any non-stormwater discharges, potential illicit discharges and connections, and potential discharge of pollutants in stormwater runoff will be tracked and kept on record.

Public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s within this jurisdiction will be conducted. Multiple modes of communication are in place to allow for complaints and spill reporting. When a complaint is received it will be documented and tracked to ensure that all complaints are adequately addressed.

A Spill Response Plan will be implemented for all sewage and other spills that may discharge into the MS4 within this jurisdiction. Coordination with spill response teams will be observed throughout all appropriate departments, programs, and agencies so that maximum water quality protection is provided. All spill complaints will be investigated within one business day of receiving the complaint and a response to spills for containment will be conducted within 4 hours of becoming aware of the spill, except where such spills occur on private property, in which case the response should be within 2 hours of gaining legal access to the property. Spills that may endanger health or the environment will be reported to appropriate public health agencies and the Office of Emergency Services (OES).

A training program regarding the identification of illicit connections/illicit discharges (IC/IDs) for all municipal field staff, who, as part of their normal job responsibilities (e.g., street sweeping, storm drain maintenance, collection system maintenance, road maintenance), may come into contact with or otherwise observe an illicit discharge or illicit connection to the MS4 will be provided.

### **Construction Inspection Reporting and Tracking**

- Development of a written or electronic inspection report generated from an inspection checklist used in the field.
- Tracking of the number of inspections for the inventoried construction sites throughout the reporting period to verify that the sites are inspected at the minimum frequencies required.

Inspections will be conducted at a frequency listed in the Watershed Management Program (WMP). Inspection checklists and/or reports will be utilized to determine and keep record of whether or not all

BMPs have been selected, installed, implemented, and maintained according to the approved plan and subsequent approved revisions. These checklists/reports will be retained for at least three (3) years following NOT approval.

DRAFT

**(CITY NAME) STORMWATER INSPECTION REPORT FOR CONSTRUCTION SITES**

SITES ONE ACRE OR GREATER

Project Name:		Address:	
Area disturbed:		WDID:	SWPPP on-site: <input type="checkbox"/> Yes <input type="checkbox"/> No
Risk level: <input type="checkbox"/> Low (Risk 1) <input type="checkbox"/> Medium (Risk 2) <input type="checkbox"/> High (Risk 3)	Erosion & Sediment Control Plan (ESCP) on-site: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Phase: <input type="checkbox"/> Prior to Land Disturbance <input type="checkbox"/> Active construction <input type="checkbox"/> Site stabilization			
Developer/Contractor:		Phone number:	
Contact:		Title:	
Inspector:		Date:	
Inspection: <input type="checkbox"/> Routine (monthly and for each phase of construction) <input type="checkbox"/> Follow-up <input type="checkbox"/> Response to complaint		For sites discharging to a waterbody impaired for sediment/turbidity: <input type="checkbox"/> Routine biweekly <input type="checkbox"/> Predicted rainfall <input type="checkbox"/> Recent rainfall	

**CHECKLIST FOR STORMWATER BMP (BEST MANAGEMENT PRACTICE) COMPLIANCE**

**PHASE 1 AND 2: PRIOR TO LAND DISTURBANCE AND DURING ACTIVE CONSTRUCTION**

Comment		Yes	No	N/A	Comment		Yes	No	N/A
Erosion Control	1. Erosion controls are implemented in accordance with the ESCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Waste Management	9. Effective material delivery and storage practices are implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. Erosion observed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		10. Spill prevention and control practices are implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sediment Control	3. Sediment controls are implemented in accordance with the ESCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		11. Stockpile controls are implemented in accordance with the ESCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4. Sediment discharge observed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		12. Solid waste controls are implemented in accordance with the ESCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Additional Controls	5. Tracking controls (tire washout, stabilized entrances, exits and roadways) are implemented in accordance with the ESCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Nonstormwater Management	13. Vehicle and equipment washing, fueling and maintenance controls are implemented in accordance with the ESCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6. Sediment in roads observed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		14. Nonstormwater discharges observed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7. Wind erosion controls are implemented in accordance with the ESCP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		15. Dewatering operations covered under NPDES Permit CAG994004	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	8. Wind erosion observed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		16. Water conservation practices are implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**PHASE 3: FINAL LANDSCAPING/SITE STABILIZATION**

Comment	Yes	No	N/A	Comment	Yes	No	N/A
1. Graded areas have reached final stabilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. Temporary erosion and sediment BMPs are removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Trash, debris and construction materials are removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. Post-construction BMPs are installed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**COMMENTS AND CORRECTIVE ACTIONS (IF REQUIRED):**


**ENFORCEMENT:**  None required  Corrective Action Notice (complete section below)  Other (see comments)

**CORRECTIVE ACTION NOTICE (IF REQUIRED)**

If corrective actions have been noted above, then the responsible party (facility owner, occupant or person responsible) is in noncompliance with the City's Stormwater Quality Ordinance. The responsible party may be subject to enforcement actions under this program if the corrective actions are not implemented by:

\_\_\_\_\_ Corrective Action Due Date

**ACKNOWLEDGEMENT OF RECEIPT OF CORRECTIVE ACTION NOTICE**

_____ Site Representative Signature	_____ Printed Name	_____ Date
-------------------------------------	--------------------	------------

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<sup>i</sup> For sites discharging to a tributary listed by the state as an impaired waterbody for sediment or turbidity under CWA § 303(d), or determined to be a threat to water quality, inspections must be conducted (1) when two or more consecutive days with greater than 50% chance of rainfall are predicted by NOAA and (2) within 48 hours of a ½-inch rain event and (3) at least once every two weeks.

DRAFT



**CITY STORMWATER QUALITY PROGRAM  
CONSTRUCTION SITE INSPECTION REPORT**

FOR SITES LESS THAN ONE ACRE

Project:	Address:
Contact:	Title:
Contractor:	Phone:
Inspector:	Date:

**CHECKLIST FOR STORMWATER BMP (BEST MANAGEMENT PRACTICE) COMPLIANCE**

Question		Yes	No	N/A	Question		Yes	No	N/A
Erosion Control	1. Effective erosion controls implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Non-Stormwater Management	5. Water conservation practices are implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. Erosion observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		6. Dewatering operations covered under NPDES Permit CAG994004	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sediment Control	3. Effective sediment controls implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Waste Management	7. Effective material delivery/storage practices and spill prevention/control practices are implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4. Sediment discharge observed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		8. Effective waste management controls are implemented.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**COMMENTS AND CORRECTIVE ACTIONS (IF REQUIRED):**


**ENFORCEMENT:**     None required     Corrective Action Notice (complete section below)     Other (see comments)

**CORRECTIVE ACTION NOTICE (IF REQUIRED)**

If corrective actions have been noted above, then the responsible party (facility owner, occupant or person responsible) is in noncompliance with the City's Stormwater Quality Ordinance. The responsible party may be subject to enforcement actions under this program if the corrective actions are not implemented by:

\_\_\_\_\_ Corrective Action Due Date

**ACKNOWLEDGEMENT OF RECEIPT OF CORRECTIVE ACTION NOTICE**

\_\_\_\_\_ Site Representative Signature

\_\_\_\_\_ Printed Name

\_\_\_\_\_ Date

### **Example Lease Language for Fixed Facilities**

The following is example language that can be inserted into municipal leases:

*The Los Angeles Regional Water Quality Control Board (RWQCB) has issued permits which govern stormwater and non-stormwater discharges resulting from municipal activities performed by or for the Coastal Watersheds of Los Angeles County, including the Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the coastal watersheds of Los Angeles County with the exception of Long Beach (collectively referred to as Permittees). The RWQCB Permit is a National Pollutant Discharge Elimination System (NPDES) Permit No. R4-2023-0175. A Copy of the RWQCB Permit is available for review.*

*In order to comply with the Permit requirements, the Permittees have developed a Watershed Management Program (WMP) which contains Public Agency Facilities and Activities Maintenance Procedures (Maintenance Procedures) with Best Management Practices (BMPs) adopted from the Caltrans Storm Water Quality Handbook Maintenance Staff Guide (Caltrans Handbook) that parties leasing municipally owned properties must adhere to. These Maintenance Procedures contain pollution prevention and source control techniques to minimize the impact of those activities upon dry-weather urban runoff, stormwater runoff, and receiving water quality.*

*Activities performed at the facility leased under this agreement shall conform to the RWQCB NPDES Permit, the WMP, and the CalTrans Handbook, and must be performed as described within all applicable Maintenance Procedures. The holder of this agreement shall fully understand the Maintenance Procedures applicable to activities conducted at the facility leased under this agreement prior to conducting them and maintain copies of the Maintenance Procedures at the leased facility throughout the agreement duration. The applicable Maintenance Procedures are included as Exhibit  of this agreement.*

*Evaluation of activities subject to WMP requirements performed at the facility leased under this agreement will be conducted by the city to verify compliance with Maintenance Procedures, and may be required through lessor self-evaluation as determined by the city.*

### **Example Contract Language for Field Programs**

The following is example language that can be inserted into municipal field program contracts:

*The Los Angeles Regional Water Quality Control Board (RWQCB) has issued permits which govern stormwater and non-stormwater discharges resulting from municipal activities performed by or for the Coastal Watersheds of Los Angeles County, including the Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the coastal watersheds of Los Angeles County with the exception of Long Beach (collectively referred to as Permittees). The RWQCB Permit is a National Pollutant Discharge Elimination System (NPDES) Permit No. R4-2023-0175. A Copy of the RWQCB Permit is available for review.*



*In order to comply with the Permit requirements, the Permittees have developed a Watershed Management Program (WMP) which contains Public Agency Facilities and Activities Maintenance Procedures (Maintenance Procedures) with Best Management Practices (BMPs) adopted from the Caltrans Storm Water Quality Handbook Maintenance Staff Guide (Caltrans Handbook) that parties leasing municipally owned properties must adhere to. These Maintenance Procedures contain pollution prevention and source control techniques to minimize the impact of those activities upon dry-weather urban runoff, stormwater runoff, and receiving water quality.*

*Work performed under this CONTRACT shall conform to the RWQCB NPDES Permit, the WMP, and the CalTrans Handbook, and must be performed as described within all applicable Maintenance Procedures. The CONTRACTOR shall fully understand the Maintenance Procedures applicable to activities that are being conducted under this CONTRACT prior to conducting them and maintain copies of the Maintenance Procedures throughout the CONTRACT duration. The applicable Model Maintenance Procedures are included as Exhibit      of this CONTRACT.*

*Evaluation of activities subject to WMP requirements performed under this CONTRACT will be conducted to verify compliance with the Maintenance Procedures, and may be required through CONTRACTOR self-evaluation as determined by the city.*

DRAFT

### Significant Ecological Areas

December 2009

#### LEGEND:

- Freeway
- Significant Ecological Area (SEA)
- National Forest Boundary
- Unincorporated Area
- Incorporated City

#### Significant Ecological Areas

- |   |   |
|---|---|
| SEA-1 Malibu Coastline                    | SEA-32 Agua Arriaga Canyon                  |
| SEA-2 Point Dume                          | SEA-33 Fremont Island                       |
| SEA-3 Santa Monica                        | SEA-34 Palms Vistas Canyons                 |
| SEA-4 Upper La Brea Canyon                | SEA-35 Harbor Lake Regional Park            |
| SEA-5 Malibu Canyon and Lagoon            | SEA-36 Malibu Island                        |
| SEA-6 Los Angeles                         | SEA-37 Griffith Park                        |
| SEA-7 Hollywood                           | SEA-38 Santa Monica                         |
| SEA-8 Malibu Coast State Park Buffer Area | SEA-39 Verdugo Mountains                    |
| SEA-9 Cold Creek                          | SEA-40 Inglewood Dam County                 |
| SEA-10 Lone Canyon                        | SEA-41 Inglewood Dam County                 |
| SEA-11 Tarnished Rustic-Salween Canyons   | SEA-42 Inglewood Dam County                 |
| SEA-12 Path Camino Canyon                 | SEA-43 Rio Hondo College Wildlife Sanctuary |
| SEA-13 Chatsworth Reservoir               | SEA-44 San Gabriel & Tule River Canyons     |
| SEA-14 San Hills                          | SEA-45 Chatsworth Reservoir                 |
| SEA-15 Tule Canyon (San Jose Hills)       | SEA-46 El Estero de San Gabriel             |
| SEA-16 Inland Empire San Jose Hills       | SEA-47 El Estero de San Gabriel             |
| SEA-17 Inland Empire San Jose Hills       | SEA-48 El Estero de San Gabriel             |
| SEA-18 Inland Empire San Jose Hills       | SEA-49 El Estero de San Gabriel             |
| SEA-19 San Francisco Canyon               | SEA-50 El Estero de San Gabriel             |
| SEA-20 Santa Barbara Mountains            | SEA-51 El Estero de San Gabriel             |
| SEA-21 Santa Barbara Mountains            | SEA-52 El Estero de San Gabriel             |
| SEA-22 Santa Barbara Mountains            | SEA-53 El Estero de San Gabriel             |
| SEA-23 Santa Barbara Mountains            | SEA-54 El Estero de San Gabriel             |
| SEA-24 Santa Barbara Mountains            | SEA-55 El Estero de San Gabriel             |
| SEA-25 Santa Barbara Mountains            | SEA-56 El Estero de San Gabriel             |
| SEA-26 Santa Barbara Mountains            | SEA-57 El Estero de San Gabriel             |
| SEA-27 Santa Barbara Mountains            | SEA-58 El Estero de San Gabriel             |
| SEA-28 Santa Barbara Mountains            | SEA-59 El Estero de San Gabriel             |
| SEA-29 Santa Barbara Mountains            | SEA-60 El Estero de San Gabriel             |
| SEA-30 Santa Barbara Mountains            | SEA-61 El Estero de San Gabriel             |
| SEA-31 Santa Barbara Mountains            | SEA-62 El Estero de San Gabriel             |
| SEA-32 Santa Barbara Mountains            | SEA-63 El Estero de San Gabriel             |
| SEA-33 Santa Barbara Mountains            | SEA-64 El Estero de San Gabriel             |
| SEA-34 Santa Barbara Mountains            | SEA-65 El Estero de San Gabriel             |
| SEA-35 Santa Barbara Mountains            | SEA-66 El Estero de San Gabriel             |
| SEA-36 Santa Barbara Mountains            | SEA-67 El Estero de San Gabriel             |
| SEA-37 Santa Barbara Mountains            | SEA-68 El Estero de San Gabriel             |
| SEA-38 Santa Barbara Mountains            | SEA-69 El Estero de San Gabriel             |
| SEA-39 Santa Barbara Mountains            | SEA-70 El Estero de San Gabriel             |
| SEA-40 Santa Barbara Mountains            | SEA-71 El Estero de San Gabriel             |
| SEA-41 Santa Barbara Mountains            | SEA-72 El Estero de San Gabriel             |
| SEA-42 Santa Barbara Mountains            | SEA-73 El Estero de San Gabriel             |
| SEA-43 Santa Barbara Mountains            | SEA-74 El Estero de San Gabriel             |
| SEA-44 Santa Barbara Mountains            | SEA-75 El Estero de San Gabriel             |
| SEA-45 Santa Barbara Mountains            | SEA-76 El Estero de San Gabriel             |
| SEA-46 Santa Barbara Mountains            | SEA-77 El Estero de San Gabriel             |
| SEA-47 Santa Barbara Mountains            | SEA-78 El Estero de San Gabriel             |
| SEA-48 Santa Barbara Mountains            | SEA-79 El Estero de San Gabriel             |
| SEA-49 Santa Barbara Mountains            | SEA-80 El Estero de San Gabriel             |
| SEA-50 Santa Barbara Mountains            | SEA-81 El Estero de San Gabriel             |
| SEA-51 Santa Barbara Mountains            | SEA-82 El Estero de San Gabriel             |
| SEA-52 Santa Barbara Mountains            | SEA-83 El Estero de San Gabriel             |
| SEA-53 Santa Barbara Mountains            | SEA-84 El Estero de San Gabriel             |
| SEA-54 Santa Barbara Mountains            | SEA-85 El Estero de San Gabriel             |
| SEA-55 Santa Barbara Mountains            | SEA-86 El Estero de San Gabriel             |
| SEA-56 Santa Barbara Mountains            | SEA-87 El Estero de San Gabriel             |
| SEA-57 Santa Barbara Mountains            | SEA-88 El Estero de San Gabriel             |
| SEA-58 Santa Barbara Mountains            | SEA-89 El Estero de San Gabriel             |
| SEA-59 Santa Barbara Mountains            | SEA-90 El Estero de San Gabriel             |
| SEA-60 Santa Barbara Mountains            | SEA-91 El Estero de San Gabriel             |
| SEA-61 Santa Barbara Mountains            | SEA-92 El Estero de San Gabriel             |
| SEA-62 Santa Barbara Mountains            | SEA-93 El Estero de San Gabriel             |
| SEA-63 Santa Barbara Mountains            | SEA-94 El Estero de San Gabriel             |
| SEA-64 Santa Barbara Mountains            | SEA-95 El Estero de San Gabriel             |
| SEA-65 Santa Barbara Mountains            | SEA-96 El Estero de San Gabriel             |
| SEA-66 Santa Barbara Mountains            | SEA-97 El Estero de San Gabriel             |
| SEA-67 Santa Barbara Mountains            | SEA-98 El Estero de San Gabriel             |
| SEA-68 Santa Barbara Mountains            | SEA-99 El Estero de San Gabriel             |
| SEA-69 Santa Barbara Mountains            | SEA-100 El Estero de San Gabriel            |

**NOTE:**  
 Names for unincorporated SEAs are the names adopted with the 1999 General Plan. Identified areas of State Canyons are preserved along 1/2 mile (0.8 km) wide riparian corridors.  
 This map is a component of the Los Angeles County General Plan Update Program. It is a working draft subject to revision. This map will not be official until adopted by the Board of Supervisors. Modification will require a formal process. Suggestions for modifications to this map should be submitted to the County Planning Department, 400 North Main Street, Los Angeles, CA 90012. Tel: 213-488-8424. E-mail: generalplan@planning.lacounty.gov.  
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VENTURA COUNTY

SAN BERNARDINO COUNTY

RIVERSIDE COUNTY

ORANGE COUNTY



NOTE: This island is not shown in its true location.

Los Angeles County  
 Department of Planning  
 400 North Main Street  
 Los Angeles, CA 90012

2014

Integrated Pest Management Program



Developed for the City of

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# INTEGRATED PEST MANAGEMENT (IPM) PROGRAM IMPLEMENTATION GUIDELINES<sup>1</sup> FOR THE CITY OF [REDACTED]

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## General IPM Policy

For the past few decades, the trend in pest management has been to increasingly rely on synthetic chemical pesticides. This management strategy results in the increased use of dangerous chemicals, an increase in the number of pests that can become resistant to the pesticides, as well as lead to new organisms becoming pests. Additionally, some pesticides used for terrestrial pest management have been found in waterways causing problems in the aquatic environment.

Pest control managers are now moving away from their reliance on pesticides and toward an integrated approach that combines limited pesticide use with more environmentally friendly pest control techniques. This system is known as integrated pest management (IPM), a strategy that focuses on the long-term prevention of pests through a combination of techniques, including preventative, cultural, mechanical, environmental, biological, and chemical control tactics (**Figure 1**). Multiple IPM techniques can be utilized simultaneously to control pest populations in the most effective manner possible.

A comprehensive IPM Program and Approach allows for primary focus on pollution prevention by monitoring and preventing pests as well as minimizing heavy pest infestations, which reduces the need for chemicals and/or multiple applications. The goal of the IPM Program is not to eliminate all pests, but to keep their populations at tolerable levels. In an IPM program, pesticides should be applied only when it is determined that pests are approaching damaging levels. Because this requires early detection of the pests, IPM programs utilize monitoring techniques and economic thresholds to determine when to implement control strategies. If possible, a person should be trained and assigned to scout the sites on a regular basis. Pesticides may be part of an IPM program, but they should preferably be used only after pests exceed established thresholds and applied only to the affected area (in the case of disease prevention, some modifications may be allowed). In general, all pest control strategies should be those that are least disruptive to biological control organisms (natural enemies), least hazardous to humans and the environment (including non-target organisms), and have the best likelihood of long-term effectiveness.

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<sup>1</sup>Adapted from the Orange County Drainage Area Management Plan Integrated Pest Management Policy Developed by the University of California, Division of Agriculture and Natural Resources



IPM practices are encouraged over the sole use of pesticides as the primary means of pest management (Table 1). As a part of their Municipal Activities Program, public agencies and their contractors evaluate the ability to use non-chemical IPM techniques before intensive use of pesticides. This IPM Program template outlines baseline IPM procedures that are required by the Los Angeles County Municipal Separate Storm System Permit (MS4 Permit)<sup>2</sup> along with additional optional IPM techniques that can be employed to implement an effective IPM program.

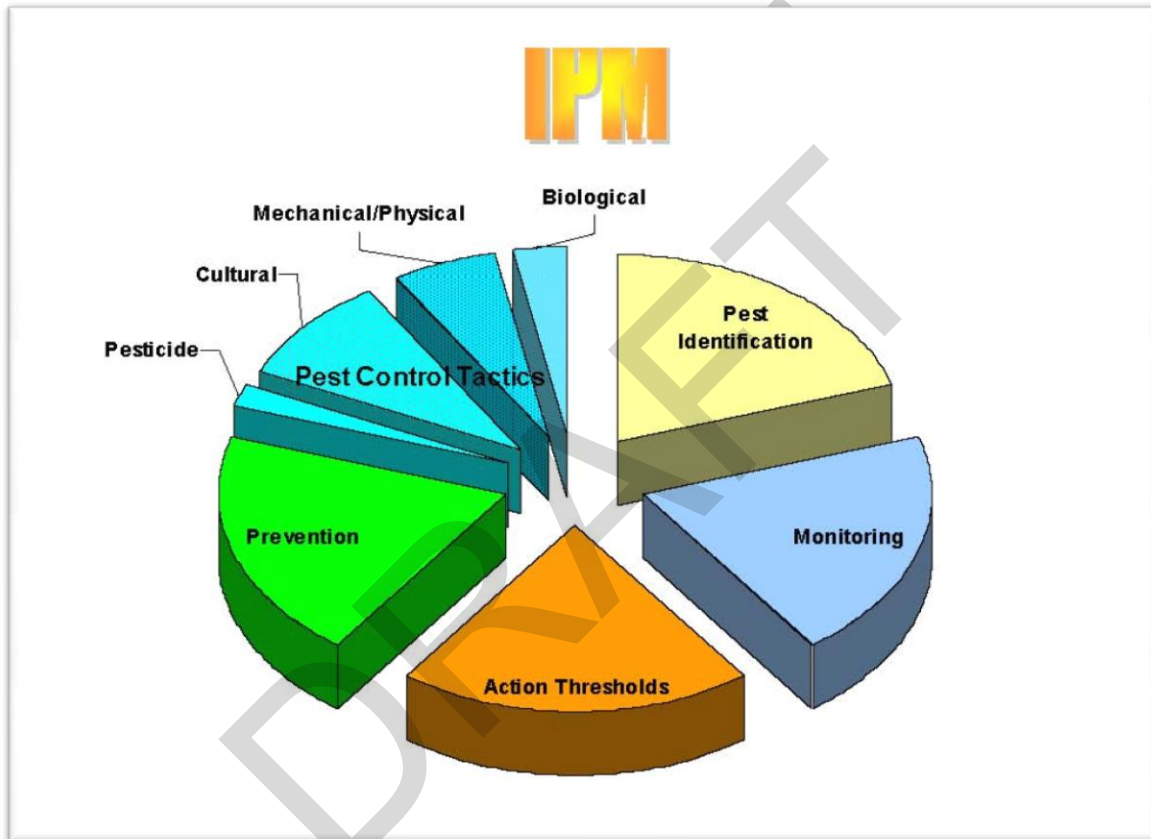


Figure 1 Components of an Integrated Pest Management Program

<sup>2</sup>California Regional Water Quality Control Board Los Angeles Region. 2012. Order No. R4-2012-0175 NPDES Permit No. CAS004001 Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, except those Discharges Originating from the City of Long Beach MS4.

**Table 1 Advantages and Disadvantages of a Pesticide-Based Program Versus An IPM-Based Pest Control Program**

Pesticide Based Pest Control		IPM Based Pest Control	
Advantages	Disadvantages	Advantages	Disadvantages
Quick suppression of pests	Not long-term	Long-term control	It may take longer to see results
	Pest control is reactive	Can be proactive in pest control actions.	Must establish thresholds
	Loss of natural controls.	Reduces disruption of natural enemies	
	Often get outbreaks of other pests		
		Pesticides can be used (only used as a last resort)	Must have knowledge of pesticides and their effects on other organisms.
Labor is only for spraying	Extra work in cleanup	Staff becomes more knowledgeable of pests and injury symptoms	Labor is required for monitoring and regular scouting  Training is required to identify pests and natural enemies
Not much preparation or follow-up needed	Need a PCA recommendation	Pest management is more organized	Must maintain a record-keeping system.
	Pesticide safety issues for applicators, public, animals	Less exposure to pesticides	
	More pesticides in environment	Safer to the environment	
	Contamination of water bodies from runoff	Reduces contamination from runoff	

## Implementation Guidelines

Enter Designated IPM Coordinator or IPM Contact Information in Box Below:

IPM Coordinator:

Contact Info:

Personnel responsible for the care and maintenance of facilities under the City of [REDACTED] agree to implement a suite of basic integrated pest management procedures to meet MS4 Permit requirements<sup>3</sup>. The fundamental basis for the IPM program must include the following as outlined in Permit Part VI.D.9.g:

1. Pesticides are to be used if monitoring indicates they are needed, and pesticides are applied according to applicable permits and established guidelines.
2. Treatments are made with the goal of removing only the target organism.
3. Pest controls are selected and applied in a manner that minimizes risks to human health, beneficial non-target organisms, and the environment.
4. The use of pesticides, including Organophosphates and Pyrethroids, does not threaten water quality.
5. Partnerships with other agencies and organizations are established to encourage the use of IPM.
6. A standardized protocol is to be used for the routine and non-routine application of pesticides (including pre-emergents), and fertilizers.
7. There is to be no application of pesticides or fertilizers (1) when two or more consecutive days with greater than 50% chance of rainfall are predicted by NOAA34, (2) within 48 hours of a ½-inch rain event, or (3) when water is flowing off the area where the application is to occur. This requirement does not apply to the application of aquatic pesticides or pesticides which require water for activation.
8. No banned or unregistered pesticides are stored or applied.
9. All staff applying pesticides are certified in the appropriate category by the California Department of Pesticide Regulation, or are under the direct supervision of a pesticide applicator certified in the appropriate category.
10. Procedures to encourage the retention and planting of native vegetation to

<sup>3</sup> In addition to MS4 Permit compliance, there are extensive federal and state laws and regulations that all public agencies must be in compliance with at all times, including the California Food and Agricultural Code (FAC) and the California Code of Regulations, Title 3 (3CCR).



- reduce water, pesticide and fertilizer needs are implemented; and**
- 11. Pesticides and fertilizers are stored indoors or under cover on paved surfaces, or use secondary containment.**
- a. The use, storage, and handling of hazardous materials are reduced to decrease the potential for spills.**
  - b. Storage areas are regularly inspected.**

In order to implement the above required minimum practices, the following section describes components of an effective IPM Program that can be employed:

- Pest and Symptom Identification
- Prevention
- Monitoring
- Injury Levels and Action Thresholds
- Pest Control Tactics

A number of useful IPM techniques are outlined under each component and further described in Appendix A. These techniques are known to be effective and methods can be selected from each component as necessary to achieve the IPM goals and meet MS4 Permit requirements.

Additional information on the latest IPM techniques including management of new pests in the landscape can be obtained from local UC Cooperative Extension Advisors, UC IPM Regional Advisor, or the Statewide UC IPM Web Site at [www.ipm.ucdavis.edu](http://www.ipm.ucdavis.edu).

## Components of an Effective IPM Program

An IPM program is a long-term, multi-faceted system to manage pests (**Figure 1**). Use of pesticides is a short-term solution to pest problems, and should be used only when the other components fail to maintain the pests or their damage below an acceptable level. Successful IPM practitioners are knowledgeable about the biology of the plants and pests, and successful IPM programs primarily use combinations of cultural practices as well as a combination of physical, mechanical and biological controls.

### Pest Identification

It is important to learn to identify all stages of common pests at each site. For example, if you can identify weed seedlings, you can control them before they become larger and more difficult to control and before they flower, disseminating seeds throughout the site. It is also important to be sure that a pest is actually causing the problem. Often damage such as wilting is attributed to root disease but may actually be caused by under watering or wind damage. Appendix A lists specific techniques that can be employed to identify pests.

### Prevention

Good pest prevention practices are critical to any IPM program, and can be very effective in reducing pest incidence. Numerous practices can be used to prevent pest incidence and reduce pest population buildup such as the use of resistant varieties, good sanitary practices and proper plant culture. Examples of prevention include choosing an appropriate location for planting, making sure the root system is able to grow adequately and selecting plants that are compatible with the site's environment. Appendix A lists specific techniques that can be employed to achieve pest prevention.

### Monitoring

The basis of an effective IPM Program is the development and use of a regular monitoring or scouting program. Monitoring involves examining plants and surrounding areas for pests, examining tools such as sticky traps for insect pests and quantitatively or qualitatively measuring the pest population size or injury. This information can be used to determine if pest populations are increasing, decreasing, or staying the same and to determine when to use a control tactic. Weather and other environmental conditions may also play a factor in whether a pest outbreak may occur so it is important to monitor temperature and soil moisture as well.

It is important to use a systematic approach when monitoring, for example you should examine leaves of a similar age each time you check for pests, rather than looking at the older leaves on some plants and younger ones on others. Randomly looking at a plant and its leaves does not allow you to track changes in pest population or damage over time.

It is important to establish and maintain a record-keeping system to evaluate and improve your IPM program. Records should include information such as date of examination, pests found, size and extent of the infestation, location of the infestation, control options utilized, effectiveness of the control options, labor and material costs. Appendix A lists specific techniques that can be employed to in the monitoring of pests.

### **Injury Levels and Action Thresholds**

In order to have a way to determine when a control measure should be taken, injury levels and action thresholds must be set for each pest. An injury level is the level of unacceptable damage. For example, the injury level for a leaf-feeding beetle may be set at 30% of the leaves being damaged. Action thresholds are the set of conditions required to trigger a control action. An example of this would be finding an average of 5 or more beetles on 10 shrubs in a location. Action thresholds are set from previous experience or published recommendations and based on expected injury levels. Injury levels are often set by the public's comments. Appendix A lists specific techniques that can be employed to determine injury levels and action thresholds.

### **Pest Control Tactics**

Integrated pest management programs use a variety of pest control tactics in a compatible manner that minimizes adverse effects to the environment. A combination of several control tactics is usually more effective in minimizing pest damage than any single control method. The type of control that an agency selects will likely vary on a case-by-case basis due to the varying site conditions.

The primary pest control tactics to choose from include:

- Cultural
- Mechanical/Physical
- Biological
- Pesticide

Appendix A lists specific pest control techniques that can be employed.

#### ***Cultural Controls***

Cultural controls are modifications of normal plant care activities that reduce or prevent pests. In addition to those methods used in the pest preventions, other cultural control methods include adjusting the frequency and amount of irrigation, fertilization, and mowing height. For example, spider mite infestations are worse on water-stressed plants, over-fertilization may cause succulent growth which then encourages aphids, too low of a mowing height may thin turf and allow weeds to become established.

#### ***Mechanical/Physical Controls***

Mechanical control tactics involve the use of manual labor and machinery to reduce or

eliminate pest problems using methods such as handpicking, physical barriers, or machinery to reduce pest abundance indirectly. Examples include hand-pulling or hoeing and applying mulch to control weeds, using trap boards for snails and slugs, and use of traps for gophers.

The use of physical manipulations that indirectly control or prevent pests by altering temperature, light, and humidity can be effective in controlling pests. Although in outdoor situations these tactics are difficult to use for most pests, they can be effective in controlling birds and mammals if their habitat can be modified such that they do not choose to live or roost in the area. Examples include removing garbage in a timely manner and using netting or wire to prevent bird from roosting.

### ***Biological Controls***

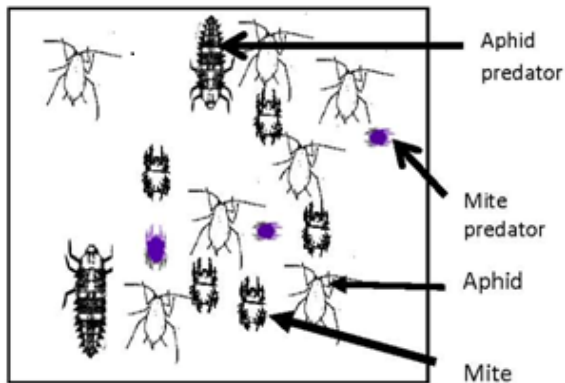
Biological control practices use living organisms to reduce pest populations. These organisms are often also referred to as beneficials, natural enemies or biocontrols. They act to keep pest populations low enough to prevent significant economic damage. Biocontrols include pathogens, parasites, predators, competitive species, and antagonistic organisms. Beneficial organisms can occur naturally or can be purchased and released.

The most common organisms used for biological control in landscapes are predators, parasites, pathogens and herbivores.

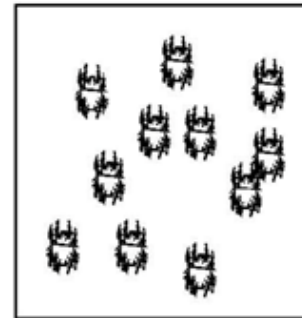
- Predators are organisms that eat their prey (e.g. Ladybugs).
- Parasites spend part or all of their life cycle associated with their host. Common parasites lay their eggs in or on their host and then the eggs hatch, the larvae feed on the host, killing it (e.g. Tiny stingless wasps for aphids and whiteflies).
- Pathogens are microscopic organisms, such as bacteria, viruses, and fungi that cause diseases in pest insects, mites, nematodes, or weeds (e.g. *Bacillus thuringiensis* or BT).
- Herbivores are insects or animals that feed on plants. These are effective for weed control. Biocontrols for weeds eat seeds, leaves, or tunnel into plant stems (e.g. goats and some seed and stem borers).

In order to conserve naturally occurring beneficials, broad-spectrum pesticides should be avoided since the use of these types of pesticides may result in secondary pest outbreak due to the mortality of natural enemies that may be keeping other pests under control (Figure 2).

A. Aphids and mites controlled by predators



B. After a broad spectrum spray for aphids, predators for mites and aphids are also killed, resulting in an outbreak of mites.



**Figure 2 Example of Secondary Pest Outbreak Caused By Use of a Broad Spectrum Insecticide**

### *Pesticide Controls*

Any substance used for defoliating plants, regulating plant growth or preventing, destroying, repelling or mitigating any pest, is a pesticide. Insecticides, miticides, herbicides, fungicides, rodenticides and molluscides are all pesticides. Anything with an EPA or DPR registration number on the label is a non-exempt pesticide.

Pesticides should only be used when other methods fail to provide adequate control of pests and just before pest populations cause unacceptable damage. The overuse of pesticides can cause beneficial organisms to be killed and pest resistance to develop. When pesticides must be used, considerations should be made for how to use them most successfully. Avoid pesticides that are broad-spectrum and relatively persistent since these are the ones that can cause the most environmental damage and increase the likelihood of pesticide resistance. Always choose the most specific but least toxic to non-target organisms method.

In addition, considerations should be given to the proximity to water bodies, irrigation schedules, weather (rain or wind), etc. that are secondary factors that may result in the pesticide being moved off-site into the environment. Consideration should be made of the temporary loss of use of an area (application in a park may result in the area being sectioned off).

## Appendix A: Optional IPM Techniques to Integrate into IPM Program

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The following practices are generally accepted to be effective IPM techniques. These procedures increase the long-term prevention and suppression of pest problems (insects, weeds, diseases, and vertebrates) with the minimum impact on human health, the environment, and non-target organisms. Emphasis is placed on improving cultural practices to prevent problems and utilize alternative control measures instead of broad spectrum pesticides. The following IPM techniques are divided into the following categories:

- General Pesticide Management Practices
- Pest and Symptom Identification
- Prevention
- Monitoring
- Injury Levels and Action Thresholds
- Pest Control Tactics

### GENERAL PESTICIDE MANAGEMENT PRACTICES

- Maintain a complete inventory of all pesticides used and the use sites. This inventory should be updated annually.
- If pesticides are necessary, CAUTION-labeled pesticides should be considered before more toxic alternatives.
- Ensure that no banned or unregulated pesticides are stored or applied.
- Restricted use pesticides should only be used when no other alternatives are practical.
- Only small quantities of pesticides should be purchased eliminating the need for stockpiling.
- MSDSs should be regularly updated to reflect new pesticides or label changes to pesticides in storage.
- Pesticides should be used only according to label instructions.
- Weather conditions that could affect application should be considered. For example, wind conditions affect spray drift; rain may wash pesticide off of leaves.
- Pesticides should not be applied where there is a high chance of movement into water bodies; for example, they should not be applied near wetlands, streams, lakes, ponds or storm drains unless it is for an approved maintenance activity.
- In most cases, empty pesticide containers should be triple-rinsed before disposal. Particular information on the proper disposal of the pesticide and its container can be found on the label.



- Pesticide equipment and containers should not be cleaned or rinsed in the vicinity of storm drains or other open water areas.
- Pesticides should be stored in covered areas with cement floors and in areas insulated from temperature extremes.
- Chemicals and equipment should be secured during transportation to prevent tipping or excess jarring.
- Pesticides should be transported completely isolated from people, food and clothing, for example, in the bed of the truck rather than in the passenger compartment.
- Pesticide equipment, storage containers and transportation vehicles should be inspected frequently.
- A plan for dealing with pesticide spills and accidents should be developed.
- Unless their safety is compromised, workers should immediately clean up any chemical spills according to label instructions and notify the appropriate supervisors and agencies.
- Pesticide applications on public property, which take place on school grounds, parks, or other public rights-of-way where public exposure is possible, should be posted with warning signs. The specific criteria for the signage can be found in FAC, section 12978. Pesticide applications by the Department of Transportation on public highway rights-of-way are exempt.

## PEST AND SYMPTOM IDENTIFICATION

### *Insects, Mites, and Snails and Slugs*

- Field personnel should be trained to recognize basic pests found in the landscape in the following groups: insects, mites, and mollusks.
- A licensed Pest Control Adviser can be on staff or hired to properly identify a pest and the symptoms caused by the pest.
- Field personnel can be trained to utilize disease life cycles to apply treatments when the organism can be controlled most effectively.
- Field personnel can be trained to distinguish between beneficial insects and actual pests found in the landscape (e.g. parasitizing wasps).
- Unknown samples can be submitted to the Orange County Agricultural Commissioner for identification by the county entomologist or plant pathologist.
- Abiotic or nonliving factors (wind, sunburn, air pollution, etc...) should be considered as possible causes of observed symptoms as well as biotic (living) factors.

### *Weeds*

- Field personnel can be trained to identify common weeds in the landscape.
- Field personnel can be trained to utilize weed life cycles to properly control

weeds such as controlling crabgrass utilizing a pre-emergent herbicide applied in mid-January.

- A licensed Pest Control Adviser can be on staff or contracted to properly identify the pest.

### *Diseases*

- Field personnel can be trained to recognize common diseases or their signs/symptoms in the landscape.
- Field personnel can be trained to utilize disease life cycles to apply treatments when the organism can be controlled most effectively.
- Field personnel can be trained to recognize the difference between biotic and abiotic problems.
- Field personnel can be trained to understand how common diseases are spread throughout the landscape.
- Disease signs and symptoms can be sampled and submitted to the Orange County Agricultural Commissioner for identification by the county plant pathologist.
- A licensed Pest Control Adviser can be on staff or contracted to properly identify the pest.
- Photographs of disease signs and symptoms can be taken and compared to reference guides such as UC IPM's *Pests of Landscape Trees and Shrubs*.

### *Vertebrates*

- Field personnel can be trained to recognize vertebrate pests and the damage they cause in the landscape.
- Field personnel can be trained to utilize vertebrate behavior to properly control the pest most effectively.
- Field personnel can be trained in vertebrate baiting and trapping.
- A licensed Pest Control Adviser can be on staff or contracted to properly identify vertebrate pest.

## **PREVENTION**

### *Landscape Design Procedures*

- Drainage, soil characteristics, water quality and availability should be considered during plant selection.
- Sun exposure, heat, and high temperature conditions should be considered during plant selection.
- Plant material should be selected based on adaptability to local climate conditions, such as those conditions common to a Mediterranean climate.
- Adequate space should be allowed for root growth, especially trees.



- Nursery stock should be inspected and rejected if not healthy (injuries, diseased, circling roots/potbound, poor staking and/or pruning).
- Pest resistant species and cultivars should be selected.
- Plants with similar growth characteristics and irrigation requirements should be grouped together.
- Landscape design should match available irrigation technology to avoid excess water use and to minimize surface runoff.

#### *Site Preparation and Planting Procedures*

- Soil drainage properties can be assessed and compacted soils improved prior to planting.
- A soil analysis can be conducted to determine the chemical and physical properties of the existing soil and then appropriate amendments such as organic matter can be added.
- Irrigation should be installed as designed in order to avoid poor uniformity once plants are in place.
- Proper planting procedures should be followed for particular plant species to avoid planting too deeply or too shallow.
- Nursery tree stakes can be removed at planting and replaced with staking that allows trunk to flex; removing these stakes after 1 to 1.5 years.
- A soil probe or other soil moisture measurement device can be utilized to monitor soil moisture levels in existing root ball and surrounding soil during establishment period.

#### *Water Management*

- Plants should be examined weekly for symptoms of water stress and to assist in determining irrigation scheduling.
- Soil moisture can be monitored with a soil probe or soil moisture sensors to assist in scheduling irrigation.
- Evapotranspiration (ET) data or 'smart' clock technology can be utilized to schedule irrigation.
- Cyclic irrigation (short-multiple run times) can be employed to minimize surface runoff.
- Low precipitation sprinklers or low-volume systems can be utilized to reduce surface runoff.
- Systems should be inspected monthly to check for leaks, broken pipes, and clogged or broken sprinkler heads.
- Adjust sprinklers to avoid application of water directly to the trunk of trees (can promote disease) or on to concrete surfaces where it can enter storm drains.
- A hotline, email, or other dedicated method can be established for citizens to

report leaks and broken sprinkler heads

### *Fertilizing Procedures*

- To avoid nutrient losses below the root zone, fertilize only when plants are actively growing.
- Fertilizer should not be applied within 48 hours of a rain event to avoid losses below the root zone and in surface runoff.
- Soil analyses can be conducted in order to determine existing nutrient levels in the soil prior to fertilizing.
- Turf grass fertilizer maintenance schedules can be based on UC recommendations found online at UC Guide for Healthy Lawns: <http://www.ipm.ucdavis.edu/TOOLS/TURF/MAINTAIN/fertilize.html>
- Sports turf grass fertilizer maintenance guidelines can be based on UC recommendations found in *Establishing and Maintaining the Natural Turf Athletic Field* (UCR ANR Publication Number: 21617).
- Overfertilization, especially of trees and shrubs, should be avoided to ensure plant growth is not excessively succulent making it more susceptible to pest infestations.
- Off-target fertilizer applications or spills should be cleaned up immediately by sweeping up and applying to landscape or turf or replacing in spreader or bag to ensure material does not enter storm drains.

### *Pruning Procedures*

- Damaged or diseased wood should be regularly pruned from landscape plants.
- Trees should be pruned according to standards set forth by a professional tree care organization such as the International Society of Arboriculture.
- Plants too large for a space should be replaced instead of pruning them severely.
- Unnecessary pruning should be avoided as wounds are entry sites for decay and disease organisms.
- The age and species of the plant should be taken into account when determining the time of year to prune. For example, eucalyptus should be pruned in December and January when long-horned beetles are not active.
- Tree height reduction should be discouraged. When deemed necessary by a licensed arborist, the crown reduction method approved by a professional tree care organization should be utilized. Topping should not be done to reduce tree size.

## **MONITORING FOR PESTS AND PROBLEMS**

### *Insect/Mollusk Monitoring Procedures*

- Monthly visual inspections of plants for insects, mites, snail and slug damage,

and recording results is an effective method for tracking changes and easy recall of data.

- Yellow sticky traps can be utilized to assess populations of insects.
- Insects can be dislodged from plants by shaking over a collection surface usually consisting of a clipboard with a white sheet of paper.
- If available for a particular insect, pheromone-baited traps can be utilized.
- Soil-dwelling turf insects can be brought to the surface for monitoring by flushing a specific area of soil (i.e. 2' x 2' grid) with plain water or a soapy water mixture.
- The amount of honeydew (aphids) and frass (caterpillars) present can be utilized as an indicator of population levels.

### *Weed Monitoring Procedures*

- Landscapes can be inspected at least 4 times a year (early winter, early spring, summer and early fall) for weeds in order to determine if and when a weed problem exists.
- Site surveys can be utilized to record the location, date, and severity of weed problem for an effective method of tracking changes and easy recall of data.
  - The number of weeds encountered at periodic intervals (e.g. every 1 to 2 feet) can be counted and recorded along a straight line transecting a landscaped area or within a selected area, for example 4 sq. ft. samples done in random places in a bed or turf area.

### *Disease Monitoring Procedures*

- Landscapes should be regularly checked for conditions, such as overwatering and injuries, which promote disease.
- Landscapes should be checked monthly for disease symptoms and signs. Disease prone plants should be checked more frequently.
- Landscape inspections should note date when disease signs and symptoms were first noticed and the current environmental conditions and soil moisture levels as an effective method of tracking changes and easy recall of data.

### *Vertebrate Monitoring Procedures*

- Landscapes can be regularly inspected for vertebrate presence either by damage caused by animal, actual animal sightings, and/or droppings.
- Records can be kept of the absence or presence of actual vertebrates, the damage caused, and/or the presence or absence of droppings.
- Maps can be created and updated at least twice a year, recording areas of high vertebrate damage or signs (such as gopher mounds).

## **INJURY LEVELS AND ACTION THRESHOLDS**

### *Insect/Mollusk Thresholds and Guidelines*

- Insect tolerance levels can be established based on the public's acceptance of damage to the landscape or a certain level of nuisance pests (i.e. ants), the actual plant species in the landscape, and long-term monitoring and knowledge of pests causing the damage.
- Thresholds can be based on levels where reasonable control of the pest can be achieved with minimum impact on the environment.
- Insect monitoring records can be utilized to establish threshold levels for the implementation of control strategies. For example, the threshold for the presence of aphids on a rose garden at City Hall is low, while in a native shrub border it might be considerably higher.

#### *Weed Thresholds and Guidelines*

- Weed tolerance levels can be established based on public safety or the public's acceptance and the resources available to manage the landscape at that level.
- Weed monitoring records can be utilized to rank the percentage of the landscape area infested (none, light, moderate, heavy, or very heavy) with weeds.
- Public areas can be ranked according to high, medium, or low level of weed control and management conducted according to levels set for each rank (see Appendix B)

#### *Disease Thresholds and Guidelines*

- Disease tolerance levels can be established based on the public's acceptance and the resources available to manage the landscape at the level required.
- Disease monitoring records can be utilized to establish threshold levels for the implementation of control strategies. For example, the threshold for the presence of powdery mildew on roses at City Hall is much lower than the threshold for its presence on Euonymus in a parking lot at a city sports park.

#### *Vertebrate Thresholds and Guidelines*

- Vertebrate tolerance levels can be established based on public safety, the public's acceptance and the resources available to manage the landscape at the level required.
- Vertebrate monitoring records can be utilized to establish threshold levels for the implementation of control strategies. For example, the threshold for the presence of gopher mounds in a sport field is zero, while in a native shrub border it might be two before a trapping strategy is implemented.

## **PEST CONTROL TACTICS**

### ***Insect/Mollusk Management Methods***

### ***Cultural/Mechanical/Physical Control Methods***

- Sticky barriers can be applied to trunks of trees and large shrubs to prevent ants and other wingless invertebrates from plant canopies.
- Small insect infestations can be removed by pruning infested plant parts.
- Copper bands can be installed around base of trees or planting areas where snail and slug infestations are prevalent.
- Plant canopies can be thinned to increase light penetration to expose certain soft-bodied insects (soft-scale) as well as snails and slugs to heat.
- Strong streams of water can be used to dislodge insects such as aphids and whiteflies, from leaves.
- The use of plants that snails and slugs use for shelter should be avoided.
- Avoid irrigating between 5pm and 5am when moisture remains on plant material for several hours.

### *Biological Control Methods*

- Persistent broad-spectrum pesticides should be avoided, especially if biological control of an insect has been established by UC researchers. Examples include parasitoid wasps controlling Eugenia Psyllids, Giant Whitefly, and Ash Whitefly.
- Natural predators (beneficial insects) can be augmented with purchases of additional predators from commercially available resources.

### *Pesticide Control Methods*

- The most selective, rather than broad-spectrum, pesticide should be used.
- If available for controlling a particular insect, biological and botanical pesticides should be selected.
- Insecticidal soaps can be utilized to control infestations of soft-bodied insects such as aphids, thrips, and immature scales.
- Horticultural oils (neem oil and narrow-range refined oils) can be utilized to control infestations of soft-bodied immature and adult insects such as aphids, scales, and whiteflies.
- Pesticides should only be utilized when the potential for impacts to the environment, especially water quality, are minimized.
- Equipment should be calibrated prior to the application of the insecticide to avoid excess material being applied to the landscape environment.
- Applicators should be trained to not apply pesticides to hard surfaces and to not allow any pesticide to enter the storm drain system.
- Spot treatments should be utilized rather than broadcast methods.
- Insecticide/fertilizer combinations should only be used if it is appropriate timing for BOTH the insecticide application and the fertilizer application.

### *Weed Management Methods*

#### *Cultural, Mechanical, and Physical Control Methods*

- Timers can be set to avoid overwatering as weeds establish in areas where soil moisture is excessive.
- Drainage can be managed to avoid wet areas.
- Weeds can be removed from a site prior to planting.
- Mower height can be adjusted to turf species and time of year.
- Mower should be washed after mowing a weedy site.
- Hand-pulling, mowing, trimmers/brushcutters, flaming, hoeing, and rototilling around landscape plants should be the main methods utilized to control annual weeds and young perennial weeds.
- Soil solarization can be utilized to control some annual and perennial weed species.
- Bare soil areas can be covered with a thick layer of mulch to suppress weeds and conserve soil moisture.
- Soil, mulch, and plant material should be weed-free before it is introduced into the landscape.

#### *Pesticide Control Methods*

- Spot treatments can be utilized rather than broadcast methods.
- Herbicide/fertilizer combinations should only be used if it is appropriate timing for BOTH the herbicide application and the fertilizer application.
- Herbicides should be utilized according to established thresholds (see Appendix B).
- Organically acceptable herbicides (shown to be effective through science-based research) should be used where appropriate.
- Herbicides can be applied to the stage of weed growth most susceptible to the chemical.
- Equipment should be calibrated prior to the application of the herbicide to avoid excess material being applied to the landscape environment.

#### **Disease Management Methods**

##### *Cultural, Mechanical, and Physical Control Methods*

- Localized areas of diseased plants should be pruned out and disposed of.
- Pathogen-infested plant parts can be removed from the soil surface area to reduce certain pathogens (e.g. Camellia Petal Blight).
- Pruning tools can be sterilized (e.g. a diluted bleach solution) between plants to prevent the spread of pathogen to other plants.
- Proper irrigation and fertilization can be maintained to prevent plant stress, waterlogging, and subsequent susceptibility to disease.
- Soil solarization can be utilized to control soil pathogens in annual beds where it



is most effective.

- Mulch can be kept at least 6" from base of plants to avoid excessive moisture around crown possibly resulting in crown rots and is no deeper than 4"
- Disease-prone plants can be replaced with non-susceptible species.

#### *Pesticide Control Methods*

- Preventative fungicides and bactericides should only be used where diseases can be predicted from environmental conditions and applied prior to infection or the appearance of symptoms.
- Synthetic fungicides should be used sparingly in the landscape and only in high visibility areas in order to minimize development of resistance.
- Organic fungicides and bactericides should be utilized in combination with cultural, mechanical, and physical control methods in order to improve their effectiveness.
- Copper-based fungicides should only be utilized in situations where its entry into surface runoff and storm drains is virtually impossible and after consultation with PCA and IPM coordinator.
- Mycopesticides, commercially available beneficial microorganisms, should be used where appropriate.
- Fungicides classes can be rotated to avoid resistance.

#### *Vertebrate Management Methods*

##### *Cultural and Physical Control Methods*

- Groundcovers can be maintained such that they do not harbor rats.
  - Shrubs pruned at least 1 foot from the ground (rats).
  - Sources of drinking water removed (leaky faucets, puddles).
  - Trash cans have lids and are emptied daily (rats).
  - Screens or other barriers installed under structures that have a space between soil and floor (rabbits).
- Habitat modification, based on pest biology can be used to reduce shelter. Trapping can be used for gophers when safe and practical.
- Kill traps used for ground squirrels and rabbits, should be checked daily, and put in places not accessible by children or non-target animals.
- Gas cartridges can be used for ground squirrels according to UC recommendations.

##### *Pesticide Control Methods*

- Anti-coagulant baits can be used and applied according to label and UC recommendations.
- Bait should be applied in a manner that non-target animals do not have access to

- it.
- Restricted use pesticides should only be applied by or under the direct supervision of an individual with a qualified applicators certificate (QAC). To receive a QAC, a person must take a test administered by Department of Pesticide Regulation (DPR). To obtain test materials, test schedules, and an application, see <http://www.cdpr.ca.gov/docs/license/liccert.htm>.

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## Appendix B

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### **Ranking public areas for weeds (or other pest) management:**

Areas ranked as **HIGH** may include areas that the public sees and expects to be well-maintained. Examples are entrances to public buildings such as city hall and libraries.

*These areas are allowed to use pesticides based on established thresholds.*

Areas ranked as **MEDIUM** may include areas the public sees but does not expect a high level of maintenance. Examples are landscaped areas away from the entrance, recreational and picnic areas. These areas can tolerate a higher level of weeds.

*These areas are allowed to use pesticides but the threshold is much higher and pesticides are used infrequently and only after consultation with IPM coordinator.*

Areas ranked as **LOW** may include areas the public rarely sees or does not expect a high level of maintenance. Examples are medians, landscaped areas in parking lots, wildlands. These areas can tolerate a higher level of weeds.

*These areas are not allowed to use pesticides except in extreme cases and only after consultation with IPM coordinator.*



**Example Catch Basin Cleaning Log**

Catch Basin Cleaning Log			
Date	Location	Number of Catch Basins Cleaned	Total Amount Removed
Notes:			

**Example of Completed Catch Basin Cleaning Log**

Catch Basin Cleaning Log			
Date	Location	Number of Catch Basins Cleaned	Total Amount Removed
7/1/13	Street #1	20	55 cu. ft.
	Intersection #1	10	
	Street #2	5	
Notes:			

<b>Drainage Inlet/Catch Basin Information</b>		
<b>Location</b>		
Street:	Cross Street:	Side (N,S,E,W)
Distance:	Direction (N,S,E,W):	Inlet #:
Map #:	Grid:	
<b>Condition</b>		
Length of Opening:	Height of Opening:	Stencil Legible (Y/N):
Bicycle Bars (Y/N):	Grate Size:	Inlet Protection Bar (Y/N):
Treatment Control BMP (Y/N):	Type of BMP:	
<b>Repairs Required:</b>		

# Illicit Connection Investigations Guidance

## Field Screening Techniques

If evidence of an illicit discharge is detected, as described in Section 2, and the source does not appear to be evident or above ground, investigations will be conducted to determine if the discharge is being conveyed through an illicit connection. A good source of information includes *Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems* (EPA/600/R-92/238.1993, Pitt et al). General guidance follows below. These techniques can also be used if a Permittee elects to survey sections of their system for illicit connections.

## Document Research

Maps of drainage facilities can be reviewed to locate upstream connections and drainage basins as an initial step to locate potential illicit connections. Other records, such as connection permits and discharge permits, can also be reviewed to determine if legal connections may be the source.

## Physical Inspections

Catch basins, manholes and other facilities that can be safely investigated from the surface should be physically checked for evidence of connections. This may be a hard pipe connection, or could be a hose or other conveyance that directs a discharge into the storm drain facility. Identification of connections that exhibit evidence of suspected illicit discharges during routine site inspection (e.g., industrial, commercial or construction). Investigation is conducted to determine if the discharge is being conveyed through an illicit connection when evidence of illicit discharge is detected, and the source does not appear to be evident or above ground.

Facilities that are large enough for personnel to enter can also be physically inspected, however, entry into facilities requires strict adherence to health and safety procedures, including confined space entry procedures. In general, a space is “confined” if it is not intended for human occupancy, has limited openings for entry or exit, and has insufficient natural or mechanical ventilation. Information on safety procedures can be found in many documents, including the *Occupational Safety and Health Guidance Manual*, National Institute for Occupational Safety and Health; *OSHA Safety and Health Standards 29 CFR 1910 (General Industry)*, US Department of Labor, and *Title 8 of the California Code of Regulations, General Industry Safety Order*.

## Dye Tests

Dye tests can reveal illicit connections in areas where storm drain flows are unexplained and the Permittee has access to suspect facilities. Typical dye tests consist of the addition of fluorescent dye to a floor drain or waste line from a domestic, commercial or industrial process, followed by monitoring for the dye in downstream storm drains. Permittees should conduct dye testing facility by facility (in each area where unexplained flow exists) until all facilities in the area are tested.

## Smoke Tests

Smoke tests can reveal if illicit connections exist, and can reveal their source. Storm drains are sealed via sandbags or other sealing devices (plugs, etc.) and smoking incendiary devices are ignited upstream of the seal. Simultaneous inspections inside area facilities should reveal illicit connections even in the

absence of flow. As illicit discharges are intermittent, smoke tests offer real advantages over other types of illicit discharge source identification methods. However, as many legitimate connections to a storm drain may exist (roof drains, street drains, etc.) smoke may be observed extensively. This may cause some illicit connections to be missed, and create a problem with area businesses and residents as excessive smoke begins to enter private property.

#### **T.V. Inspections**

T.V. inspections can reveal if illicit connections exist, but cannot be used to view up the connection to determine the source. Robotized or otherwise mobile television cameras allow visual inspection of storm drains (pipes) too small or dangerous for personnel to enter. Although an excellent method of identifying and documenting illicit connections, T.V. inspections have high costs unless the equipment is already owned or can be borrowed from neighboring agencies.

#### **Guidance Source**

Los Angeles County Model Stormwater Quality Management Program, 2003.

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# Illicit Discharge Investigation and Elimination Guidance

## Introduction

Once illicit discharges/disposal are detected and identified, they must be eliminated. Sometimes the source of the spill or discharge/disposal is apparent. The incident can be removed through voluntary cleanup/termination or enforcement procedures, and steps can be taken to prevent its recurrence. These prevention methods can include education and outreach materials for residents and businesses, preventive maintenance practices for infrastructure, vehicles and equipment or additional enforcement.

When the source of the discharge is not apparent, further investigation will be necessary to eliminate it and prevent it from recurring. The following discusses methods that can be used to document the incident, determine the nature of the material, and investigate the source.

## Advance Planning

An effective investigation program requires good advance planning. Sufficient staff should be trained to conduct investigations so that qualified staff are available whenever investigations are necessary. Staff should become familiar with illicit discharge investigation and sampling procedures. General guidance follows below to assist with overall planning, but should not be considered complete for proper sampling quality assurance purposes.

## Equipment

Appropriate equipment for field investigations may include:

Table 1: Typical Equipment for Investigations

Equipment Type	Equipment
General	Inspection checklist
	Field data log book
	Camera
	Tape measure
	Storm drain system map
	Flashlight
Flow measurement	Ping pong ball or other light floatable
	Stopwatch
Laboratory	Graduated container
	Temperature/pH/conductivity (EC) probe
	Field test kits (e.g., Lamotte test kit)
	12 1-liter amber glass sample bottles
	12 1-liter HDPE sample bottles
	Cooler with ice for sample preservation
	Gloves
	Splash goggles/safety glasses
Deionized water in wash bottle	
First Aid	First aid kit

### **Data Collection**

Before entering the field, the inspection crew should locate information such as the following on a storm drain/street map for areas that will be investigated:

- All known or suspected pollutant generating activities
- Locations of NPDES dischargers
- All locations where storm drains enter open channels
- Catch basins and storm drain manholes

### **Visual Observation**

Visual observation of the storm drain system and/or of activities on the surface can provide information on the source of illicit discharges. It is the simplest method to begin with and the least costly. Evidence of illicit discharges may only consist of visual observations because most illicit discharges are intermittent and will probably not be flowing when inspected. A field inspection crew should investigate the surface drainage system in the vicinity of suspected illicit discharges. This may include accessible areas in the public right-of-way adjacent to residences and businesses, catch basins, open channels near known points of discharge, and upstream manholes.

Photos of visual observations should be taken to aid subsequent data analysis and follow up planning. The following types of visual observations should be recorded on an investigation checklist, such as the one attached:

- Location
- General site description
- Amount, appearance of discharge/disposal
- Stains
- Structural cracking and corrosion
- Vegetative growth
- Nearby facilities with poor outside housekeeping practices
- Pipes/hoses connected to/directed toward drainage system

If the source of the discharge is determined, appropriate methods should be used to eliminate it through voluntary cleanup/termination or enforcement procedures, and steps should be taken to prevent its recurrence.

### **Sampling and Testing**

If flow is observed, and the source of the discharge is not apparent, the crew should collect a sample and measure flow. Several tests should be conducted to determine the nature of the material. This can be compared to records of local facilities and possible pollutant generating activities as an aid in determining the possible sources of the flow.

The sample should be measured for pH, temperature and conductivity (EC). If any of these parameters are abnormal, or strong odors or flow discoloration are detected, the sample should be analyzed. This can be done with a field test kit, which will detect the presence of copper, phenols, detergents, and chlorine. Findings should be recorded on the inspection checklist.

If visual observations are abnormal and/or the field tests detect high concentrations of any constituent, the crew should consider collecting samples for laboratory analysis. The laboratory can usually supply properly cleaned sample bottles and specify either amber glass or plastic (HDPE) bottles depending on the analyses required. If there is enough flow, the field crew should fill several of each type of bottle to obtain enough sample volume for a range of analyses. If there is a limited quantity or sampling is difficult, the field crew should collect as much sample as possible so that the laboratory can run a limited set of analyses. The samples should be placed in a cooler filled with ice and transported to the lab(s) on the same day. Arrangements should be made prior to the field inspection with an analytical laboratory capable of performing the required analyses.

The laboratory analyses run on each sample should be carefully considered. Given the potential high cost for laboratory work, it is prudent to limit the number of analytical parameters (or analytes) tested for each sample. Tests may be selected based on the findings of indicator analyses, visual observations, field tests, and information collected about the types of materials processed, stored and/or spilled within each drainage area.

### **Guidance Source**

Los Angeles County Model Stormwater Quality Management Program, 2003.

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# ILLICIT CONNECTION/ ILLICIT DISCHARGE INVESTIGATION REPORT

Response Time:

- 1-6 hrs.   
 13 hrs.   
 24 hrs.   
 48 hrs.

## RESPONSE

Date:	Time:	Inspector:
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## INVESTIGATION

Location/ Address:	
Reason for Investigation: <input type="checkbox"/> Complaint <input type="checkbox"/> Discharge/Spill Response <input type="checkbox"/> Visual Monitoring <input type="checkbox"/> Other: _____	
Type of Material: <input type="checkbox"/> Hazardous <input type="checkbox"/> Wastewater <input type="checkbox"/> Oil/Grease <input type="checkbox"/> Soil/ Sediment <input type="checkbox"/> Trash <input type="checkbox"/> Sewage <input type="checkbox"/> Fuel (Gas/Diesel) <input type="checkbox"/> Chemicals <input type="checkbox"/> Other _____	
Estimated Quantity: <input type="checkbox"/> Gallons <input type="checkbox"/> Lbs.	
Entered Storm Drain System: <input type="checkbox"/> Yes <input type="checkbox"/> No	Entered Receiving Waters: <input type="checkbox"/> Yes <input type="checkbox"/> No
Storm Drain Location: _____	Name of Receiving Water: _____

<b>Observations</b>	
---------------------	--

Field Testing: <input type="checkbox"/> Yes <input type="checkbox"/> No	Sample Collected: <input type="checkbox"/> Yes <input type="checkbox"/> No
Details:	Details:
Direct/ Constructed Connections Found: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Details:	

## RESPONSIBLE PARTY

Name:	
Address:	Phone/ email:
Repeat Violation? <input type="checkbox"/> Yes <input type="checkbox"/> No	

## OUTREACH MATERIAL

Outreach Material Distributed: <input type="checkbox"/> None <input type="checkbox"/> General Information <input type="checkbox"/> BMP Brochure <input type="checkbox"/> Other _____
--

## ENFORCEMENT

Enforcement: <input type="checkbox"/> None <input type="checkbox"/> Written Warning <input type="checkbox"/> Notice of Violation <input type="checkbox"/> Citation/Infraction <input type="checkbox"/> Cease and Desist Order
---

<b>Other Actions</b>	
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## FOLLOW-UP VISIT

Date:	Time:	Inspector:
Discharge Stopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	Proper Clean-Up Action Taken: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Further Action Required: <input type="checkbox"/> Yes <input type="checkbox"/> No		
Details:		





# ILLICIT CONNECTION/ ILLICIT DISCHARGE REPORTING & RESPONSE

Received by:	
Date:	Time Received:

REPORTING PARTY	
Name:	Anonymous: <input type="checkbox"/> Yes <input type="checkbox"/> No
Address:	Phone/email:

INCIDENT	
Date:	Time:
Location/ Address:	
Land Use: <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Public	
Type of Material: <input type="checkbox"/> Hazardous <input type="checkbox"/> Wastewater <input type="checkbox"/> Oil/Grease <input type="checkbox"/> Sediment <input type="checkbox"/> Trash <input type="checkbox"/> Other _____ <input type="checkbox"/> Unknown	
Estimated Quantity: <input type="checkbox"/> Gallons <input type="checkbox"/> Lbs.	
Entered Storm Drain System/ Receiving Waters? <input type="checkbox"/> Yes <input type="checkbox"/> No	

<b>Description / Details</b>	

Agencies Contacted:	
<input type="checkbox"/> Office of Emergency Services <input type="checkbox"/> HazMat Team <input type="checkbox"/> LA County <input type="checkbox"/> Regional Board <input type="checkbox"/> Other	
Source Investigation Conducted?	Source Identified?
<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Direct/ Constructed Connections Found? <input type="checkbox"/> Yes <input type="checkbox"/> No	

ALLEGED RESPONSIBLE PARTY	
Name:	
Address:	Phone/ email:
Vehicle License No:	

ACTION & CLOSURE	
Referred to:	Date:
Department:	Phone/ email:

<b>Actions Taken/ Details</b>	

<b>Date Closed:</b>
---------------------

# Spill Prevention Coordination

## Procedures

This attachment discusses spill prevention coordination procedures that identify:

- Divisions or sections responsible for responding to reports of spills
- General and specific spill response procedures including responsible division or section
- Spill response training activities
- Activities conducted to improve spill response procedures and equipment

## Divisions or Sections Responsible for Responding to Reports of Spills

Identify the divisions or sections responsible for responding to reports of spills and note divisions or sections that respond to specific types of spills such as hazardous materials spills or sewage spills. Also indicate the specific field staff who respond to spills and the level of support they provide to lead emergency response agencies and source of spill investigations.

## General and Specific Spill Response Procedures

Describe or reference general spill response procedures involved in responding to complaints and identifying spills through inspections. Include the spill response process from the spill identification stage through clean up and report preparation. Copies of the forms and reports prepared to document spills should also be included. Specific procedures for hazardous materials spills, floods, and sewage spills should be referenced. Contractor support for spill events, if applicable, should also be noted.

## Spill Response Training Activities

Provide an overview of all spill response training that is conducted within the various divisions and sections of the agencies.

## Activities to Improve Spill Response Procedures and Equipment

List all activities conducted within the implementing agency to improve spill response procedures and update equipment. Explain how improvements are identified, prioritized, and implemented. Include a schedule of how often spill response procedures and equipment are evaluate.

# Spill Investigation, Containment and Cleanup

## Investigation

Depending on the location of the spill and the type of material, the appropriate department/ agency should be notified. This may include:

- Storm drain maintenance, if the spill reaches the storm drain system
- Street and road maintenance, if the spill is in the public right-of-ways
- Sewer system maintenance, if the material is from the sewage system
- Industrial waste inspection, if the material is from industrial facilities
- Fire Departments/"first responders," if the material may be hazardous
- Contractors for hazardous materials, if the material is hazardous

These departments/agencies should determine the nature of the material and the extent of the spill. If any agency determines there is a chance that the spill involves hazardous materials, then the local Administering Agency will be notified. An example of spill investigation procedures is depicted in Figure D-1. Reporting procedures for hazardous substances are discussed further in Section 5 of this Illicit Connection/Illicit Discharge Elimination model program.

### **Containment and Cleanup**

Once the nature and extent of the spill is determined, the appropriate departments and field superintendents will be notified to contain and clean up the spill. The three types of cleanup scenarios are (1) hazardous, (2) wastewater, and (3) other non-hazardous materials.

#### **Hazardous**

Handling procedures regarding releases of hazardous or potentially hazardous substances into the environment are covered in a number of federal and state regulations, including: Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Superfund Amendments and Reauthorization Act (SARA); Resource Conservation and Recovery Act (RCRA); and multiple bills codified under Division 20 of the California Health and Safety Code. These procedures are well established and are practiced by local hazardous materials response teams - generally a local Fire Department.

Material determined to be hazardous will be contained by the appropriate hazardous material response team. The team will contact an approved contractor for cleanup. Details are contained in the local *Emergency Response Procedures* manual.

#### **Wastewater**

Field crews responding to a sewage spill or overflow should contain the spill to prevent entry of the sewage into the storm drain system or natural watercourse. This will involve a coordinated effort between the sewer, street, and storm drain maintenance crews.

To the maximum extent possible, sewage should be prevented from entering the storm drain system by covering or blocking storm drain inlets and catch basins or by containing or diverting the overflow away from open channels and other storm drain fixtures (using sandbags, inflatable dams, etc.).

In the event that raw sewage enters a storm drain catch basin, where possible the sewage should be vacuumed or pumped out of the catch basin. If a sewage overflow enters a storm drain channel, where possible the downstream channel area should be blocked, flushed with potable water and the captured water pumped to a nearby sewer manhole. Any time a sewage spill enters the storm drain system and has the potential to reach coastal waterways, the local agency and L.A. County Dept. of Health Services, Bureau of Environmental Protection must be notified (323) 881-4147.

Once the spill is contained, it should be removed and the area disinfected. Every effort should be made to ensure that the disinfectant is not discharged to the storm drain system, using methods such as those described above.

#### **Other Non-hazardous Materials**

Non-hazardous materials should generally be removed by appropriate crews with knowledge of or jurisdiction over the location of the spill, as indicated in Section D.1. Because the situations and materials will vary widely, procedures will vary as well.

All materials should be prevented from entering waterways to the maximum extent possible. Many materials in sufficient quantities can deplete the oxygen level in receiving waters, or smother benthic communities. Typical examples of these materials include landscape waste, milk, flour, and many other organic liquids and solids or fine powders. These materials should generally be removed by first collecting and/or sweeping up all solids and disposing them in a landfill or other approved location. Liquids should be diverted to an area away from waterways where they may be removed with a vacuum truck or can soak into the ground.

**Guidance Source**

Los Angeles County Model Stormwater Quality Management Program, 2003.

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Watershed Management Program Appendix 3

# A-3-2 Example Vacant Lot Ordinance

For the TSS Reduction Strategy

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# EXAMPLE VACANT LOT ORDINANCE

*For the TSS Reduction Strategy (City of Whittier Municipal Code § 8.08.026)*

## 8.08.026 VACANT LOTS

For the purpose of this section, a vacant lot shall mean any property which is either undeveloped or has an existing on-site building/structure that is either abandoned, vacant and/or is un-leased by the property owner for more than thirty days.

All vacant lots within the city (except those that do not immediately front onto a public street, are less than five feet wide in width or depth, are identified on the city's zoning map as "open space," are used as designated habitat conservation or for active agricultural production) shall be maintained in accordance with the following provisions of this section within thirty days of becoming vacant:

- A. Unimproved Vacant Lot Types. Lots that are unimproved due to never having been developed or having become vacant subsequent to the removal of any pre-existing buildings, structures or impervious surfaces shall be subject to the approval of a vacant lot landscape and irrigation plan by the director of parks, recreation and community services and shall be improved and maintained at all times in accordance with the following provisions:
  1. Lots That Are Less Than One-Half Acre. For unimproved vacant lots that are less than one-half acre in size (21,780 square feet), the entire lot shall be improved and maintained in the following manner:
    - a) The property owner shall landscape the entire lot using drought tolerate or xeriscape material that requires little to no water after the first three years of growth. Durable, high quality, synthetic turf may also be used as an alternative. The landscape material selected shall be reviewed and approved to the satisfaction of the director of parks, recreation and community services prior to installation, per [Section 13.42.120](#) of the Whittier Municipal Code. The ground cover shall be maintained in good condition at all times.
    - b) The lot shall be improved with an operable automatic irrigation system for the ground cover which shall be installed and maintained in good condition by the property owner at all times.
    - c) The lot shall be maintained free of litter, weeds, graffiti, debris, including the stockpiling of any material, at all times. Any on-site litter, weeds, debris or stockpiling of material shall be immediately removed by the property owner, upon discovery. The property owner or their designated representative shall be responsible for inspecting the property at reasonable intervals or take other steps to reasonably ensure that no litter, weeds, graffiti, debris or material stockpiling collects or is maintained on the lot.

- d) Any dead or dying vegetation as well as any broken, malfunctioning or non-functioning irrigation components on the lot shall be replaced by the property owner within seventy-two hours of their discovery or notification. The property owner shall be responsible for inspecting the property at reasonable intervals, or take other steps to reasonably ensure that there is no dead or dying vegetation nor any broken, malfunctioning or non-functioning irrigation components on the lot.
  - e) At the discretion of the director of parks, recreation and community services the standards contained in Section 8.08.026(A)(2) (Lots that are one-half acre or greater) may be applied to vacant lots that are one-half acre or less if deemed appropriate to mitigate any one or more of the following circumstances:
    - i. To adequately secure the property from illegal dumping or other such illicit activities.
    - ii. Because of public safety concerns or hazards associated with the property.
    - iii. A declared state or regional drought.
2. Lots That Are One-Half Acre or Greater. For unimproved vacant lots that are one-half acre (21,780 square feet) or greater in size, the entire lot shall be improved and maintained in the following manner:
- a) The property owner shall provide a minimum five-foot wide landscape planter adjacent to all public rights-of-way (except those property lines located immediately adjacent to an alley) that abut their vacant lot.
  - b) All landscape planters shall be improved with an operable automatic irrigation system. The landscape material selected shall consist of drought tolerate or xeriscape material that requires little to no water after the first three years of growth. Durable, high quality, synthetic turf may also be used as an alternative. The landscape material selected shall be reviewed and approved to the satisfaction of the director of parks, recreation and community services prior to installation, per [Section 13.42.120](#) of the Whittier Municipal Code. The ground cover shall be maintained in good condition at all times.
  - c) All on-site landscaping and irrigation shall be maintained in good condition at all times by the property owner of the lot. Any dead or dying landscaping shall be replaced by the property owner within seventy-two hours of their discovery or notification, including any broken, malfunctioning or non-functioning irrigation components. The property owner shall be responsible for inspecting the property at reasonable intervals or take other steps to reasonably ensure that all of the landscaping and irrigation on the lot is maintained in good condition and there are no broken, malfunctioning or non-functioning irrigation components on the lot.
  - d) A six-foot high, view obscuring, decorative perimeter barrier shall be erected around the entire vacant lot, with a minimum five-foot wide perimeter

landscape planter in front of the fencing. In circumstances where the director of parks, recreation and community services finds that a higher perimeter barrier is warranted for adequate security of the site and/or because of unusual topographical circumstances associated with the vacant lot, the perimeter barrier may be constructed up to a maximum of eight feet high. All perimeter barriers shall include a gravel pathway leading to a security gate to provide accessibility to the interior of the lot for the police department or other emergency personnel. A key or security code for the gate shall be provided to the Whittier Police Department by the property owner upon installation and shall be kept up-to-date at all times.

- e) All decorative, view obscuring, perimeter barriers shall consist of either painted wood, redwood, woodcrete, green vinyl chain-link fencing with a green windscreen securely attached (along the interior of the fence), or any other durable, aesthetically attractive, material deemed acceptable to the director of parks, recreation and community services. On corner or reversed corner lots, all fencing shall comply with [Section 18.64.050](#) for visual safety.
  - f) All perimeter barriers shall be maintained in good condition at all times by the property owner. Any on-site graffiti shall be removed by the property owner within seventy-two hours of its discovery or notification. The property owner shall be responsible for inspecting the property at reasonable intervals.
- B. Improved Vacant Lots. Vacant lots improved with existing on-site buildings or structures that are vacant, abandoned, or un-leased for thirty days or more (as determined by the director of parks) shall be maintained by the property owner as follows:
- 1. All existing on-site landscaping and irrigation shall be maintained in good condition at all times and in accordance with the provisions contained in Chapters 8.08, 8.22 and [8.24](#) of this code, including any conditions of approval applied to the site as part of the approved vacant lot landscape and irrigation plan under Section 8.08.026(C).
  - 2. Any dead or dying vegetation as well as any broken, malfunctioning or non-functioning irrigation components for the lot shall be replaced by the property owner within seventy-two hours of their discovery or notification. The property owner or their designated representative shall be responsible for inspecting the property at reasonable intervals, or take other steps to reasonably ensure that there is no dead or dying vegetation nor any broken, malfunctioning or non-functioning irrigation components on the lot.
  - 3. The lot shall be maintained free of litter, weeds, and debris, including the stockpiling of any material, at all times. Any on-site litter, debris or stockpiling of material shall be immediately removed by the property owner, upon discovery or notification. The property owner or their designated representative shall be responsible for inspecting the property at reasonable intervals, or take other steps to reasonably ensure that no litter, weeds, graffiti, debris or material stockpiling collects or is maintained on the lot.
  - 4. All on-site structures shall be maintained in good condition at all times. Damage to any on-site buildings or structures shall be abated within ten days by the property owner upon



- discovery. An alternative abatement period shall be required, if deemed necessary by the building official, to protect the public health, safety and welfare.
5. The lot shall be adequately secured at all times to prevent illegal dumping, criminal activity, vandalism, graffiti, on-site loitering by the homeless and any/all other attractive nuisances to the satisfaction of the director of parks, recreation and community services and the chief of police.
- C. Vacant Lot Landscape and Irrigation Plan. Prior to the issuance of a demolition permit on any lot in which the construction of a new building, structure, parking lot, or impervious surface will not commence within thirty days after demolition, the property owner shall submit a vacant lot landscape and irrigation plan for review and approval of the director of parks, recreation and community services (with the appropriate plan check fees). The director of parks, recreation and community services may impose any reasonable conditions of approval on the vacant lot landscape and irrigation plan to ensure that the lot will be adequately maintained during the time that it is vacant. Upon approval of the plan, the landscape and irrigation improvements to the lot, as specified in the plan, shall be completed to the satisfaction of the director of parks, recreation and community services within thirty days after demolition. A reasonable extension of time may be granted by the director of parks, recreation and community services in those situations when the director, in his or her sole discretion, determines that a good faith effort is being made by the property owner to comply with the provisions of this section.
1. Appeal of Decision.
    - a) The decision of the director of parks, recreation and community services to approve, conditionally approve or deny any vacant lot landscape and irrigation plan may be appealed in writing to the city manager within fifteen calendar days. The decision of the city manager shall be final, unless appealed in writing to the city council within fifteen calendar days of the city manager's decision. All decisions of the city council shall be final.
    - b) At the sole discretion of the city council, the provisions contained within this ordinance may be made modified, as deemed appropriate, if a finding is made that the legal property owner has demonstrated an extreme financial hardship such as, but not limited to, the filing of bankruptcy, property tax default, their exists over six months of outstanding arrears to the monthly mortgage payment on the property, or any other extreme/unique hardship the city council believes is contrary to the purpose and intent of this ordinance.
- D. View Obscuring Barriers and Fencing on Vacant Lots. There shall be no on-site fencing or view obscuring perimeter barriers that screen any vacant lot in any manner that obstructs vehicular and/or pedestrian visibility of the public right-of-way, or interferes with the public's use of the public right-of-way, as determined by the director of public works. The directors of public works and parks, recreation and community services shall approve the location and design of all vacant lot fencing and perimeter barriers prior to the construction of any such fencing or barriers on a vacant lot.

- E. The director of parks, recreation and community services shall implement all applicable sections of Chapter 13.42 (Water Conservation in Landscaping), regardless of the size of the vacant lot, to ensure that the approved vacant lot landscape and irrigation plan conserves water to greatest extent possible, while preserving the health of the landscaping approved on the vacant lot.
- F. Where a recorded easement on vacant lot exists, the director of parks, recreation and community services may require and/or permit the property owner to use an appropriate ground cover over the easement (i.e., gravel, turf block, paving or some other acceptable material) that would enable a vehicle to drive over the easement. Any impervious surface approved over an easement shall be subject to the prior written approval of the easement holder.
- G. Implementation. All vacant lots, regardless of how they became vacant, that are existing at the time of the adoption of the ordinance shall be brought into immediate compliance with all applicable provisions of this section, unless currently landscaped and irrigated under a previously approved vacant lot and landscape and irrigation plan approved by the director of community development or director of parks, recreation and community services prior to the adoption of this current ordinance. A reasonable extension of time may be granted by the director of parks, recreation and community services in those situations when the director, at his or her sole discretion, determines that a good faith effort is being made by the property owner to comply with this section.
- H. Noncompliance Declared Nuisance. Failure to comply with any of the applicable requirements in this section shall constitute a public nuisance, as designated in Section 8.08.030, and the city attorney or the district attorney may commence an action or proceeding for civil abatement, removal and enjoinder thereof, in the manner proscribed by law; and shall take other steps and apply to such courts as may have jurisdiction to grant such relief as well as abate or remove the nuisance, including abatement in accordance with the provisions of this chapter.

(Ord. 2906 § 1, 2008)

(Ord. No. 2928, § 1, 6-23-09; Ord. No. 2958, § 3, 10-12-10)

Watershed Management Program Appendix 3

# A-3-3 Example Street Sweeping Municipal Code

For the TSS Reduction Strategy

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# EXAMPLE MUNICIPAL CODE LANGUAGE FOR PRIVATE PARKING LOT SWEEPING

*For the TSS Reduction Program (City of Signal Hill Municipal Code § 12.16.060)*

## 12.16.060 ILLICIT DISCHARGES

- A. Except as otherwise permitted herein, all non-storm water discharges to the municipal storm drain system are prohibited.
- B. No person shall cause, facilitate or permit any illicit discharge to the municipal storm drain system.
- C. No person shall cause, facilitate or permit a discharge into an MS4 that causes or contributes to an exceedence of any water quality standard.
- D. No person shall cause, facilitate or permit any discharge into an MS4 that causes or threatens to cause a condition of pollution, contamination, or nuisance (as defined in California Water Code § 13050).
- E. No person shall cause, facilitate or permit any discharge into an MS4 containing pollutants which have not been reduced to the Maximum Extent Practicable.

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**Q. All owners and operators of industrial and/or commercial motor vehicle parking lots containing more than twenty-five parking spaces shall conduct regular sweeping and other similar measures to minimize the discharge of pollutants and other debris in the municipal storm drain system.**

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**V. Any person who violates the terms of this section shall immediately commence all appropriate response action to investigate, assess, remove and/or remediate any pollutants discharged as a result of such violation, and shall reimburse the City or other appropriate governmental agency, for all costs incurred in investigating, assessing, monitoring and/or removing, cleaning up, treating or remediating any pollutants resulting from such violation, including all reasonable attorneys' fees and environmental and related consulting fees incurred in connection therewith.**

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(Ord. 2013-11-1462 § 1; Ord. 2003-02-1316 § 1; Ord. 2002-07-1304 § 2; Ord. 96-12-1215 § 1)

Watershed Management Program Appendix 3

## A-3-4 List of Potential Regional BMP and Public LID Projects by Subwatershed

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Appendix 3-4 Public Parcel Locations for Potential LID Sites

Name	Area (acres)	Latitude	Longitude	Subwatershed ID from RAA	Target BMP capacity in acre-feet for subwatershed	Toxics TMDL
Admiral Park 1 (green space)	0.81	33.79653	-118.217291	200248	6.8	Dominguez
Admiral Park 2 (parking lot)	2.08	33.79663	-118.216481			
Admiral Park 3 (green space)	5.74	33.79547	-118.216739			
Admiral Park 4 (parking lot)	0.01	33.79451	-118.215759			
Admiral Park 4 (parking lot)	0.07	33.79485	-118.215755			
Admiral Park 5 (green space)	2.53	33.79487	-118.216391			
Educational	0.48	Excluded for privacy				
Educational	0.81	Excluded for privacy				
Educational	0.81	Excluded for privacy				
Educational	0.81	Excluded for privacy				
Educational	2.91	Excluded for privacy				
Educational	0.56	Excluded for privacy				
Educational	0.56	Excluded for privacy				
Educational	0.56	Excluded for privacy				
Educational	0.56	Excluded for privacy				
Educational	0.55	Excluded for privacy				
Educational	0.55	Excluded for privacy				
Educational	0.31	Excluded for privacy				
Educational	0.55	Excluded for privacy				
Commercial	0.69	Excluded for privacy				
Commercial	1.55	Excluded for privacy				
Commercial	1.35	Excluded for privacy				
Commercial	1.24	Excluded for privacy				
Commercial	1.24	Excluded for privacy				
Commercial	1.24	Excluded for privacy				
Commercial	1.25	Excluded for privacy				
Commercial	1.24	Excluded for privacy				
Commercial	1.24	Excluded for privacy				
Educational	13.77	Excluded for privacy				
Hudson Park 1 (green space)	9.95	33.79797	-118.221809			
Institutional	0.64	Excluded for privacy				
Institutional	1.24	Excluded for privacy				
Institutional	0.31	Excluded for privacy				
Institutional	0.45	Excluded for privacy				
Institutional	0.31	Excluded for privacy				
Institutional	0.26	Excluded for privacy				
Institutional	0.15	Excluded for privacy				
Institutional	0.15	Excluded for privacy				
Institutional	0.15	Excluded for privacy				
Institutional	0.15	Excluded for privacy				
Institutional	0.35	Excluded for privacy				
Institutional	0.15	Excluded for privacy				
Educational	33.49	Excluded for privacy				

Appendix 3-4 Public Parcel Locations for Potential LID Sites

Name	Area (acres)	Latitude	Longitude	Subwatershed ID from RAA	Target BMP capacity in acre-feet for subwatershed	Toxics TMDL
RR (open space)	4.97	33.8007	-118.222648			
RR (open space)	3.31	33.7946	-118.224795			
RR (open space)	0.11	33.79192	-118.225716			
RR (open space)	0.91	33.81284	-118.221481	200348	0.3	Dominguez
RR (open space)	0.35	33.81123	-118.221474			
RR (open space)	0.35	33.81123	-118.221474			
RR (open space)	0.35	33.81039	-118.221469			
RR (open space)	0.35	33.81039	-118.221469			
RR (open space)	0.35	33.80956	-118.221463			
RR (open space)	2.27	33.80677	-118.221445			
RR (open space)	0.04	33.80427	-118.221733			
Dominguez Park 1 (green space)	0.34	33.83589	-118.21249	200448	3.8	Dominguez
Dominguez Park 2 (green space)	0.34	33.83589	-118.21249			
Flood channel	1.92	33.83372	-118.213605			
Flood channel	1.92	33.83372	-118.213605			
Educational	13.54	Excluded for privacy				
RR (open space)	0.07	33.82566	-118.217669			
RR (open space)	0.07	33.82566	-118.217669			
RR (open space)	1.73	33.82993	-118.21549			
RR (open space)	1.73	33.82993	-118.21549			
RR (open space)	0.05	33.82384	-118.218675			
RR (open space)	0.05	33.82384	-118.218675			
RR (open space)	0.15	33.82176	-118.219643			
RR (open space)		33.8234	-118.218903			
RR (open space)		33.8234	-118.218903			
RR (open space)	2.35	33.81845	-118.220764			
RR (open space)	2.35	33.81845	-118.220764			
Commercial (parking lot)	3.84	Excluded for privacy		500148	7.9	Harbor
Marina Pacifica 3	0.13	33.7519	-118.107534			
San Gabriel River 10 (open space)	0.06	33.75115	-118.105737			
San Gabriel River 11 (street)	0.12	33.75122	-118.10643			
San Gabriel River 11 (street)	0.06	33.75198	-118.107269			
San Gabriel River 12 (open space)	0.01	33.75107	-118.105706			
San Gabriel River 13 (open space)	30.7	33.75719	-118.105703			
San Gabriel River 13 (open space)	0.49	33.75233	-118.107399			
San Gabriel River 6 (open space)	0.65	33.78943	-118.093008			
San Gabriel River 6 (open space)	0.43	33.7906	-118.092478			
San Gabriel River 7 (open space)	0.28	33.78732	-118.092848			
San Gabriel River 7 (open space)	0.05	33.78776	-118.092728			
San Gabriel River 7 (open space)	0.18	33.78801	-118.092489			
San Gabriel River 7 (open space)	0.06	33.78849	-118.092198			
San Gabriel River 7 (open space)	0.37	33.78785	-118.093813			
San Gabriel River 9 (open space)	19.56	33.75474	-118.100975			

Appendix 3-4 Public Parcel Locations for Potential LID Sites

Name	Area (acres)	Latitude	Longitude	Subwatershed ID from RAA	Target BMP capacity in acre-feet for subwatershed	Toxics TMDL
San Gabriel River 9 (open space)	0.01	33.75693	-118.099421			
San Gabriel River 9 (open space)	0.43	33.75764	-118.098784			
San Gabriel River 9 (open space)	25.3	33.75678	-118.102012			
San Gabriel River 9 (open space)	0.28	33.75893	-118.097966			
Residential (open space)	0.02	Excluded for privacy		500248	0.0	Harbor
San Gabriel River 8 (open space)	0.22	33.78529	-118.093864			
Appian Way (parking lot and street)	1.08	33.76936	-118.133655	549548	18.1	Harbor
Belmont Park 1 (building)	0.16	33.75935	-118.130111			
Belmont Park 2 (building)	0.19	33.75885	-118.130818			
Belmont Shore 23 (parking lot)	0.33	33.76339	-118.134754			
Belmont Shore 24 (green space)	0.51	33.76317	-118.135678			
Belmont Shore 25 (green space)	0.53	33.76289	-118.136729			
Belmont Shore 3 (building)	0.26	33.75805	-118.130551			
Boathouse 1 (open space)	0.48	33.76747	-118.125141			
Boathouse 1 (open space)	1.88	33.76779	-118.126505			
Boathouse 1 (open space)	0.94	33.76835	-118.126458			
Colorado Lagoon Park 1 (green space)	2.5	33.77306	-118.134399			
Colorado Lagoon Park 2 (green space)	12.62	33.77261	-118.1348			
Colorado Lagoon Park 3 (building)	0.2	33.77009	-118.132267			
Colorado Lagoon Park 4 (open space)	28.24	33.77145	-118.133911			
E. Livingston Drive 8 (parking lot)	0.57	33.76259	-118.137878			
Jack Dunster Marine Preserve 1 (open space)		33.76169	-118.118555			
Jack Dunster Marine Preserve 1 (open space)	0.14	33.76186	-118.117965			
Jack Dunster Marine Preserve 1 (open space)	1.12	33.76245	-118.119475			
Jack Dunster Marine Preserve 2 (open space)	0.02	33.7627	-118.119452			
Jack Dunster Marine Preserve 3 (open space)	0.2	33.76277	-118.118621			
Jack Nichol Park 1 (green space)	0.84	33.76318	-118.117496			
Jack Nichol Park 2 (green space)	0.01	33.76349	-118.11605			
Jack Nichol Park 2 (green space)	0.89	33.76333	-118.116858			
Jack Nichol Park 3 (green space)	1.22	33.7638	-118.11621			
LB Conservation Corps (parking lot)	0.12	33.76965	-118.133489			
LB Conservation Corps 1 (parking lot)	0.1	33.76971	-118.1337			
Lowell Elementary School (open space)	0.09	33.76655	-118.132443			
Lowell Elementary School (open space)	10.26	33.76626	-118.132017			
Marina Pacifica 1	0.23	33.76207	-118.117115			
Marina Pacifica 2 (parking lot)	1.5	33.7615	-118.118288			
Marina Pacifica 3	16.91	33.75382	-118.110726			
Marina Pacifica 4 (parking lot)	0.07	33.76257	-118.115344			
Marina Vista Park 1 (green space)	2.3	33.76926	-118.127893			
Marina Vista Park 2 (green space)	4.17	33.76914	-118.129364			
Marina Vista Park 3 (green space)	5.82	33.76883	-118.130656			
Marine Stadium Park (parking lot)	0.71	33.76066	-118.123232			
Marine Stadium Park 2 (parking lot)	0.31	33.76033	-118.122958			



Appendix 3-4 Public Parcel Locations for Potential LID Sites

Name	Area (acres)	Latitude	Longitude	Subwatershed ID from RAA	Target BMP capacity in acre-feet for subwatershed	Toxics TMDL			
Marine Stadium Park 3 (open space)	0.29	33.75768	-118.113851						
Marine Stadium Park 3 (open space)	1.13	33.76009	-118.118965						
Marine Stadium Park 3 (open space)	4.87	33.76376	-118.126221						
Marine Stadium Park 3 (open space)	0.01	33.76734	-118.127146						
Marine Stadium Park 3 (open space)	0.01	33.76746	-118.127287						
Marine Stadium Park 3 (open space)	0.01	33.76757	-118.127411						
Marine Stadium Park 3 (open space)	5.69	33.765	-118.124288						
Marine Stadium Park 4 (open space)	0.12	33.76798	-118.127635						
Marine Stadium Park 5 (street)	0.03	33.76811	-118.129791						
Marine Stadium Park 5 (street)	0.21	33.7681	-118.128796						
Marine Stadium Park 5 (street)	0.53	33.76816	-118.127854						
Marine Stadium Park 5 (street)	4.29	33.76907	-118.127476						
Marine Stadium Park 5 (street)	1.48	33.76923	-118.130223						
Marine Stadium Park 5 (street)	3.71	33.76846	-118.13126						
Monrovia Ave (residential)	0.09	Excluded for privacy							
Sims Pond Reserve (open space)		33.76796	-118.117634						
Sims Pond Reserve (open space)	0.03	33.76792	-118.117452						
Sims Pond Reserve 2 (open space)	1.37	33.76726	-118.119056						
Sims Pond Reserve 3 (open space)	2.19	33.76767	-118.117944						
Sims Pond Reserve 4 (open space)		33.76741	-118.118771						
Sims Pond Reserve 4 (open space)	1.97	33.76849	-118.118018						
Will Rogers Park 1 (green space)	0.9	33.76878	-118.132408						
Will Rogers Park 2 (green space)	0.4	33.76845	-118.13202						
Will Rogers Park 3 (green space)	0.5	33.76814	-118.131519						
Residential	0.22	Excluded for privacy		549748	2.3	Harbor			
Educational	0.3	Excluded for privacy		549948	5.7	Harbor			
Educational	3.5	Excluded for privacy							
Rancho Los Alamitos (open space)	4.53	33.77695	-118.107565						
Open space	0.17	33.7935	-118.102675	550048	1.4	Harbor			
San Gabriel River 1 (open space)	0.33	33.79617	-118.090855						
San Gabriel River 2 (open space)	0.62	33.79635	-118.090548						
San Gabriel River 3 (open space)	0.04	33.796	-118.091096						
San Gabriel River 4 (open space)	6.39	33.79228	-118.092156						
San Gabriel River 6 (open space)	2.05	33.79396	-118.091081						
San Gabriel River 8 (open space)	0.27	33.78548	-118.094981						
San Gabriel River 8 (open space)	0.08	33.78603	-118.094743						
Tincher Prep School (open space)	11.59	33.78757	-118.101655						
Educational	8.78	Excluded for privacy					550148	14.5	Harbor
Bouton Creek Park 1 (green space)	0.36	33.7881	-118.129152						
Bouton Creek Park 2 (green space)	0.39	33.78796	-118.128149						
Educational	148.92	Excluded for privacy							
Educational	50.5	Excluded for privacy							
Educational	42.38	Excluded for privacy							

Appendix 3-4 Public Parcel Locations for Potential LID Sites

Name	Area (acres)	Latitude	Longitude	Subwatershed ID from RAA	Target BMP capacity in acre-feet for subwatershed	Toxics TMDL			
Educational	11.78	Excluded for privacy							
Educational	0.59	Excluded for privacy							
Educational	1.62	Excluded for privacy							
Residential	0.54	Excluded for privacy							
E. Atherton Street (Open Space)	0.03	33.78963	-118.131748						
E. Atherton Street (Open space)	4.5	33.78964	-118.121784						
Flood channel	1.98	33.78812	-118.131328						
Flood channel	1.56	33.78773	-118.126886						
Flood channel	0.05	33.78719	-118.123684						
Flood channel 1	1.75	33.78055	-118.109745						
Flood channel 2	0.5	33.7794	-118.107448						
Educational	10.21	Excluded for privacy							
Institutional	43.37	Excluded for privacy							
Institutional	55.09	Excluded for privacy							
Institutional	0.25	Excluded for privacy							
Los Altos Park (Green space)	4.63	33.79669	-118.127675						
Los Altos Park Plaza (green space)	0.65	33.7836	-118.131497						
San Gabriel River 5 (open space)	0.02	33.79019	-118.091335						
San Gabriel River 5 (open space)	0.01	33.79058	-118.091115						
San Gabriel River 6 (open space)	0.13	33.78881	-118.092113						
San Gabriel River 6 (open space)		33.78924	-118.091983						
San Gabriel River 6 (open space)	0.18	33.78943	-118.091778						
San Gabriel River 6 (open space)	0.16	33.7902	-118.091431						
San Gabriel River 6 (open space)		33.79065	-118.091122						
San Gabriel River 6 (open space)		33.7907	-118.091252						
San Gabriel River 7 (open space)		33.78865	-118.092274						
Whaley Park 1 (Green Space)	0.01	33.78642	-118.121125						
Whaley Park 2 (Green Space)	8.38	33.78754	-118.122047						
Institutional	10.97	Excluded for privacy					550248	21.6	Harbor
Institutional	6.33	Excluded for privacy							
Institutional	5.55	Excluded for privacy							
Educational	6.55	Excluded for privacy							
Educational	7.86	Excluded for privacy							
E. 25th Street (Open space)	0.11	33.80229	-118.131987						
Institutional	2.66	Excluded for privacy							
Institutional	3.2	Excluded for privacy							
Institutional	1.54	Excluded for privacy							
Institutional	0.59	Excluded for privacy							
Institutional	0.89	Excluded for privacy							
Educational	5.4	Excluded for privacy							
Institutional		Excluded for privacy							
Institutional	0.06	Excluded for privacy							
Institutional	7.68	Excluded for privacy							

Appendix 3-4 Public Parcel Locations for Potential LID Sites

Name	Area (acres)	Latitude	Longitude	Subwatershed ID from RAA	Target BMP capacity in acre-feet for subwatershed	Toxics TMDL
Educational	0.09	Excluded for privacy				
Educational	1.65	Excluded for privacy				
Educational	0.05	Excluded for privacy				
Educational	0.07	Excluded for privacy				
Educational	0.89	Excluded for privacy				
Educational	0.05	Excluded for privacy				
Educational	0.29	Excluded for privacy				
Open space near freeway (Caltrans)	3.11	33.80509	-118.1438			
PCH (street)	0.16	33.78326	-118.13308			
Roycroft Avenue (Sidewalk)	0.05	33.78419	-118.13825			
Institutional	0.72	Excluded for privacy				
Institutional	1.3	Excluded for privacy				
Institutional	2.74	Excluded for privacy				
Institutional	10.94	Excluded for privacy				
Institutional	8.85	Excluded for privacy				
Flood channel (open space)	0.93	33.7859	-118.103891	550348	0.1	Harbor
Flood channel (open space)		33.78865	-118.103731			
Flood channel (open space)	0.74	33.78577	-118.10332			
Carroll Park (green space)	0.14	33.76885	-118.164044	553248	5.6	Harbor
Mann Elementary School (open space)	3.73	33.76717	-118.154049			
E. Livingston Drive 1 (open space)	0.43	33.76063	-118.148475	553348	2.4	Harbor
Belmont Shore 1 (parking lot)	0.06	33.75829	-118.13153	553448	6.3	Harbor
Belmont Shore 10 (parking lot)	0.1	33.76017	-118.13599			
Belmont Shore 11 (parking lot)	0.04	33.76004	-118.136074			
Belmont Shore 12 (parking lot)	0.04	33.75953	-118.134694			
Belmont Shore 13 (parking lot)	0.04	33.75951	-118.134356			
Belmont Shore 14 (parking lot)	0.04	33.75942	-118.134418			
Belmont Shore 15 (parking lot)	0.04	33.75962	-118.134608			
Belmont Shore 16 (parking lot)	0.03	33.75873	-118.132825			
Belmont Shore 17 (parking lot)	0.04	33.75871	-118.132496			
Belmont shore 18 (parking lot)	0.03	33.75862	-118.132557			
Belmont Shore 19 (parking lot)	0.04	33.75882	-118.132741			
Belmont Shore 2 (parking lot)	0.06	33.75821	-118.131577			
Belmont Shore 26 (parking lot)	0.07	33.76125	-118.138464			
Belmont Shore 27 (parking lot)	0.07	33.76117	-118.138518			
Belmont Shore 5 (parking lot)	0.06	33.76041	-118.136782			
Belmont Shore 6 (parking lot)	0.04	33.76039	-118.136411			
Belmont Shore 7 (parking lot)	0.04	33.76029	-118.13647			
Belmont Shore 8 (parking lot)	0.05	33.76051	-118.136692			
Belmont Shore 9 (parking lot)	0.01	33.76011	-118.13584			
E. Livingston Drive 2 (street)	0.74	33.76038	-118.146696			
E. Livingston Drive 3 (street)	0.4	33.76061	-118.145282			
E. Livingston Drive 4 (street)	1.17	33.76108	-118.14361			

Appendix 3-4 Public Parcel Locations for Potential LID Sites

Name	Area (acres)	Latitude	Longitude	Subwatershed ID from RAA	Target BMP capacity in acre-feet for subwatershed	Toxics TMDL
E. Livingston Drive 5 (street)	1.22	33.76165	-118.141427			
Residential	0.1	Excluded for privacy				
E. Livingston Drive 7 (street)	0.45	33.76201	-118.139974			
Belmont Pier (open space and parking lot)	0.02	33.75876	-118.150943	800248	3.9	Harbor
Belmont Pier (open space and parking lot)	9.29	33.75895	-118.148613			
Belmont Shore 20 (open space)	7.37	33.75476	-118.136682			
Belmont Shore 21 (open space)	7.37	33.7559	-118.139532			
Belmont Shore 22 (open space)	0.15	33.75574	-118.138204			
Belmont Shore 28 (open space)	10.9	33.75727	-118.142901			
Belmont Shore 29 (open space)	3.81	33.75819	-118.145586			
Belmont Shore 4 (open space)	1.25	33.75404	-118.134902			
Bluff Park (open space)	44.72	33.76115	-118.157749			
Bluff Park 2 (open space)	3.64	33.76039	-118.151667			
Peninsula 1 (open space)		33.74738	-118.122902			
Peninsula 2 (open space)	0.03	33.74718	-118.122527			
Peninsula 3 (open space)	0.08	33.74688	-118.121985			
Peninsula 4 (open space)	0.09	33.74661	-118.121439			
Peninsula 5 (open space)	0.03	33.74632	-118.120814			
Peninsula 6 (open space)	0.05	33.746	-118.120221			
Peninsula 7 (open space)	0.09	33.74572	-118.11968			
Peninsula 8 (open space)	0.02	33.74549	-118.119189			
Peninsula 9 (open space)	1.57	33.7451	-118.118639			
Peninsula 9 (open space)	0.92	33.74761	-118.123476			
Peninsula 9 (open space)	0.02	33.74988	-118.127858			
Beach Front 13	0.26	33.76408	-118.1729	800348	1.2	Harbor
Beach Front 14	0.54	33.76421	-118.173972			
Beach Front 15	0.52	33.76398	-118.172184			
Beach Front 16	0.57	33.76389	-118.171294			
Beach Front 17	0.17	33.76372	-118.17016			
Beach Front 18	0.48	33.76365	-118.169505			
Beach Front 19	0.1	33.76375	-118.170355			
Bixby Park 1 (green space)	3.62	33.76378	-118.167645			
Bixby Park 2 (green space)	3.65	33.76493	-118.167383			
Valparaiso Plaza (open space)	11.37	33.7631	-118.166673			
Beach Front 1	0.15	33.7652	-118.181773	800448	2.5	Harbor
Beach Front 10	0.56	33.76444	-118.175762			
Beach Front 11	0.41	33.76434	-118.174958			
Beach Front 12	0.13	33.7643	-118.174599			
Beach Front 2	0.53	33.76531	-118.182759			
Beach Front 20	22.66	33.76415	-118.176836			
Beach Front 3	0.63	33.76513	-118.181139			
Beach Front 4	0.46	33.765	-118.180155			
Beach Front 5	0.46	33.76491	-118.179439			

Appendix 3-4 Public Parcel Locations for Potential LID Sites

Name	Area (acres)	Latitude	Longitude	Subwatershed ID from RAA	Target BMP capacity in acre-feet for subwatershed	Toxics TMDL
Beach Front 6	0.6	33.76479	-118.178457			
Beach Front 7	0.15	33.76487	-118.17908			
Beach Front 8	0.56	33.76468	-118.177556			
Beach Front 9	0.56	33.76456	-118.176657			
LB Waterfront	0.08	33.76113	-118.192976	800548	5.0	Harbor
LB Waterfront	43.71	33.7621	-118.194289			
LB Waterfront 2 (open space)	0.25	33.76341	-118.193065			
Marina Green (green space and parking lot)	17.78	33.76227	-118.186289			
Rainbow Lagoon Park (green space)	8.38	33.76301	-118.190628			
Rainbow Lagoon Park 2 (green space and parking lot)	8.85	33.76304	-118.187343			
Commercial	27.65	Excluded for privacy		800648	1.9	Harbor
Commercial	2.67	Excluded for privacy				
Palm Beach Park (parking lot)	3.15	33.76293	-118.201407			
Anchorage Road (open space)	0.71	33.76707	-118.240862	802299	10.4	Harbor
Navy Way RR (open space)	0.05	33.74303	-118.243483	802599	3.2	Harbor

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Appendix 3-4 Locations for Potential Regional BMPs

Land Use Designation	Site Name	Site Address	Latitude	Longitude	Sub-watershed ID from RAA	Approx. Site Area (acres)	Calculated Max Tributary Area (acres)	Max Design Capture Volume (ac-ft)	Target BMP Capacity for Sub-watershed (ac-ft)	Toxics TMDL
Open Space and Recreation	Admiral Kidd Park	2125 Santa Fe Ave.	33.796	-118.217	200248	11.45	167	13.74	6.8	Dominguez
Educational Use		Excluded for privacy				13.18	192	15.81		
Educational Use		Excluded for privacy				1.02	15	1.22		
Educational Use		Excluded for privacy				45.75	665	54.9		
Educational Use		Excluded for privacy				2.97	43	3.56		
Open Space and Recreation	Open space	2335 Webster Ave.	33.798	-118.222	549548	9.95	145	11.94	18.1	Harbor
Educational Use		Excluded for privacy				13.65	198	16.37		
Educational Use		Excluded for privacy				3.67	53	4.41		
Open Space and Recreation	Jack Dunster Marine Reserve	Boathouse Ln.	33.762	-118.119		1.33	19	1.59		
Open Space and Recreation	Jack Nichol Park	E. Pacific Coast Hwy.	33.763	-118.117		3.04	44	3.65		
Open Space and Recreation	Marina Vista	5355 Eliot St.	33.769	-118.129	549948	17.56	255	21.07	5.7	Harbor
Open Space and Recreation	Marine Stadium	2nd St. and Appian Way	33.768	-118.126		0.8	12	0.96		
Educational Use		Excluded for privacy				8.15	119	9.78		
Open Space and Recreation	Open space	6201 2nd St.	33.758	-118.117		5.24	76	6.29		
Golf Courses/Country Clubs		Excluded for privacy				14.51	211	17.42		
Open Space and Recreation	Will Rogers Park	Appian Way and Nieto Ave.	33.768	-118.132	550048	1.77	26	2.12	1.4	Harbor
Open Space and Recreation	College Estates Park	Stevely Ave.	33.777	-118.099		2.25	33	2.7		
Educational Use		Excluded for privacy				10.38	151	12.45		
Golf Courses/Country Clubs		Excluded for privacy				19.53	284	23.44		
Open Space and Recreation	Open space	Palo Verde Ave.	33.771	-118.104		5.15	75	6.18		
Open Space and Recreation		Excluded for privacy			550148	10.48	152	12.58	14.5	Harbor
Open Space and Recreation		Excluded for privacy			26.16	380	31.39			
Educational Use		Excluded for privacy			11.06	161	13.27			
Educational Use		Excluded for privacy			10.2	148	12.24			
Educational Use		Excluded for privacy			0.94	14	1.13			
Open Space and Recreation	Los Altos Park	5481 Stearns St.	33.797	-118.128	550248	4.63	67	5.55	21.6	Harbor
Educational Use		Excluded for privacy				16.97	247	20.37		
Educational Use		Excluded for privacy				26.02	379	31.23		
Educational Use		Excluded for privacy				2.16	31	2.6		
Open Space and Recreation	Whaley Park	5620 Atherton St.	33.79	-118.122		4.5	65	5.4		
Educational Use		Excluded for privacy			550248	6.55	95	7.86	21.6	Harbor
Educational Use		Excluded for privacy			7.86	114	9.43			
Educational Use		Excluded for privacy			2.86	42	3.44			
Educational Use		Excluded for privacy			1.1	16	1.32			
Educational Use		Excluded for privacy			5.39	78	6.47			
Open Space and Recreation	Stearns Champions Park	4520 E. 23rd St.	33.798	-118.139		31.2	454	37.45		

Appendix 3-4 Locations for Potential Regional BMPs

Land Use Designation	Site Name	Site Address	Latitude	Longitude	Sub-watershed ID from RAA	Approx. Site Area (acres)	Calculated Max Tributary Area (acres)	Max Design Capture Volume (ac-ft)	Target BMP Capacity for Sub-watershed (ac-ft)	Toxics TMDL
Open Space and Recreation	Bluff Park	E. Ocean Blvd.	33.762	-118.157	553248	18.52	269	22.23	5.6	Harbor
Educational Use	Excluded for privacy					3.73	54	4.48		
Open Space and Recreation	Bayshore Playground	5415 E. Ocean Blvd.	33.753	-118.132	553448	1.75	26	2.1	6.3	Harbor
Open Space and Recreation	Open space	5437 E. Ocean Blvd.	33.753	-118.131		0.26	4	0.31		
Educational Use	Excluded for privacy				800148	4.38	64	5.25	4.2	Harbor
Open Space and Recreation	Marine Park	5839 Appian Way	33.758	-118.12		7.85	114	9.42		
Open Space and Recreation	Open space	Ravenna Dr./Corinthian Way	33.755	-118.124		0.37	5	0.45		
Open Space and Recreation	Belmont Pool Complex	4000 Olympic Ave.	33.758	-118.145	800248	4.66	68	5.59	3.9	Harbor
Open Space and Recreation	Dog Beach	E. Ocean Blvd.	33.756	-118.142		1.95	28	2.34		
Open Space and Recreation	Bixby Park	130 Cherry Ave.	33.764	-118.167	800348	4.43	64	5.32	1.2	Harbor
Open Space and Recreation	Open space	2300 E. Ocean Ave.	33.763	-118.165		1.27	19	1.53		
Open Space and Recreation	Marina Green	386 E. Shoreline Dr.	33.762	-118.186	800448	18.55	270	22.26	2.5	Harbor
Open Space and Recreation	Rainbow Lagoon Park	Pine Ave. /E. Shoreline Dr.	33.763	-118.189		11.58	168	13.9		
Open Space and Recreation	Open space	Aquarium Way	33.76	-118.196	800548	10.67	155	12.8	5	Harbor
Open Space and Recreation	Open Space near Aquarium	Aquarium Way/Rainbow Harbor	33.762	-118.197		0.81	12	0.97		
Open Space and Recreation	Rainbow Harbor Esplanade	Pine Ave.	33.762	-118.194		8.22	120	9.87		
Open Space and Recreation	Harry Bridges Memorial Park	1126 Queens Hwy.	33.754	-118.195	801699	4.64	67	5.56	14.4	Harbor
Open Space and Recreation	Open space	590 Queensway Dr.	33.76	-118.203		5.79	84	6.95		
Educational Use	Excluded for privacy				(CL)	3.73	54	4.47		Colorado Lagoon
Educational Use	Excluded for privacy					3.07	45	3.68		
Educational Use	Excluded for privacy					39.24	571	47.09		
Educational Use	Excluded for privacy					7.74	113	9.29		
Educational Use	Excluded for privacy					2.4	35	2.87		
Educational Use	Excluded for privacy					0.95	14	1.14		
Educational Use	Excluded for privacy					7.06	103	8.47		
Educational Use	Excluded for privacy					0.72	10	0.86		
Open Space and Recreation	Open space	E. 4th St. and Park Ave.	33.778	-118.147		11.84	172	1		
Open Space and Recreation	Park	4900 E. 7th St.	33.778	-118.136		58.43	850	70.12		
Open Space and Recreation	Park	4900 E. 7th St.	33.775	-118.136		7.43	108	8.91		
Open Space and Recreation	Park	5201 E. 7th St.	33.777	-118.133		1.83	27	2.2		
Open Space and Recreation	Park	4900 E. 7th St.	33.782	-118.141		0.69	10	0.83		
Golf Courses/Country Clubs	Recreation Park Golf Course	5000 E 7th St	33.77947	-118.13348		117.18	1704	140.61		