

Soil Map—Santa Cruz County, California



Map Scale: 1:539 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84



## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

### Water Features



Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

**Warning:** Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Santa Cruz County, California

Survey Area Data: Version 15, Sep 9, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 13, 2020—Apr 24, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
174	Tierra-Watsonville complex, 15 to 30 percent slopes	0.2	23.8%
177	Watsonville loam, 2 to 15 percent slopes	0.1	10.9%
178	Watsonville loam, thick surface, 0 to 2 percent slopes	0.0	3.2%
179	Watsonville loam, thick surface, 2 to 15 percent slopes	0.5	62.1%
<b>Totals for Area of Interest</b>		<b>0.7</b>	<b>100.0%</b>

APN 
  Address 
  Street 
  Intersection

2838 PARK AVE A



Parcel Information	Fault Zone	n/a	Fire Hazard Area	No
	DFIRM Pannel Number	06087C0356F	Geologic Unit	Qcl
Recorded Maps & Docs	Floodway	n/a	Mineral Designation	n/a
	Click Code for Flood Zone	n/a	Geologic Paleontologic	No
	State Response Area	LRA	Mineral Resources	No
	High Fire Hazard Area	n/a	Mineral Class	MRZ-4
Select and Query Results	Soils Expansive	Yes-Portion	Soils Permeable	Low to Very Low Permeability HydroGroups C/D



APN 
  Address 
  Street 
  Intersection

037-231-22

- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
- State Fault Traces
  - Accurately Located Fault Traces
  - Approximately Located Fault Trace
  - Concealed Fault Traces
  - Inferred Fault Traces
- Fault Zones
  - CFZ
  - SFZ
- Liquefaction
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo
- Geologic Unit
- Mineral Resources
- CZU Atkins Debris Flow



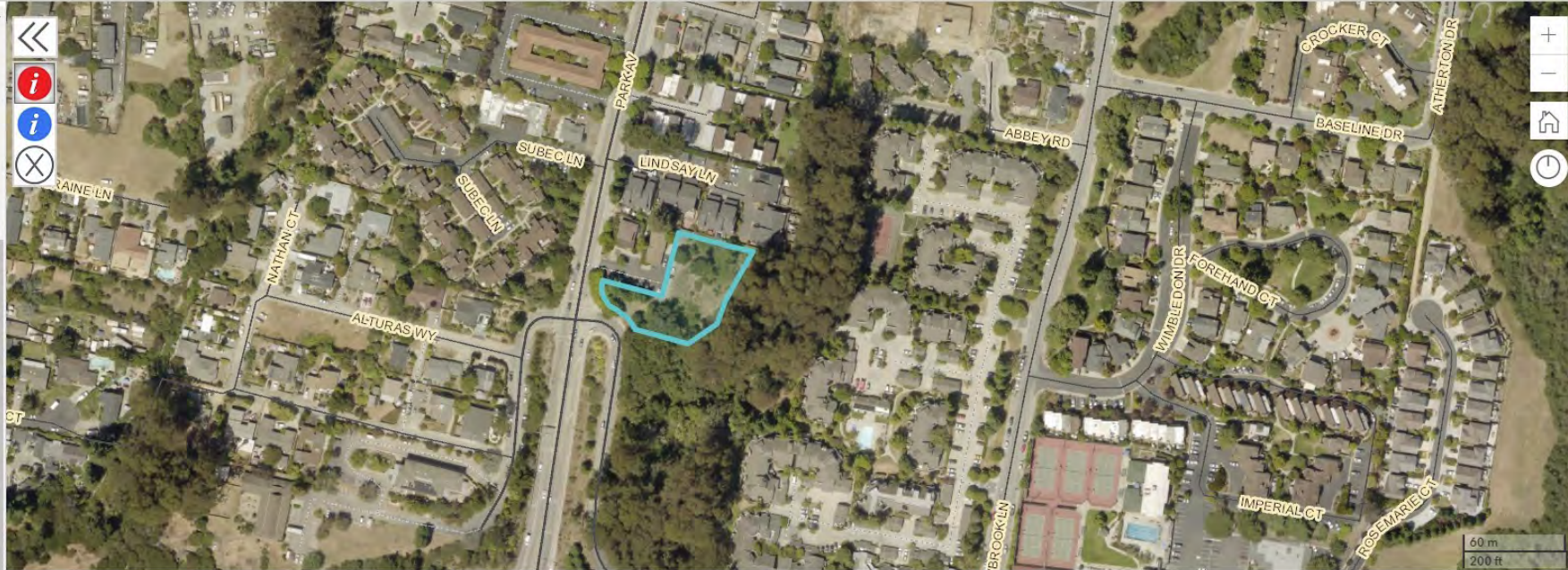
	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
<input type="button" value="Close"/>							
Parcel Information	APN (Click for Assessor Info)	<a href="#">03723122</a>		Sect Town Range	SEC11; T11S-R1W		
	APN Map (Click for Map)	<a href="#">03723</a>		Tax Code Areas	96-101		
	Click for Permit Data:	<a href="#">Permit Data</a>		Map Book	037		
	Click for Other Planning Data:	<a href="#">Planning Data</a>		Home Owner Exemption (HOE=Yes)			
Recorded Maps & Docs	Assessor's Acreage	0.3470		Assessor's Use Code Description	182-MEDI-DENTAL COMPLEX		
	Assessor's Square Feet	15115.3200		Assessor's Use Code	182		
Select and Query Results	Click Situs Address for Google Maps	<a href="#">2840 PARK AVE A</a>		Situs City State Zip	SOQUEL, CA 95073-2843		
	Click for Tax info	<a href="#">Tax Information</a>		Map Page	037-23		



APN 
  Address 
  Street 
  Intersection

2838 PARK AVE A

- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
- State Fault Traces
- Fault Zones
  - CFZ
  - SFZ
- Liquefaction
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo
- Geologic Unit
- Mineral Resources
- CZU Atkins Debris Flow Flood Study
- CZU Atkins Debris Flow Depth Isolines
- CZU Atkins Debris Flow Depth
- CZU Atkins Debris Flow Velocity Isolines



	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
Parcel Information	Fault Zone	n/a			Fire Hazard Area	No	
	DFIRM Pannel Number	06087C0356F			Geologic Unit	Qcl	
	Floodway	n/a			Mineral Designation	n/a	
	Click Code for Flood Zone	n/a			Geologic Paleontologic	No	
Recorded Maps & Docs	State Response Area	LRA			Mineral Resources	No	
	High Fire Hazard Area	n/a			Mineral Class	MRZ-4	
	Soils Expansive	Yes-Portion			Soils Permeable	Low to Very Low Permeability HydroGroups C/D	
Select and Query Results							



APN 
  Address 
  Street 
  Intersection

037-231-21

- FEMA VE Cross Sections
- FEMA VE Elevations
- FEMA DFIRM Base Flow
- FEMA LOMAs and Certificates
- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
- State Fault Traces
  - Accurately Located Fault Traces
  - Approximately Located Fault Trace
  - Concealed Fault Traces
  - Inferred Fault Traces
- Fault Zones
  - CFZ
  - SFZ
- Liquefaction
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)



	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
Close							
Parcel Information	APN (Click for Assessor Info)	<a href="#">03723121</a>	Sect Town Range		SEC11; T11S-R1W		
	APN Map (Click for Map)	<a href="#">03723</a>	Tax Code Areas		96-101		
	Click for Permit Data:	<a href="#">Permit Data</a>	Map Book		037		
	Click for Other Planning Data:	<a href="#">Planning Data</a>	Home Owner Exemption (HOE=Yes)				
Recorded Maps & Docs	Assessor's Acreage	0.3110	Assessor's Use Code Description		011-UNBUILDABLE LOT		
	Assessor's Square Feet	13547.1600	Assessor's Use Code		011		
	Click Situs Address for Google Maps		Situs City State Zip				
Select and Query Results	Click for Tax info	<a href="#">Tax Information</a>	Map Page		037-23		



APN 
  Address 
  Street 
  Intersection

037-231-22

- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
  - D- Definite Landslide Deposit
  - DR- Definite Rapid Landslide Deposit
  - P - Probable Landslide Deposit
  - ? - Questionable Landslide Deposit
  - Unattributed Landslide Deposit
- State Fault Traces
- Fault Zones
- Liquefaction
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo
- Geologic Unit
- Mineral Resources
- CZU Atkins Debris Flow Flood Study



	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
<input type="button" value="Close"/>							
Parcel Information	APN (Click for Assessor Info)	<a href="#">03723122</a>	Sect Town Range	SEC11; T11S-R1W			
	APN Map (Click for Map)	<a href="#">03723</a>	Tax Code Areas	96-101			
	Click for Permit Data:	<a href="#">Permit Data</a>	Map Book	037			
	Click for Other Planning Data:	<a href="#">Planning Data</a>	Home Owner Exemption (HOE=Yes)				
Recorded Maps & Docs	Assessor's Acreage	0.3470	Assessor's Use Code Description	182-MEDI-DENTAL COMPLEX			
	Assessor's Square Feet	15115.3200	Assessor's Use Code	182			
	Click Situs Address for Google Maps	<a href="#">2840 PARK AVE A</a>	Situs City State Zip	SOQUEL, CA 95073-2843			
Select and Query Results	Click for Tax info	<a href="#">Tax Information</a>	Map Page	037-23			



APN 
  Address 
  Street 
  Intersection

037-231-20

- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
  - D- Definite Landslide Deposit
  - DR- Definite Rapid Landslide Deposit
  - P - Probable Landslide Deposit
  - ? - Questionable Landslide Deposit
  - Unattributed Landslide Deposit
- State Fault Traces
- Fault Zones
- Liquefaction
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo
- Geologic Unit
- Mineral Resources
- CZU Atkins Debris Flow Flood Study



	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
<input type="button" value="Close"/>	APN (Click for Assessor Info)	<a href="#">03723120</a>					
Parcel Information	APN Map (Click for Map)	<a href="#">03723</a>				Sect Town Range	SEC11; T11S-R1W
	Click for Permit Data:	<a href="#">Permit Data</a>				Tax Code Areas	96-101
Recorded Maps & Docs	Click for Other Planning Data:	<a href="#">Planning Data</a>				Map Book	037
	Assessor's Acreage	0.7300				Home Owner Exemption (HOE=Yes)	
	Assessor's Square Feet	31798.8000				Assessor's Use Code Description	192-COMMERCIAL PARKING
Select and Query Results	Click Situs Address for Google Maps	<a href="#">2838 PARK AVE A</a>				Assessor's Use Code	192
	Click for Tax info	<a href="#">Tax Information</a>				Situs City State Zip	SOQUEL, CA 95073-2843
						Map Page	037-23



APN 
  Address 
  Street 
  Intersection

037-231-21

- FEMA VE Cross Sections
- FEMA VE Elevations
- FEMA DFIRM Base Flow
- FEMA LOMAs and Certificates
- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
  - D- Definite Landslide Deposit
  - DR- Definite Rapid Landslide Deposit
  - P - Probable Landslide Deposit
  - ? - Questionable Landslide Deposit
  - Unattributed Landslide Deposit
- State Fault Traces
- Fault Zones
- Liquefaction
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPalen



	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
<b>Parcel Information</b>	APN (Click for Assessor Info)	<a href="#">03723121</a>				Sect Town Range	SEC11; T11S-R1W
	APN Map (Click for Map)	<a href="#">03723</a>				Tax Code Areas	96-101
	Click for Permit Data:	<a href="#">Permit Data</a>				Map Book	037
	Click for Other Planning Data:	<a href="#">Planning Data</a>				Home Owner Exemption (HOE=Yes)	
<b>Recorded Maps &amp; Docs</b>	Assessor's Acreage	0.3110				Assessor's Use Code Description	011-UNBUILDABLE LOT
	Assessor's Square Feet	13547.1600				Assessor's Use Code	011
	Click Situs Address for Google Maps					Situs City State Zip	
<b>Select and Query Results</b>	Click for Tax info	<a href="#">Tax Information</a>				Map Page	037-23

## Geotechnical Investigation Excerpt

According to U.S. Geological Survey Open-File Report 97-745 (1997)<sup>3</sup>, the site is mapped as flat land with little or no potential for landslides or earth flows, and is not located within an area having debris flow source potential. In addition, Cooper-Clark & Associates (1975)<sup>4</sup> do not map any landslide deposits at the site or in the vicinity of the site. In addition, during our field reconnaissance, we did not observe evidence of deep landsliding and adverse drainage conditions within the site. However, the site slope surface is generally blanketed by loose and weak fills and slope wash soils that are prone to surface erosion and slumping.

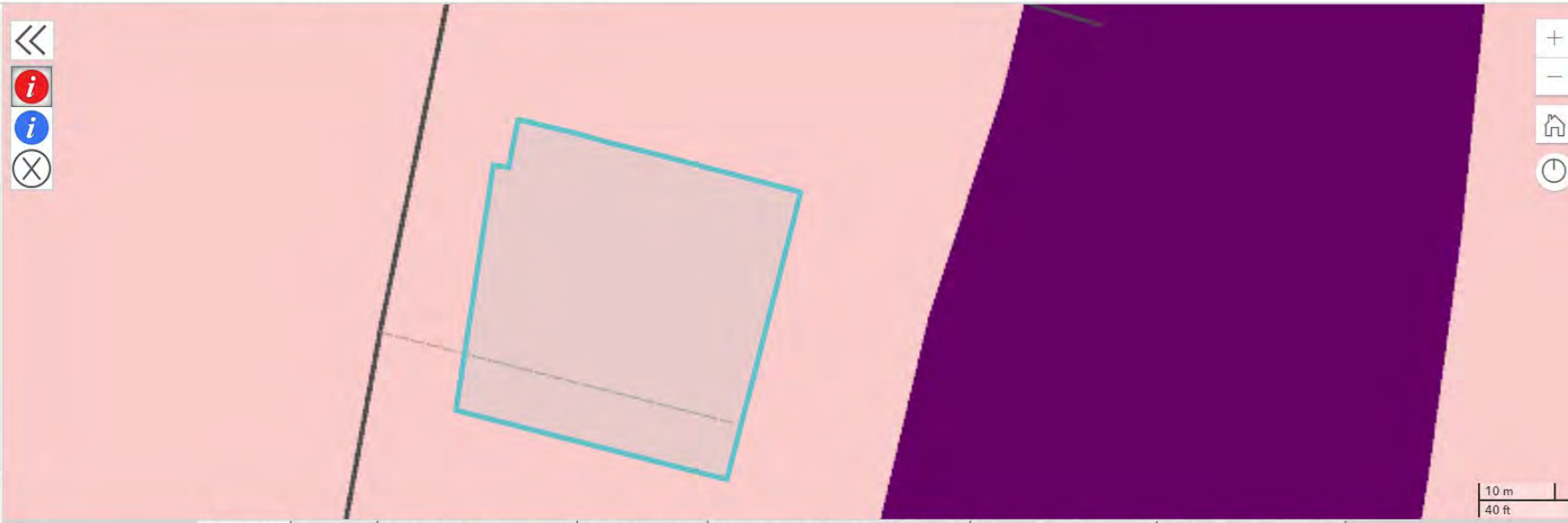
It is our opinion that, based on the results of geologic literature review, field reconnaissance, and exploratory borings, the potential for landsliding at the planned development is low provided the recommendations contained in this report (which include removal and re-compaction of the existing fills and slope wash soils with appropriate keying, benching, and subdrainage, and setting back improvements from slopes) are implemented in the design and construction of the project.



APN 
  Address 
  Street 
  Intersection

037-231-22

- FEMA VE Cross Sections
- FEMA VE Elevations
- FEMA DFIRM Base Flow
- FEMA LOMAs and Certificates
- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
- State Fault Traces
- Fault Zones
- Liquefaction
  - A "Very High"
  - B "High"
  - C "Moderate"
  - D "Low"
  - Unknown
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo



Parcel Info | Land Use | Biotic & Water Resources | Special Districts | Jurisdictional, Elections, & Census | Hazards & GeoPhysical | School Districts & CSAs

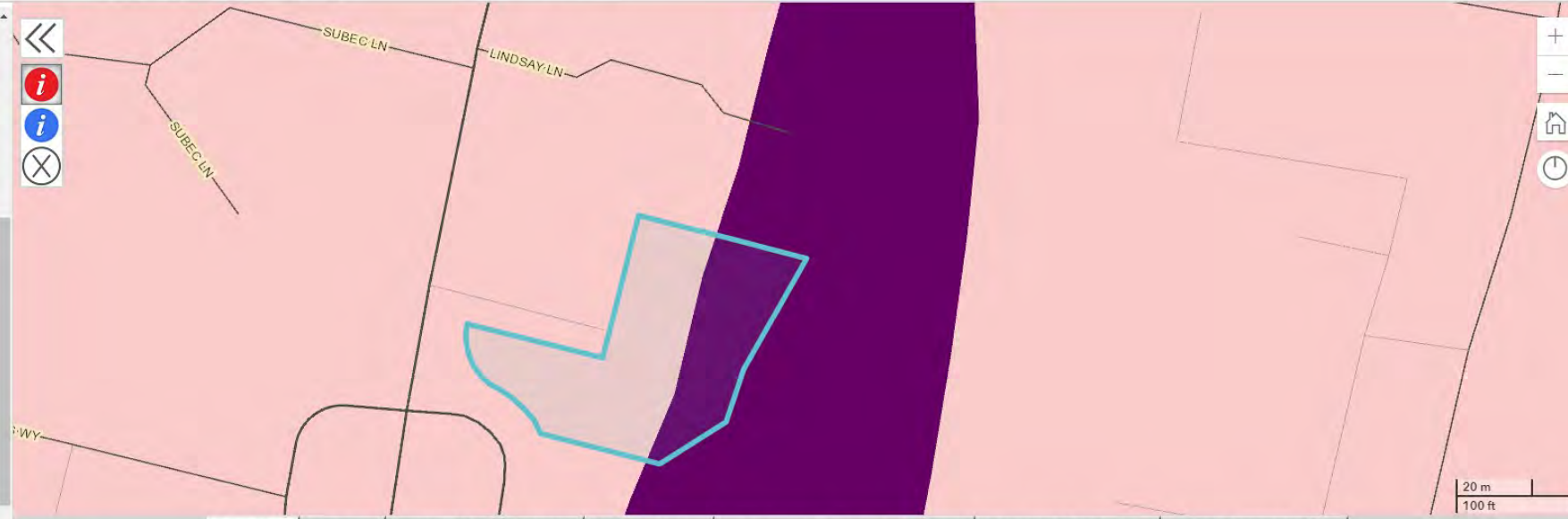
Parcel Information		APN (Click for Assessor Info)	<a href="#">03723122</a>	Sect Town Range	SEC11; T11S-R1W
Recorded Maps & Docs		APN Map (Click for Map)	<a href="#">03723</a>	Tax Code Areas	96-101
Select and Query Results		Click for Permit Data:	<a href="#">Permit Data</a>	Map Book	037
		Click for Other Planning Data:	<a href="#">Planning Data</a>	Home Owner Exemption (HOE=Yes)	
		Assessor's Acreage	0.3470	Assessor's Use Code Description	182-MEDI-DENTAL COMPLEX
		Assessor's Square Feet	15115.3200	Assessor's Use Code	182
		Click Situs Address for Google Maps	<a href="#">2840 PARK AVE A</a>	Situs City State Zip	SOQUEL, CA 95073-2843
		Click for Tax info	<a href="#">Tax Information</a>	Map Page	037-23



APN 
  Address 
  Street 
  Intersection

037-231-20

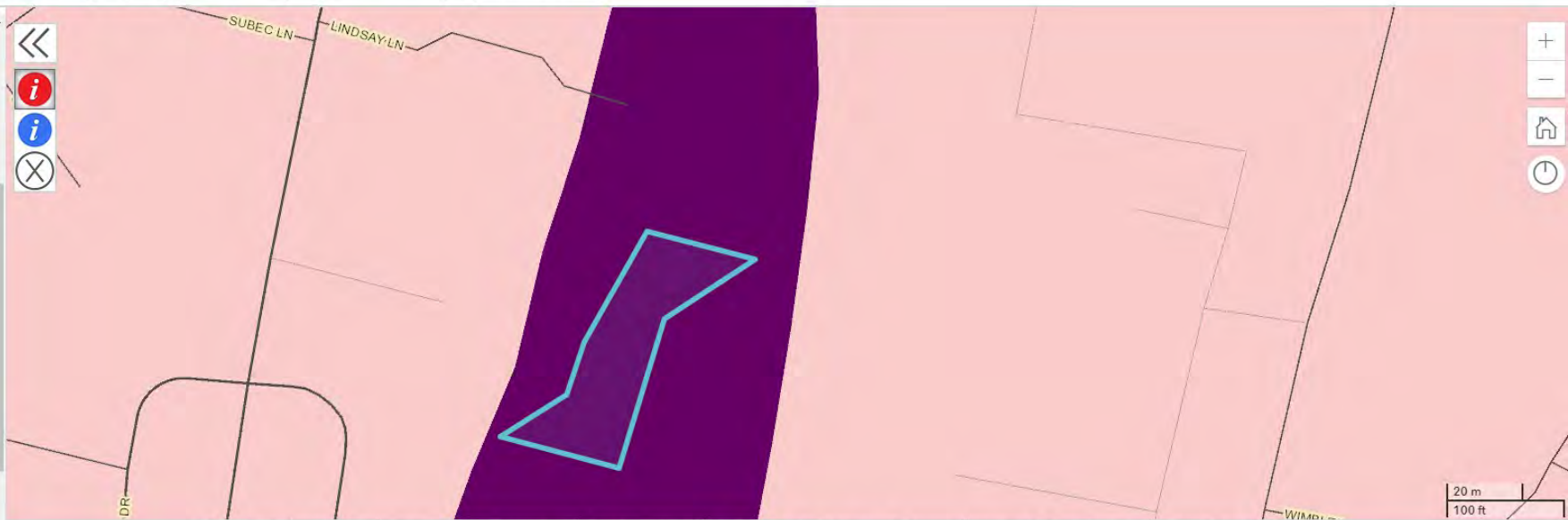
- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
- State Fault Traces
- Fault Zones
- Liquefaction
  - A "Very High"
  - B "High"
  - C "Moderate"
  - D "Low"
  - Unknown
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo
- Geologic Unit
- Mineral Resources
- CZU Atkins Debris Flow Flood Study



	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
<b>Parcel Information</b>	APN (Click for Assessor Info) <a href="#">03723120</a>					Sect Town Range	SEC11; T11S-R1W
	APN Map (Click for Map) <a href="#">03723</a>					Tax Code Areas	96-101
	Click for Permit Data: <a href="#">Permit Data</a>					Map Book	037
	Click for Other Planning Data: <a href="#">Planning Data</a>					Home Owner Exemption (HOE=Yes)	
<b>Recorded Maps &amp; Docs</b>	Assessor's Acreage	0.7300				Assessor's Use Code Description	192-COMMERCIAL PARKING
	Assessor's Square Feet	31798.8000				Assessor's Use Code	192
	Click Situs Address for Google Maps	<a href="#">2838 PARK AVE A</a>				Situs City State Zip	SOQUEL, CA 95073-2843
<b>Select and Query Results</b>	Click for Tax info	<a href="#">Tax Information</a>				Map Page	037-23

APN 
  Address 
  Street 
  Intersection

- FEMA VE Cross Sections
- FEMA VE Elevations
- FEMA DFIRM Base Flow
- FEMA LOMAs and Certificates
- FEMA DFIRM LOMR
- FEMA Floodway
- FEMA Insurance Zones
- Geologic Reports
- Soil Reports
- Strike and Dip of Beds
- Geologic Structures - Faults
- Geologic Structures
- Cooper Clark Landslide Direction
- Cooper Clark Landslide - Small
- Cooper Clark Landslide
- State Fault Traces
- Fault Zones
- Liquefaction
  - A "Very High"
  - B "High"
  - C "Moderate"
  - D "Low"
  - Unknown
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo



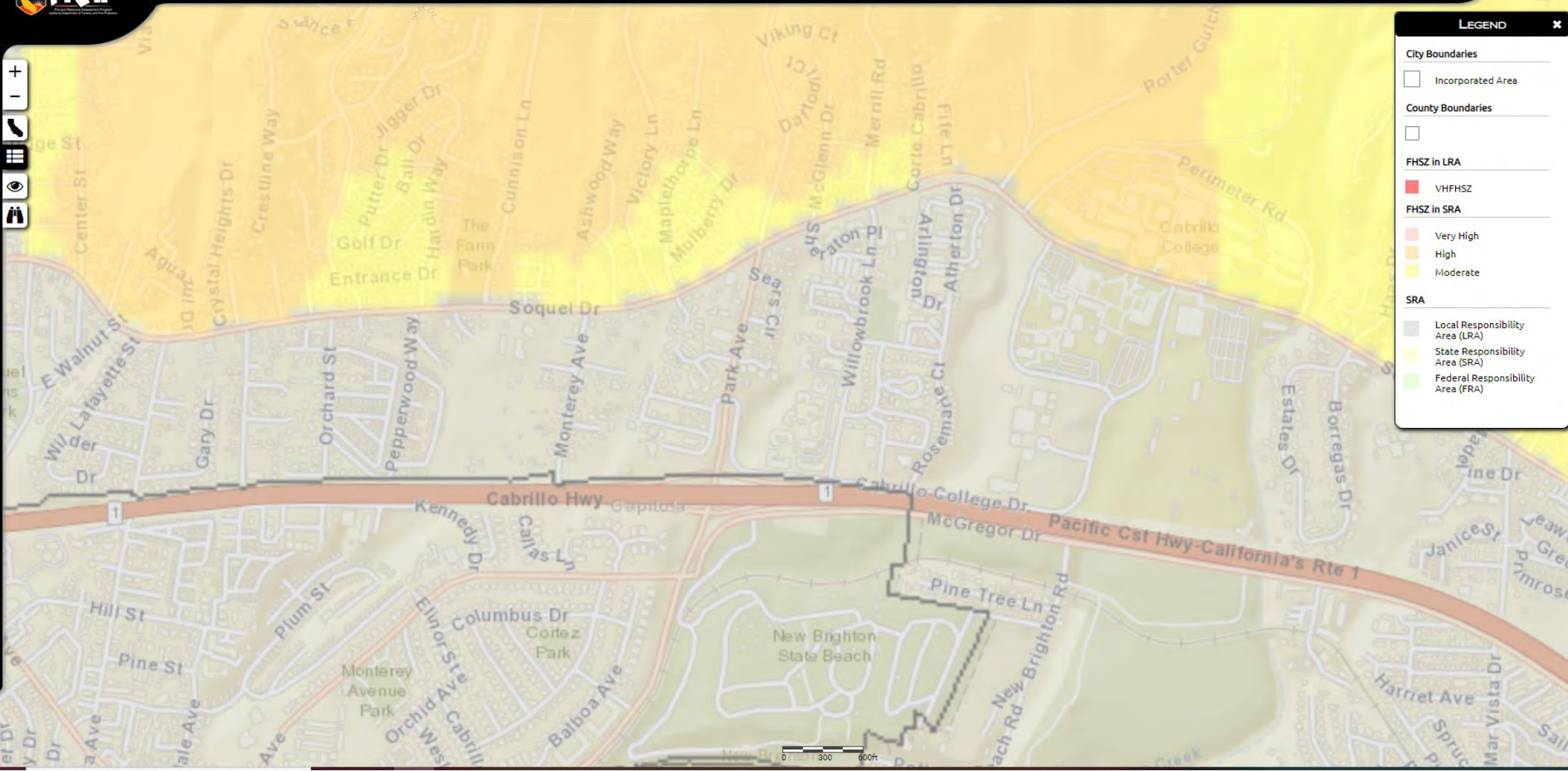
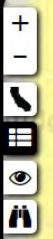
Close	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
APN (Click for Assessor Info)	<a href="#">03723121</a>					Sect Town Range	SEC11; T11S-R1W
APN Map (Click for Map)	<a href="#">03723</a>					Tax Code Areas	96-101
Click for Permit Data:	<a href="#">Permit Data</a>					Map Book	037
Click for Other Planning Data:	<a href="#">Planning Data</a>					Home Owner Exemption (HOE=Yes)	
Assessor's Acreage	0.3110					Assessor's Use Code Description	011-UNBUILDABLE LOT
Assessor's Square Feet	13547.1600					Assessor's Use Code	011
Click Situs Address for Google Maps						Situs City State Zip	
Click for Tax info	<a href="#">Tax Information</a>					Map Page	037-23





# FHSZ Viewer

Help



0 300 600ft

**LEGEND**

**City Boundaries**

- Incorporated Area

**County Boundaries**

- 

**FHSZ in LRA**

- VHFHSZ

**FHSZ in SRA**

- Very High
- High
- Moderate

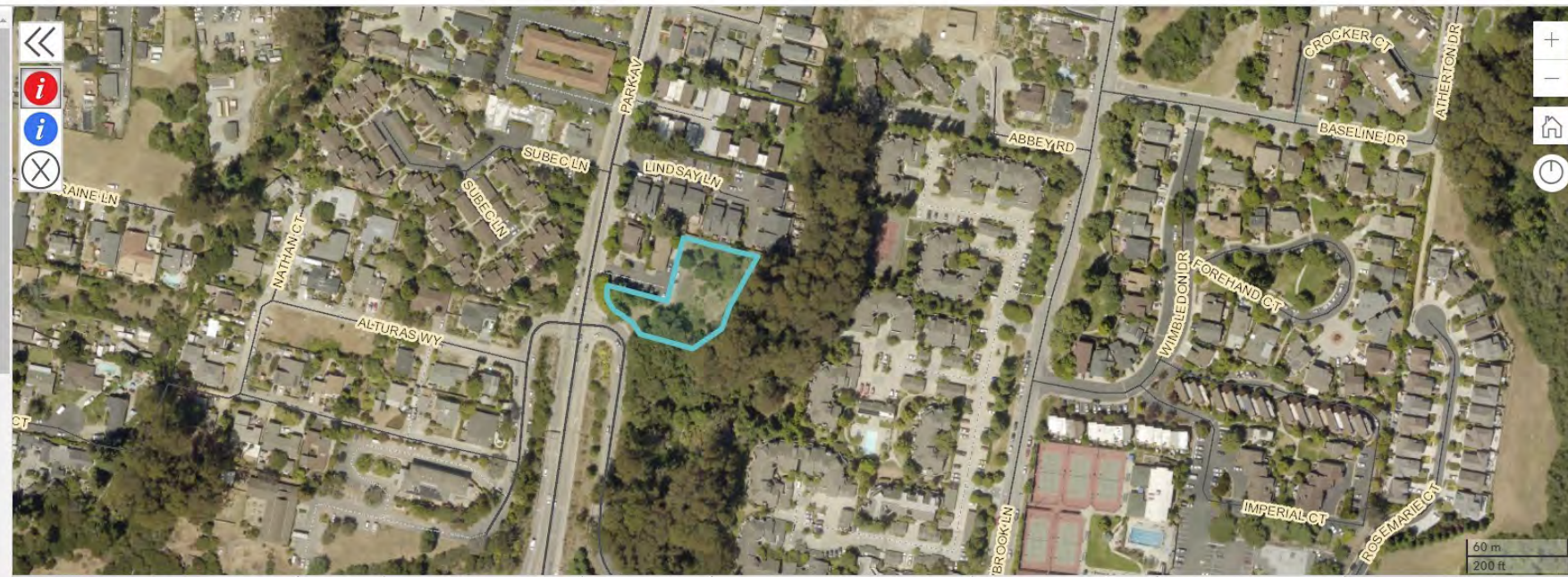
**SRA**

- Local Responsibility Area (LRA)
- State Responsibility Area (SRA)
- Federal Responsibility Area (FRA)



APN 
  Address 
  Street 
  Intersection

- Legend**
- ▶ Parcel Related ⓘ
  - ▶ Transportation ⓘ
  - ▶ Biotic and Water Resources ⓘ
  - ▼ Hazards and Geophysical ⓘ
    - CountyWideContours
    - Slope (PLN)
    - Slope (ENV)
    - Fire Hazard Areas
      - C-FIRE
      - M-FIRE
    - State Response Areas
    - FEMA DFIRM Panel
    - FEMA DFIRM Benchmarks
    - FEMA DFIRM Cross-sections
    - FEMA VE Cross Sections
    - FEMA VE Elevations
    - FEMA DFIRM Base Flow
    - FEMA LOMAs and Certificates
    - FEMA DFIRM LOMR
    - FEMA Floodway
    - FEMA Insurance Zones
    - Geologic Reports
    - Soil Reports
    - Strike and Dip of Beds
    - Geologic Structures - Faults
    - Geologic Structures
    - Conner Clark Landslide



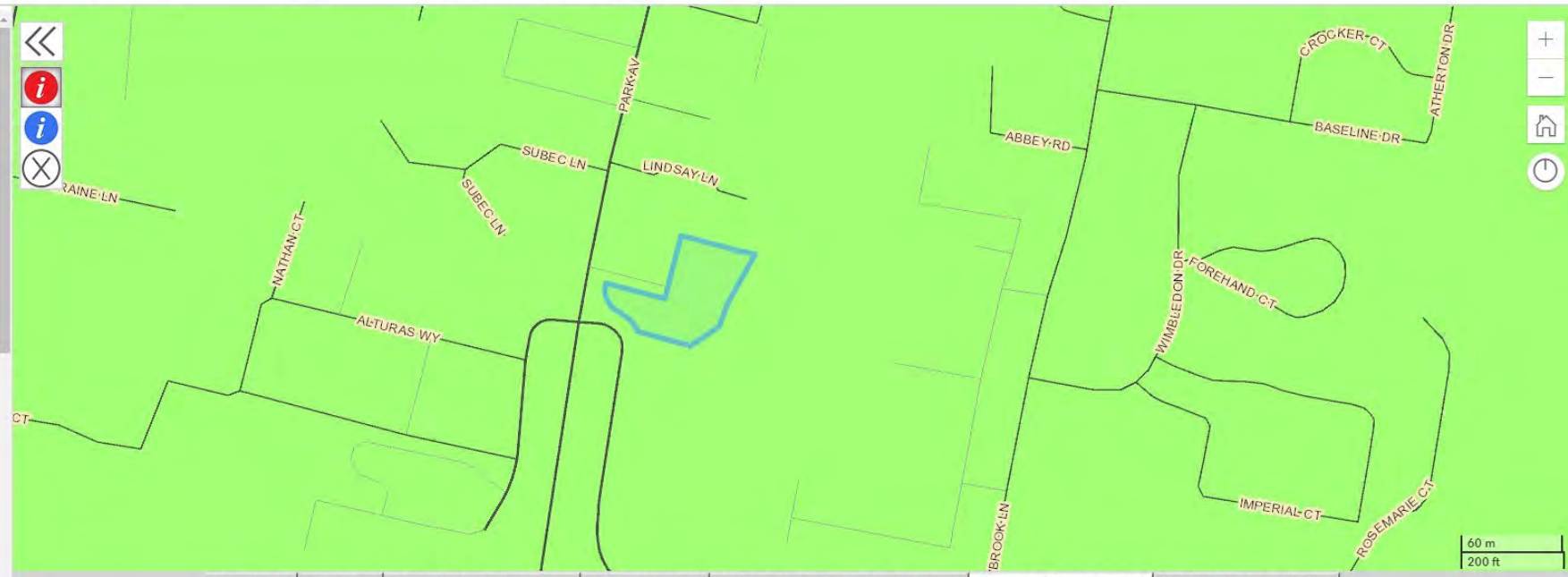
	Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
Parcel Information	Fault Zone	n/a				Fire Hazard Area	No
	DFIRM Pannel Number	06087C0356F				Geologic Unit	Qcl
	Floodway	n/a				Mineral Designation	n/a
	Click Code for Flood Zone	n/a				Geologic Paleontologic	No
Recorded Maps & Docs	State Response Area	LRA				Mineral Resources	No
	High Fire Hazard Area	n/a				Mineral Class	MRZ-4
	Soils Expansive	Yes-Portion				Soils Permeable	Low to Very Low Permeability HydroGroups C/D
Select and Query Results							



APN 
  Address 
  Street 
  Intersection

2838 PARK AVE A

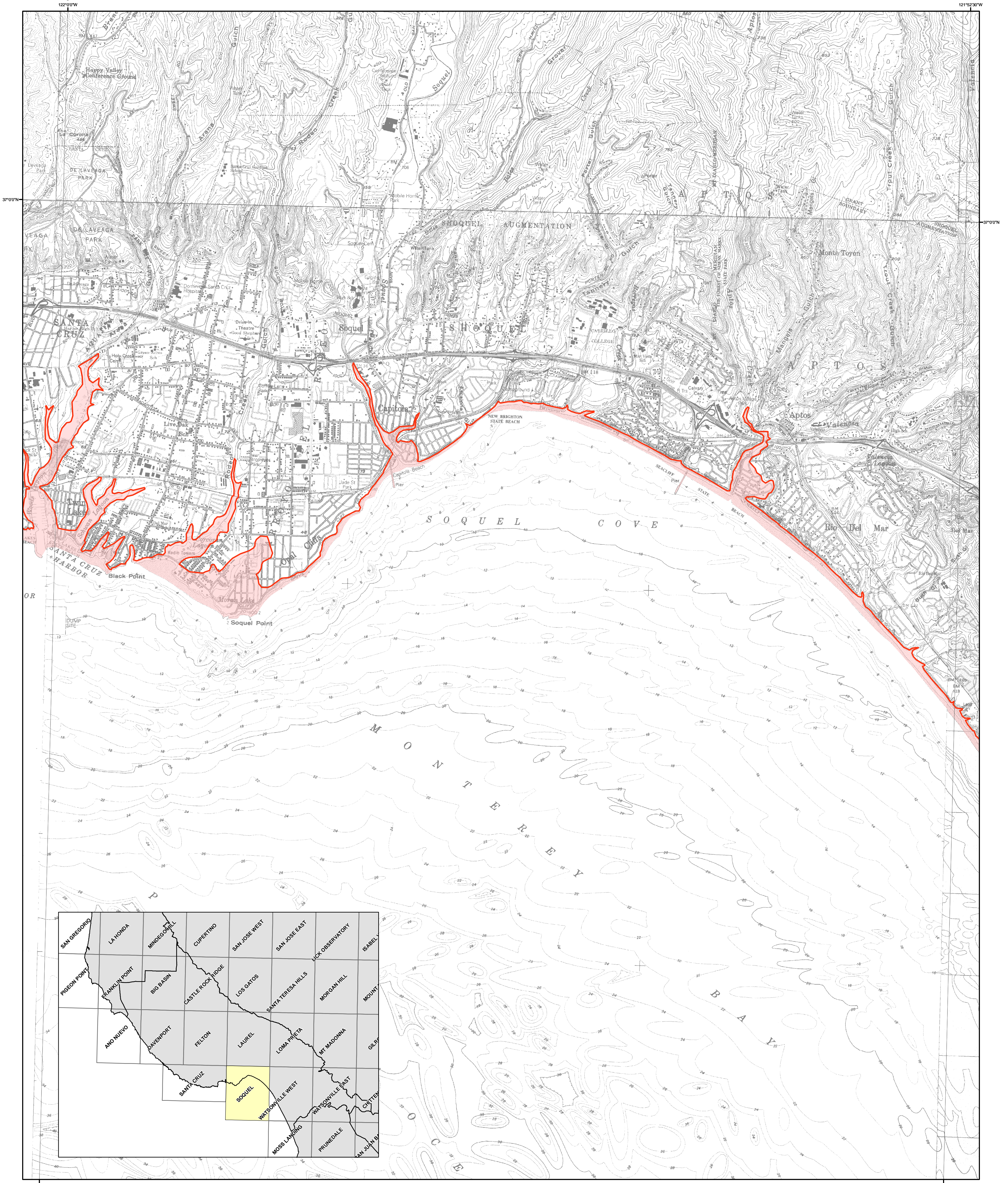
- Legend**
- ▶ Parcel Related
  - ▶ Transportation
  - ▶ Biotic and Water Resources
  - ▼ Hazards and Geophysical
    - CountyWideContours
    - Slope (PLN)
    - Slope (ENV)
    - Fire Hazard Areas
    - State Response Areas
      - LRA
      - SRA-Moderate
      - SRA-High
      - SRA-Very High
      - FRA-Moderate
      - FRA-High
      - FRA-Very High
    - FEMA DFIRM Panel
    - FEMA DFIRM Benchmarks
    - FEMA DFIRM Cross-sections
    - FEMA VE Cross Sections
    - FEMA VE Elevations
    - FEMA DFIRM Base Flow
    - FEMA LOMAs and Certificates
    - FEMA DFIRM LOMR
    - FEMA Floodway
    - FEMA Insurance Zones
    - Geologic Reports
    - Soil Reports



Close

Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
Fault Zone		n/a			Fire Hazard Area	No
DFIRM Pannel Number		06087C0356F			Geologic Unit	Qcl
Floodway		n/a			Mineral Designation	n/a
Click Code for Flood Zone		n/a			Geologic Paleontologic	No
State Response Area		LRA			Mineral Resources	No
High Fire Hazard Area		n/a			Mineral Class	MRZ-4
Soils Expansive		Yes-Portion			Soils Permeable	Low to Very Low Permeability HydroGroups C/D





## METHOD OF PREPARATION

Initial tsunami modeling was performed by the University of Southern California (USC) Tsunami Research Center funded through the California Emergency Management Agency (CalEMA) by the National Tsunami Hazard Mitigation Program. The tsunami modeling process utilized the MOST (Method of Splitting Tsunamis) computational program (Version 0), which allows for wave evolution over a variable bathymetry and topography used for the inundation mapping (Titov and Gonzalez, 1997; Titov and Synolakis, 1998).

The bathymetric/topographic data that were used in the tsunami models consist of a series of nested grids. Near-shore grids with a 3 arc-second (75- to 90-meters) resolution or higher, were adjusted to "Mean High Water" sea-level conditions, representing a conservative sea level for the intended use of the tsunami modeling and mapping.

A suite of tsunami source events was selected for modeling, representing realistic local and distant earthquakes and hypothetical extreme undersea, near-shore landslides (Table 1). Local tsunami sources that were considered include offshore reverse-thrust faults, restraining bends on strike-slip fault zones and large submarine landslides capable of significant seafloor displacement and tsunami generation. Distant tsunami sources that were considered include great subduction zone events that are known to have occurred historically (1960 Chile and 1964 Alaska earthquakes) and others which can occur around the Pacific Ocean "Ring of Fire."

In order to enhance the result from the 75- to 90-meter inundation grid data, a method was developed utilizing higher-resolution digital topographic data (3- to 10-meters resolution) that better defines the location of the maximum inundation line (U.S. Geological Survey, 1993; Intermap, 2003; NOAA, 2004). The location of the enhanced inundation line was determined by using digital imagery and terrain data on a GIS platform with consideration given to historic inundation information (Lander, et al., 1993). This information was verified, where possible, by field work coordinated with local county personnel.

The accuracy of the inundation line shown on these maps is subject to limitations in the accuracy and completeness of available terrain and tsunami source information, and the current understanding of tsunami generation and propagation phenomena as expressed in the models. Thus, although an attempt has been made to identify a credible upper bound to inundation at any location along the coastline, it remains possible that actual inundation could be greater in a major tsunami event.

This map does not represent inundation from a single scenario event. It was created by combining inundation results for an ensemble of source events affecting a given region (Table 1). For this reason, all of the inundation region in a particular area will not likely be inundated during a single tsunami event.

### References:

Intermap Technologies, Inc., 2003, Intermap product handbook and quick start guide: Intermap NEXTmap document on 5-meter resolution data, 112 p.

Lander, J.F., Lockridge, P.A., and Kozuch, M.J., 1993, Tsunamis Affecting the West Coast of the United States 1806-1992: National Geophysical Data Center Key to Geophysical Record Documentation No. 29, NOAA, NESDIS, NGDC, 242 p.

National Atmospheric and Oceanic Administration (NOAA), 2004, Interferometric Synthetic Aperture Radar (IFSAR) Digital Elevation Models from GeoSAR platform (EarthData): 3-meter resolution data.

Titov, V.V., and Gonzalez, F.I., 1997, Implementation and Testing of the Method of Tsunami Splitting (MOST): NOAA Technical Memorandum ERL PMEL - 112, 11 p.

Titov, V.V., and Synolakis, C.E., 1998, Numerical modeling of tidal wave runup: Journal of Waterways, Port, Coastal and Ocean Engineering, ASCE, 124 (4), pp 157-171.

U.S. Geological Survey, 1993, Digital Elevation Models: National Mapping Program, Technical Instructions, Data Users Guide 5, 49 p.

# TSUNAMI INUNDATION MAP FOR EMERGENCY PLANNING

## State of California ~ County of Santa Cruz SOQUEL QUADRANGLE

July 1, 2009

SCALE 1:24,000

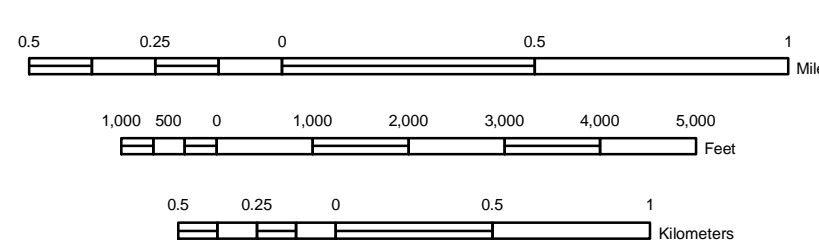


Table 1: Tsunami sources modeled for the Santa Cruz County coastline.

Sources (M = moment magnitude used in modeled event)	Areas of Inundation Map Coverage and Sources Used		
	Pescadero	Santa Cruz	Monterey Bay Big
Local Source			
Monterey Canyon Landslide		X	X
Cascadia Subduction Zone-full rupture (M9.0)		X	X
Central Aleutians Subduction Zone #1 (M8.9)	X	X	X
Central Aleutians Subduction Zone #2 (M8.9)		X	X
Central Aleutians Subduction Zone #3 (M9.2)	X		X
Distant Sources			
Chile North Subduction Zone (M9.4)		X	X
1960 Chile Earthquake (M9.3)		X	X
1964 Alaska Earthquake (M9.2)	X		X
Japan Subduction Zone #2 (M8.8)		X	X
Kuril Islands Subduction Zone #2 (M8.8)		X	X
Kuril Islands Subduction Zone #3 (M8.8)		X	X
Kuril Islands Subduction Zone #4 (M8.8)		X	X
Marianas Subduction Zone (M8.6)	X		X

## MAP EXPLANATION

- Tsunami Inundation Line
- Tsunami Inundation Area

## PURPOSE OF THIS MAP

This tsunami inundation map was prepared to assist cities and counties in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evacuation planning uses only. This map, and the information presented herein, is not a legal document and does not meet disclosure requirements for real estate transactions nor for any other regulatory purpose.

The inundation map has been compiled with best currently available scientific information. The inundation line represents the maximum considered tsunami runup from a number of extreme, yet realistic, tsunami sources. Tsunamis are rare events; due to a lack of known occurrences in the historical record, this map includes no information about the probability of any tsunami affecting any area within a specific period of time.

Please refer to the following websites for additional information on the construction and/or intended use of the tsunami inundation map:

State of California Emergency Management Agency, Earthquake and Tsunami Program:  
<http://www.oes.ca.gov/WebPage/oeswebsite.nsf/Content/B1EC51BA215931768825741F005E8D80?OpenDocument>

University of Southern California - Tsunami Research Center:  
<http://www.usc.edu/dept/tsunamis/2005/index.php>

State of California Geological Survey Tsunami Information:  
[http://www.conservation.ca.gov/cgs/geologic\\_hazards/Tsunami/index.htm](http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/index.htm)

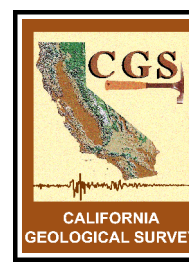
National Oceanic and Atmospheric Agency Center for Tsunami Research (MOST model):  
<http://nctr.pmel.noaa.gov/time/background/models.html>

## MAP BASE

Topographic base maps prepared by U.S. Geological Survey as part of the 7.5-minute Quadrangle Map Series (originally 1:24,000 scale). Tsunami inundation line boundaries may reflect updated digital orthophotographic and topographic data that can differ significantly from contours shown on the base map.

## DISCLAIMER

The California Emergency Management Agency (CalEMA), the University of Southern California (USC), and the California Geological Survey (CGS) make no representation or warranties regarding the accuracy of this inundation map nor the data from which the map was derived. Neither the State of California nor USC shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

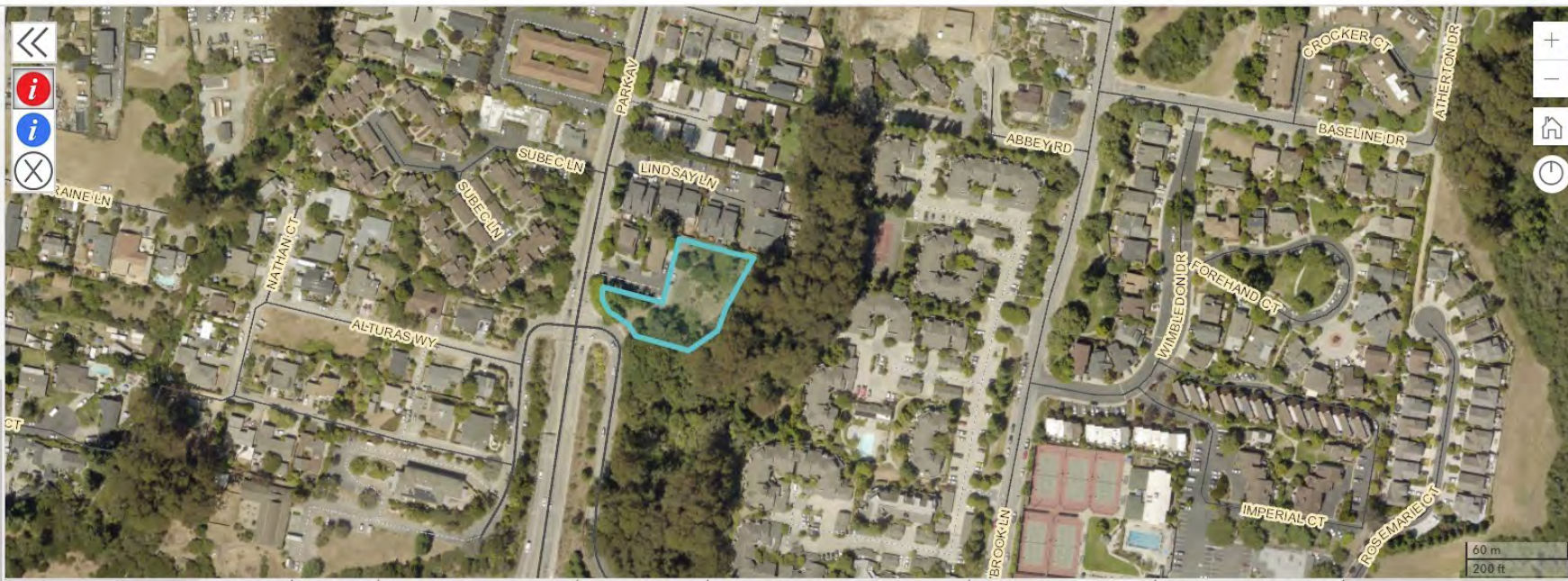




APN 
  Address 
  Street 
  Intersection

2838 PARK AVE A

- Cooper Clark Landslide
- State Fault Traces
- Fault Zones
- Liquefaction
- Soils (NRCS)
- Expansive Soils NRCS
- Soil Types (ENV)
- GeoPaleo
- Geologic Unit
- Mineral Resources
- CZU Atkins Debris Flow Flood Study
- CZU Atkins Debris Flow Depth Isolines
- CZU Atkins Debris Flow Depth
- CZU Atkins Debris Flow Velocity Isolines
- CZU Atkins Debris Flow Velocity
- CZU Potential Debris Flow Hazard Areas
- CZU Lightning Complex Fire Perimeter
- Tsunami Wet Areas
- Zoning
- Land Use
- General Plan
- Special Districts



Close		Parcel Info	Land Use	Biotic & Water Resources	Special Districts	Jurisdictional, Elections, & Census	Hazards & GeoPhysical	School Districts & CSAs
Parcel Information	Fault Zone	n/a				Fire Hazard Area	No	
	DFIRM Pannel Number	06087C0356F				Geologic Unit	Qcl	
	Floodway	n/a				Mineral Designation	n/a	
	Click Code for Flood Zone	n/a				Geologic Paleontologic	No	
Recorded Maps & Docs	State Response Area	LRA				Mineral Resources	No	
	High Fire Hazard Area	n/a				Mineral Class	MRZ-4	
Select and Query Results	Soils Expansive	Yes-Portion				Soils Permeable	Low to Very Low Permeability HydroGroups C/D	





2012 - 2015

# Air Quality Management Plan

Adopted by District Board of Directors on March 15, 2017



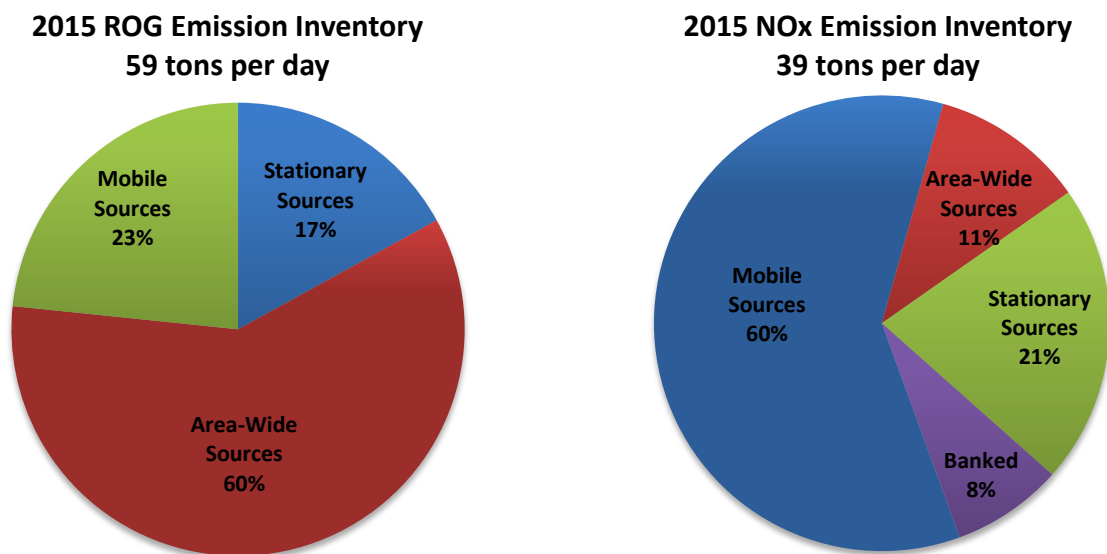
## Executive Summary

The Monterey Bay Air Resources District (District) is one of 35 air districts established to protect air quality in California. Its jurisdiction is the North Central Coast Air Basin (NCCAB), comprised of Monterey, Santa Cruz and San Benito counties. In 1988, the State Legislature adopted the California Clean Air Act (CCAA), which required each nonattainment district in the State to adopt a plan showing how the State Ambient Air Quality Standard (AAQS) for ozone would be met in their area of jurisdiction.

The CCAA (Health & Safety Code §40910 et seq.) required initial preparation of an Air Quality Management Plan (AQMP) in 1991, with subsequent updates every three years. This is the seventh update to the 1991 AQMP. There have been many changes both in terms of air quality and the regulatory setting since the initial AQMP in 1991. This report is an update to elements included in the 2012 AQMP based on a review of the time period 2012-2015. It shows that the region continues to make progress toward meeting the State ozone standard.

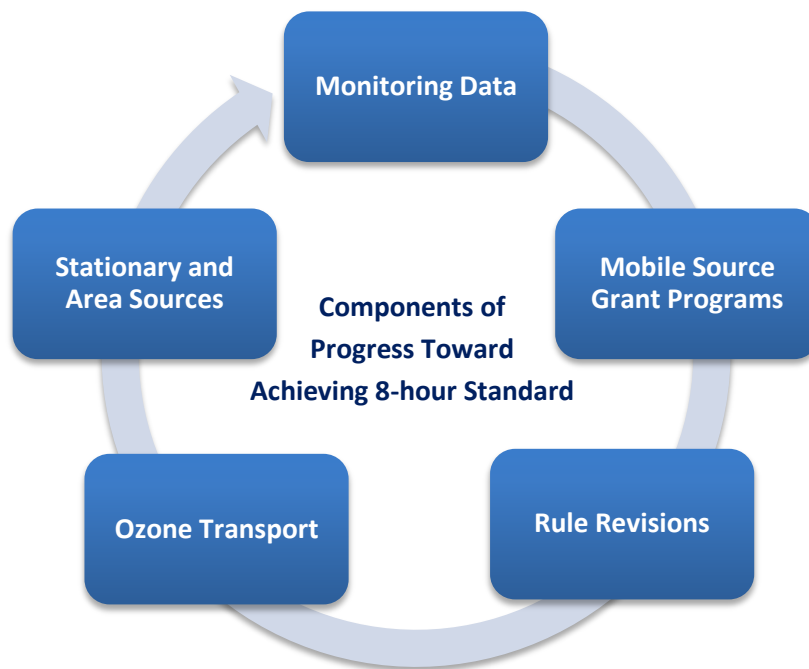
The District's focus continues to be on achieving the 8-hour component of the California ozone standard as the region has already attained the 1-hour standard. The primary elements from the 2012 AQMP updated in this revision include the air quality trends analysis, emission inventory, and mobile source programs. The District has jurisdiction over stationary emission sources which continue to be the smallest portion of both the reactive organic gas (ROG) and oxides of nitrogen (NOx) emissions inventories (see below). Area-wide sources are the main contributor to ROG emissions in the region.

Mobile sources emissions continue to dominate the District's NOx emissions inventory. As found in historical ozone transport studies, ozone concentrations at the Pinnacles National Park monitor are significantly impacted by Bay Area NOx emissions. In addition, the region is "NOx sensitive" or NOx limited, meaning that ozone formation due to local emissions is more limited by the availability of NOx as opposed to the availability of ROG (Umeda & Martien, 2002). The recent changes that contributed to reducing estimated NOx emissions compared to the 2012 AQMP include lower vehicle miles traveled. Cleaner exhaust standards for mobile sources also remain an important factor in reducing regional ROG and NOx emissions over the lifetime of the AQMP series.



Reducing NOx emissions is crucial for reducing ozone formation. Seeing that the primary source of NOx emissions are from mobile sources, the District will continue to focus on our mobile source grant programs which reduce NOx from both on road and off road mobile sources. Additionally, NOx emissions from the upwind San Francisco Bay Area and San Joaquin Air Basins are forecast to decline through the year 2030. This decline should help reduce the number of exceedances at Pinnacles National Park, which is heavily impacted by ozone transport from these upwind regions and is the primary reason the NCCAB is nonattainment for the State ozone standard.

A review of the latest 3 years of monitoring data (2013-2015) indicates there were fewer exceedance days in the time period 2013-2015 (9 days) compared to 2006-2008 (63) as well as the 2009-2011 (16) period used in the prior AQMP. Therefore, the control measures presented in the 2008 AQMP have not been implemented as the District has determined progress is continuing to be made toward attaining the 8-hour ozone standard during the latest three-year period reviewed (2013-2015).





## Table of Contents

<b>Executive Summary</b> .....	<b>1</b>
<b>Acronym List</b> .....	<b>4</b>
<b>1. Introduction</b> .....	<b>5</b>
<b>2. AQMP Report Requirements</b> .....	<b>5</b>
<b>3. Ambient Air Quality</b> .....	<b>6</b>
3.1 Monitoring Network .....	7
3.2 Ozone Monitoring Data and Overall Progress .....	9
3.3 Ozone and Population Trends.....	10
3.4 Air Quality Indicators .....	12
3.5 Peak Concentration or “Hot Spot” Indicator .....	12
3.6 Mean of the Highest 30 Ozone Concentrations.....	14
3.6.1 Nonattainment Stations.....	14
<b>4. Emission Inventory Trends</b> .....	<b>18</b>
4.1 Emission Inventory Basics .....	18
4.2 Inventory Models.....	18
4.3 NOx Emission Inventory.....	20
4.4 ROG Emission Inventory .....	22
4.5 Local vs. Regional Emissions .....	25
<b>5. Ozone Transport</b> .....	<b>25</b>
5.1 Current Assessments .....	26
5.2 2016 Soberanes Wildfire.....	27
<b>6. Control Measures</b> .....	<b>29</b>
6.1 Alternative Approach .....	30
<b>7. Mobile Source Programs</b> .....	<b>30</b>
<b>8. Public Outreach</b> .....	<b>32</b>
<b>9. Emission Reduction Strategy</b> .....	<b>33</b>
9.1 Regional Planning.....	33
<b>References</b> .....	<b>36</b>
<b>Appendix A – Regional Population Forecasts</b> .....	<b>38</b>

## Acronym List

<b>AAQS</b>	Ambient Air Quality Standard	<b>MDT</b>	Medium Duty Truck
<b>AB32</b>	Assembly Bill 32	<b>MDV</b>	Medium Duty Vehicle
<b>AB923</b>	Assembly Bill 923	<b>MPO</b>	Metropolitan Planning Organization
<b>AB2766</b>	Assembly Bill 2766	<b>MTP</b>	Metropolitan Transportation Plan
<b>AMBAG</b>	Association of Monterey Bay Area Governments	<b>MTIP</b>	Metropolitan Transportation Improvement Program
<b>APCD</b>	Air Pollution Control District	<b>µg</b>	Microgram
<b>APCO</b>	Air Pollution Control Officer	<b>µg/m<sup>3</sup></b>	Micrograms Per Cubic Meter
<b>AQMP</b>	Air Quality Management Plan	<b>NAAQS</b>	National Ambient Air Quality Standards
<b>ARB</b>	California Air Resources Board	<b>NCCAB</b>	North Central Coast Air Basin
<b>CAAQS</b>	California Ambient Air Quality Standards	<b>NESHAPS</b>	National Emission Standards for Hazardous Air Pollutants
<b>CAPCOA</b>	California Air Pollution Control Officers Association	<b>NMHC</b>	Non-Methane Hydrocarbons
<b>CCAA</b>	California Clean Air Act of 1988	<b>NO</b>	Nitric Oxide
<b>CASTNET</b>	Federal Clean Air Status and Trends Network	<b>NO<sub>2</sub></b>	Nitrogen Dioxide
<b>CEPAM</b>	California Emissions Projection Analysis Model	<b>NO<sub>x</sub></b>	Oxides of Nitrogen
<b>CO</b>	Carbon Monoxide	<b>O<sub>3</sub></b>	Ozone
<b>CO<sub>2</sub></b>	Carbon Dioxide	<b>OFFROAD</b>	Off-road Emission Estimation Model
<b>DMV</b>	Department of Motor Vehicles	<b>PEV</b>	Plug-in Electric Vehicle
<b>DOF</b>	California Department of Finance	<b>PM</b>	Particulate Matter
<b>EIC</b>	Emission Inventory Category	<b>PM<sub>10</sub></b>	Particulate Matter Less Than 10 Microns in Diameter
<b>EMFAC</b>	Emission Factor Estimation Model (On-Road Motor Vehicles)	<b>ppb</b>	Parts Per Billion
<b>EPA</b>	United States Environmental Protection Agency	<b>ppm</b>	Parts Per Million
<b>EPDC</b>	Expected Peak Day Concentration	<b>ROG</b>	Reactive Organic Gases
<b>ERC</b>	Emission Reduction Credit	<b>RTDM</b>	Regional Travel Demand Model
<b>H&amp;SC</b>	Health & Safety Code	<b>RTP</b>	Regional Transportation Plan
<b>HDT</b>	Heavy Duty Truck	<b>SFBAAB</b>	San Francisco Bay Area Air Basin
<b>HDV</b>	Heavy Duty Vehicle	<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>LDT</b>	Light Duty Truck	<b>SO<sub>x</sub></b>	Oxides of Sulfur
<b>LDV</b>	Light Duty Vehicle	<b>TCM</b>	Transportation Control Measure
<b>LESBP</b>	Lower Emission School Bus Program	<b>TPD</b>	Tons Per Day
<b>MBARD</b>	Monterey Bay Air Resources District	<b>TPY</b>	Tons Per Year
<b>MBUAPCD</b>	Monterey Bay Unified Air Pollution Control District	<b>VMT</b>	Vehicle Miles Travelled



## 1. Introduction

The California Clean Air Act (CCAA) requires attainment of State ambient air quality standards by the earliest practicable date. For air districts in violation of the State ozone, carbon monoxide, sulfur dioxide, or nitrogen dioxide standards, attainment plans were required by July 1991. The Monterey Bay Unified Air Pollution Control District dba the Monterey Bay Air Resources District was required to develop an attainment plan to address ozone violations. The CCAA requires the District to periodically prepare and submit a report to the Air Resources Board (ARB) that assesses its progress toward attainment of the State ambient air quality standards [Health and Safety Code §40924]. The 1991 Air Quality Management Plan (AQMP) was the first plan prepared in response to the CCAA that established specific planning requirements to meet the 1-hour ozone standard. In 2006, the ARB revised the State Ambient Air Quality Standards (AAQS) and made it considerably more stringent by adding an 8-hour average to the standard, which previously only included a 1-hour average. Both components of the standard must now be met before the ARB can designate that an area has attained the standard. This report is the seventh update to the 1991 AQMP with plans completed in 1994, 1997, 2000, 2004, 2008, and 2012.

This report only addresses attainment of the State ozone standard. It is an assessment and update to the 2012 Triennial Plan. In 2012, EPA designated the North Central Coast Air Basin (NCCAB) as attainment of the national 8-hour ozone standard of 0.075 ppm. In 2015, the national standard was revised to 0.070 ppm. The NCCAB continues to be in attainment with the stricter national standard.

## 2. AQMP Report Requirements

The 2016 AQMP documents the District's progress toward attaining the State ozone standard. This report is the District's review and update to the 2012 Triennial Plan. In preparing this report, the District reviewed the following areas required by §40924 and §40925 of the Health and Safety Code:

- Extent of air quality improvement based upon ambient measurements and air quality indicators.
- Expected and revised reductions for each measure scheduled for adoption.
- Incorporate new data or projections into the attainment plan, including, but not limited to population-related, industry-related, and vehicle-related emissions growth.
- Compare the new data to the rate of emission reductions and growth projected in the previous triennial plan revision.

The 2016 AQMP update builds on information developed in past AQMPs. Consequently, some sections of the 2008 AQMP and 2012 Triennial Plan are incorporated by reference for those elements that have not been updated.

### 3. Ambient Air Quality

Ozone, the primary constituent of smog and the main pollutant of concern for the North Central Coast Air Basin (NCCAB), is formed in the atmosphere through complex chemical interactions involving reactive organic gases (ROG)<sup>1</sup> and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight. The primary sources of ROG within the planning area are on- and off-road motor vehicles, petroleum production and marketing, solvent evaporation, and prescribed burning. As indicated in the Emissions Inventory Chapter 4, the primary sources of NO<sub>x</sub> are on- and off-road motor vehicles, stationary source fuel combustion, and industrial processes.

The District is responsible for measuring pollutant concentrations in the NCCAB, which consists of Monterey, Santa Cruz, and San Benito counties. There are seven monitoring stations within the NCCAB (see Figure 3-1). The air basin forms an area of more than 5,100 square miles, with Monterey County covering over 3,320 square miles and Santa Cruz County covering only 445 square miles. The air basin is situated downwind of the San Francisco Bay Area Air Basin (SFBAAB). Transport of ozone precursor emissions from the SFBAAB plays a dominant role in ozone concentrations measured in San Benito and Santa Cruz counties.

Ambient air quality standards (AAQS) establish levels of air quality that are required to be maintained to protect the public from the adverse effects of air pollution. California State standards are established to protect public health, including the most sensitive members of the population. National Ambient Air Quality Standards, or NAAQS, include a primary standard to protect public health and a secondary standard to protect the public welfare including property, vegetation and visibility. AAQS are established for “criteria air pollutants”, which include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, respirable particles (PM<sub>10</sub>), and fine particles (PM<sub>2.5</sub>). The current AAQS for ozone are presented in Table 3-1.

**Table 3-1  
Ambient Air Quality Standards for Ozone**

Pollutant	Averaging Time	CALIFORNIA STANDARDS	NATIONAL STANDARDS*	
		Concentration	Primary Concentration	Secondary Concentration
Ozone	1 hour	0.09 ppm	--	--
	8 hour	0.070 ppm	0.070 ppm	0.070 ppm

ppm=parts per million

\*In 2015 National Standards were strengthened to 0.070 ppm from 0.075 ppm

Source: California Air Resources Board 2016

In 2012, the EPA issued final designations for the 2008 8-hour NAAQS (0.075 ppm) for ozone which show the NCCAB as an attainment area based on monitoring data for the years 2009-2011. In 2015 EPA lowered the National Standard to 0.070 ppm while at the same time issuing a preliminary designation of attainment in the NCCAB based on 2013-2015 data. EPA will make final designations for the 2015

<sup>1</sup> ROG and volatile organic compounds (VOC) are considered equivalent in this report.



standard in October 2017 based on 2014-2016 data. Based on a review of preliminary data for the 2016 ozone season, it appears that the area will meet the 2015 standard.

For the State ozone AAQS, ARB revised the standard in 2006 to include an 8-hour average of 0.070 ppm, while retaining the existing 1-hour standard at 0.09 ppm. Both the 1-hour and 8-hour components of the State standard must be met in order for the standard to be achieved. The NCCAB is designated by the ARB as a nonattainment-transitional area for the State ozone standard. The reason EPA and ARB may have different designations for the same level of the standard (0.070 ppm) is that different attainment tests are used for the State and Federal standards with ARB's method being more stringent. Table 3-2 presents the current attainment status.

**Table 3-2**  
**Attainment Status for the North Central Coast Air Basin**

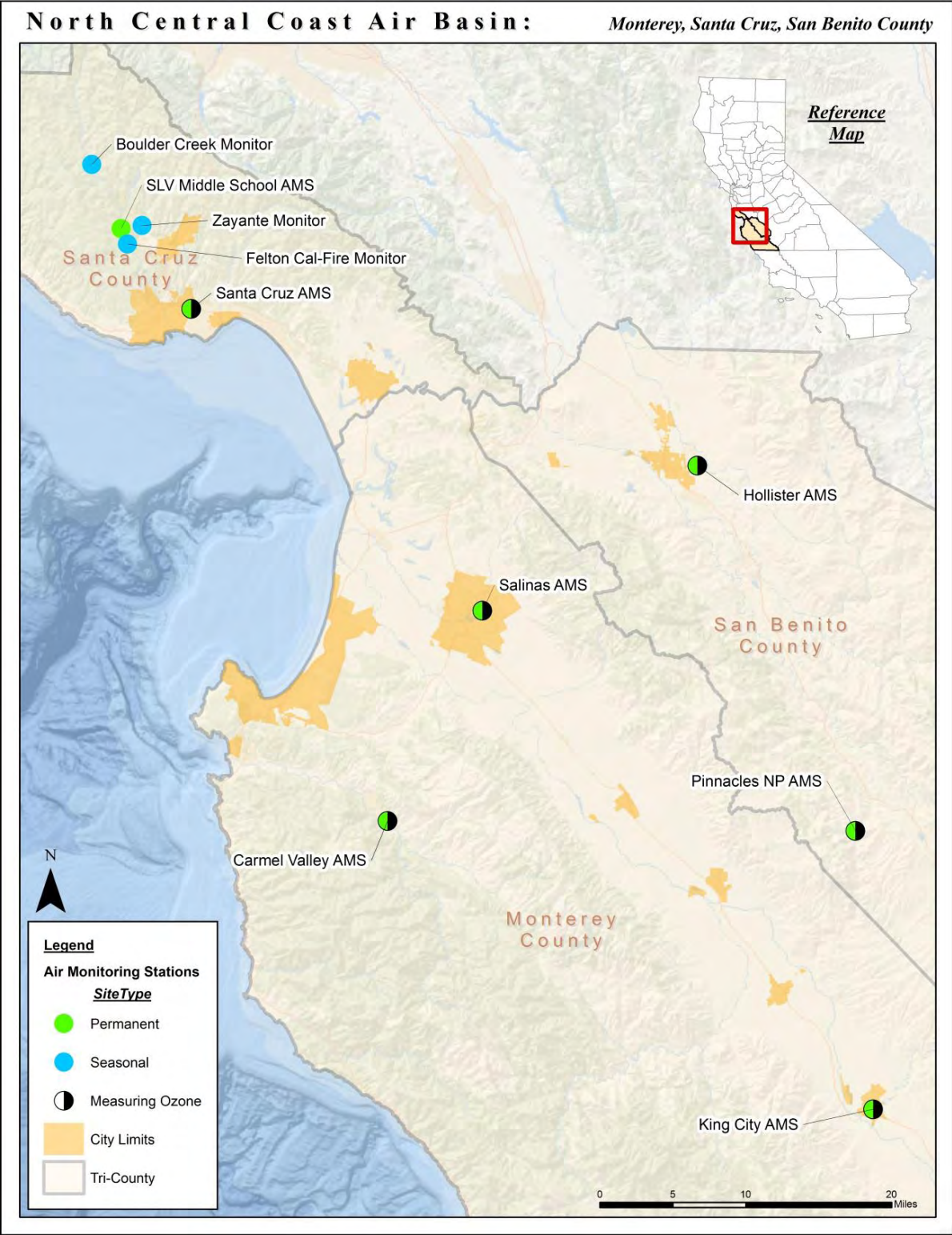
Pollutant	State Designation	Federal Designation
<b>Ozone (O<sub>3</sub>)</b>	Nonattainment-Transitional	Attainment
<b>Inhalable Particulates (PM<sub>10</sub>)</b>	Nonattainment	Attainment
<b>Fine Particulates (PM<sub>2.5</sub>)</b>	Attainment	Attainment
<b>Carbon Monoxide (CO)</b>	Monterey Co.-Attainment	Attainment
	San Benito Co.-Unclassified	Attainment
	Santa Cruz Co.-Unclassified	Attainment
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>	Attainment	Attainment
<b>Sulfur Dioxide (SO<sub>2</sub>)</b>	Attainment	Attainment
<b>Lead</b>	Attainment	Attainment

Sources: California Air Resources Board 2016  
U.S. Environmental Protection Agency 2017

### 3.1 Monitoring Network

Ambient air quality is currently monitored at seven permanent stations in the NCCAB. The network includes six stations operated by the District and one station operated by the National Park Service at Pinnacles National Park. The data from the Pinnacles National Park monitor are also used by both ARB and EPA to designate the NCCAB as attainment or non-attainment of the ozone standards. The Pinnacles National Park monitor is part of the Clean Air Status and Trends Network (CASTNET). This is a federal air quality monitoring network designed to provide data to assess trends in air quality, atmospheric deposition, and ecological effects due to changes in air pollutant emissions. The locations of the monitoring stations are shown in Figure 3-1.

Figure 3-1  
Ozone and Particulate Monitoring Stations





### 3.2 Ozone Monitoring Data and Overall Progress

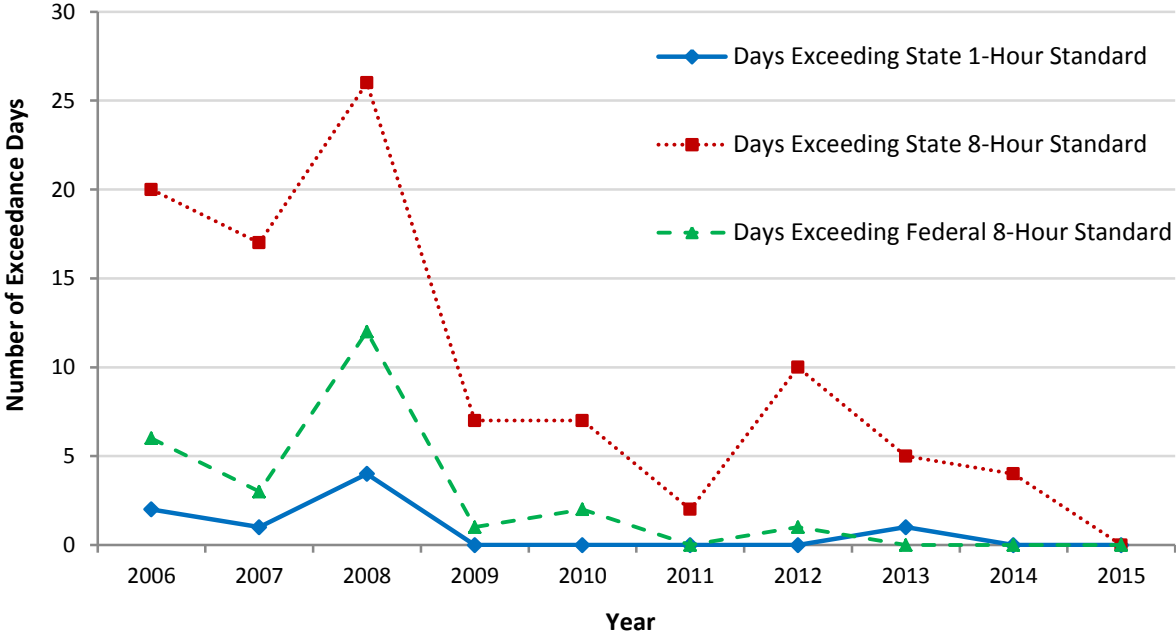
Long-term trends for ozone concentrations at monitoring stations throughout the NCCAB show that progress has been made towards achieving the standards. The 10-year trend (2006-2015) in exceedances of the ozone standards are shown in Figure 3-2 for the concentrations measured at the Pinnacles National Park station. The year-to-year variations tend to be driven by variations in weather, while the overall decline tends to be driven by a reduction in emissions across the region.

Ambient ozone is comprised of a mix of transported ozone, ozone originating in the NCCAB and natural background ozone. Background ozone can originate from biogenic VOC's emitted by plants and trees and biogenic NOx, which generally come from soil. Human and naturally caused wildfires can also create ozone. On rare occasions, background ozone may originate from intrusions of stratospheric ozone from high the in atmosphere. ARB research suggests that background ozone can represent nearly half the level of the standard (California Environmental Protection Agency, 2005).

Currently, the NCCAB is in attainment with the federal 8-hour standard. For comparison, exceedances of the federal 8-hour ozone standard are included in Figure 3-2. These ozone exceedances follow a similar pattern to the State exceedances, although the number of exceedances of the federal standard is less than the State standard. The State 8-hour standard, however, is more protective of public health than both the prior State 1-hour standard and the 2008 federal 8-hour standard. As shown in Figure 3-2 (also 3-3), the introduction of the stringent State 8-hour standard has increased the number of exceedances (red line) of the State ozone standard as compared to the 1-hour standard (blue line). This is another indicator that the 8-hour standard is more stringent than the 1-hours standard.

**Figure 3-2**  
**Number of Days Exceeding Ozone Standards**

*Based on Pinnacles National Park Monitoring Station*



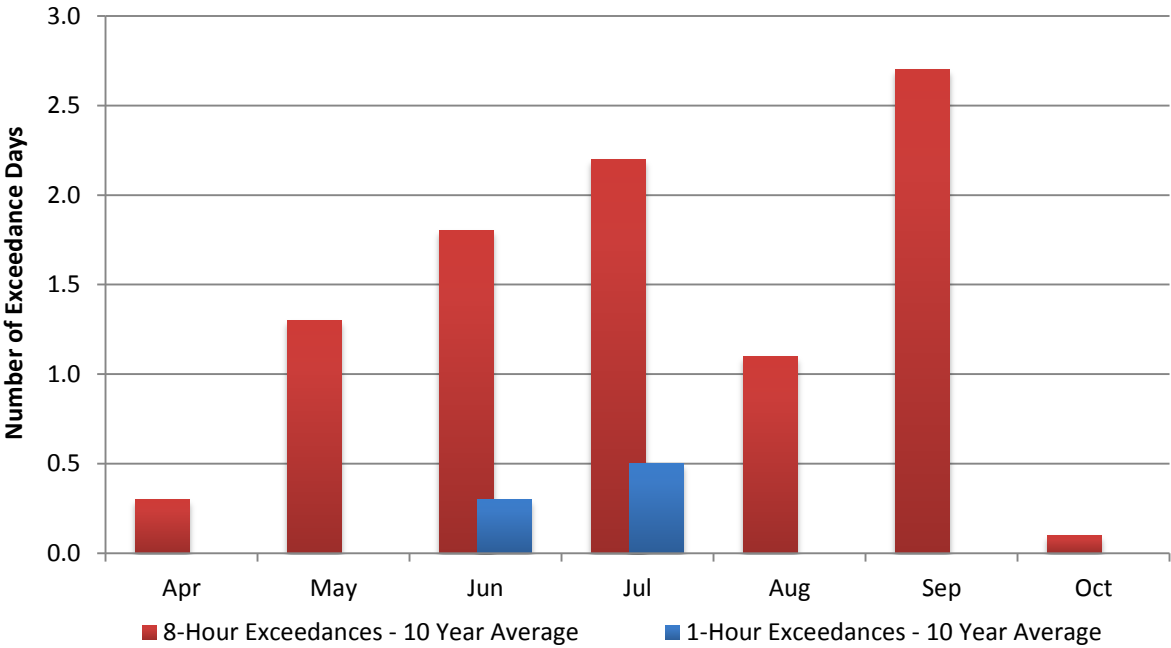
Source: California Air Resources Board 2016

Conversely, the 1-hour standard was attained in 2009. Figure 3-2 shows that there was one exceedance of the State 1-hour standard during the entire period 2009-2015. As a result, the NCCAB currently meets the 1-hour component of the State ozone standard. This is an indicator of continued progress in meeting the California standard.

Ozone tends to be a seasonal pollutant which develops primarily in the summertime when the sunlight is strongest. As shown in the Figure 3-3, most NCCAB exceedances follow the typical May through October seasonal pattern as seen elsewhere in the State. However, with the introduction of the State 8-hour standard, exceedances become much more frequent and start as early as April. While the seasonal exceedance patterns for both the 1-hour and 8-hour standards are similar, the 8-hour standard greatly increases the number of exceedances and causes the ozone season to start earlier.

**Figure 3-3**  
**10-Year Average of Exceedance Days**  
**During the Ozone Season**

*Based on Pinnacles National Park Monitoring Station, 2006-2015*



*Source: California Air Resources Board 2016*

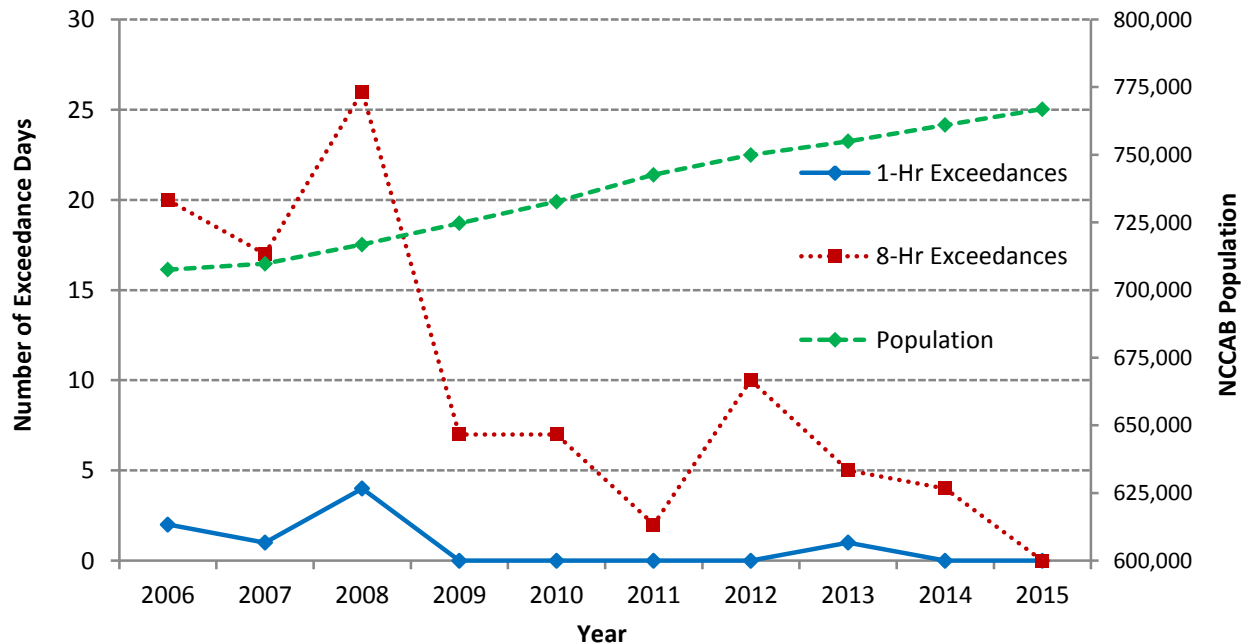
### 3.3 Ozone and Population Trends

Population data for the region are developed by federal, State, and local agencies. U.S. Census data are used in Figure 3-4 which demonstrates how progress has been made toward achieving the California ozone standard between 2006 and 2015 even with some population growth during that same period. Without emission controls, increases in precursor emissions would correspond directly with increases in population. Although the population trend has increased slightly, the number of exceedance days continued to decline during the past 10 years. There was only one exceedance of the 1-hour standard since the 2008 Basin Complex wildfire while population slightly increased during this time period. Exceedances of the 8-hour standard have also dropped from a high of about 26 per year in 2008 down

to typically less than 5 per year. This illustrates a key relationship between population growth and air pollution control. More stringent and protective emissions standards for automobiles, power plants and other sources of ozone precursors have outpaced population growth with the net result being an improvement in air quality. Specifically, the following list summarizes a number of key programs and rules which have and will continue to reduce emissions while population increases.

- **ARB’s Low Emission Vehicle Program** – This program is key to understanding the major declines shown in Table 4-1 and 4-2 for NOx and ROG emissions from on-road motor vehicles.
- **ARB’s Off Road Motor Vehicle Program** – Similar to the above program, ARB’s off-road motor vehicle program is responsible for the major declines shown in Tables 4-1 and 4-2 for NOx and ROG emissions from the “Other Mobile Source” emission category. This has reduced NOx emissions from diesel powered off-road trucks, agricultural equipment and other heavy duty equipment.
- **ARB’s Advanced Clean Cars** – This ARB program promotes new technologies for motor vehicles including low emission and zero emission vehicles as well as clean fuels.
- **Pavley Fuel Standards** – This program increases fuel mileage goals for new passenger cars and trucks, which will reduce fuel consumption and related emissions through 2016.
- **District Rule 431, Emissions from Electric Power Boilers** – This rule reduced the District’s NOx inventory by about 20 tons/day due to reductions from the Moss Landing Power Plant. Total NOx emissions from the plant, including its newer high efficiency gas turbines are less than 2 tons/day.
- **District Rule 1002 Transfer of Gasoline into Vehicle Fuel Tanks** – This rule continues to produce a better than 90% reduction in ROG as well as toxic emissions from the gasoline vapors emitted during refueling of motor vehicles.
- **District Rule 426 Architectural Coatings**—The purpose of this Rule is to limit the emissions of Volatile Organic Compounds (VOC) in the formulation of various architectural coatings.

**Figure 3-4  
Population Growth vs. Exceedances  
of the State Ozone Standard 2006-2015**



Source: California Environmental Protection Agency 2014, U.S. Census Bureau 2006-2015



### 3.4 Air Quality Indicators

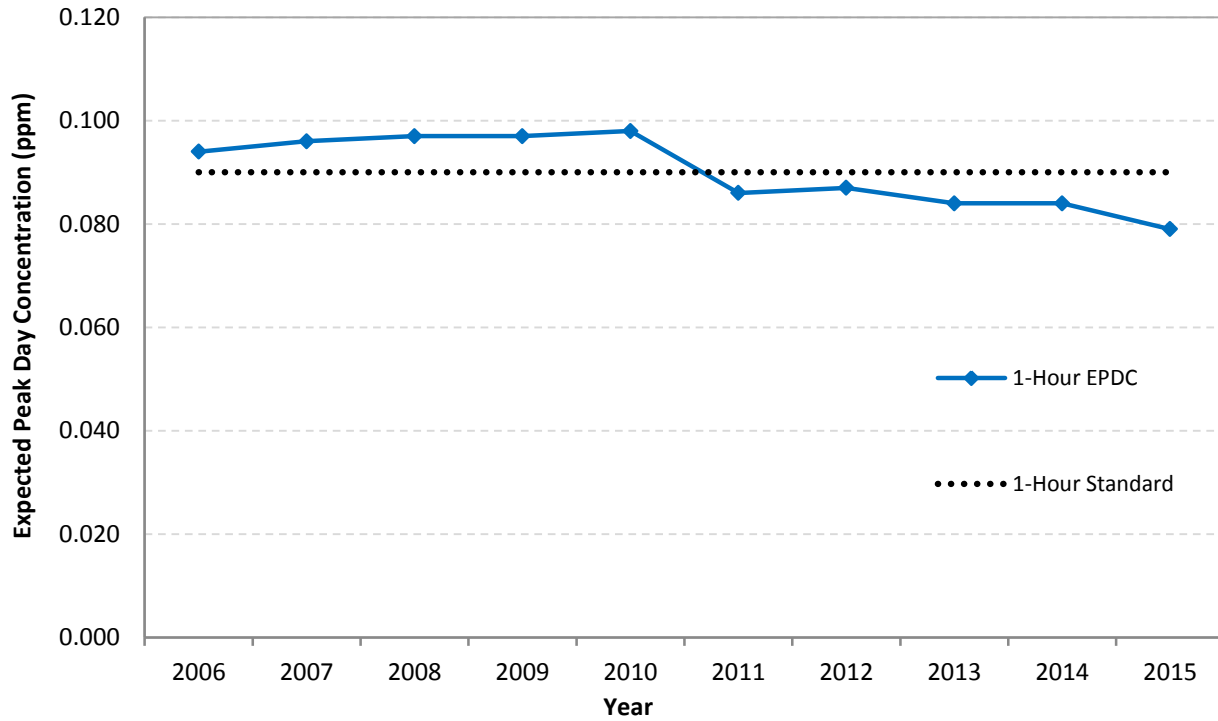
The California Clean Air Act (CCAA) requires the ARB to evaluate and identify air quality related indicators for districts to use in assessing their progress toward attainment of the State standards [Health and Safety Code section 39607(f)]. An indicator is a way of summarizing measured air quality data to represent aspects of air quality in a specific area. Typically, indicator data are used in the District's triennial reports to the ARB that assesses progress toward attaining the ozone standard. The assessment must address (1) the peak concentrations in the peak "hot spot" subarea, (2) the population weighted average of the total exposure, and (3) the area-weighted average of the total exposure (ARB Resolution 90-96, November 8, 1990). The exposure data, items (2) and (3), are typically provided by ARB and have been presented in previous plans. However, ARB is no longer providing area-weighted and population-weighted exposure data to air districts. As an alternative indicator, the mean of the highest 30 measured ozone concentrations are included in this plan. The following sections present the peak concentrations and the mean of the 30 highest concentrations.

### 3.5 Peak Concentration or "Hot Spot" Indicator

The "hot spot" indicator is assessed in terms of the Expected Peak Day Concentration (EPDC). The EPDC is calculated by ARB based on ambient data from each monitoring site in the air basin. The EPDC is the calculated peak concentration, in units of parts per million (ppm), that is statistically expected to occur once per year, on average from each site during a consecutive three-year period providing a stable indicator. The EPDC indicator is based on a three year average which smooths out the peaks and valleys that would otherwise occur with a one year indicator.

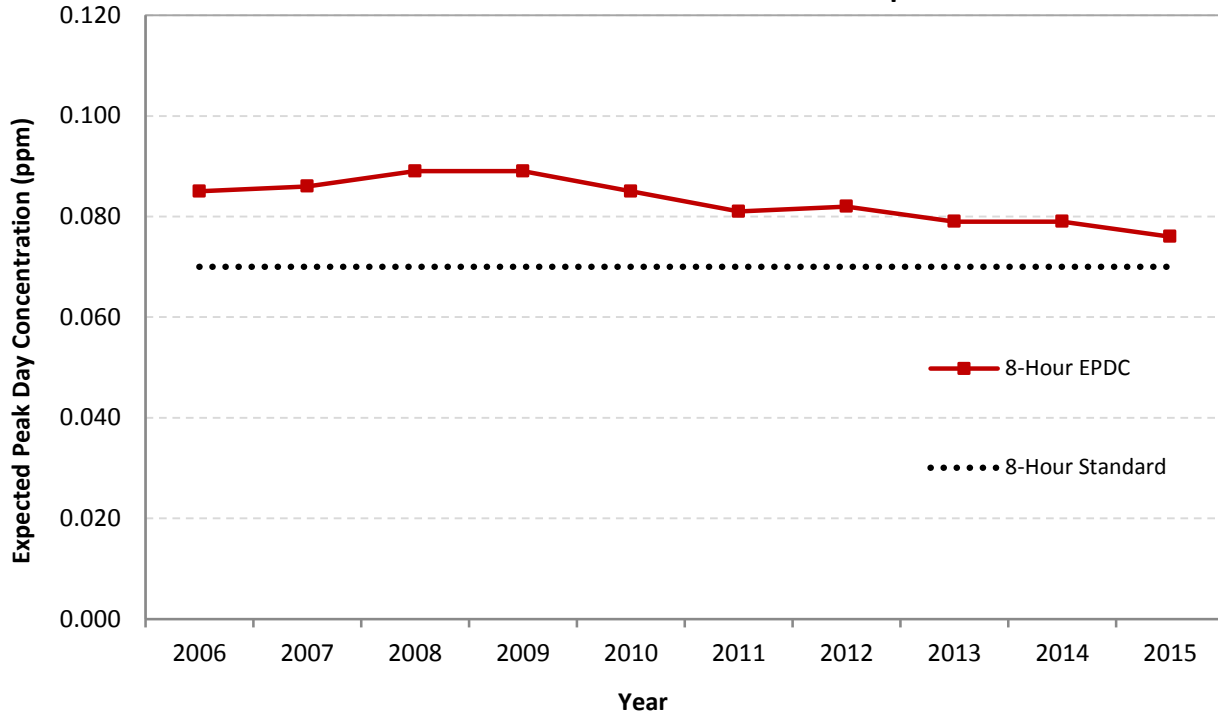
The Pinnacles National Park monitoring station is the NCCAB's peak "hot spot" station, being the monitoring site with the highest measured ozone concentrations in terms of the EPDC. The majority of NCCAB exceedances (and as a result, the site that determines the NCCAB attainment status) occur at this remote location which is far from urban sources of pollution. Figures 3-5 and 3-6 show the 10-year trend in 1-hour and 8-hour EPDCs for the Pinnacles National Park monitoring station, respectively. As shown in the figures, the EPDC trend has slightly decreased over the past 10 years.

**Figure 3-5  
Pinnacles National Park 1-Hour Ozone "Hot Spot"**



Source: California Environmental Protection Agency 2016

**Figure 3-6  
Pinnacles National Park 8-Hour Ozone "Hot Spot"**



Source: California Environmental Protection Agency 2016

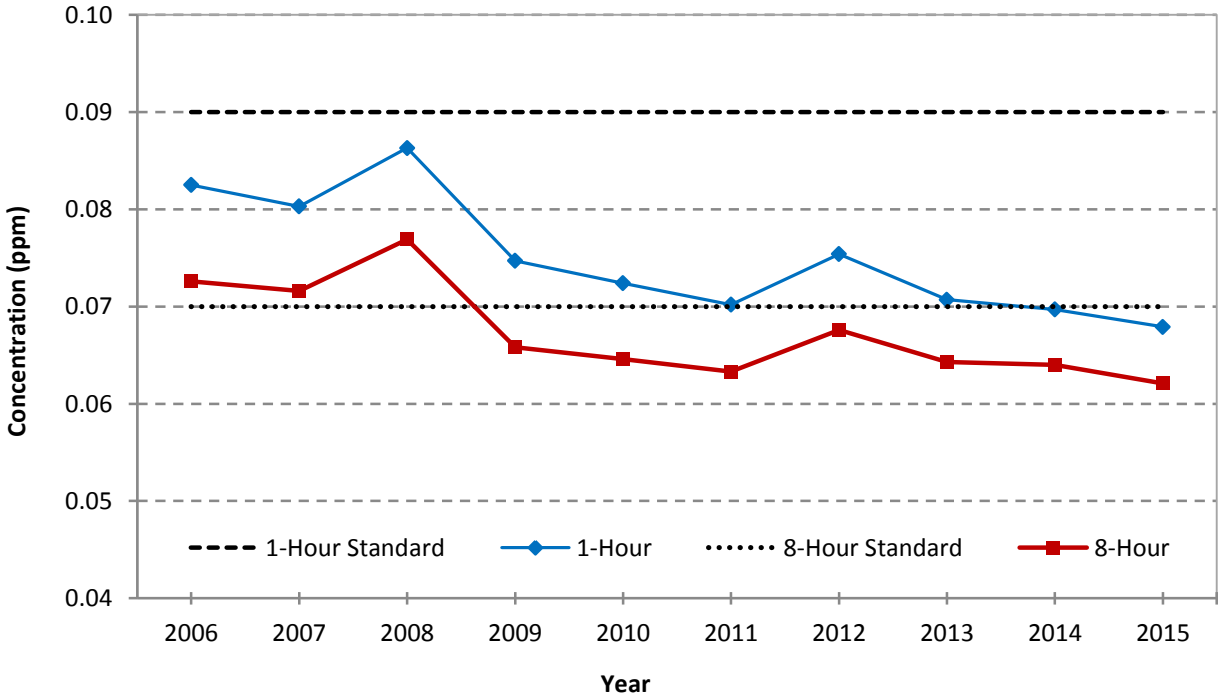
### 3.6 Mean of the Highest 30 Ozone Concentrations

As an additional indicator of progress toward achieving the CAAQS for ozone, the ARB provided a “Top 30 Mean” summary to the District. This is the average of the highest 30 daily 1-hour and 8-hour ozone measurements by year and by station. Since the summaries are based on the average of the highest 30 measurements by year, it provides a weighted indicator of long-term progress driven more by emissions and less by natural variation.

#### 3.6.1 Nonattainment Stations

Figures 3-7a and 3-7b present progress for the Top 30 indicator over the period 2006 to 2015 for Pinnacles National Park and Hollister; the two remaining stations in the NCCAB which have yet to achieve the CAAQS for ozone. The charts indicate that while there is year-to-year variation, both Pinnacles National Park and Hollister have shown measurable progress toward achieving the ozone standard. The charts also indicate greater progress was made for the 1-hour standard at both stations in comparison to the 8-hour standard. The slower progress for the 8-hour standard is partially due to the natural background ozone concentrations.

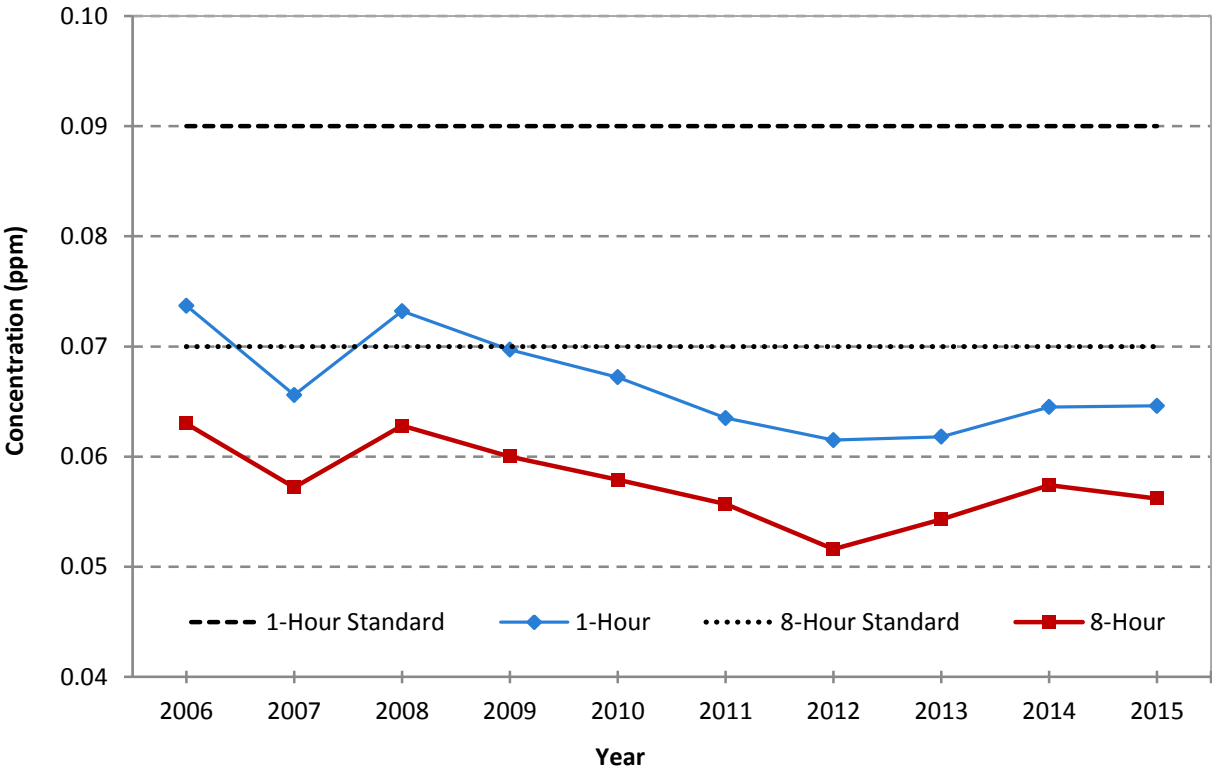
**Figure 3- 7a**  
**Mean of the Top 30 Daily Maximum Ozone Concentrations**  
**Pinnacles National Park**



Source: California Environmental Protection Agency 2016



**Figure 3-7b**  
**Mean of the Top 30 Daily Maximum Ozone Concentrations**  
**Hollister**

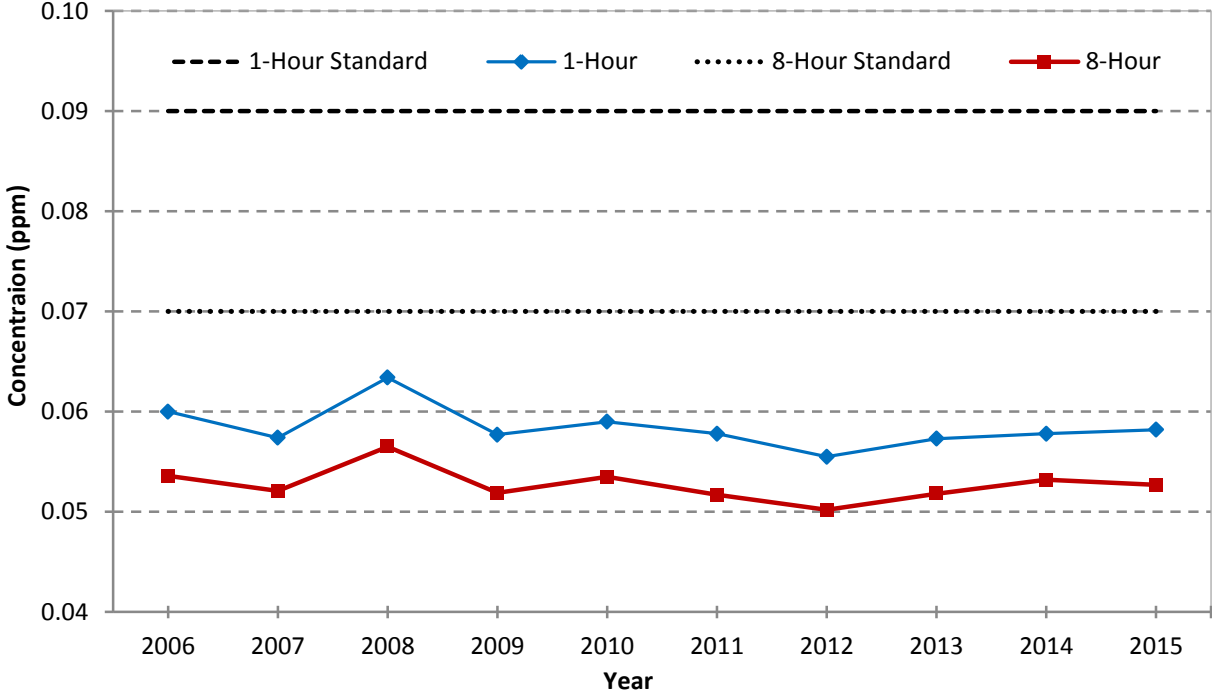


Source: California Environmental Protection Agency 2016

**Attainment Stations**

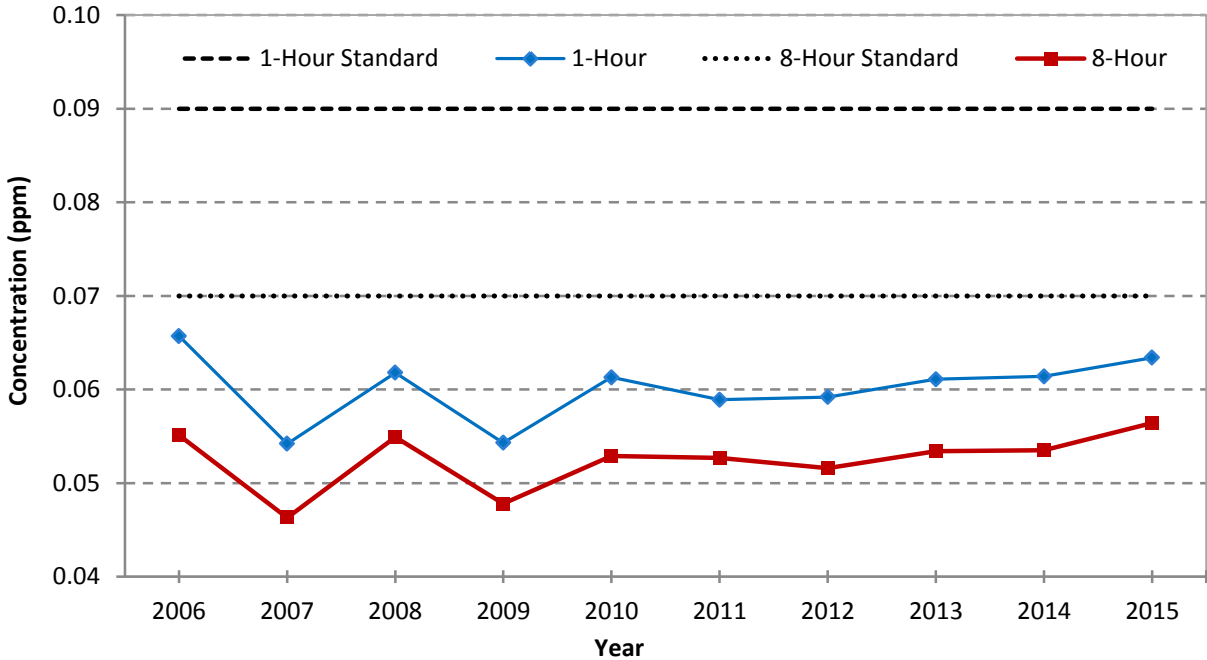
“Top 30 Mean” charts are also included for Carmel Valley, King City, Salinas, and Santa Cruz. These stations have met the 1-hour and 8-hour requirements of the CAAQs. Figures 3-8a, 3-8b, 3-8c, 3-8d demonstrate that these sites continue to show some progress and are not in a State of reverse progress or “backsliding” whereby ozone levels are increasing, possibly leading to future nonattainment. The indicator suggests that all four stations are in a good position to remain in attainment with the ozone standard. All four figures show no significant changes at any of our ambient air monitoring stations between 2006 and 2015. Annual changes are due primarily to natural variation in year to year weather conditions, which are not indicative of a permanent increase in ozone levels. The most important factor is that the designation values of all stations for both the 1 and 8-hour components of the State standard remain well within attainment.

**Figure 3-8a**  
**Mean of the Top 30 Daily Maximum Ozone Concentrations**  
**Carmel Valley**



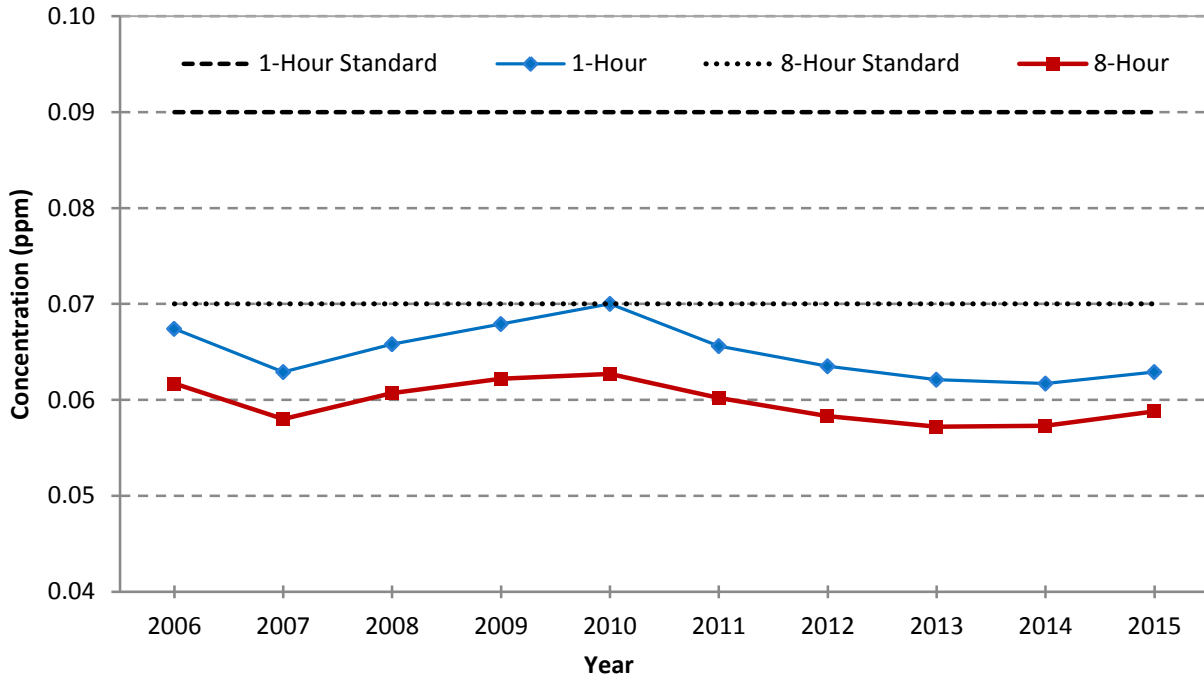
Source: California Environmental Protection Agency 2016

**Figure 3-8b**  
**Mean of the Top 30 Daily Maximum Ozone Concentrations**  
**King City**



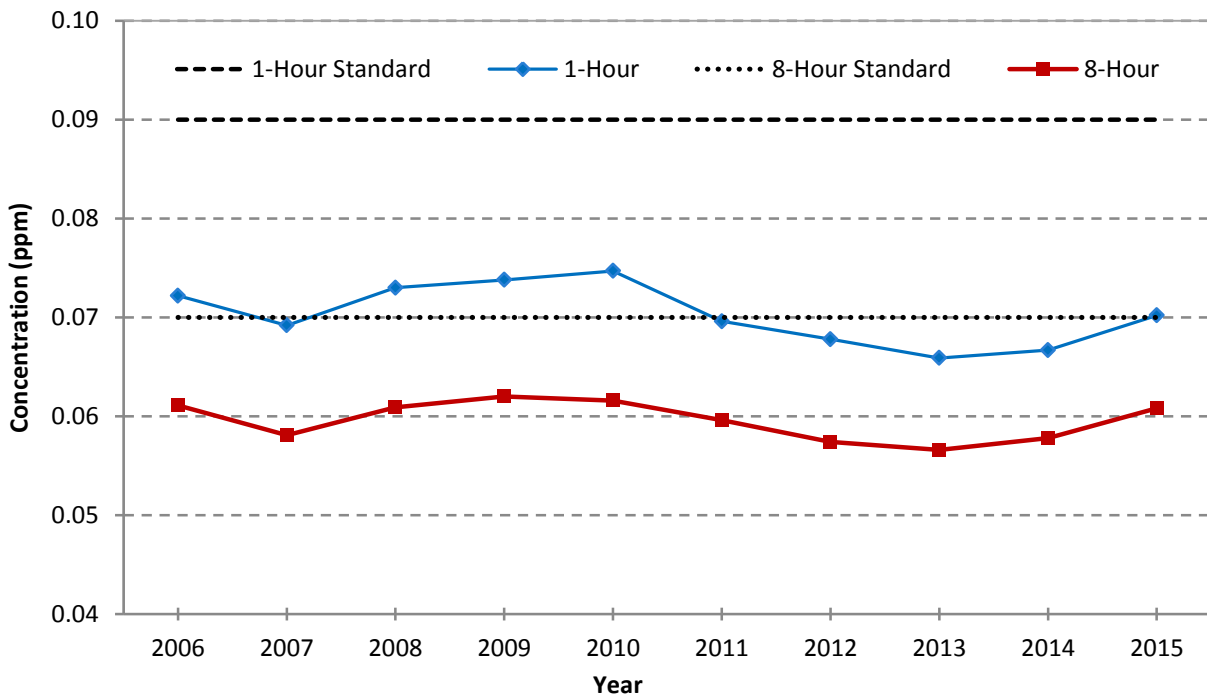
Source: California Environmental Protection Agency 2016

**Figure 3-8c**  
**Mean of the Top 30 Daily Maximum Ozone Concentrations**  
**Salinas**



Source: California Environmental Protection Agency 2016

**Figure 3-8d**  
**Mean of the Top 30 Daily Maximum Ozone Concentrations**  
**Santa Cruz**



Source: California Environmental Protection Agency 2016



## 4. Emission Inventory Trends

The emission inventory is an estimate of the amount of air pollutants emitted into the air each day by anthropogenic activities. Ambient ozone levels depend largely on the amount of precursors (NO<sub>x</sub> and ROG) emitted into the atmosphere. Therefore, the planning inventory trend is used to assess the region's progress toward attaining the State ambient air quality standards. The emission inventory is used to compare contributions from different emission sources, develop plans and regulations to reduce ozone concentrations, evaluate control measures, and forecast future pollution.

The inventory presented in this report represents emissions of ozone precursors, NO<sub>x</sub> and ROG, in units of tons per day, for a typical weekday during the May through October ozone season. This inventory is often referred to as a "summer day" planning inventory.

### 4.1 Emission Inventory Basics

The air basin anthropogenic inventory is basically a multi-level emissions accounting system. Its overall structure follows a four level hierarchy, with each successive level providing a greater level of detail.

In the first or Division level, the inventory is divided into three major divisions; Stationary Sources, Area-wide Sources and Mobile Sources. The second level is the Major Source level, which sub-divides Stationary Sources into five categories, Area Sources into two categories and Mobile Sources into two categories. In the third level, each of the nine Major Source categories are further divided into anywhere from two to eighteen Summary level categories, with mobile sources having the greatest number of subcategories. The inventory presented in this chapter is resolved to the third or summary level of the hierarchy. Beyond this exists a fourth level, which is the detailed or Emission Inventory Category (EIC) level, which further disaggregates the Summary level categories into literally hundreds of smaller categories. An EIC level of the inventory is available upon request or can be downloaded from the District's website.

Stationary sources typically include large facilities such as power plants or cement plants, while area-wide sources include an aggregate of individually smaller sources such as consumer products or residential fuel consumption which, when grouped together, have significant emissions. Mobile sources consist of the numerous cars and trucks that travel the streets and highways of the NCCAB, as well as other mobile sources such as off-road agricultural and construction equipment, trains and aircraft.

Emission inventories and inventory estimation methods are periodically updated to provide more accurate estimates and to better reflect current trends. These changes, along with the need to periodically reassess progress toward achieving the standard, are primary reasons for periodically updating the AQMP.

### 4.2 Inventory Models

The California Emissions Projection Analysis Model (CEPAM), formerly the California Emission Forecasting System, is the ARB computer tool used to develop the emission projections in this plan. The CEPAM projections cover the period 2010 to 2035. Consequently a horizon year of 2035 was used since that was the most future year available in CEPAM. "Backcasts" to the historical reference year 1990 are no longer available in CEPAM. For this inventory update, the year 2012 was the base year for projecting

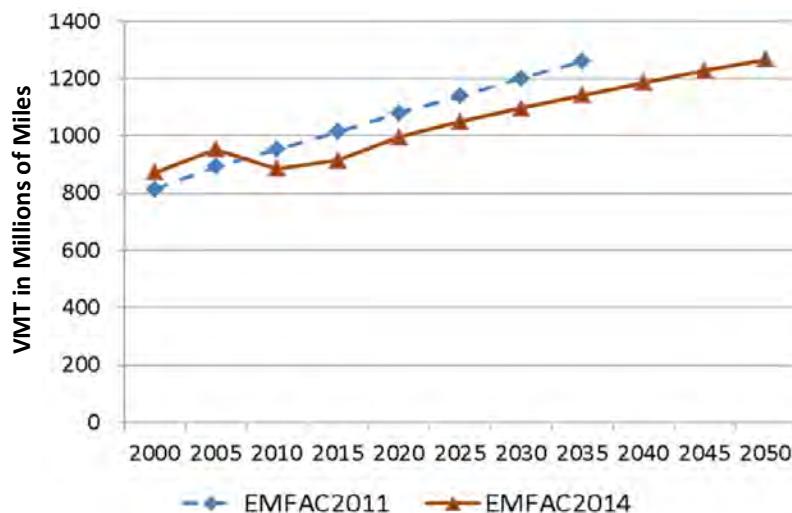
emissions from stationary and area-wide sources. The emission estimates are based on the most current growth and control data available at the time of the forecast runs.

For mobile sources, CEPAM integrates the emission estimates from ARB's EMFAC and OFFROAD mobile source emission models to provide a comprehensive anthropogenic emission inventory. ARB's latest model for estimating emissions from on-road motor vehicles is EMFAC2014. Emissions from off-road motor vehicles are based on ARB's OFFROAD2007 model with modular updates to some categories.

EMFAC2014 includes the following updates from the prior model EMFAC2011:

- Vehicle miles travelled (VMT) derived from fuel usage data rather than MPO derived data to be consistent with ARB's GHG inventory
- Updated DMV registration data to 2012 from 2009
- Although VMT increases through the 2035 forecast horizon in both EMFAC2011 and EMFAC2014, the projections are lower in EMFAC2014 (See Figure 4-1)
- New vehicle emission standards
- The benefits of lower emissions from advanced clean car technologies

**Figure 4-1**  
**Comparison of Statewide Daily VMT from EMFAC2011 vs. EMFAC2014**



*Source: California Environmental Protection Agency 2016*

Future year forecasted emission inventories were updated to account for the most recent Emission Reduction Credits (ERC) that were in the District's bank as of July 2016. ERC's are previous reductions in emissions that can be credited to allow increased emissions from a new or modified stationary source. For future year forecasts (2020 and 2035), ERC's were treated as potential growth. For historical years (2000-2010), the ERCs were represented as 0.1 tons per day to be consistent with prior AQMPs.

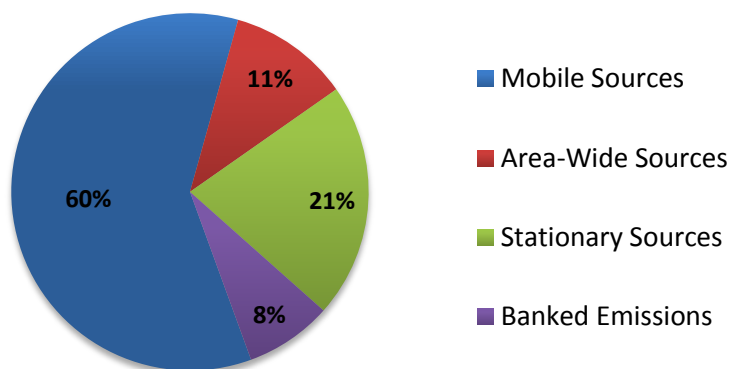
As with any other type of forecast, inventory forecasts become less reliable the further they are projected into the future. This is due to the increased uncertainty in what the actual level of growth and control will be in the future.

The emission inventories for NO<sub>x</sub> and ROG are presented in the following figures and tables. A more detailed version of the inventory for both is available upon request or can be downloaded from the District's website.

### 4.3 NO<sub>x</sub> Emission Inventory

Figure 4-2 illustrates the 2015 NO<sub>x</sub> inventory for the stationary, area-wide and mobile source categories. As can be seen, mobile sources, for which the District has no real authority, account for more than half the inventory (60%) while stationary sources, where the District has the most authority, only accounts for about 21% of the NO<sub>x</sub> inventory. Fortunately, the District has already adopted feasible rules to reduce emissions from stationary facilities, such as District Rule 431, Electric Utility Boilers which reduced the NO<sub>x</sub> inventory by nearly 20 tons per day. Additionally, the District has experienced NO<sub>x</sub> reductions due to plant closures such as the CEMEX Cement Plant which had emitted 3 to 4 tons per day of NO<sub>x</sub>. The absence of additional reductions from stationary sources highlights the importance of obtaining continued reductions in mobile source emissions in order to maintain continuing progress toward achieving the State ozone standard.

**Figure 4-2**  
**2015 NO<sub>x</sub> Emission Inventory**  
**39 tons per day**

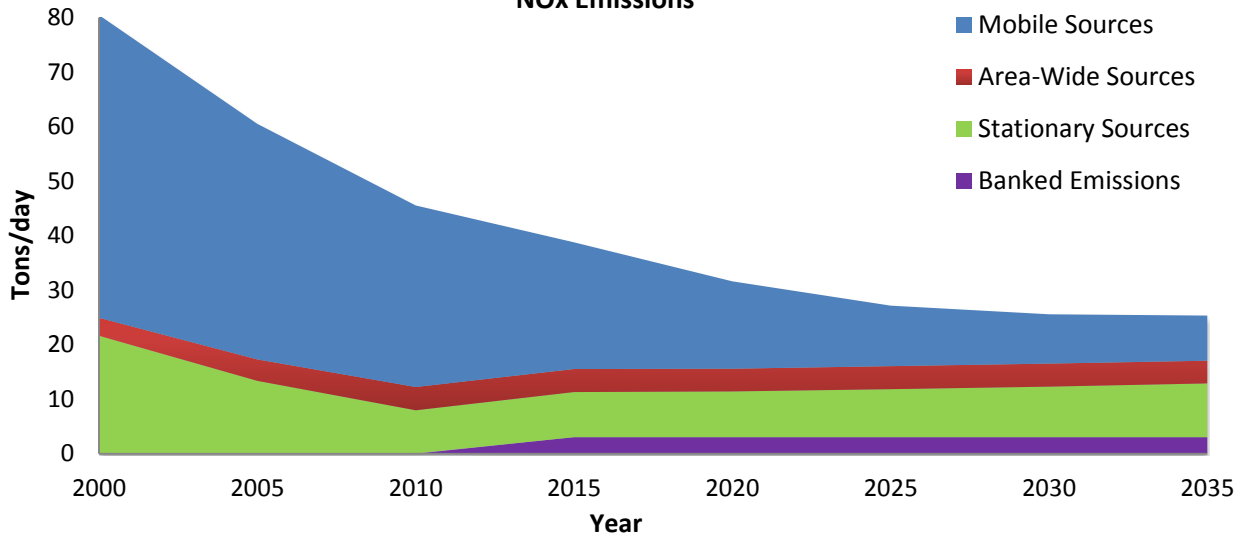


*Source: California Air Resources Board 2016*

Figure 4-3 illustrates the NO<sub>x</sub> emission forecasts out to 2035. As can be seen, overall emissions decline from about 80 tons/day in 2000 to about 30 tons per day in 2035 for a nearly threefold reduction through the period. Reductions in the all-important mobile source sector drive the overall decline. Emissions tend to flat-line out beyond the year 2030 due to a slight projected increase in stationary source emissions but that possibility will be re-visited in subsequent updates to the AQMP.



**Figure 4-3  
NOx Emissions**



Source: California Air Resources Board 2016

Table 4-1 provides greater numerical detail on the contribution from various source categories to the overall NOx inventory. From this table you can see that the major reductions in the mobile source category come from cleaner on-road motor vehicles while the slight increase in stationary source emissions comes from a projected increase in industrial processes; a trend which will be evaluated in subsequent AQMPs.

**Table 4-1  
Emission Inventory and Forecasts for NOx (tons per day)  
Summer Season Planning Inventory**

Source Category	Planning Inventory Years							
	2000	2005	2010	2015	2020	2025	2030	2035
<b>STATIONARY SOURCES</b>								
Electric Utilities Fuel Combustion	9.15	1.31	0.77	0.95	0.98	1.02	1.07	1.11
Other Fuel Combustion	5.94	5.24	4.55	4.10	3.64	3.59	3.56	3.63
Waste Disposal	0.03	0.03	0.01	0.02	0.02	0.02	0.02	0.02
Industrial Processes	6.46	6.72	2.55	3.18	3.72	4.13	4.60	5.10
<b>TOTAL (tons/day)</b>	<b>21.59</b>	<b>13.30</b>	<b>7.89</b>	<b>8.26</b>	<b>8.36</b>	<b>8.77</b>	<b>9.25</b>	<b>9.86</b>
Emission Reduction Credits <sup>1)</sup>	0.10	0.10	0.10	3.06	3.06	3.06	3.06	3.06
<b>AREA-WIDE SOURCES</b>								
Miscellaneous Processes	3.24	3.91	4.25	4.24	4.22	4.23	4.21	4.19
<b>TOTAL (tons/day)</b>	<b>3.24</b>	<b>3.91</b>	<b>4.25</b>	<b>4.24</b>	<b>4.22</b>	<b>4.23</b>	<b>4.21</b>	<b>4.19</b>
<b>MOBILE SOURCES</b>								
On-Road Motor Vehicles	41.98	33.59	24.39	15.58	9.69	5.94	4.59	4.15
Other Mobile Sources	13.60	9.64	8.95	7.66	6.28	5.18	4.51	4.09
<b>TOTAL (tons/day)</b>	<b>55.57</b>	<b>43.23</b>	<b>33.34</b>	<b>23.25</b>	<b>15.97</b>	<b>11.12</b>	<b>9.09</b>	<b>8.23</b>
<b>TOTAL ALL SOURCES</b>	<b>80.49</b>	<b>60.53</b>	<b>45.58</b>	<b>38.81</b>	<b>31.61</b>	<b>27.18</b>	<b>25.62</b>	<b>25.34</b>

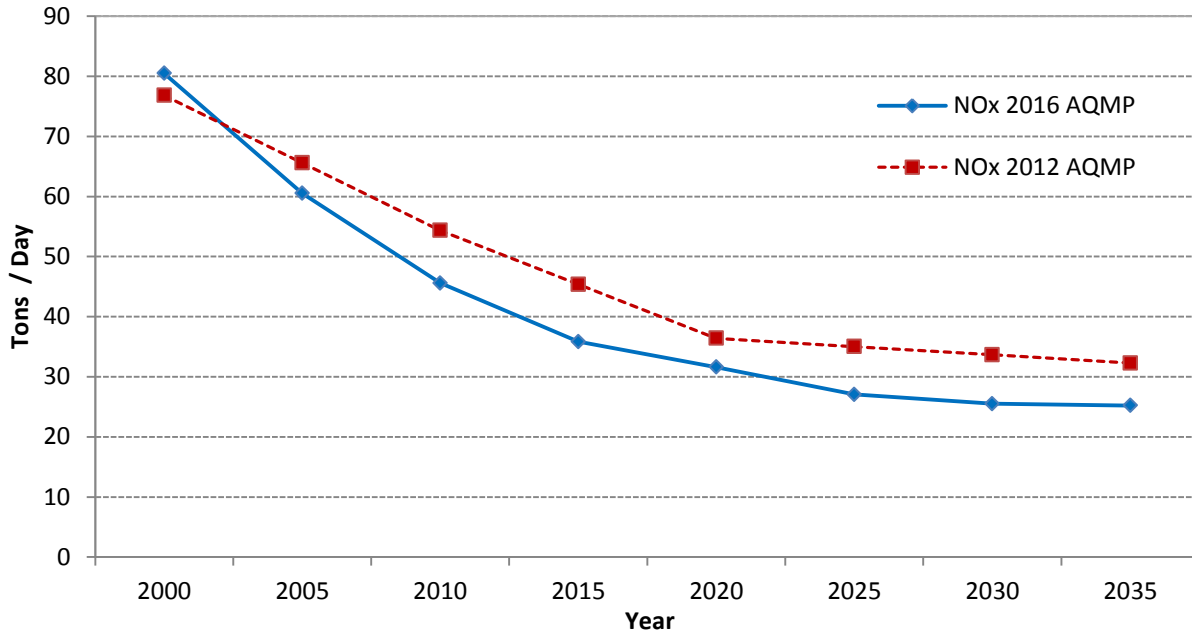
Source: CEPAM, California Air Resources Board 2016

**Notes:**

- 1) ERCs as of July 2016. For consistency with prior AQMPs, the emission reduction credits for historical years are reported as 0.1 tons per day. For the future years (2020 and 2035), the emission reduction credits equal the total banked emissions in the District’s company held and community banks to account for future potential growth.
- 2) Emissions data based on ARB CEPAM database, EMFAC2014, and AMBAG VMT projections.

Figure 4-4 compares the NOx inventories from the 2012 update with the most recent inventory in this current plan. As shown in the chart, the overall NOx inventory is somewhat lower than in the previous plan. Again the difference is driven by the mobile source category with the previously mentioned causes likely being lower VMT beyond 2015, new vehicle emission standards, and the benefits of lower emissions from advanced clean car technologies as reflected in EMFAC2014.

**Figure 4-4**  
**Comparison of NOx Emission Inventory Trends**  
**2012 and 2016 AQMP Updates**

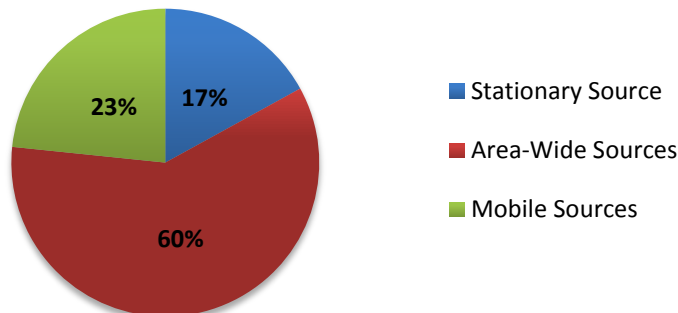


Source: Monterey Bay Unified Air Pollution Control District 2013, MBARD 2016

#### 4.4 ROG Emission Inventory

Figure 4-5 shows the distribution of 2015 ROG emissions by the major source categories of the inventory. Unlike NOx emissions which are dominated by mobile source emissions, area-wide sources account for 60% of the inventory with the remainder shared fairly equally between the mobile and Stationary Source categories. Solvent evaporation from pesticides, consumer products and architectural coatings are important contributors to this category.

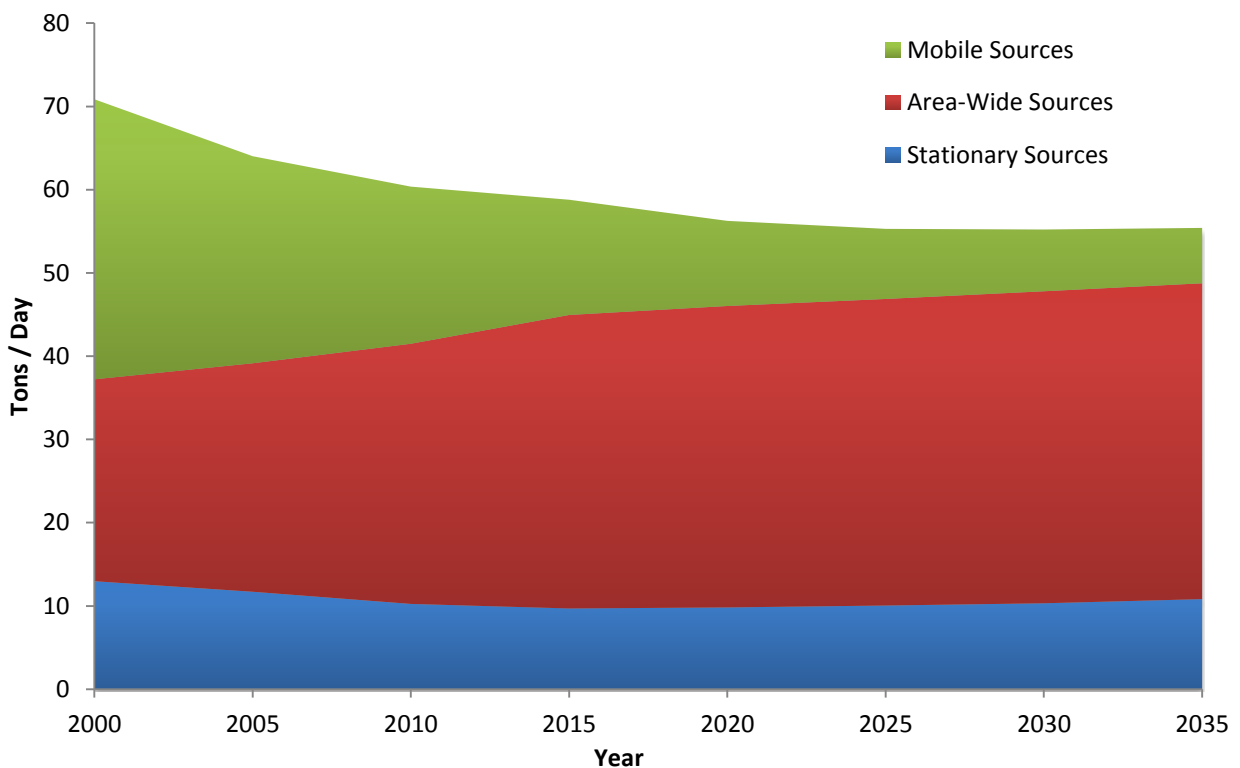
**Figure 4-5**  
**2015 ROG Emission Inventory**  
**59 tons per day**



Source: California Air Resources Board 2016

Figure 4-6 illustrates the ROG emission forecasts out to 2035. The reduction in the ROG inventory is not expected to be quite as dramatic as that expected for the NO<sub>x</sub> inventory. As can be seen, overall emissions are projected to decline from about 71 tons/day in 2000 to about 56 tons per day in 2035 for an overall reduction of about 20% through the period. Emissions plateau beyond 2025 due to continued reductions in the Mobile Source category offset by slight increases in the Area-Wide and Stationary Source categories. However, the air basin may meet the ozone standard by then at which point the apparent leveling of the inventory in these future years could become a subject for maintenance planning.

**Figure 4-6**  
**ROG Emissions 2000 to 2035**  
**Tons per Day**



*Source: California Air Resources Board 2016*

Table 4-2 provides greater numerical detail on the contribution from various source categories to the overall ROG inventory for the years 2000 to 2035. From this table a five-fold reduction in the mobile source category can be seen due to cleaner on-road motor vehicles while the stationary and area-wide source categories increase slightly, primarily due to the solvent evaporation related processes.



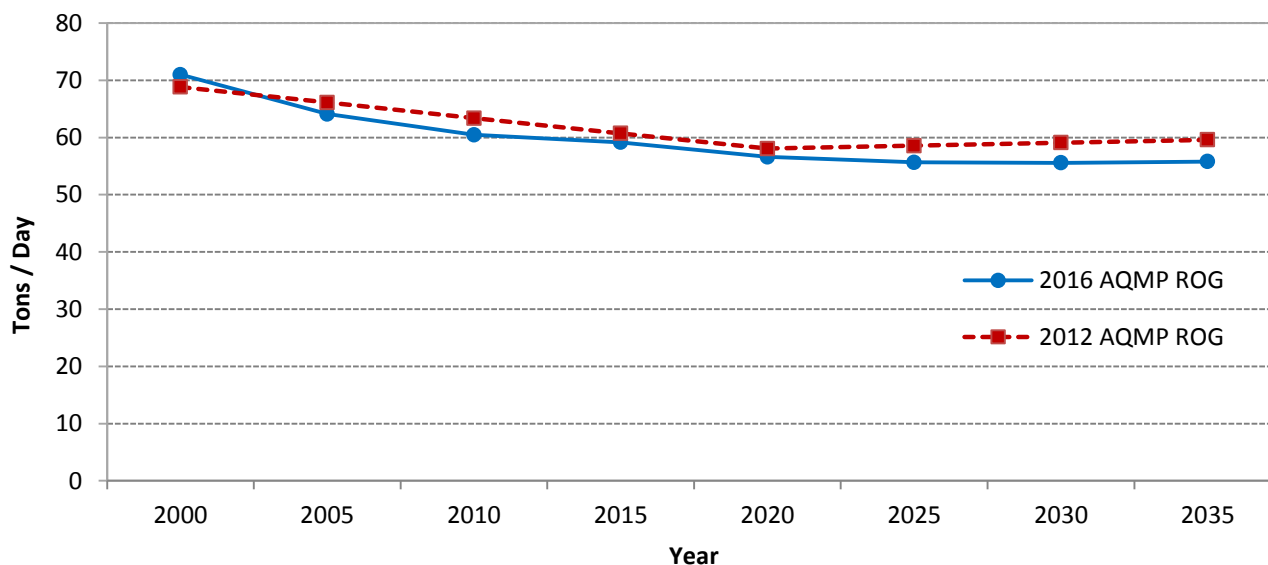
**Table 4-2**  
**Emission Inventory and Forecasts for ROG (tons per day)**  
**Summer Season Planning Inventory**

Source Category	Planning Inventory Years							
	2000	2005	2010	2015	2020	2025	2030	2035
<b>STATIONARY SOURCES</b>								
Fuel Combustion	2.38	1.48	1.26	1.15	1.20	1.29	1.38	1.48
Waste Disposal	1.56	1.58	1.60	1.67	1.73	1.79	1.85	1.90
Cleaning and Surface Coating	3.50	3.51	2.67	3.03	3.29	3.61	3.97	4.44
Petroleum Production & Marketing	4.93	4.14	4.06	3.07	2.74	2.41	2.14	1.94
Industrial Processes	0.63	1.01	0.66	0.78	0.87	0.94	1.00	1.06
<b>Total (tons/day)</b>	<b>12.99</b>	<b>11.73</b>	<b>10.26</b>	<b>9.70</b>	<b>9.83</b>	<b>10.04</b>	<b>10.34</b>	<b>10.82</b>
Emission Reduction Credits*	0.1	0.1	0.1	0.37	0.37	0.37	0.37	0.37
<b>AREA-WIDE SOURCES</b>								
Solvent Evaporation	13.84	15.11	15.81	19.59	20.49	21.11	21.75	22.18
Miscellaneous Processes	10.39	12.30	15.44	15.68	15.70	15.72	15.73	15.75
<b>Total (tons/day)</b>	<b>24.23</b>	<b>27.41</b>	<b>31.24</b>	<b>35.26</b>	<b>36.19</b>	<b>36.82</b>	<b>37.48</b>	<b>37.93</b>
<b>MOBILE SOURCES</b>								
On-Road Motor Vehicles	22.56	14.89	10.68	7.21	4.68	3.51	2.88	2.41
Other Mobile Sources	11.08	9.98	8.20	6.61	5.56	4.92	4.52	4.27
<b>Total (tons/day)</b>	<b>33.65</b>	<b>24.87</b>	<b>18.88</b>	<b>13.82</b>	<b>10.24</b>	<b>8.44</b>	<b>7.40</b>	<b>6.68</b>
<b>TOTAL ALL SOURCES</b>	<b>70.97</b>	<b>64.11</b>	<b>60.48</b>	<b>59.16</b>	<b>56.63</b>	<b>55.67</b>	<b>55.59</b>	<b>55.80</b>

Source: CEPAM, California Air Resources Board 2016

Figure 4-7 compares the ROG inventories from the 2012 update with the most recent inventory in this current plan. As with the NO<sub>x</sub> inventory, the chart shows that the overall ROG inventory is somewhat lower than in the previous plan. The difference is driven by the mobile source category with the previously mentioned cause likely lower VMT beyond 2015, new vehicle emission standards and the benefits of lower emissions from advanced clean car technologies being reflected in EMFAC2014.

**Figure 4-7**  
**Comparison of 2012 vs. 2016 AQMP ROG Inventories**



Source: Monterey Bay Unified Air Pollution Control District 2013, MBARD 2016

## 4.5 Local vs. Regional Emissions

While local emissions and trends in our local emissions are important they are not a major cause of exceedances of the ozone standard in the NCCAB. As described in the next section, the major contributor to NCCAB exceedances is ozone transport from major urban areas upwind of our area (ARB Planning and Technical Support Division, 2001). Fortunately, emissions from these areas have diminished over the years which have helped our area make significant progress toward achieving the ozone standard.

## 5. Ozone Transport

In addition to emissions generated locally within the NCCAB, ARB has determined that emissions transported into the NCCAB from urban areas outside the air basin can have a significant impact on violations of the ozone standard. This is particularly true at monitoring stations that currently do not meet the State standard, including Pinnacles National Park, which is the air basin's design site for meeting the State standard. Data monitored in the most populated area of the basin, Salinas, show that the basin is attaining the State ozone standard while data monitored at the Pinnacles National Park, located in an unpopulated area, show that the basin is not attaining the standard. The exceedances measured at the Pinnacles National Park monitoring station are primarily due to emissions transported from the Bay Area. The most significant transport couple affecting the NCCAB is the upwind relationship of the San Francisco Bay Area Air Basin (SFBAAB), which is due in part to a continuous terrain feature (Santa Clara Valley/San Benito River Valley) which links the two areas (Garcia, Gouze, Wright, & Hackney, 2001). This is referred to as the SFBAAB to NCCAB transport couple. This couple was initially identified in the first transport assessments in 1990 and has been reaffirmed in subsequent assessments, including the ARB's most recent transport review in 2001. One of the blue arrows in Figure 5-1 shows the transport trajectory from the SFBAAB to Pinnacles National Park in San Benito County.

**Figure 5-1**  
**Transport Trajectory from SFBAAB**



*Source: Air Resources Board 2001, MBARD 2017*

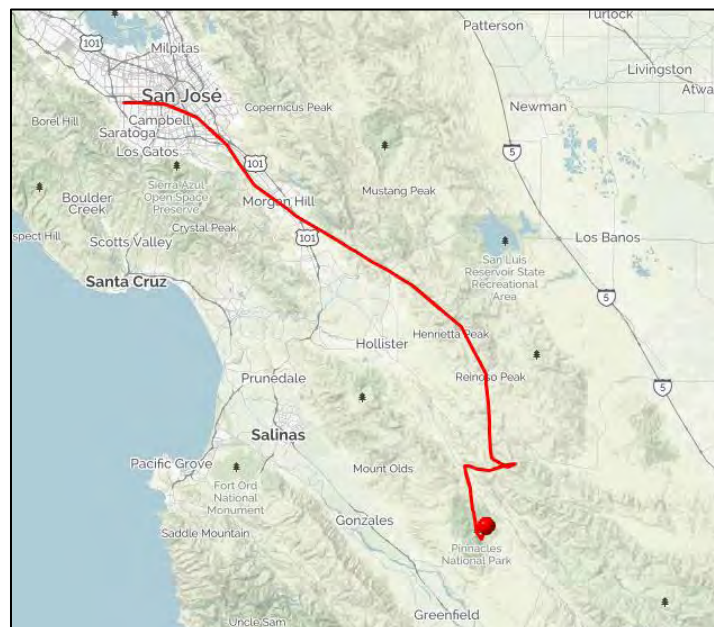
Transport from the SFBAAB has a particularly strong influence on the NCCAB attainment status. The transport assessments for 1994 and 1995 indicate that 50 percent of NCCAB exceedances are the result of “overwhelming” transport from the SFBAAB, meaning that the exceedance would have occurred even with little or no emission contribution from the NCCAB. Thirty percent of the exceedances are classified as significant, meaning that emissions from both the upwind and local areas contributed measurably to exceedances of the standard. The remaining exceedances are classified as extreme concentration events or inconclusive. Since the ARB transport assessments indicate that emissions transported from the SFBAAB, as well as emissions from the NCCAB contribute to violations, continuing emission reductions in the entire region will likely be necessary to maintain the 1-hour standard and continue progress towards achieving the State 8-hour standard.

## 5.1 Current Assessments

This upwind/downwind relationship was considered for the current plan period, again using trajectory analysis. This time, back trajectories from the HYSPLIT trajectory model were used. A back trajectory traces the origin of air arriving at a specific place and time (i.e. Pinnacles National Park during an exceedance period) by going back in time to establish a possible source area. The back trajectories presented in the figures trace the path of the air parcel 24-hours back from the time exceedances were recorded at Pinnacles.

Figure 5-2 shows the calculated 24-hour back trajectory of air arriving at Pinnacles on the evening of July 10, 2012 when a 0.072 ppm exceedance was recorded at the site. This was actually in the middle of a four day exceedance period extending from July 9th to July 12th. The trajectory suggests that the air originated in the San Jose area of the SFFBAB the day before and then traveled southeastward through South Santa Clara Valley, along the Diablo Range until eventually arriving at the remote Pinnacles area through San Benito County on the evening of July 10th. It should be noted that transport exceedances often occur late in the day due to the large distances often involved.

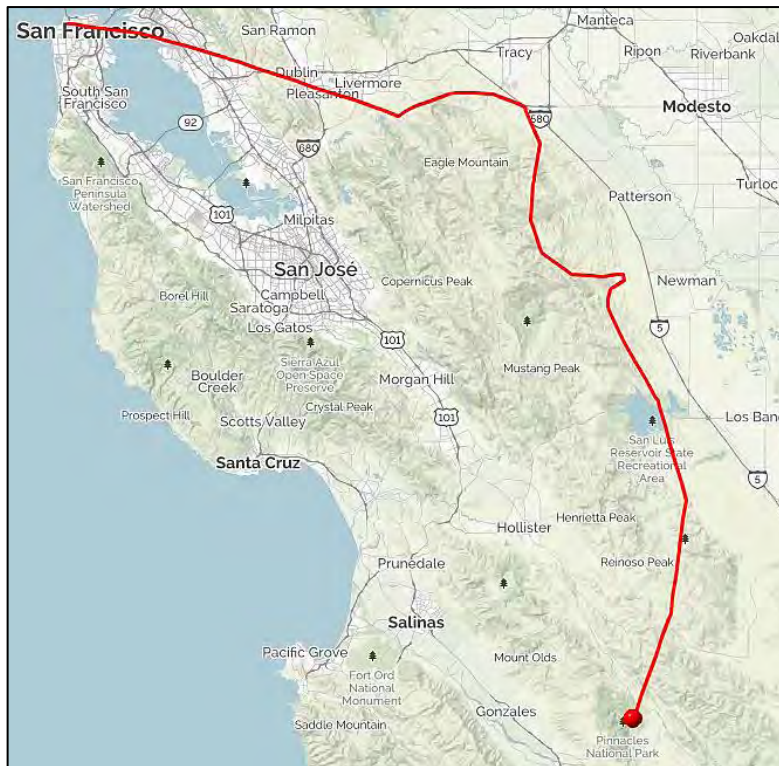
**Figure 5-2**  
**Back Trajectory from Pinnacles National Park**  
Arriving 6 pm PDT July 10, 2012



Source: NOAA 2016

Figure 5-3 shows the back trajectory for an exceedance occurring on the evening of June 7, 2013. This was a rare day when Pinnacles recorded exceedances of both the 1 hour and 8 hour components of the State standard. The figure suggests that the air originated the day before in the SFBAAB, this time from the San Francisco/East Bay area of the SFBAAB. Again the late afternoon/evening arrival of the urban air transporting ozone is an indicator of transport.

**Figure 5-3**  
**Back Trajectory from Pinnacles National Park**  
Arriving 6 pm PDT June 7, 2013



Source: NOAA 2016

Although not a rigorous evaluation, the results of the current trajectory assessments suggest that ARB's original upwind/downwind findings are still relevant. This is not entirely surprising since, despite changes in emissions, the wind patterns driving transport tend to remain similar over time.

## 5.2 2016 Soberanes Wildfire

Aside from ozone transport from upwind urban areas, smoke from wildfires can contain significant quantities of ozone precursors which then contribute to exceedances of the ozone standard. 2016 was a good example of this as there were five exceedances recorded at Pinnacles during the Soberanes Wildfire in the Los Padres National Forest located directly across the Salinas Valley from the Pinnacles. On August 18, 2016, a 0.078 ppm exceedance of both the State and National 8-hour ozone standard was recorded at the Pinnacles. This was the one of the highest exceedances in the NCCAB in the past 5 years. The Soberanes Wildfire appears to have contributed to it.

Figure 5-4 is a satellite image showing smoke from the Soberanes extending over the Salinas in the direction of the Pinnacles. Figure 5-5 is a back trajectory from the Pinnacles at the time of the



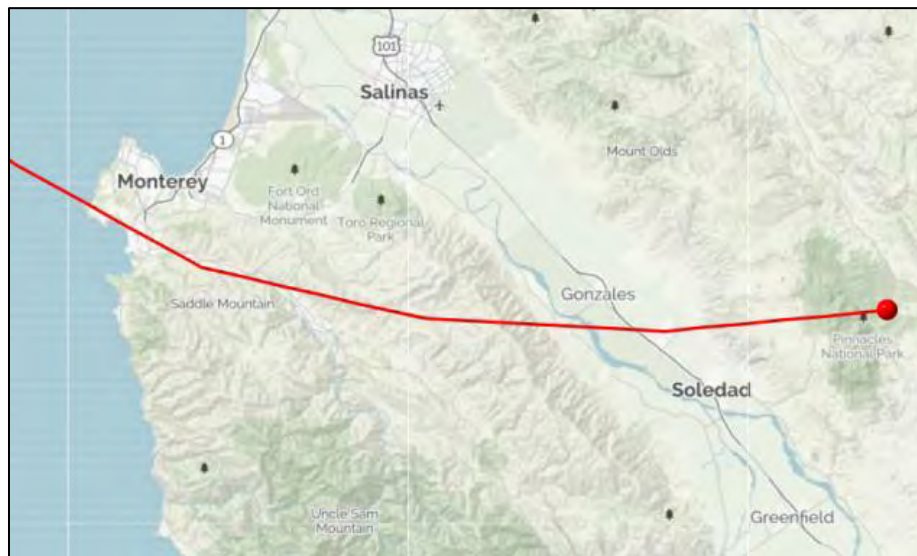
exceedance tracing a pathway back to the area of the burn. Together these images suggest that the Soberanes Wildfire contributed to the exceedance on that date. The impact of the Soberanes Fire on air quality for 2016 will be evaluated in the next AQMP as data collected for 2016 have not been certified at the time of the development of this current plan.

**Figure 5-4**  
**Veil of Smoke from Soberanes over Pinnacles National Park**  
July 24, 2016



*Source: NASA EOSDIS 2017*

**Figure 5-5**  
**Back Trajectory from Pinnacles National Park**  
August 18, 2016



*Source: NOAA 2016*

## 6. Control Measures

The basic strategy for improving air quality is to reduce emissions of those air pollutants which cause violations of ambient air quality standards. Ozone is a regional pollutant which forms over large areas as the source pollutants, NO<sub>x</sub> and ROG, travel downwind. Consequently, reductions in NO<sub>x</sub> and ROG emissions over the entire region, including the NCCAB as well as adjacent major urbanized air basins, are needed. As discussed in Section 5, pollution transported from areas outside of the NCCAB significantly contributes to violations of the 8-hour ozone standard.

Following the release of the 1991 AQMP, the District adopted a number of rules which reduced NO<sub>x</sub> and ROG by many tons per day. The most productive of these rules, Rule 431 Electric Utility Boilers, reduced NO<sub>x</sub> emissions by more than 15 tons per day as a single measure. Since those earlier years of rule adoption, the availability of high yield measures has diminished significantly with potential control measures only reducing the inventory by a few tenths of a percent at most.

The 2008 AQMP documented that the air basin continued to attain the 1-hour standard and recommended adoption of five control measures to make progress towards achieving the 8-hour standard. The control measures considered in the 2008 AQMP were for solvent cleaning operations, spray booths, degreasing, adhesives and sealants, and natural gas-fired fan-type furnaces and residential water heaters. As described in the 2008 AQMP, the measures were selected based on a screening level analysis of the emission reduction potential and cost effectiveness. As shown in Figure 3-2, without implementation of these measures, the number of ozone exceedance days continues to decline slightly. Since the 2012 AQMP, emissions for NO<sub>x</sub> and ROG have declined by 3 and 4 tons per day, respectively. In fact, as shown in Tables 4-1 and 4-2, emissions for both NO<sub>x</sub> and ROG are projected to continue to decline through the 2035 forecast horizon.

Santa Barbara County Air Pollution Control District has a similar situation as the District in that their air basin has been designated nonattainment transitional and has already implemented the more effective control measures. Santa Barbara's 2016 AQMP was reviewed to see if there were any innovative control measures that could be beneficial for our area. A NO<sub>x</sub> control measure for natural gas fired heaters had been implemented which yielded low emission benefits for a fairly high cost per ton of emissions reduced. Relating this lesson back to the NCCAB, since minor reductions would not be beneficial in reducing exceedances of the State ozone standard at the Pinnacles air monitoring site, which is dominated by ozone transported from outside the area, similar measures would not be productive for this plan.

Additionally, it has been recently announced that the electric utility boilers powering the two huge 750 MW 1960's era generators at the Moss Landing Power Plant may soon be decommissioned. Although the units have only been emitting about 0.1 tons per day of NO<sub>x</sub> in recent years, they are permitted and capable of emitting over 1 ½ tons per day. The NO<sub>x</sub> emission reductions associated with the shutdown of these older inefficient units will likely achieve similar reductions as achieved by implementing the marginally effective control measures noted above.

The five control measures from the 2008 AQMP have not been implemented as the District determined progress continued to be made toward attaining the 8-hour ozone standard during the four-year period reviewed (2012-2015). Significant reductions in ozone concentrations are not anticipated with implementation of the five measures because the primary pollutant addressed is ROG emissions. As noted earlier in this document, the region is "NO<sub>x</sub> sensitive" or NO<sub>x</sub> limited, meaning that ozone

formation due to local emissions is more limited by the availability of NO<sub>x</sub> as opposed to ROG<sub>s</sub> (Umeda & Martien, 2002). Furthermore, at least one of the control measures identified in the 2008 AQMP, natural gas fired fan-type central furnaces and residential water heaters, is likely already being achieved in practice because surrounding air districts have long standing rules in place regarding NO<sub>x</sub> emissions from these sources. The District commits to further evaluating these and other control measures over the upcoming three-year period and will implement the most beneficial measures if the District fails to make progress toward attaining the 8-hour ozone standard. In the meantime, other regional planning strategies will be pursued instead of directing resources toward implementing these marginally effective measures.

## 6.1 Alternative Approach

Moving forward, the District does not recommend new rules for adoption unless it is shown to be cost-effective, technologically feasible, and appropriate for Monterey, San Benito, and Santa Cruz counties. As a result the District will focus on grant programs to reduce ROG and NO<sub>x</sub> emissions by offering incentives to reduce emissions from transportation sources, marine vessels, agricultural irrigation pumps, and off-road vehicles.

The District continues to provide grant funding opportunities to reduce both ROG and NO<sub>x</sub> emissions, primarily from mobile sources. The emission reductions achieved through these programs have resulted in greater NO<sub>x</sub> emission reductions than implementation of the five control measures would achieve. The following section discusses the District's mobile source grant programs and demonstrates that the District continues to achieve emission reductions through these programs.

## 7. Mobile Source Programs

The 2008 AQMP described transportation control measures (TCMs) contained in AMBAG's Metropolitan Transportation Improvement Program (MTIP); however, these measures have not been listed in more recent updates of the MTIP (AMBAG, 2012). Concurrently, air quality conformity analysis is no longer required by EPA since 2008 when the region came into attainment of all NAAQS.

To support reducing on-road vehicle emissions, the District's AB2766 grant program focuses funding on direct emission reduction projects such as roundabout design and construction and the application of adaptive traffic signal control at intersections. In 2016 the District implemented the Monterey Bay Clean Vehicle Program, which offered cash rebates to the public for the purchase or lease of battery electric and plug-in hybrid electric vehicles. With the passage of SB 513, the District is authorized to use local fees from the AB 923 program to fund alternate fuel and electric vehicle charge station infrastructure, which is fundamental to incentivizing the growth of the alternative fuel vehicle fleet within the District's jurisdictional boundaries.

The Plug-in Monterey Bay Electric Vehicle (EV) Charge Station Infrastructure program was implemented in January 2017. The program will utilize an advanced technology and design approach to establish DC fast charge and Level 2 charge station multi-centers in strategic locations for electric vehicle drivers. The District is also evaluating whether to implement a voluntary accelerated vehicle retirement (VAVR)

and/or voluntary repair of vehicles (VRV) to reduce light-duty vehicle emissions in accordance with the Carl Moyer Program.

Notwithstanding the technological advances in automobile engine emissions and the advances in clean fuel formulations, the State of California still leads the nation with the dirtiest air. Vehicles continue to produce much of the State's criteria pollutant emissions, including ozone precursors ROG and NOx. Therefore, the District targets State funding received to reduce motor vehicle emissions.

The District continues to utilize grant programs as the primary strategy to reduce on-road and off-road mobile source emissions in the NCCAB. The three active programs are:

- The Carl Moyer Memorial Air Quality Standards Attainment Program
- The AB923 grant program
- The AB2766 Mobile Source Emissions Reduction Program

Pursuant to §44220 of the California Health and Safety Code, local DMV fees collected by the District are used to fund the AB923 and AB2766 grant programs as well as augmenting the Carl Moyer program. The Carl Moyer and AB923 programs are due to sunset in January 2024 unless program extending legislation is passed before 2024. Typical grant funding amounts are shown in Table 7-1.

**Table 7-1**  
**Annual Program Funding Amounts**

Funding Program	Average Annual Funding (\$)
Carl Moyer	\$750,000
AB923	\$1,200,000
AB 2766	\$1,400,000

*Source: MBARD 2016*

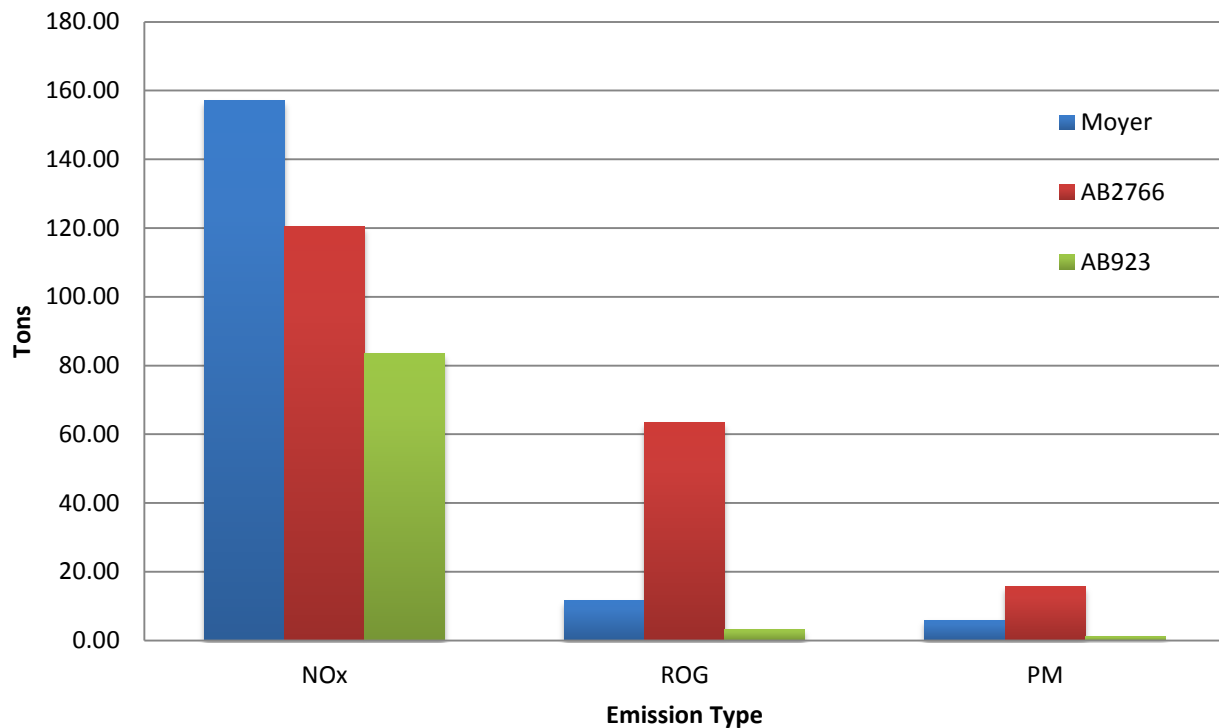
Estimated annual emission reductions from projects funded by the grant programs are shown in Figure 7-1. Emission reduction data for the Carl Moyer Program represent projects funded from Moyer Year 13 to present and were calculated by the ARB CARL database tool. Data for the AB2766 program represent emission reductions from regional vanpools, fleet vehicle replacements, new transit, roundabouts and adaptive traffic signal control operations. The 2012 to present emission reduction was calculated using the ARB EMFAC 2014, v1.0.7 Emission Factor Tables (December 2015) and ARB CMAQ Emission Factor Tables, May 2013.

Further mobile source emission reductions are being achieved with the implementation of two AB 2766 zero emission programs for mobile sources. The AB2766 Public Agency EV Voucher Program was initiated in 2015 and the Public EV Rebate Program was initiated in 2016. Combined, these mobile source grant programs have reduced annual NOx emissions by 361 tons and annual ROG emissions by 78 tons. In terms of emission reductions, these are more effective than the five control measures in the 2008 AQMP. In fact, the NOx reductions achieved by the grant programs far outweigh the reductions associated with the NOx control measure, A-5, from the 2008 AQMP (Natural Gas-Fired Fan-Type



Central Furnaces and Residential Water Heaters). As noted above, reducing NOx emissions is important for making progress toward attaining the 8-hour ozone standard because the NCCAB is NOx limited.

**Figure 7-1**  
**Grant Program Emission Reductions, 2012 - 2015**



*Source: Monterey Bay Unified Air Pollution Control District 2013, MBARD 2016*

## 8. Public Outreach

The District conducts public outreach through a variety of methods including the District's website, brochures, attendance at local events, annual calendar art contest, and social media. These programs are important for raising public awareness about how each person can contribute to improving air quality. The following is a brief summary of the District's outreach activities.

- Website and Social Media:** The District website is an important communication tool used to provide information to the public such as press releases, meeting notices, grant program announcements, and current air quality data. The District also maintains Facebook and Twitter accounts to post current information.
- Participation in Local Events and Committees:** The District participates in local events to inform the public about air quality and sources that contribute to air pollution such as cars and smoke from wood burning for home heating. The District also participates in events such as county fairs, Earth Day, speaking engagements for local groups, non-voting member of the Transportation Agency of Monterey County's Board, member of technical advisory committees for the local regional transportation planning agencies and AMBAG, and member of the

Monterey Bay Electric Vehicle Alliance.

- **Annual Calendar Art Contest:** The District hosts a calendar art contest each year to promote air quality awareness for elementary and middle school students. The focus of the calendar themes are generally on air quality and transportation. Past calendar themes include; *Make a Clean Air Choice*, *Travel Without Your Car* and *What's Your Solution to Air Pollution*.
- **Air Expressions:** The District has a grant program available for projects from high school (9-12th grades) and college undergraduate students. Projects are encouraged that advance the understanding of relevant air quality and climate change issues in relation to transportation.

## 9. Emission Reduction Strategy

This report has shown that the District continues to make progress toward attaining the 8-hour ozone standard; however, the significant contribution of transported emissions to exceedances will challenge achieving full attainment. The District will continue to foster and support programs that reduce ozone precursor emissions, implement rules when necessary, and continue to maintain robust permitting and enforcement programs. The District's successful past efforts in rule development; permitting and enforcement have left few remaining options available to reduce emissions of ozone precursor emissions. To address ROG emissions in the upcoming years the District will work to refine the area source ROG emissions inventory to evaluate whether the inventory properly reflects local conditions. This will help identify the sources to consider for additional emission reduction strategies.

The District's priority is to continue to pursue reduction of ozone precursor emissions from mobile sources as this is the primary contributor of emissions, especially for NOx. This approach to reducing mobile source emissions can be achieved through the District's incentive and grant programs as outlined in Chapter 7. These programs include AB2766 grants to local agencies for vanpools, plug-in electric vehicles (PEVs) and infrastructure, support of local rideshare and bike to work events, and AB923 funds for school buses and Carl Moyer Program projects. A potential program improvement occurred when the State senate passed SB513 in 2015. This law has opened up the opportunity for the District to use AB923 and Carl Moyer Program Funds for electric vehicle infrastructure. Additionally, the District will continue to aggressively pursue grants to advance accessibility to alternative fuels for medium duty fleets.

### 9.1 Regional Planning

Air pollution knows no geographic boundaries which is why the District must shift towards more comprehensive regional planning approaches in addition to incentive programs. The fact that the highest concentrations of ozone recorded in the region are at the Pinnacles National Park air monitoring station, a remote location far removed from population centers, indicates that this location is not a complete representation of the air quality for the entire District, but rather portrays the effects of air pollution transported from distant regions. The District is located downwind of two densely populated and highly polluting air basins—the San Francisco Bay and San Joaquin Valley. These two air basins are directly tied to our ability as a District to reach attainment for the State AAQS.

A long range strategy to reduce ozone precursor emissions is to be involved in inter- and intra-district planning efforts such as “The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008) which supports the State’s climate action goals to reduce greenhouse gas (GHG) emissions through coordinated transportation and land use planning with the goal of developing more sustainable communities” (ARB: Sustainable Communities). Under SB 375, the ARB sets regional targets for GHG emissions reductions from passenger vehicle use. While this law is an effort to reduce regional GHG emissions, the co-benefits of reducing other emissions including ozone precursors is clear. The ARB has established targets for 2020 and 2035 for each region covered by one of the State’s metropolitan planning organizations (MPO) and/or regional transportation planning agency (RTPA). The Association of Monterey Bay Area Governments (AMBAG) is the MPO/RTPA for the Monterey Bay Area which is responsible for coordinating with all the Regional Transportation Planning Agencies, such as San Benito County Council of Governments, the Santa Cruz County Regional Transportation Commission, and the Transportation Agency of Monterey County. The District will work closely with AMBAG and its constituents to include appropriate air quality components in the “Sustainable Communities Strategy Implementation Project (SCSIP)”, the “2040 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)”, and other local and regional projects to ensure the most comprehensive regional best management practices possible. New State-wide incentives emerging from California’s Global Warming Solutions Act of 2006 (AB 32) may also contribute toward progress in meeting the 8-hour standard. Many of the incentives focus on reducing energy use, fuel combustion and travel. These types of measures also have cross-pollutant benefits in terms of reducing emissions of ozone precursors. Evaluation of potential cross-pollutant benefits of AB 32 will be considered in subsequent updates of the AQMP.

The District continues to address indirect source emissions by reviewing development projects subject to the California Environmental Quality Act. District staff reviews and comments on all Environmental Impact Reports (EIRs) and Statements (EISs) and Negative Declarations (MNDs and NDs) and responds to all Notices of Preparation (NOPs) prepared for projects within the region. Due to the recognized transport of ozone from the Bay Area Air Basin into the NCCAB, the District also reviews environmental documents for major projects in southern Santa Clara Valley. The District will continue to review and comment on environmental documents submitted by lead agencies throughout the region to evaluate land use projects’ construction and operational emissions for significant impacts on air quality.

Under grant funding opportunities from the California Energy Commission (CEC), the District will continue to compete for transportation sector grant funds that become available. Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007), created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVT Program). The statute, subsequently amended by AB 109 (Núñez) Chapter 313, Statutes of 2008), authorizes the CEC to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the State’s climate change policies. The Energy Commission has an annual program budget of about \$100 million and provides financial support for projects that:

- Develop and improve alternative and renewable low-carbon fuels.
- Enhance alternative and renewable fuels for existing and developing engine technologies.
- Produce alternative and renewable low-carbon fuels in California.
- Decrease, on a full-fuel-cycle basis, the overall impact and carbon footprint of alternative and renewable fuels and increased sustainability.
- Expand fuel infrastructure, fueling stations, and equipment.
- Improve light-, medium-, and heavy-duty vehicle technologies.



- Retrofit medium- and heavy-duty on-road and non-road vehicle fleets.
- Expand infrastructure connected with existing fleets, public transit, and transportation corridors.
- Establish workforce training programs, conduct public education and promotion, and create technology centers.

The District has been the recipient of three grants from the CEC, two of which have been successfully completed and one recently awarded to the District (GFO-16-601, Monterey Bay EV Acceleration Program). The development and implementation of the Monterey Bay Region Plug-In Electric Vehicle (PEV) Readiness Plan was completed in 2014. The PEV Readiness plan focused on public EV outreach and establishing EV infrastructure policy and guidelines for local governments. The Monterey Bay Region Alternative Fuel Vehicle (AFV) Readiness Plan was completed in 2016, which focused on the development of AFV readiness policies and infrastructure for the Monterey Bay region.

Using local public funds, the District has also successfully administered the EV Voucher Incentive Replacement Program for public agencies adding over 50 electric vehicles to public agency fleets. In 2016, the District introduced two key regional programs; the Monterey Bay EV Rebate Program and the Plug-In Monterey Bay EV Infrastructure Program. The EV rebate program incentivized the addition of 177 new electric vehicles to the region. The Plug-In Monterey Bay EV Infrastructure program will allocate \$1.2M annually over the next five years to implement EV charge station infrastructure in strategic locations throughout San Benito, Santa Cruz and Monterey counties.

## References

- ARB Planning and Technical Support Division. (2001, March). *Assessment of the Impacts of Transported Pollutants on Ozone Concentrations in California*. Retrieved 2016, from California Environmental Protection Agency: <https://www.arb.ca.gov/regact/trans01/isor.pdf>
- ARB Planning and Technical Support Division. (2001, April). *Ozone Transport: 2001 Review*. Retrieved 2016, from California Environmental Protection Agency: <https://view.officeapps.live.com/op/view.aspx?src=https://www.arb.ca.gov/aqd/transport/summary/transportsummary.doc>
- Association of Monterey Bay Area Governments. (2014, June 11). *2014 Regional Growth Forecast*. Retrieved 2016, from AMBAG.org: <http://ambag.org/sites/default/files/documents/FINAL%20Adopted%20Forecast%20and%20Documentation.pdf>
- California Air Resources Board. (2013, May). *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects*. Retrieved 2016, from CA Air Resources Board: <https://www.arb.ca.gov/planning/tsaq/eval/evaltables.pdf>
- California Air Resources Board. (2015). *Final Regulation Order*. Retrieved 2016, from 2015 Area Designations for State Ambient Air Quality Standards: <https://www.arb.ca.gov/desig/changes/2015sec100.pdf>
- California Air Resources Board. (2016). *2016 California Air Pollution Control Laws*. Charlottesville: LexisNexis Matthew Bender & Company, Inc.
- California Air Resources Board. (2016, May 4). *Ambient Air Quality Standards*. Retrieved from California Ambient Air Quality Standards (CAAQS): <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>
- California Air Resources Board. (2016, May). *Mobile Source Strategy*. Retrieved from California Emissions Projection Analysis Model (CEPAM), 2016 SIP Inventory Portal: <https://www.arb.ca.gov/planning/sip/2016sip/2016mobsrc.pdf>
- California Energy Commission. (2007, October 14). *Assembly Bill 118, Núñez, Chapter 750*. Retrieved 2016, from Alternative and Renewable Fuel and Vehicle Technology Program: [http://www.energy.ca.gov/altfuels/documents/ab\\_118\\_bill\\_20071014\\_chaptered.pdf](http://www.energy.ca.gov/altfuels/documents/ab_118_bill_20071014_chaptered.pdf)
- California Environmental Protection Agency. (2003). *Final Draft: Attachment 8--ROG Emissions Agricultural Pesticide Application*. San Joaquin Valley: Air Resources Board.
- California Environmental Protection Agency. (2004). *Status Report: Ozone Transport Mitigation in California*. Sacramento: Air Resources Board.
- California Environmental Protection Agency. (2005). *October 2005 Revision: Review of the California Ambient Air Quality Standard for Ozone*. Sacramento: California Environmental Protection Agency.

- California Environmental Protection Agency. (2014, November 7). *EMFAC2014*. Retrieved 2017, from [https://www.arb.ca.gov/msei/emfac2014\\_nov\\_2014\\_final\\_w\\_o\\_notes.pdf](https://www.arb.ca.gov/msei/emfac2014_nov_2014_final_w_o_notes.pdf)
- California Environmental Protection Agency. (2014). *EMFAC2014 Web Database*. Retrieved 2016, from CA Air Resources Board: <https://www.arb.ca.gov/emfac/2014/>
- California Environmental Protection Agency. (2016). *iADAM: Air Quality Data Statistics*. Retrieved 2016, from California Air Resources Board: <http://www.arb.ca.gov/adam/index.html>
- Garcia, C., Gouze, S., Wright, J., & Hackney, R. (2001). *Assessment of the impacts of transported pollutants on ozone concentrations in California*. Sacramento: California Environmental Protection Agency.
- Monterey Bay Unified Air Pollution Control District. (2013). *2009-2011 Triennial Plan*. Monterey: MBARD.
- NASA EOSDIS. (2017, February 23). *NASA Worldview*. Retrieved November 2016, from <https://earthdata.nasa.gov/worldview>
- NOAA. (2016, November 28). *Air Resources Laboratory: HYSPLIT model*. Retrieved 2016, from [http://www.arl.noaa.gov/HYSPLIT\\_info.php](http://www.arl.noaa.gov/HYSPLIT_info.php)
- Saffet Tanrikulu, S.-T. S. (2009, September). *Ozone Modeling and Data Analysis During CCOS*. Retrieved 2016, from Bay Area Air Quality Management District: <http://www.baaqmd.gov/~media/files/planning-and-research/research-and-modeling/ccos-modeling-report.pdf>
- Santa Barbara County Air Pollution Control District. (2016, October). *2016 Ozone Plan*. Retrieved November 2016, from Santa Barbara County Air Pollution Control District (SBCAPCD): <https://www.ourair.org/wp-content/uploads/Final-2016-Ozone-Plan-Approved-October-20-2016-1.pdf>
- U.S. Census Bureau. (2006-2015). *American Fact Finder*. Retrieved 2016, from <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>
- U.S. Environmental Protection Agency. (1988). Health and Safety Code: 39607, 39608, 39609, 39610, 39611, 39612, 40001, 40400, 40510, 40522.5, 40716, 40717, 40717.5, 40910-40930, 41503, 41503.1, 41503.2, 41503.3, 41503.4, 41503.5, 41600, 41712, 42301, 42301.1, 42302.1, 42311, 42311.1, 42311.2, 42352. *California Clean Air Act*. Sacramento.
- U.S. Environmental Protection Agency. (2017, February 13). *Nonattainment Areas for Criteria Pollutants (Green Book)*. Retrieved 2016, from <https://www.epa.gov/green-book>
- Umeda, T., & Martien, P. (2002). Evaluation of a data assimilation technique for a mesoscale meteorological model used for air quality modeling. *Journal of Applied Meteorology*, 41(1), 12-29.



## Appendix A – Regional Population Forecasts

## Regional Population Forecasts

Population and changes in population are important factors affecting the air quality of a region. Regions with high population, such as the Los Angeles area tend to have higher levels of ozone while regions with lower population, like the NCCAB tend to have lower levels of ozone. Population data are used in the AQMP to help develop the emission inventory.

In the tri-county MBARD region, population forecasts and other demographic information are developed by the region's Metropolitan Planning Organization, the Association of Monterey Bay Area Governments (AMBAG). These are periodically updated to reflect the regions latest factors affecting current and future population levels. The latest population forecasts were adopted by the AMBAG Board in June 2014 and are called the 2014 Regional Growth Forecasts (RGF). The next update is expected in 2018. The 2014 RGFs population forecasts are presented in the table on the following page.

Additional AMBAG demographic data can be obtained at <http://www.ambag.org/programs-services/planning/regional-growth-forecast> .

Table \* - AMBAG Regional Population Growth Forecast by City and County

AREA	2010 <sup>1</sup>	2015 <sup>2</sup>	2020 <sup>3</sup>	2025 <sup>4</sup>	2030 <sup>4</sup>	2035 <sup>4</sup>	Change 2010-35	% Change
<b>AMBAG Region</b>	<b>732,708</b>	<b>766,354</b>	<b>800,000</b>	<b>827,000</b>	<b>856,000</b>	<b>885,000</b>	<b>152,292</b>	<b>21%</b>
<b>Monterey County</b>	<b>415,057</b>	<b>431,287</b>	<b>447,516</b>	<b>463,884</b>	<b>479,487</b>	<b>495,086</b>	<b>80,029</b>	<b>19%</b>
Carmel-By-The-Sea	3,722	3,632	3,541	3,661	3,789	3,917	195	5%
Del Rey Oaks	1,624	1,757	1,889	2,345	2,806	3,468	1,844	114%
Gonzales	8,187	10,764	13,340	13,955	16,194	19,333	11,146	136%
Greenfield	16,330	18,836	21,341	22,061	22,835	23,609	7,279	45%
King City	12,874	13,721	14,568	16,398	17,759	18,620	5,746	45%
Marina	18,991	19,373	19,755	20,441	21,178	21,915	2,924	15%
CSUMB (portion)	727	1,144	1,560	2,210	2,210	2,310	1,583	
Monterey	27,810	27,907	28,004	28,839	29,743	30,647	2,837	10%
Pacific Grove	15,041	15,218	15,394	15,914	16,472	17,030	1,989	13%
Salinas	150,441	153,617	156,793	161,405	166,912	172,499	22,058	15%
Sand City	334	691	1,048	1,198	1,414	1,550	1,216	364%
Seaside	30,624	29,788	28,952	31,342	32,390	33,438	2,814	9%
CSUMB (portion)	2,401	4,785	7,168	8,918	8,918	8,818	6,417	
Soledad	15,690	18,725	21,759	22,493	23,282	24,071	8,381	53%
SVSP & CTF	10,048	9,803	9,557	9,557	9,557	9,557	(491)	
Balance Of County	100,213	101,530	102,847	103,147	104,028	104,304	4,091	4%
<b>San Benito County</b>	<b>55,269</b>	<b>64,186</b>	<b>73,103</b>	<b>75,604</b>	<b>78,418</b>	<b>81,332</b>	<b>26,063</b>	<b>47%</b>
Hollister	34,928	37,452	39,975	41,704	43,551	45,397	10,469	30%
San Juan Bautista	1,862	1,928	1,993	2,015	2,053	2,092	230	12%
Balance Of County	18,479	24,807	31,135	31,885	32,814	33,843	15,364	83%
<b>Santa Cruz County</b>	<b>262,382</b>	<b>270,882</b>	<b>279,381</b>	<b>287,512</b>	<b>298,095</b>	<b>308,582</b>	<b>46,200</b>	<b>18%</b>
Capitola	9,918	9,519	9,119	9,427	9,758	10,088	170	2%
Santa Cruz	43,646	45,503	47,360	48,958	50,675	52,392	8,746	20%
UCSC	16,300	17,900	19,500	21,100	22,700	24,300	8,000	
Scotts Valley	11,580	11,609	11,638	11,696	11,754	11,813	233	2%
Watsonville	49,229	54,338	59,446	61,452	63,607	65,762	16,533	34%
Balance Of County	129,739	131,029	132,318	134,879	139,601	144,227	14,488	11%

**Notes:**

- 1) Figures for 2010 represent Decennial Census counts.
- 2) Figures for 2015 reflect E-4/E-5 estimates from the California Department of Finance.
- 3) Figures for 2020 represent AMBAG/PRB forecast estimates, where change in the distribution across the region's cities and counties was projected using an implicit shift-share method. This method first estimates population change using an implicit share population change using the total regional growth rate. It then modifies the estimate based on the historic shift in population distribution within the region between 2010 and 2015.
- 4) Figures for 2025, 2030, and 2035 represent AMBAG and PRB forecast estimates, where the distribution is equal to that projected for 2020.



---

**Chapter 16.20**  
**GRADING REGULATIONS Amended [Ord. 5351](#)**

## Sections:

- 16.20.010 Purpose.** Amended **Ord. 5351**
- 16.20.020 Scope.** Amended **Ord. 5351**
- 16.20.025 Amendment.** Amended **Ord. 5351**
- 16.20.030 Definitions.** Amended **Ord. 5351**
- 16.20.040 Approval required.** Amended **Ord. 5351**
- 16.20.050 Exemptions.** Amended **Ord. 5351**
- 16.20.055 Special exemption for prevention or mitigation of Pajaro River/ Salsipuedes Creek flooding.** Amended **Ord. 5351**
- 16.20.060 Application.** Amended **Ord. 5351**
- 16.20.070 Variances.** Amended **Ord. 5351**
- 16.20.080 Approval limitations and conditions.** Amended **Ord. 5351**
- 16.20.090 Environmental review.** Amended **Ord. 5351**
- 16.20.100 Hazardous conditions.** Amended **Ord. 5351**
- 16.20.110 Diking, dredging and filling.** Amended **Ord. 5351**
- 16.20.115 Shoreline protection structures.** Amended **Ord. 5351**
- 16.20.116 Emergency approvals.** Amended **Ord. 5351**
- 16.20.120 Fees.** Amended **Ord. 5351**
- 16.20.130 Securities.** Amended **Ord. 5351**
- 16.20.140 Design standards for excavations.** Amended **Ord. 5351**
- 16.20.150 Design standards for fills.** Amended **Ord. 5351**
- 16.20.160 Cut and fill slope setback.** Amended **Ord. 5351**
- 16.20.170 Design standards for drainage facilities and terraces.** Amended **Ord. 5351**
- 16.20.180 Design standards for rural private roads and driveways.** Amended **Ord. 5351**
- 16.20.195 Agricultural grading.** Amended **Ord. 5351**

**16.20.200 Inspection and compliance.** Amended **Ord. 5351**

**16.20.210 Grading violations.** Amended **Ord. 5351**

**16.20.220 Transfer of responsibility.** Amended **Ord. 5351**

**16.20.230 Completion and approval.** Amended **Ord. 5351**

**16.20.240 Repealed.** Amended **Ord. 5351**

**16.20.250 Repealed.** Amended **Ord. 5351**

**16.20.260 Repealed.** Amended **Ord. 5351**

**16.20.270 Repealed.** Amended **Ord. 5351**

**16.20.280 Appeals.** Amended **Ord. 5351**

**16.20.010 Purpose.** Amended **Ord. 5351**

The purpose of this chapter is to safeguard health, safety, and the public welfare; to minimize erosion and the extent of grading; to protect fish and wildlife; to protect the watersheds; to ensure the natural appearance of grading projects; and to otherwise protect the natural environment of Santa Cruz County. [Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.020 Scope.** Amended **Ord. 5351**

This chapter sets forth rules and regulations to control all grading, including excavations, earthwork, road construction, dredging, diking, fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspections. This chapter shall apply to both private and public activities including those of the County and other such governmental agencies as are not exempted by State or Federal law. [Ord. 4166 § 1, 1991; Ord. 4027 § 3, 1989; Ord. 3599 § 1, 1984; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.025 Amendment.** Amended **Ord. 5351**

Any revision to this chapter which applies to the Coastal Zone shall be reviewed by the Executive Director of the California Coastal Commission to determine whether it constitutes an amendment to the Local Coastal Program. When an ordinance revision constitutes an amendment to the Local Coastal Program, such revision shall be processed pursuant to the hearing and notification provisions of Chapter [13.03](#) SCCC, and shall be subject to approval by the California Coastal Commission. [Ord. 3321 § 1, 1982].

**16.20.030 Definitions.** Amended **Ord. 5351**

All definitions shall be as defined in the General Plan or Local Coastal Program Land Use Plan glossaries, and as follows:

“Agricultural grading” means any grading which takes place on land designated on the County’s agricultural resource maps for exclusive agricultural use as specified in SCCC 16.50.040; provided, however, that agricultural grading does not include any grading on such lands connected with the construction of access roads or building sites; except greenhouse sites. Agricultural grading does not include the movement of earth defined as agricultural work in SCCC 16.20.050(l).

“Bedrock” means the in-place solid, undisturbed material either at the ground surface or beneath superficial deposits of gravel, sand or soil.

“Bench” means a relatively level step excavated into earth material.

“Civil engineer” means a professional engineer registered in California to practice civil engineering.

“Clearing” means the removal of vegetation down to bare soil, whether by hand, machine or any other method.

“Compaction” means the densification of earthen solids.

“Contractor” means any person licensed in the State of California to do grading as defined by State law.

“Diking” means construction of an earthen dam to control or confine water.

“Drainage course” means a natural or manmade channel which conveys storm runoff either year-round or intermittently.

“Dredging” means scooping or digging of earth material from the bed of a body of water.

“Driveway” means any private road leading from the street to two or fewer habitable structures or parcels. (See “roadway.”)

“Earth material” means rock, natural soil, sand or combination thereof.

“Engineering geologist” means a professional geologist registered in the State of California to practice engineering geology.

“Erosion” means the wearing away of the ground surface as a result of movement of wind, water or ice.

“Excavation” means the mechanical removal of earth material, or a cavity formed by cutting, digging or scooping.

“Existing grade” means the grade prior to grading.

“Fill” means the deposition of earth or other material by artificial means for any purpose, for any length of time, including the stockpiling of material, or the conditions resulting therefrom.

“Finish grade” means the final grade of the site which conforms to the approved plan.

“Grade” means the vertical location of the ground surface, or the degree of rise or descent of a slope.

“Grading” means excavating, or filling, dredging, diking, prospecting, exploratory mining operation or combination thereof.

“Key” means a designed compacted fill placed in a trench excavated in undisturbed earth material or rock beneath the toe of a proposed fill slope for the purpose of developing a shearing resistance (see Figure 1).





**Figure 1**

“Land disturbance” means clearing, excavating, grading or other manipulation of the terrain.

“Littoral cell” means a continuous section of shoreline within which sand moves in a prevailing direction in response to seasonal current.

“Permittee” means the property owner, or any contractor or other person undertaking grading upon the property of the property owner, pursuant to a permit granted according to the provisions of this chapter.

“Planning Director” means the Director of the Planning Department or a designated employee.

“Riparian corridor” means any of the following:

- (1) Lands within a stream channel, including the stream and the area between the mean rainy season (bankfull) flowlines;
- (2) Lands extending 50 feet (measured horizontally) out from each side of a perennial stream. Distance shall be measured from the mean rainy season (bankfull) flowline;
- (3) Lands extending 30 feet (measured horizontally) out from each side of an intermittent stream. Distance shall be measured from the mean rainy season (bankfull) flowline;
- (4) Lands extending 100 feet (measured horizontally) from the high water mark of a lake, wetland, estuary, lagoon or natural body of standing water;
- (5) Lands containing a riparian woodland;
- (6) Lands within an arroyo located within the urban services line, or the rural services line.

“Road gradient (percent)” means a vertical rise multiplied by 100 and divided by horizontal run.

“Road” or “roadway” means an open way for vehicular traffic serving more than two habitable structures or parcels. (See “driveway.”)

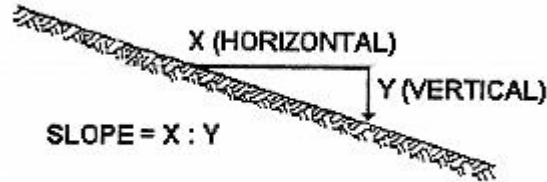
“Security” means a cash deposit, time certificate of deposit or equivalent security acceptable to the County.

“Site” means a parcel of land or contiguous combination thereof, where grading is performed or proposed.

“Slope” means an inclined ground surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance. (See Table A and Figure 2.)

**Table A**

	<b>Ratio</b>	<b>Percent</b>	<b>Degrees</b>
	1:1 =	100% =	45
	2:1 =	50% =	22
	3:1 =	33% =	15
	4:1 =	25% =	11
	5:1 =	20% =	9



**Figure 2**

“Soil” means naturally occurring superficial deposits of earth material overlying bedrock.

“Soil engineer” means a civil engineer, registered in the State of California, experienced and knowledgeable in the practice of soil engineering.

“Stream” means any watercourse as designated by a solid line or dash and three dots symbol shown on the largest scale of the United States Geological Survey map most recently published, or as indicated in the grading permit when it has been field determined that a watercourse either:

- (1) Supports fish at any time of the year; or
- (2) Has a significant water flow 30 days after the last significant storm; or
- (3) Has a channel, free of soil and debris.

“Terrace” means a relatively level step constructed in the face of a graded slope for drainage and maintenance purposes.

“Waterbreak” means a ditch, dike, dip or combination thereof, constructed to effectively divert water as an aid to erosion control.

“Winter season” means October 15th through April 15th. [Ord. 4346 § 67, 1994; Ord. 3599 § 2, 1984; Ord. 3321 § 1, 1982; Ord. 2972, 1980; Ord. 2500, 1977].

**16.20.040 Approval required. Amended [Ord. 5351](#)**

Except as exempted by SCCC 16.20.050, no person shall do, cause, permit, aid, abet, suffer or furnish equipment or labor for any grading until a grading approval has been obtained for the project. A separate approval shall be required for each site and shall be obtained as follows:

(A) Planning Commission. All approvals for grading in excess of 8,000 cubic yards, or for which an environmental impact report was prepared, or for grading in excess of 1,000 cubic yards which is visible from a scenic corridor roadway, as designated in the Local Coastal Program Land Use Plan, shall be processed according to Chapter [18.10](#) SCCC, Level VI.

(B) Planning Director. All other permits shall be processed according to Chapter [18.10](#) SCCC, Level III.

(C) Subdivisions. The Public Works Director is hereby authorized and directed to enforce the provisions of this chapter for grading done within parcel map subdivisions for which improvement plans have been signed by the Public Works Director or within subdivisions for which a final map has been recorded or for property on which a tentative subdivision map has been approved and grading is permitted prior to recording of a final map. Grading permits are not issued by the Planning Director for subdivision work administered by the Director of Public Works. [Ord. 3636 § 1, 1985; Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.050 Exemptions. Amended [Ord. 5351](#)**

The following work is exempt from the provisions of this chapter; however, it remains subject to the riparian corridor protection ordinance (Chapter [16.30](#) SCCC), the County environmental review regulations (Chapter [16.01](#) SCCC), the erosion control ordinance (Chapter [16.22](#) SCCC), the geological hazard ordinance (Chapter [16.10](#) SCCC), the sensitive habitat protection ordinance (Chapter [16.32](#) SCCC), and the County Native American cultural sites ordinance (Chapter [16.40](#) SCCC). The following work may also be subject to other requirements imposed in County and State law.

(A) Excavations. An excavation which does not exceed 100 cubic yards and which does not create a cut slope greater than five feet in depth.

(B) Fills. A fill containing earth material only which is less than two feet in depth, is placed on natural terrain which has a slope flatter than five horizontal to one vertical, does not exceed 100 cubic yards on any one site, does not alter or obstruct a drainage course, and will not be used for structural support.

(C) Basements, Footings. An excavation below finished grade for basements and footings of a building, retaining wall or other structure authorized by a valid building permit. This shall not exempt any fill as provided under subsection (B) of this section made with the material from such excavation, nor exempt any excavation having an unsupported height greater than five feet after the completion of such structure.

(D) Cemeteries. Cemetery graves.

(E) Refuse Disposal. Refuse disposal sites which are permitted and actually being controlled pursuant to other County regulations, and excavations for individual and community sewage disposal systems, made pursuant to permit.

(F) Wells and Utilities. Excavations for wells or utilities.

(G) Mining and Quarrying. Mining, quarrying, excavating, processing, stockpiling of rock, sand, gravel, aggregate or clay materials, pursuant to a County permit.

(H) Soil Testing. Exploratory excavations under the direction of a soils engineer or engineering geologist where such excavation is to be returned to the original condition under the direction of such engineer or geologist within 45 days after the start of work.



(I) Agricultural Work. Routine plowing, harrowing, disking, ridging, listing, land planing, and similar operations necessary to prepare a field for a crop for continued agricultural use. (All other agricultural grading shall be subject to the procedures of SCCC 16.20.195.)

(J) Timber Harvesting. Work done pursuant to a valid timber harvesting permit.

(K) County Public Works. Routine maintenance and other work undertaken by the County Department of Public Works that does not impact an environmental resource of hazardous or critical concern where designated, mapped and officially adopted pursuant to law by Federal or State agencies, or by the Santa Cruz County Board of Supervisors, or where identified through field or technical investigation. [Ord. 4496-C § 83, 1998; Ord. 3599 § 3, 1984; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.055 Special exemption for prevention or mitigation of Pajaro River/Salsipuedes Creek flooding. Amended [Ord. 5351](#)**

(A) In areas outside of the Coastal Zone, the operation, repair and maintenance of the Pajaro River and Salsipuedes Creek levees and the areas within the levees, for the purpose of restoring flood conveyance capacity, including bench excavation, sediment removal, and similar projects shall be exempt from the provisions of this chapter if all of the following conditions are met:

- (1) The work is conducted by or under the direction of the Department of Public Works;
- (2) The work is in accordance with a streambed alteration agreement approved by the California Department of Fish and Game, to the extent that such an agreement is required; and
- (3) The project has been subjected to environmental review with the County of Santa Cruz serving as the lead agency. [Ord. 4790 § 1, 2005; Ord. 4374 § 1, 1995].

**16.20.060 Application. Amended [Ord. 5351](#)**

Applications for approvals granted pursuant to this chapter shall be made in accordance with the requirements of Chapter [18.10](#) SCCC and shall include the following:

(A) General. An application for a grading approval shall be submitted by the owner(s) of the property or agent when authorized in writing. The application shall be signed by the owner(s) of each site or their designated representative, as defined under SCCC 16.20.030. A civil engineer or other licensed professional authorized by State law shall prepare and sign the plans and specifications if grading will be in excess of 2,000 cubic yards. Special design requirements for dredging and diking shall be determined by the Planning Director.

(B) The application shall be accompanied by all fees required by SCCC 16.20.120.

(C) Plans and Specifications. Two sets of plans shall be required by the Planning Director. Plans shall be drawn to scale upon substantial material, minimum size 18 inches by 24 inches, and shall be of sufficient clarity to indicate the nature and the extent of the work proposed and show in detail that it will conform to the provisions of this chapter and all relevant laws and regulations. The plans shall include but not be limited to the following information, in writing and/or diagrams as required by the Planning Director:

- (1) A statement as to the specific intentions or ultimate purpose for which the grading is being done.
- (2) General location of the proposed site.

- (3) Property lines and contours of the existing ground and details of terrain and area drainage.
  - (4) Limiting dimensions, elevations or finish contours to be achieved by the grading, and proposed drainage channels and related construction.
  - (5) Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with, or as a part of, the proposed work, together with a map showing the drainage area and the estimated runoff of the area served by any drains. The location of any ravines and drainage courses and the pathway of offsite drainage shall be indicated.
  - (6) Location of buildings or structures on the property where the work is to be performed and the approximate location of buildings or structures on adjacent land owned by other owners which is within 15 feet of the property line or which may be affected by the proposed operations.
  - (7) A statement of the quantity of excavation and fill.
  - (8) Specifications, if required, shall contain information covering construction and material requirements.
  - (9) An erosion control plan and erosion prevention measures for all surfaces exposed or expected to be exposed during grading activities, in accordance with the requirements of the erosion control ordinance (Chapter [16.22](#) SCCC) shall accompany every proposed grading plan.
  - (10) Revegetation proposal for all surfaces exposed or expected to be exposed during grading activities.
  - (11) Name and address of the owner(s).
  - (12) Assessor's parcel number(s) of the property on which the work is to be done.
  - (13) Location of on-site trees.
  - (14) When required by the Planning Director, each application for a grading approval shall be accompanied by supporting data consisting of a soil engineering report and/or engineering geology report. The soil engineering report shall include data regarding the nature, distribution and strength of existing soils; conclusions and recommendations for grading procedures; design criteria for corrective measures when necessary; and opinions and recommendations covering adequacy of sites to be developed by the proposed grading. The engineering geology report shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading. Recommendations included in the reports and approved by the Planning Director shall be incorporated in the grading plans and specifications.
  - (15) When required by the Planning Director because it appears that the location of property line may be in question in connection with the proposed grading, a parcel survey or other boundary evidence deemed necessary by the Planning Director shall be provided.
- (D) Starting and Completion Dates. Each application for a grading permit shall state estimated starting and completion dates. [Ord. 3599 § 4, 1984; Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.070 Variances. Amended [Ord. 5351](#)**

(A) A request for a variance from the provisions of this chapter, the approval conditions, or the plan specifications, may be approved, conditionally approved, or denied according to Chapter [18.10](#) SCCC at the level specified in SCCC 16.20.040(A) and (B). A request for a variance must state in writing the provision from which it is to be varied, the proposed substitute provision, when it would apply and its advantages. The following findings shall be required:

- (1) That there are special circumstances or conditions affecting the property; and
- (2) That the variance is necessary for the proper design and/or function of the project.

(B) No variance shall be granted unless the project, with such variance, is consistent with the purpose of this chapter.

(C) As contemplated in this section, a variance shall be granted for alternative methods of construction for projects which could be constructed under the basic standards established in this chapter, but which, if a variance is granted, can be better and/or more economically designed and constructed than if a variance were not given. A variance shall not be granted if the part of a variance would have the effect of allowing the construction of a project which would otherwise, without the variance, not be possible under the provisions of the County Code.

(D) Fees for variances shall be set by resolution of the Board of Supervisors. [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.080 Approval limitations and conditions. Amended [Ord. 5351](#)**

(A) Issuance. The issuance of a grading approval shall constitute an authorization to do only that work which is described or illustrated on the application for the approval or on the approved plans and specifications.

(B) Plan Checking. The application, plans, and specifications filed by an applicant for an approval shall be checked by the Planning Director within 30 days after receipt of all information required for issuance of the approval. The Planning Director shall notify the applicant in writing 30 days of any deficiencies. The Planning Director or Planning Commission shall approve an application for approval if the plans filed therewith conform to the requirements of this chapter, zoning ordinances, use permit and design review conditions and other applicable laws.

(C) Denial of Approval.

(1) An application for a grading, dredging or diking approval shall be denied if the Planning Director or Planning Commission makes any of the following findings:

- (a) That the design of the proposed site is not consistent with the applicable general and specific plans adopted pursuant to Chapters [13.01](#) and [13.03](#) SCCC.
- (b) That the proposed grading plan for the development contemplated does not comply with the requirements of the Santa Cruz County Code.
- (c) If the project is for the creation of a building site, that adequate sewage facilities and water supplies cannot be provided.
- (d) If the project as proposed will cause excessive and unnecessary disturbance of the site particularly as defined in SCCC 16.10.050.



- (2) An application for a grading approval shall be denied if the work proposed would be hazardous by reason of flood, geological hazard, or unstable soils; be liable to endanger other properties or result in the deposition of debris on any public way, property, or drainage course; or otherwise create a hazard.
  - (3) An application for a grading approval which would create unavoidable adverse environmental impact shall be denied.
  - (4) An application for grading in a riparian corridor shall be denied if it is not in conformance with other chapters of the County Code which regulate development activity in riparian corridors.
  - (5) An application for a grading approval to place fill within a 100-year floodplain shall be denied, unless the fill is the minimum amount necessary, not to exceed 50 cubic yards, and it can be demonstrated through environmental review that the fill will not cause significant cumulative impacts.
  - (6) The Planning Director shall notify the applicant in writing of a denial or conditional denial and shall state the reasons therefor.
- (D) **Restriction on Certain Grading Approvals.** If the project is for the creation of, or access to, a building site, land disturbance shall not take place until a building permit has been issued. If an approval cannot be issued until a determination of adequate water source and sewage disposal or other required site investigation is made, land disturbance shall be limited to the extent necessary to allow such an investigation. This provision shall not apply to improvements or road construction required as a condition of approval of a minor land division or other permit.
- (E) **Conditions of Approval.** In granting any approval under this chapter, the Planning Director or Planning Commission shall attach such conditions as necessary to prevent creation of a nuisance or hazard to public or private property. Such conditions may include, but shall not be limited to:
- (1) Improvement of any existing grading project to bring it up to the standards of this chapter.
  - (2) Requirements for fencing of excavations or fills which would otherwise be hazardous.
  - (3) Haul routes for materials.
  - (4) Conditions recommended by the Environmental Coordinator.
  - (5) Conditions recommended by a geological hazard review.
  - (6) Check dams, cribbing, riprap or other devices which may be required to prevent erosion.
  - (7) Mulching, fertilizing, watering or other methods may be required to establish new vegetation. On slopes less than 20 percent, stockpiling and reapplication of topsoil shall be required, unless it can be shown that adequate erosion control measures, as per the erosion control ordinance (Chapter [16.22](#) SCCC), can be implemented.
  - (8) Dust from grading operations shall be controlled.
  - (9) No earth or organic material shall be deposited or placed where it may be deposited into a stream, marsh, slough, lagoon or body of standing water in a quantity deleterious to wildlife, aquatic life, or other beneficial uses of the water.

(F) **Approved Plans.** When the Planning Director issues the permit, all of the plans and specifications shall be endorsed "approved." Such approved plans and specifications shall not be changed, modified, or altered without written authorization by the Planning Director, and all work shall be done in accordance with the approved plans and this chapter.

(G) **Amendment.** Amendments to approvals granted pursuant to this chapter whether for change of project, conditions, or expiration date or other time limits, shall be processed in accordance with the provisions of Chapter [18.10](#) SCCC.

(H) **Retention of Plans.** One set of plans and specifications shall be retained by the Planning Director for a period of not less than two years from the date of completion of work covered therein. Plans which have been submitted for checking and for which no permit is issued may be destroyed by the Planning Director if not picked up by the applicant within 90 days.

(I) **Posting of Permit.** At the time a grading permit is issued, the County shall also issue the permittee a notice of permit form or forms. The permittee shall cause such form or forms to be posted on the property at a place at which such form or forms can easily be seen from any public or private road or from adjacent properties during any time that grading is taking place on the property. A copy of the plans shall be attached to the notice of permit or, in lieu thereof, a brief description in writing and diagrams of the permitted grading.

(J) **Work Time Limits.** The permittee shall fully perform and complete all of the work required to be done within the time limit specified. If no time limit is specified, the permittee shall complete the work within 180 days after the date of the issuance of the grading permit.

If the permittee is unable to complete the work within the specified time, he shall, prior to the expiration of the permit, present in writing a request for an extension of time, setting forth the reasons for the requested extension. If, in the opinion of the Planning Director, an extension is warranted, additional time may be granted for the completion of the work.

(K) **Working Hours.** Hours of grading operation shall be between 7:00 a.m. and 6:00 p.m. on weekdays. No grading shall be permitted on Saturdays, Sundays, and holidays, unless specifically authorized as part of a variance approved by the Planning Director.

(L) **Expiration.** Unless otherwise specified, approvals issued pursuant to this chapter shall expire one year from the date of issuance if not exercised. Where approvals are issued in conjunction with a development permit granted pursuant to Chapter [18.10](#) SCCC the approval shall expire in accordance with the provisions of Chapter [18.10](#) SCCC.

(M) **Safety Precautions.** The permittee shall take all appropriate and necessary precautions to protect adjacent public and private property from damage that may result from the operations.

(N) **Property Lines.** Whenever the location of a property line is in question as the result of or during operations, the Planning Director may require any boundary evidence which the Planning Director deems necessary. The Planning Director may require the applicant to furnish a parcel survey.

(O) **Inclement Weather and Winter Grading.** The Planning Director shall stop grading during periods of inclement weather when weather-generated problems are not being controlled adequately. No grading shall occur during the winter season (October 15th through April 15th), unless authorized in advance by the Planning Director with reference to the erosion control ordinance.

(P) **Validity.** The issuance or granting of approval of plans and specifications shall not be construed to be approval of any violation of any of the provisions of this chapter or of any other law.

The issuance of an approval based on plans and specifications shall not prevent the Planning Director from thereafter requiring the correction of errors in plans and specifications or from preventing operations from being carried on when in violation of this chapter or of any other law.

(Q) **Suspension or Revocation of Approval.** The Planning Director may, in writing, suspend or revoke an approval issued under provisions of this chapter whenever the approval is issued in error or on the basis of incorrect information supplied, or in violation of any law or regulation or any of the provisions of this chapter. [Ord. 3599 § 5, 1984; Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

#### **16.20.090 Environmental review. Amended [Ord. 5351](#)**

Applications for grading approvals shall be submitted to the Environmental Coordinator pursuant to Santa Cruz County environmental impact regulations. [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

#### **16.20.100 Hazardous conditions. Amended [Ord. 5351](#)**

Whenever the Planning Director determines that an excavation, embankment, or fill has become a hazard to life and limb, endangers property, or adversely affects the safety, use, or stability of a public way or drainage channel, he shall notify in writing the owner(s) of the property or other person or agent in control of the property on which the hazard exists. On receipt of the notice, the owner(s) shall within the period specified eliminate the hazard and bring the property into conformance with the requirements of this chapter. [Ord. 3321 § 1, 1982; Ord. 2500, 1977].

#### **16.20.110 Diking, dredging and filling. Amended [Ord. 5351](#)**

(A) A grading approval is required for diking, dredging, and filling of open coastal waters above the ordinary high water line, wetlands, lagoons, estuaries and lakes. An approval shall be issued only for the following purpose and only where there is no other feasible, less environmentally damaging alternative:

- (1) Restoration purposes, including the protection and enhancement of existing harbors.
- (2) Nature study, aquaculture, or similar resource-dependent activities.

(B) Diking, filling, and dredging in existing estuaries and wetlands is permitted only if it is determined that such activities will maintain or enhance the functional capacity of the wetland or estuary, as determined by the County Environmental Coordinator.

(C) The dredged material shall be redistributed into the same littoral cell from which it was taken. The deposition of such dredged materials must be timed and located so as not to interfere with shoreline processes, longshore current systems, and public use. [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

#### **16.20.115 Shoreline protection structures. Amended [Ord. 5351](#)**

A grading approval shall be required for all shoreline protection structures which involve the placement of rocks, blocks, or fill material in the coastal hazard zone, including the placement of less than 100 cubic yards of material and maintenance and repair. The design of the proposed structure shall conform to the County's geologic hazard ordinance, Chapter [16.10](#) SCCC, as determined by the Planning Director. Information including, but not limited to, geologic reports, engineered plans, beach sand

profiles and structural profiles shall be required as deemed necessary by the Planning Director. [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982].

**16.20.116 Emergency approvals. Amended [Ord. 5351](#)**

(A) Emergency grading approvals may be granted at the discretion of the Planning Director when a sudden, unexpected occurrence involving a clear and present danger demands immediate action to prevent loss of or damage to life, health, property or essential public services. The emergency permit shall conform to the objectives of this chapter and the geologic hazards ordinance, Chapter [16.10](#) SCCC. The Planning Director may request, at the applicant's expense, verification by a qualified professional of the nature of and solutions to the emergency situation.

(B) The emergency work authorized under this approval shall be limited to necessary activities to protect the endangered structure or essential public structure. The emergency approval shall be voided if the approval is not exercised within 15 days of issuance. The approval expires 30 days after commencement of work. Any work completed outside of these time periods requires a regular grading approval unless an extension is granted by the Planning Director.

(C) At the time of application for an emergency approval or within 60 days of issuance of the emergency approval the applicant shall submit a completed application and the appropriate fees for a regular approval.

(D) Within 90 days of the issuance of an emergency approval, the owner of the property shall submit all required technical reports and project plans unless a time extension is granted by the Planning Director. If the information described above is not submitted within the specified time, the emergency approval shall be voided and the emergency work shall be considered a violation of this chapter.

(E) If the emergency work is required during nonbusiness hours, the property owner shall submit an emergency grading permit application on the following business day. [Ord. 3599 § 6, 1984; Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982].

**16.20.120 Fees. Amended [Ord. 5351](#)**

Fees for processing grading approval application and requests for variances shall be set by resolution of the Board of Supervisors.

(A) Grading Approval Fees—Subdivision. No plan-checking or grading approval fees shall be charged for a grading approval for property for which a final subdivision map has been recorded (or a tentative subdivision map has been approved subject to a specific condition that grading will be permitted prior to recording of the final map); provided, that all of the contemplated grading is shown on approved improvement plans pursuant to Chapter [14.01](#) SCCC. Costs for plan checking and construction inspection for compliance with this chapter shall be determined in the same manner as fees provided in SCCC 14.01.506. [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.130 Securities. Amended [Ord. 5351](#)**

Approvals for grading shall not be valid and work shall not be started until the required securities have been provided. Securities shall remain in effect one winter after final inspection and approval. All expenditures by the County for corrective work necessary because of the permittee's failure to comply with the provisions of the approval and this chapter shall be charged against the security.

(A) If a grading is in excess of 2,000 cubic yards the permittee shall provide a cash deposit, time certificate of deposit, or equivalent security, acceptable to the County, payable to the County to insure compliance with the provisions of the approval and this chapter.



(B) If deemed necessary by the Planning Director, a similar security, acceptable to the County, may be required for grading operations of less than 2,000 cubic yards.

(C) The amount of security for grading shall be based on the number of cubic yards of material of either excavation or fill, whichever is larger, plus the cost of drainage or other protective devices. The minimum amount required shall be computed as indicated in the following schedule:

(1) Two thousand to 10,000 cubic yards: \$0.50 per cubic yard, plus the cost of drainage or other protective devices.

(2) Ten thousand and one cubic yards or more: \$5,000 plus \$0.25 per cubic yard for each additional cubic yard in excess of 10,000, plus the cost of drainage or other protective devices.

(D) No separate grading security except for security required for winter grading operations shall be required for work on which a final subdivision map has been recorded (or a tentative subdivision map has been approved subject to a specific condition that grading will be permitted prior to recording of the final map); provided, that all of the contemplated grading is shown on approved improvement plans pursuant to Chapter [14.01](#) SCCC and the amount of the subdivision improvement, performance, labor and material securities is sufficient to cover all grading.

(E) A separate security for any grading operations authorized during the winter, between October 15th and April 15th, may be required if deemed necessary by the Planning Director. [Ord. 3599 § 7, 1984; Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.140 Design standards for excavations. Amended [Ord. 5351](#)**

(A) Slope. Cut slopes shall be no steeper than one and one-half horizontal to one vertical. Steeper slopes may be allowed if the Planning Director determines they will be stable or if a civil engineer or engineering geologist provides a written statement that the site has been investigated and that in his opinion the proposed deviation will be and remain structurally stable. The tops of cut slopes shall be rounded off so as to blend in with the natural terrain. (See Figure 3.)

(B) Drainage and Terraces. Drainage and terraces shall be provided as required by SCCC 16.20.170.

(C) Vegetation Removal. No vegetation removal or grading pursuant to a permit will be allowed which will result in erosion. Vegetation removal shall conform to SCCC 16.22.080. [Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.150 Design standards for fills. Amended [Ord. 5351](#)**

(A) General. Unless otherwise recommended in the soil engineering report approved by the Planning Director, fills shall conform to the provisions of this section.

(B) Fill Location. Fills shall not be constructed on natural slopes steeper than two to one unless a civil engineer devises a method of placement which will assure the fill will remain in place. The toe of a fill shall be no closer than 12 feet horizontally to the top of existing or planned cut slopes (See Figure 3).

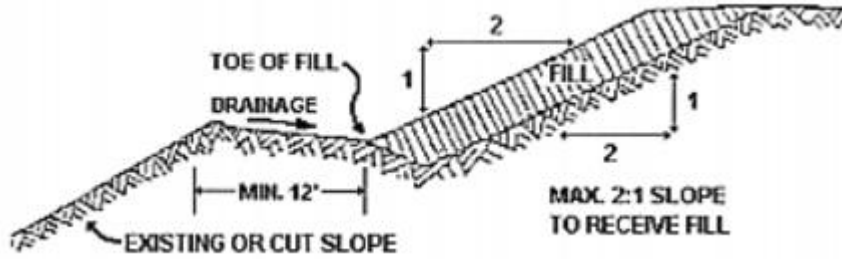


Figure 3

(C) Preparation of Ground for Fill. The ground surface shall be prepared to receive fill by the removal of topsoil and other unsuitable materials and by keying into sound bedrock or other suitable material.

(D) Material Permitted. Earth material free from tree stumps, organic matter, trash, sod, peat and similar material shall be used in fills. Rock, cobbles, and similar material shall be distributed and not nested or piled together, and pieces larger than 12 inches in greatest dimension shall not be used unless a method of placement is approved by the Planning Director. Organic material may be used in the top 12-inch layer of fills to aid plant growth.

(E) Fill Slopes. No fill shall be made which creates an exposed surface steeper in slope than two horizontal to one vertical. The Planning Director may allow a steeper slope or require a flatter slope if he finds this consistent with stability and safety.

(F) Compaction of Fills. All fills shall be compacted to a minimum of 90 percent of relative maximum density as determined by ASTM D-1557-70, or CALTRANS test method number California 216. Compaction tests may be required.

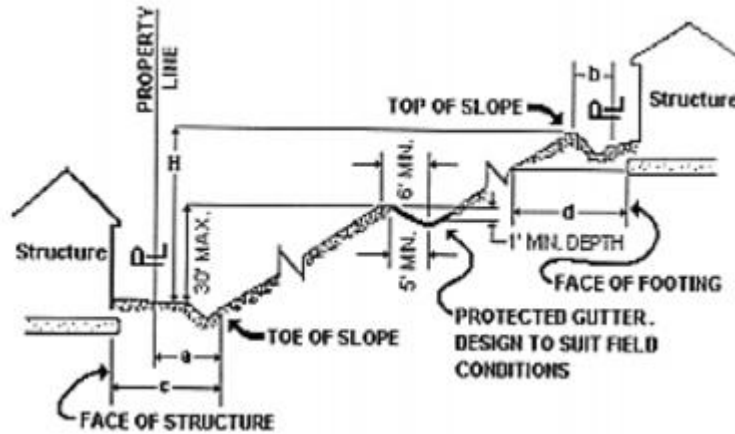
(G) Drainage and Terraces. Drainage facilities and terraces shall be provided as required by SCCC 16.20.170. [Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.160 Cut and fill slope setback. Amended [Ord. 5351](#)**

Unless otherwise recommended in the approved engineering report and shown on the approved grading plans, the tops and toes of cut and fill slopes shall be set back from property boundaries and structures, as per Table C and the riparian corridor protection ordinance (Chapter [16.30](#) SCCC).

Table C

H	a	b	c	d
0—10 feet	3 feet	2 feet	5 feet	5 feet
11—30 feet	(H/2) feet	3 feet	(H/2) feet	7 feet
31 feet and over	15 feet	3 feet	15 feet	10 feet



[Ord. 3321 § 1, 1982].

**16.20.170 Design standards for drainage facilities and terraces. Amended [Ord. 5351](#)**

(A) General. Drainage facilities and terraces shall conform to the provisions of this section unless otherwise indicated on the approved permit and grading plan.

(B) Drainage Facilities.

(1) Existing drainage courses shall not be obstructed and alterations to them must conform to the provisions of this section.

(2) Drainage facilities shall be provided to carry surface and subsurface waters to the nearest drainage course designated for such purpose by the Planning Director or on-site dry wells. Discharge of waters onto natural ground may be allowed only if a suitable means is provided for reducing the velocity of flow to prevent erosion.

(3) Culvert sizes shall be in accordance with "County Design Criteria, Part 2, Storm Drainage." Minimum diameter shall be 12 inches. Culvert material shall be clay, cast iron, cast-in-place or pre-cast concrete, corrugated steel, aluminum, asbestos-cement or other materials approved by the Planning Director.

(4) Cuts, fills, and retaining walls shall have subsurface drainage facilities if necessary for stability.

(5) Gutters, berms and/or culverts may be required for roads and driveways to control water runoff.

(6) Berms, ditches, or swales shall be constructed at the top of cut and fill slopes for protection against water runoff.

(C) Terraces. Terraces shall be required on cut and fill slopes at not more than 30-foot vertical intervals to control surface water and debris. (See figure in Table C.)

(1) Terraces shall be at least six feet wide.

(2) All swales or ditches on drainage terraces shall be graded to provide suitable drainage and designed to prevent erosion.

(3) Swales or ditches which collect water from a tributary area exceeding one-third of an acre (measured horizontally) shall have down drains. [Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.180 Design standards for rural private roads and driveways. Amended [Ord. 5351](#)**

(A) All private road and driveway construction requiring a grading approval shall conform to the provisions of this section. These requirements may be modified for emergency access, temporary roads, or roads leading to an agricultural building or well site if approved in writing by the Planning Director.

(B) Width of roadbed for a roadway shall be 16 feet minimum; width of a driveway shall be 12 feet minimum. Where it is environmentally infeasible to meet these criteria (due to excessive grading or tree removal), a 12-foot-wide all-weather road with 12-foot-wide by 30-foot-long turnouts located approximately every 500 feet may be approved with the approval of the fire department. The distance between turnouts may be adjusted at the discretion of the Planning Director if deemed appropriate for reasons of topography, environment or emergency access.

(C) Minimum centerline radius shall be 35 feet. (Exception: Driveways which serve as access to any habitable structure and which are 150 feet or less from the main road.)

(D) The maximum grade of the road or driveway shall not exceed 15 percent; however, grades of up to 20 percent are permitted for up to 200 feet at a time.

(E) The structural section shall consist of a minimum five inches of baserock, Class II or Class IV. Class IV aggregate base should have a minimum R value of 50, and not more than 10 percent of the aggregate shall pass the number 200 sieve.

(F) Where the subgrade is designated as an expansive clayey soil, the structural section should be determined using the California Design Procedure.

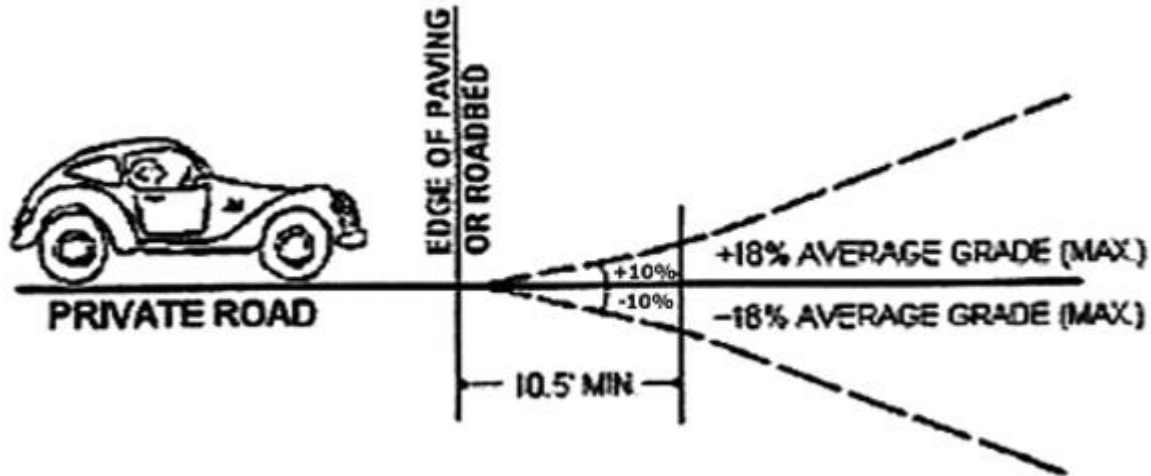
(G) The aggregate base required by these design standards can be omitted if the Planning Director determines that the native material provides sufficient bearing capacity for all weather use.

(H) Road surfacing shall meet the following standards, based on road gradient: zero to 10 percent gradient—two inches of drain rock compacted into a four-inch sub-base of Class II baserock; 10 to 15 percent gradient—oil and screenings; greater than 15 percent gradient—one and one-half inches asphaltic concrete. (Exception: aggregate base and asphaltic concrete may be omitted if a structural section of four-inch concrete is used.)

(I) Asphalt or concrete berms or their equivalent may be required to control drainage. Discharge shall be at points of natural drainage courses with energy dissipaters installed where necessary to prevent erosion.

(J) Entrances from private roads or driveways into private roads shall be limited in gradient as shown by Figure 4.





**Figure 4. Private Road or Drive**

(K) Any roadway or driveway which is more than 300 feet long and a dead end shall have a turn-around area with a minimum of 32 feet radius, or equivalent.

(L) A horizontal clearance of 16 feet and a vertical clearance of 14 feet shall be maintained on all roadways, driveways, and turnouts.

(M) Where a private driveway will connect to a County-maintained road, an encroachment permit shall first be obtained from the Public Works Department. [Ord. 4678 § 1, 2002; Ord. 4578 § 5, 1999; Ord. 3599 § 8, 1984; Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.195 Agricultural grading. Amended [Ord. 5351](#)**

(A) General. All approvals for agricultural grading shall be issued by the Planning Director. Applicants for an agricultural grading approval shall submit a plan to the Planning Director, including the following:

- (1) Existing and proposed drainage pattern.
- (2) Estimate of earth to be moved.
- (3) Property map with graded area shown.
- (4) Erosion control measures to be taken on disturbed noncrop areas, including long-term maintenance.
- (5) Cross-sections of the proposed grading project. Applications for grading for access roads and for building sites, except greenhouse sites, shall not be processed under this section.

(B) Water Retention. The Planning Director may require review or design by the United States Department of Agriculture Soil Conservation, the Santa Cruz County Resource Conservation District, or a soils engineer for the following projects:

- (1) On-site water retention (ponds).
- (2) Grading with major erosion potential.

The conditions of the design or review shall be part of the permit.

(C) **Special Review.** The Planning Director can require review of the project by the Agricultural Policy Advisory Commission.

(D) **Design Standards for Agricultural Grading.** Specifications of design for agricultural grading shall be consistent with agricultural practices and needs, and shall assure slope stability, soil conservation, and flood hazard protection. Reference to agricultural grading may be recorded in the deed.

(E) **Approval Processing.** Agricultural grading approvals shall be processed within 30 days of receipt. Provisions should be made for emergency processing at the discretion of the Planning Director.

(F) **Fees and Bonds.** The fee for agricultural grading approvals shall be set by resolution of the Board of Supervisors. No surety bonds are required. [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2972, 1980].

#### **16.20.200 Inspection and compliance. Amended [Ord. 5351](#)**

The Planning Director shall conduct inspections to ensure compliance with this chapter.

(A) **Inspection.** The following inspections shall be performed by the Planning Director.

- (1) **Pre-Site Inspection.** To determine the suitability of the proposed grading project.
- (2) **Grading operation progress.**
- (3) **Final Inspection.** To determine compliance with plans and specifications.

(B) **Notification.** The permittee shall notify the Planning Director 24 hours prior to the start of the authorized work and also 24 hours prior to any inspection requested by permittee or permittee's authorized agent.

(C) **Right of Entry.** The filing of an application for a grading approval constitutes a grant of permission for the County to enter the development area for the purpose of administering this chapter from the date of the application to the termination of the erosion control maintenance period. If necessary, the Planning Director shall be supplied with a key or lock combination or permitted to install a County lock.

(D) **Final Inspection.** Final inspection and approval of the building permit, development permit or parcel approval shall not occur until the project is in compliance with all of the grading approval conditions and all of the provisions of this chapter. [Ord. 4281 § 12, 1993; Ord. 3599 § 9, 1984; Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

#### **16.20.210 Grading violations. Amended [Ord. 5351](#)**

(A) It shall be unlawful for any person to do, cause, permit, aid, abet, suffer or furnish equipment or labor for any grading as defined in SCCC 16.20.030 unless (1) a development permit has been obtained and is in effect which authorizes the grading, or (2) the grading is exempt from the requirement for a permit by the provisions of SCCC 16.20.040 and the provisions of Chapter [13.20](#) SCCC.

(B) It shall be unlawful for any person to do, cause, permit, aid, abet, suffer or furnish equipment or labor for any diking, dredging, or filling of open coastal water above the ordinary high water line, or of wetlands, lagoons, estuaries, or lakes unless a development permit has been obtained and is in effect which authorizes such activities.

(C) It shall be unlawful for any person to do, cause, permit, aid, abet, suffer or furnish equipment or labor for any shoreline protection structures which involve the placement of rocks, blocks, or fill material

in a coastal hazard zone unless a development permit has been obtained and is in effect which authorizes such activities.

(D) It shall be unlawful for any person to exercise a development permit which authorizes grading without complying with all of the conditions of such permit.

(E) It shall be unlawful for any person to refuse or fail to abate a hazardous condition as required by a notice of hazardous condition issued by the Planning Director under the provisions of SCCC 16.20.100.

(F) It shall be unlawful for any person to knowingly do, cause, permit, aid, abet or furnish equipment or labor for any work in violation of a stop work notice from and after the date it is posted on the site until the stop work notice is authorized to be removed by the Planning Director.

(G) If the Planning Director determines that any grading occurring in the County does not comply with the development permit or this chapter, he may stop all work until corrective measures have been completed. The site shall be posted with a "stop work" notice. No building, septic tank, encroachment or other permit shall be issued by the County, and the County may require that all work shall be stopped pursuant to any such permits issued, until corrections have been made to the satisfaction of the Planning Director.

(H) Whenever the Planning Director determines that grading has been done without the required development permit, he may refuse to issue a permit for the work already completed and require mitigating action. [Ord. 3451-A § 11, 1983; Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.220 Transfer of responsibility. Amended [Ord. 5351](#)**

If the civil engineer, the soil engineer or the engineering geologist of record is changed during the course of the work, the work may be stopped until the replacement has agreed to accept the responsibility within the area of his technical competence for approving the work already accomplished. [Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.230 Completion and approval. Amended [Ord. 5351](#)**

If a civil engineer or another professional licensed by State law prepared the grading plans, he shall provide a written statement to the Planning Director that all grading was completed in conformance with the provisions of the permit and this chapter. [Ord. 3321 § 1, 1982; Ord. 2500, 1977].

**16.20.240 Recording notice of violation. Amended [Ord. 5351](#)**

*Repealed by Ord. 4392A.* [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982].

**16.20.250 Removal of notice of violation. Amended [Ord. 5351](#)**

*Repealed by Ord. 4392A.* [Ord. 3321 § 1, 1982].

**16.20.260 Abatement of nuisance. Amended [Ord. 5351](#)**

*Repealed by Ord. 4392A.* [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982].

**16.20.270 Penalties. Amended [Ord. 5351](#)**

*Repealed by Ord. 4392A.* [Ord. 3321 § 1, 1982].

**16.20.280 Appeals. Amended [Ord. 5351](#)**

All appeals of actions taken pursuant to the provisions of this chapter shall be made in conformance to the procedures of Chapter [18.10](#) SCCC. [Ord. 3438 § 1, 1983; Ord. 3321 § 1, 1982; Ord. 2500, 1977].



The Santa Cruz County Code is current through Ordinance 5375, passed August 24, 2021.

The Santa Cruz County Codes are provided here as a public service. This online version of the County Code should not be relied upon for legal determination. Official Santa Cruz County Codes are on file in the Office of the Clerk of the Board. The County of Santa Cruz is not liable for any omissions or inaccuracies and is not liable for any reliance on these codes by the reader. It is recommended that you consult official Santa Cruz County Codes in the Office of the Clerk of the Board.

County Website: <http://www.co.santa-cruz.ca.us/>

County Telephone: (831) 454-2323

[Code Publishing Company](#)



---

## Chapter 16.22 EROSION CONTROL Amended [Ord. 5352](#)

### Sections:

- 16.22.010 Purpose.** Amended [Ord. 5352](#)
- 16.22.020 Scope.** Amended [Ord. 5352](#)
- 16.22.025 Amendment.** Amended [Ord. 5352](#)
- 16.22.030 Definitions.** Amended [Ord. 5352](#)
- 16.22.040 General provisions.** Amended [Ord. 5352](#)
- 16.22.050 Project design.** Amended [Ord. 5352](#)
- 16.22.060 Erosion control plan.** Amended [Ord. 5352](#)
- 16.22.070 Runoff control.** Amended [Ord. 5352](#)
- 16.22.080 Land clearing approval.** Amended [Ord. 5352](#)
- 16.22.090 Winter operations.** Amended [Ord. 5352](#)
- 16.22.100 Overall responsibility.** Amended [Ord. 5352](#)
- 16.22.110 Exemptions.** Amended [Ord. 5352](#)
- 16.22.120 Variances.** Amended [Ord. 5352](#)
- 16.22.130 Fees.** Amended [Ord. 5352](#)
- 16.22.140 Inspection and compliance.** Amended [Ord. 5352](#)
- 16.22.150 Applicable laws and regulations.** Amended [Ord. 5352](#)
- 16.22.160 Violations.** Amended [Ord. 5352](#)
- 16.22.161—
- 16.22.180 *Repealed.*** Amended [Ord. 5352](#)
- 16.22.190 Appeals.** Amended [Ord. 5352](#)

### **16.22.010 Purpose.** Amended [Ord. 5352](#)

The purpose of this chapter is to eliminate and prevent conditions of accelerated erosion that have led to, or could lead to, degradation of water quality, loss of fish habitat, damage to property, loss of topsoil and vegetation cover, disruption of water supply, and increased danger from flooding, and to implement Local Coastal Program land use policies. [Ord. 3337 § 1, 1982; Ord. 2982, 1980].

**16.22.020 Scope. Amended [Ord. 5352](#)**

This chapter requires control of all existing and potential conditions of accelerated (human-induced) erosion; sets forth required provisions for project planning, preparation of erosion control plans, runoff control, land clearing, and winter operations; and establishes procedures for administering those provisions. This chapter shall apply to both private and public activities including those of the County and other such governmental agencies as are not exempted by State or Federal law. [Ord. 4166 § 2, 1991; Ord. 4027 § 4, 1989; Ord. 3600 § 1, 1984; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

**16.22.025 Amendment. Amended [Ord. 5352](#)**

Any revision to this chapter which applies to the Coastal Zone shall be reviewed by the Executive Director of the California Coastal Commission to determine whether it constitutes an amendment to the Local Coastal Program. When a chapter revision constitutes an amendment to the Local Coastal Program such revision shall be processed pursuant to the hearing and notification provisions of Chapter [13.03](#) SCCC and shall be subject to approval by the California Coastal Commission. [Ord. 3337 § 1, 1982].

**16.22.030 Definitions. Amended [Ord. 5352](#)**

“Accelerated erosion” means erosion caused by a human-induced alteration of the vegetation, land surface, topography, or runoff pattern. Evidence of accelerated erosion is often indicated by exposed soils, gullies, rills, sediment deposits, or slope failures caused by human activities.

“Access envelope” means an area delineated on the site plan to which all clearing and land disturbance for construction of access must be confined.

“Agricultural grading” means grading on land designated for exclusive agricultural use as specified under SCCC 16.50.040.

“Approved erosion control specialist” means a person who has met certain minimum qualifications established by the Planning Director which demonstrate his/her capability to prepare small-scale erosion control plans.

“Building envelope” means an area delineated on the development plans to which all clearing and land disturbance for construction must be confined.

“Development permit” means a permit issued by the County for new land use activities including but not limited to: building, grading, land clearing, subdivisions, minor land divisions, and residential, commercial, industrial and agricultural development.

“Drainage course” means a natural or manmade channel which conveys runoff either year-round or intermittently.

“Earth material” means rock, natural soil, or combination thereof.

“Erosion” means the wearing away of the ground surface as a result of the movement of wind or water.

“Erosion hazard” means the susceptibility of a site to erode, based on condition of slope, rock type, soil, and other site factors. High erosion hazard areas include areas of high and very high erosion hazard shown on maps prepared by the Planning Department. Hazard may be determined based on a site-specific investigation.

“Grading” means excavating, filling, leveling, or smoothing, or combination thereof.

“Land clearing” means the removal of vegetation down to duff or bare soil, by any method.

“Land clearing approval” means an approval granted by the Planning Director which authorizes the permittee to carry out land clearing.

“Land disturbance” means clearing, excavating, grading, or other manipulation of the terrain.

“Major grading” means grading in excess of 100 cubic yards.

“Major development proposals” means new commercial, industrial, or professional developments; or new residential developments of more than four units.

“Minor development proposals” means building permits, grading permits for less than 2,000 cubic yards, subdivisions of four or less lots, and any other project not identified as a major development proposal in SCCC 16.22.060(D).

“Minor grading” means grading less than 100 cubic yards.

“New road or driveway” means any newly constructed road or driveway or any improvement to an existing road bed which requires more than 100 cubic yards grading in any 500-foot segment in order to meet the design standards in SCCC 16.20.180. Any road or bridge constructed pursuant to a timber harvest permit issued by the State of California shall be considered a new road for the purposes of subsequent development and shall be subject to all current design standards and applicable policies.

“Onsite detention” means temporary storage of runoff on the site.

“Onsite retention” means permanent holding of runoff on the site through percolation to the ground.

“Owner” means the person or persons shown in the County Recorder’s Office as owner of the property.

“Permittee” means any person undertaking development activities upon a site pursuant to a permit granted by the County.

“Person” means any person, firm, association, corporation, organization, partnership, business, trust company, public agency, school district, the State of California and its political subdivisions or instrumentalities.

“Planning Director” means the Director of the Planning Department or his authorized designee charged with the administration and enforcement of this chapter. The Public Works Director or authorized designee may administer the provisions of the chapter for subdivisions.

“Responsible person” means any person who creates a condition which may lead to accelerated erosion. If a specific person cannot be identified, the owner of the land where such condition exists shall be considered the responsible person.

“Road” or “roadway” means an open way for vehicular traffic.

“Runoff” means the movement of water over the ground surface.

“Sediment” means eroded earth material that is carried by runoff and/or deposited in a stream, drainage course, or other area.

“Sensitive habitat” includes areas defined as sensitive habitats in General Plan and Local Coastal Program Land Use Plan Section 5.1, specifically 5.1.2 and 5.1.3.

“Site” means a parcel of land or contiguous parcels where land alterations, including grading, clearing, or construction, are performed or proposed.

“Soil” means the unconsolidated mineral and organic material on the immediate surface of the earth.

“Stream” means any watercourse designated by a solid line or dash and three dots symbol on the largest scale of the United States Geological Survey map most recently published, or as indicated in the development permit when it has been field-determined that a watercourse either:

- (1) Supports fish at any time of the year; or
- (2) Has a significant water flow 30 days after the last significant storm; or
- (3) Has a well-defined channel, free of soil and debris.

“Ten-year storm” means a storm of an intensity that would be exceeded on the average only once every 10 years. The intensity for the site shall be determined according to the County Public Works Design Criteria Manual. The duration of the storm used in runoff calculation shall be equivalent to the concentration time for the area which drains through the project. [Ord. 4496-C §§ 84, 85, 1998; Ord. 4426 § 4, 1996; Ord. 4346 § 68, 1994; Ord. 4131 § 1, 1991; Ord. 3439 § 1, 1983; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

#### **16.22.040 General provisions. Amended [Ord. 5352](#)**

No person shall cause or allow the continued existence of a condition on any site that is causing or is likely to cause accelerated erosion as determined by the Planning Director. Such a condition shall be controlled and/or prevented by the responsible person and the property owner by using appropriate measures outlined in subsequent sections of this chapter. Additional measures shall be applied if necessary by the responsible person and the property owner. Specific additional measures may be required by the Planning Director. Property owners will be given a reasonable amount of time, as determined by the Planning Director, to control existing problems depending on the severity of the problem, and the extent of necessary control measures. Where feasible, erosion problems shall be controlled no later than the beginning of the next rainy season (October 15th). [Ord. 3337 § 1, 1982; Ord. 2982, 1980].

#### **16.22.050 Project design. Amended [Ord. 5352](#)**

The density and design of new development shall be planned to be consistent with the characteristics and constraints of the site:

- (A) Structures on slopes that would normally require major grading shall utilize pole, step, or other foundations that do not require major grading.
- (B) New lots shall not be created which will:
  - (1) Require new access roads and driveways to cross slopes exceeding 30 percent; or
  - (2) Require cuts and fills greater than 10 feet in height for distances greater than 50 feet or 10 percent of the new roadway length, whichever is greater.
- (C) For any project, access roads and driveways should not cross slopes greater than 30 percent and cuts and fills should not exceed 10 feet. Variances to this rule can be granted if a route across steep slopes will result in less environmental damage than all alternative routes, or if no other alternative exists.



(D) Building and access envelopes or nonbuildable areas may be required to be delineated on the development plans so as to keep disturbance out of particularly erodible areas. Envelopes shall be required in areas of high erosion hazard.

(E) Streams or drainage courses shall not be obstructed or disturbed except for approved road crossings, unless disturbance of a drainage course will improve overall site design and be consistent with the purpose of this chapter.

(F) If the project is for creation of or access to a building site, land disturbance shall not take place until a building permit has been issued. If a permit cannot be issued until a determination of adequate water source and sewage disposal or other required site investigation is made, land disturbance shall be limited to the extent necessary to allow such an investigation. This provision shall not apply to road construction or other grading activities which are specifically required as a condition of a minor land division or other permit.

(G) Erosion control measures specified in, or pursuant to, this chapter, shall be in place and maintained at all times between October 15th and April 15th. [Ord. 3600 § 2, 1984; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

#### **16.22.060 Erosion control plan. Amended [Ord. 5352](#)**

(A) Prior to issuance of a building permit, development permit or land division, an erosion control plan indicating proposed methods for the control of runoff, erosion, and sediment movement shall be submitted and approved. Erosion control plans may also be required by the Planning Director for other types of applications where erosion can reasonably be expected to occur. The erosion control plan may be incorporated into other required plans, provided it is identified as such. Erosion control plans shall include, as a minimum, the measures required under SCCC 16.22.070, 16.22.080, 16.22.090, and 16.22.100. Additional measures or modification of proposed measures may be required by the Planning Director prior to project approval. No grading or clearing may take place on the site prior to approval of an erosion control plan for that activity. Final certification of project completion may be delayed pending proper installation of measures identified in the approved erosion control plan.

(B) Applications for approvals granted pursuant to this chapter shall be made according to Chapter [18.10](#) SCCC, Level III, and shall include two sets of plans for each application. Particular components may be required by the Planning Director. Plans shall be drawn to scale upon substantial material, minimum size 18 inches by 24 inches, and shall be of sufficient clarity to indicate the nature and the extent of the work proposed and show in detail that it will conform to the provisions of this chapter and all relevant laws and regulations. The minimum size for plans for land clearing permits shall be eight and one-half inches by 11 inches. The plans shall include the following information in writing and/or diagrams:

- (1) General location of the proposed site.
- (2) Property lines and contours of the site including finish contours to be achieved by grading, details of terrain, and area drainage; proposed construction, proposed drainage channels, and other runoff control measures.
- (3) Measures for runoff control and erosion control to be constructed with, or as a part of, the proposed work. All measures required under this chapter shall be shown. Function of erosion control measures shall be consistent with the provisions of this chapter.
- (4) Delineation of areas to be cleared during development activities.

(5) Revegetation proposal for all surfaces exposed or expected to be exposed during development activities, including cut and fill slopes.

(6) Name and address of the owner(s).

(7) Assessor's parcel number(s) of the property on which the work is to be done.

(8) North arrow, scale, and name and location of nearest public road intersection.

(9) Name, address, and phone number of person who prepared the plan.

(C) For minor development proposals, the erosion control plan is not required to be prepared by a registered professional (as listed in subsection (D) of this section).

(D) For major development proposals, the erosion control plans shall be prepared by a registered professional authorized to do such work under State law. For these major projects, detailed plans of all surface and subsurface drainage devices, runoff calculations, and other calculations demonstrating adequacy of drainage structures shall be included. Inspection by the person preparing the plan and certification of proper installation of control measures may be required by the Planning Director. Major proposals include:

(1) Subdivisions of more than four lots.

(2) Grading in excess of 2,000 cubic yards.

(3) Commercial or industrial development permits for new structures; or residential development permit for more than four units.

(4) Other projects of a similar nature determined by the Planning Director to cause major land disturbance.

(E) Applications for activities where the Planning Director recognizes that no land disturbance will take place shall not be required to include an erosion control plan. Such activities may include, but are not limited to:

(1) Change of use permits where there would be no expansion of land disturbing activities.

(2) Construction within an existing structure. [Ord. 4496-C § 86, 1998; Ord. 3439 § 1, 1982; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

#### **16.22.070 Runoff control. Amended [Ord. 5352](#)**

Runoff from activities subject to a building permit, parcel approval or development permit shall be properly controlled to prevent erosion. The following measures shall be used for runoff control, and shall be adequate to control runoff from a 10-year storm:

(A) On soils having high permeability (more than two inches/hour), all runoff in excess of predevelopment levels shall be retained on the site. This may be accomplished through the use of infiltration basins, percolation pits or trenches, or other suitable means. This requirement may be waived where the Planning Director determines that high groundwater, slope stability problems, etc., would inhibit or be aggravated by onsite retention, or where retention will provide no benefits for groundwater recharge or erosion control.

(B) On projects where onsite percolation is not feasible, all runoff should be detained or dispersed over nonerodible vegetated surfaces so that the runoff rate does not exceed the predevelopment level. Onsite detention may be required by the Planning Director where excessive runoff would contribute to downstream erosion or flooding. Any policies and regulations for any drainage zones where the project is located will also apply.

(C) Any concentrated runoff which cannot be effectively dispersed without causing erosion shall be carried in nonerodible channels or conduits to the nearest drainage course designated for such purpose by the Planning Director or to on-site percolation devices. Where water will be discharged to natural ground or channels, appropriate energy dissipators shall be installed to prevent erosion at the point of discharge.

(D) Runoff from disturbed areas shall be detained or filtered by berms, vegetated filter strips, catch basins, or other means as necessary to prevent the escape of sediment from the disturbed area.

(E) No earth or organic material shall be deposited or placed where it may be directly carried into a stream, marsh, slough, lagoon, or body of standing water. [Ord. 4281 § 12, 1993; Ord. 3439 § 1, 1983; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

#### **16.22.080 Land clearing approval. Amended [Ord. 5352](#)**

Land clearing shall be kept to a minimum. Vegetation removal shall be limited to that amount necessary for building, access, and construction as shown on the approved erosion control plan. The following provisions shall apply:

(A) When no land development permit has been issued, the following extents of land clearing require approval of an erosion-control plan according to the procedures in Chapter [18.10](#) SCCC, Level III:

- (1) Any amount of clearing in a sensitive habitat, as defined in this chapter.
- (2) One-quarter acre or more of clearing in the Coastal Zone if also in a least-disturbed watershed, a water supply watershed, or an area of high erosion hazard.
- (3) One acre or more of clearing in all areas not included in subsections (A)(1) and (2) of this section.

(B) When a land development permit has been issued, land clearing may be done according to the approved development plan.

(1) For land clearing in the Coastal Zone which will be more than that shown on the approved erosion-control plan, a new land-clearing approval is required if the land is located in a least-disturbed watershed, a water supply watershed, or an area of high erosion hazard.

(2) For land clearing in any area which will include more than one acre in excess of that shown on the approved plan, a new land-clearing approval is required.

(C) Approval of land clearing shall meet the following conditions. All disturbed surfaces shall be prepared and maintained to control erosion and to establish native or naturalized vegetative growth compatible with the area. This control shall consist of:

- (1) Effective temporary planting such as rye grass, barley, or some other fast-germinating seed, and mulching with straw and/or other slope stabilization material;

- (2) Permanent planting of native or naturalized drought resistant species of shrubs, trees, etc., pursuant to the County's landscape criteria, when the project is completed;
- (3) Mulching, fertilizing, watering or other methods may be required to establish new vegetation. On slopes less than 20 percent, topsoil shall be stockpiled and reapplied.

The protection required by this section shall be installed prior to calling for final approval of the project and at all times between October 15th and April 15th. Such protection shall be maintained for at least one winter until permanent protection is established.

(D) No land clearing shall take place prior to approval of the erosion control plan. Vegetation removal between October 15th and April 15th shall not precede subsequent grading or construction activities by more than 15 days. During this period, erosion and sediment control measures shall be in place.

(E) Land clearing of more than one-quarter acre that is not a part of a permitted activity shall not take place on slopes greater than 30 percent. [Ord. 4496-C § 87, 1998; Ord. 3439 § 1, 1983; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

#### **16.22.090 Winter operations. Amended [Ord. 5352](#)**

(A) No land clearing operations greater than one acre per year per site or grading operations greater than 100 cubic yards may take place between October 15th and April 15th, unless authorized by the Planning Director and found to be consistent with the purposes of this chapter. When construction will be delayed due to the limitation on winter operations, the date for expiration of the permit shall be extended by that amount of time that work is delayed by this chapter.

(B) When winter operations are permitted, the following measures shall be taken to prevent accelerated erosion. Additional measures may be required:

- (1) Between October 15th and April 15th, disturbed surfaces not involved in the immediate operations shall be protected by mulching and/or other effective means of soil protection as required by the Planning Director.
- (2) All roads and driveways shall have drainage facilities sufficient to prevent erosion on or adjacent to the roadway or on downhill properties. Erosion-proof surfacing may be required by the Planning Director in areas of high erosion hazard.
- (3) Runoff from a site shall be detained or filtered by berms, vegetated filter strips, and/or catch basins to prevent the escape of sediment from the site. These drainage controls shall be maintained by the permittee and/or property owner as necessary to achieve their purpose throughout the life of the project.
- (4) Erosion control measures shall be in place at the end of each day's work.
- (5) The Planning Director shall stop operations during periods of inclement weather if he determines that erosion problems are not being controlled adequately. [Ord. 3337 § 1, 1982; Ord. 2982, 1980].

#### **16.22.100 Overall responsibility. Amended [Ord. 5352](#)**

It shall be the responsibility of the owner and the permittee to ensure that erosion does not occur from any activity during or after project construction. Additional measures, beyond those specified, may be required by the Planning Director as deemed necessary to control accelerated erosion. [Ord. 3337 § 1, 1982; Ord. 2982, 1980].



**16.22.110 Exemptions. Amended [Ord. 5352](#)**

Conditions of accelerated erosion existing prior to adoption of this chapter are not exempted. The intent of this section is not to invalidate existing discretionary permits, but rather to prevent or mitigate accelerated erosion. The following work is exempted from all provisions of this chapter except SCCC 16.22.040 and 16.22.160 through 16.22.190:

- (A) Agricultural Activities. Permitted agricultural grading, routine agricultural activities such as plowing, harrowing, disking, ridging, listing, land planning, and similar operations to prepare a field for a crop, including routine clearing to maintain existing rangeland;
- (B) Timber Harvesting. Work done pursuant to a valid timber harvest permit;
- (C) Quarrying. Quarrying done pursuant to a valid quarry permit;
- (D) Septic Systems and Wells. Work done pursuant to a valid permit for septic system installation and repair or well drilling; however, SCCC 16.22.080(B) and 16.22.090(B) shall apply, and sediment from these activities shall not be allowed to enter any stream or body of water;
- (E) Resource Management. Clearing, fuel management, reforestation, erosion control, or other resource management programs carried out under the auspices of a government agency which include appropriate erosion control measures. Agencies shall notify the Planning Director of such projects. [Ord. 3337 § 1, 1982; Ord. 2982, 1980].

**16.22.120 Variances. Amended [Ord. 5352](#)**

- (A) A request for a variance from the provisions of this chapter, the permit conditions, or the plan specifications may be considered according to Chapter [18.10](#) SCCC at the level specified in SCCC 16.22.060(B).
- (B) A request for a variance must state in writing the provision from which it is to be varied, the proposed substitute provisions, when it would apply, and its advantages. In granting the variance, the Planning Director shall be guided by the following criteria:
  - (1) That there are special circumstances or conditions affecting the property.
  - (2) That the variance is necessary for the proper design and/or function of a reasonable project for the property.
  - (3) That adequate measures will be taken to ensure consistency with the purpose of this chapter.
- (C) As contemplated in this section, a variance shall be granted for alternative methods of construction for projects which could be constructed under the basic standards established in this chapter, but which, if a variance is granted, can be better and/or more economically designed and constructed than if a variance were not given. A variance shall not be granted if the part of a variance would have the effect of allowing the construction of a project which would otherwise without the variance not be possible under the provisions of the County Code. [Ord. 3600 § 3, 1984; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

**16.22.130 Fees. Amended [Ord. 5352](#)**

Fees for checking, inspection, violations, variance requests, and for land-clearing permits shall be set by resolution of the Board of Supervisors. [Ord. 3337 § 1, 1982; Ord. 2982, 1980].

**16.22.140 Inspection and compliance. Amended [Ord. 5352](#)**

The Planning Director shall conduct inspections to ensure compliance with this chapter.

(A) Inspection. The following inspections may be performed by the Planning Director:

- (1) Pre-Site Inspection. To determine the potential for erosion resulting from the proposed project.
- (2) Operation Progress Inspections. To determine ongoing compliance.
- (3) Final Inspection. To determine compliance with approved plans and specifications.

(B) Notification. The permittee shall notify the Planning Director at least 24 hours prior to start of the authorized work, and also nine business hours prior to any inspection requested by the permittee or permittee's authorized agent. [Ord. 4392A § 6, 1996; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

**16.22.150 Applicable laws and regulations. Amended [Ord. 5352](#)**

Any person doing work in conformance with this chapter must also abide by all other applicable local, State, and Federal laws and regulations. Where there is a conflict with other pre-existing County regulations, this chapter shall take priority. [Ord. 3337 § 1, 1982; Ord. 2982, 1980].

**16.22.160 Violations. Amended [Ord. 5352](#)**

(A) It shall be unlawful for any person to refuse or fail to correct any condition causing or likely to cause accelerated erosion as required by a notice of violation issued under the provisions of subsection (C) of this section.

(B) It shall be unlawful for any person to do, cause, permit, aid, abet, suffer or furnish equipment or labor for any land clearing as defined in SCCC 16.22.030 unless either a development permit has been obtained and is in effect which authorizes such land clearing; or the land clearing is exempt from the requirement for a permit under the provisions of SCCC 16.22.080(A).

(C) It shall be unlawful for any person to exercise a development permit which authorizes land clearing without complying with all of the conditions of such permit.

(D) It shall be unlawful for any person to knowingly do, cause, permit, abet or furnish equipment or labor for any work in violation of a stop work notice from and after the date it is posted on the site until the stop work notice is authorized to be removed by the Planning Director. [Ord. 3451-A § 12, 1983; Ord. 3439 § 1, 1983; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

**16.22.161 Right of entry. Amended [Ord. 5352](#)**

*Repealed by Ord. 4392A. [Ord. 3451-A § 13, 1983].*

**16.22.162 Stop notices. Amended [Ord. 5352](#)**

*Repealed by Ord. 4392A. [Ord. 3451-A § 14, 1983].*

**16.22.163 Notification of violations. Amended [Ord. 5352](#)**

*Repealed by Ord. 4392A. [Ord. 3451-A § 15, 1983].*

**16.22.164 Nuisance abatement of violation. Amended [Ord. 5352](#)**

*Repealed by Ord. 4392A. [Ord. 3451-A § 16, 1983].*

**16.22.165 Recording notice of violation. Amended [Ord. 5352](#)**

*Repealed by Ord. 4392A. [Ord. 3451-A § 17, 1983].*

**16.22.170 Penalties. Amended [Ord. 5352](#)**

*Repealed by Ord. 4392A. [Ord. 3337 § 1, 1982].*

**16.22.180 Enforcement. Amended [Ord. 5352](#)**

*Repealed by Ords. 4392A. [Ord. 3337 § 1, 1982].*

**16.22.190 Appeals. Amended [Ord. 5352](#)**

All appeals of actions taken pursuant to the provisions of this chapter shall be made in conformance to the procedures of Chapter [18.10](#) SCCC. [Ord. 3439 § 1, 1983; Ord. 3337 § 1, 1982; Ord. 2982, 1980].

---



The Santa Cruz County Code is current through Ordinance 5375, passed August 24, 2021.

The Santa Cruz County Codes are provided here as a public service. This online version of the County Code should not be relied upon for legal determination. Official Santa Cruz County Codes are on file in the Office of the Clerk of the Board. The County of Santa Cruz is not liable for any omissions or inaccuracies and is not liable for any reliance on these codes by the reader. It is recommended that you consult official Santa Cruz County Codes in the Office of the Clerk of the Board.

County Website: <http://www.co.santa-cruz.ca.us/>

County Telephone: (831) 454-2323

[Code Publishing Company](#)

\*NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL PERMIT FOR  
WASTE DISCHARGE REQUIREMENTS (WDRs)  
FOR  
STORM WATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM  
SEWER SYSTEMS (MS4s)

ORDER NO. 2013-0001-DWQ  
NPDES NO. CAS000004

This Order was adopted by the State Water Resources Control Board on:	<b>February 5, 2013</b>
This Order shall become effective on:	<b>July 1, 2013</b>
This Order shall expire on:	<b>June 30, 2018</b>

IT IS HEREBY ORDERED that, as of July 1, 2013, this Order supersedes Order No. 2003-0005-DWQ.

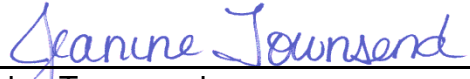
I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order, with all attachments, is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on **February 5, 2013**.

AYE: Chairman Charles R. Hoppin  
Vice Chair Frances Spivy-Weber  
Board Member Tam M. Doduc  
Board Member Steven Moore  
Board Member Felicia Marcus

NAY: None

ABSENT: None

ABSTAIN: None

  
\_\_\_\_\_  
Jeanine Townsend  
Clerk to the Board



**STATE WATER RESOURCES CONTROL BOARD  
WATER QUALITY ORDER NO. 2013-0001-DWQ  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL PERMIT NO. CAS000004**

**WASTE DISCHARGE REQUIREMENTS (WDRs)  
FOR  
STORM WATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM SEWER  
SYSTEMS (MS4s) (GENERAL PERMIT)**



## Contents

STATE WATER RESOURCES CONTROL BOARD.....	1
WASTE DISCHARGE REQUIREMENTS (WDRS).....	1
FINDINGS .....	5
A. APPLICATION REQUIREMENTS FOR ALL SMALL MS4 PERMITTEES .....	14
B. DISCHARGE PROHIBITIONS .....	17
C. EFFLUENT LIMITATIONS .....	18
D. RECEIVING WATER LIMITATIONS .....	19
E. PROVISIONS FOR ALL TRADITIONAL SMALL MS4 PERMITTEES .....	19
E.1. RENEWAL TRADITIONAL SMALL MS4 PERMITTEES.....	19
E.2. NEW TRADITIONAL SMALL MS4 PERMITTEES.....	19
E.3. NON-TRADITIONAL SMALL MS4S PERMITTEES .....	20
E.4. SMALL MS4 ASBS PERMITTEES .....	20
E.5. SEPARATE IMPLEMENTING ENTITY (SIE).....	20
E.6. PROGRAM MANAGEMENT ELEMENT .....	20
E.7. EDUCATION AND OUTREACH PROGRAM.....	24
E.8. PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM .....	30
E.9. ILLICIT DISCHARGE DETECTION AND ELIMINATION.....	31
E.10. CONSTRUCTION SITE STORM WATER RUNOFF CONTROL PROGRAM.....	37
E.11. POLLUTION PREVENTION/GOOD HOUSEKEEPING .....	40
E.12. POST CONSTRUCTION STORM WATER MANAGEMENT PROGRAM.....	48
E.13. WATER QUALITY MONITORING.....	62
E.14. PROGRAM EFFECTIVENESS ASSESSMENT AND IMPROVEMENT .....	70
E.15. TOTAL MAXIMUM DAILY LOADS COMPLIANCE REQUIREMENTS .....	73
E.16. ANNUAL REPORTING PROGRAM.....	74
F. NON – TRADITIONAL SMALL MS4 PERMITTEE PROVISIONS .....	75
F.1 NON-TRADITIONAL SMALL MS4 CATEGORIES .....	75
F.2 SECURITY CONCERNS .....	75
F.3 MAXIMIZE EFFICIENCY .....	75
F.4 EQUIVALENT OR EXISTING DOCUMENT .....	75
F.5 PROVISIONS.....	76
G. REGIONAL WATER BOARD AUTHORITIES .....	103
H. DISPUTE RESOLUTION .....	103
I. PERMIT RE-OPENER.....	104
J. PERMIT EXPIRATION .....	105
CERTIFICATION .....	105
Attachment A – Traditional Small MS4 List	
Attachment B – Non-traditional Small MS4 List	
Attachment C – ASBS Specific Provisions	
Attachment D – ASBS Dischargers List	
Attachment E – CBSM Requirements	
Attachment F – Standard Provisions	
Attachment G – TMDLs	
Attachment H – Acronyms	
Attachment I – Glossary	
Designation Flow Chart	
Monitoring Flow Chart	





## FINDINGS

### The State Water Resources Control Board (State Water Board) finds that:

1. Storm water is a resource and an asset and should not be treated as a waste product. Managing rainwater and storm water at the source is a more effective and sustainable alternative to augmenting water supply, preventing impacts from flooding, mitigating storm water pollution, creating green space, and enhancing fish and wildlife habitat. California encourages alternative, innovative, multi-objective solutions to help use and protect this valuable resource, while at the same time controlling pollution due to urban runoff.
2. As human population increases, urban development creates new pollution sources and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc. which can either be washed or directly dumped into the municipal separate storm sewer system (MS4). As a result, the runoff leaving the developed urban area is greater in pollutant load than the pre-development runoff from the same area. Also, when natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, walkways and parking lots, the natural absorption and infiltration abilities of the land are lost. Therefore, runoff leaving developed urban area is significantly greater in runoff volume, velocity, peak flow rate, and duration than pre-development runoff from the same area. The increased volume, velocity, rate, and duration of runoff greatly accelerate the erosion of downstream natural channels. In addition, the greater the impervious cover the greater the significance of the degradation.
3. Pollutants of concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens, oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons (PAHs), trash, pesticides and herbicides.
4. Trash and litter are a pervasive problem in California. Controlling trash is a priority, because trash adversely affects our use of California's waterways. Trash impacts aquatic life in streams, rivers, and the ocean as well as terrestrial species in adjacent riparian and shore areas. Trash, particularly plastics, persists for years. It concentrates organic toxins, entangles and ensnares wildlife, and disrupts feeding when animals mistake plastic for food and ingest it. Additionally, trash creates aesthetic impacts, impairing our ability to enjoy our waterways.
5. The State Water Resources Control Board (State Board) is developing a statewide policy for trash control in California's waterways. The draft Trash Policy will identify trash as a separate pollutant and establish methods to control trash pollution in waterways, statewide. Following adoption of the draft Trash Policy, the State Water Board may re-open this Order to incorporate water body trash pollution control methods and introduce Trash Reduction Program requirements.
6. A higher percentage of impervious area in urban areas correlates to a greater pollutant loading, resulting in turbid water, nutrient enrichment, bacterial contamination, organic matter loads, toxic compounds, temperature increases, and increases in trash or debris.
7. Conventional landscaping features large lawns, non-native plants, abundant irrigation, and heavy use of fertilizers, herbicides, and pesticides. It frequently requires significant mowing,

blowing, trimming, and removal of plants debris. Adopting more storm water-friendly landscape practices reduces pollutants and also provides tangible water conservation, wildlife habitat, and energy saving benefits.

8. The State Water Board recognizes that this Order affects varied and diverse entities, including agencies that are required to carry out water conservation regulations, wastewater discharge regulations, and land use regulations that may implement, all or in part, provisions of this Order. The State Water Board seeks to minimize duplicate efforts and maximize resources to achieve the greatest water quality benefit; thus the State Water Board recognizes specified related regulations, cited in the body of this Order, as equivalent to implementing designated provisions of this Order.
9. When water quality impacts are considered during the planning stages of a project, new development and many redevelopment projects can more efficiently incorporate measures to protect water quality.
10. In California, urban storm water is listed as the primary source of impairment for ten percent of all rivers, ten percent of all lakes and reservoirs, and 17 percent of all estuaries (2010 Integrated Report). Although these numbers may seem low, urban areas cover just six percent of the land mass of California and so their influence is disproportionately large. Urbanization causes changes in the landscape, including increased loads of chemical pollutants, increased toxicity, changes to flow magnitude, frequency, and seasonality of various discharges, physical changes to stream, lake, or wetland habitats, changes in the energy dynamics of food webs, sunlight, and temperature; and biotic interactions between native and exotic species. In addition to surface water impacts, urbanization can alter the amount and quality of storm water that infiltrates and recharges groundwater aquifers.
11. Education and awareness programs help change human behavior with respect to reducing the amount of pollution generated from storm water sources within the Permittee's MS4 system. In addition to education, encouraging public participation in local storm water programs can lead to program improvement as well as enabling people to identify and report a pollution-causing activity, such as spotting an illicit discharge.
12. Field experience in conducting outfall surveys indicates that illicit discharges may be present at 2 to 5 percent of all outfalls at any given time. Given that pollutants are being introduced into the receiving water during dry weather, illicit discharges may have an amplified effect on water quality and biological diversity.<sup>1</sup> Therefore, implementation of an effective Illicit Discharge and Detection Elimination program in conjunction with focused wet weather monitoring, as necessary, is an essential component of an effective municipal storm water program.
13. In 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I program for MS4s requires operators of "medium" and "large" MS4s, that is, those that generally serve populations of 100,000 or greater, to implement a storm water management program as a means to control polluted discharges from these MS4s.

---

<sup>1</sup>

Urban Stormwater Management in the United States, National Research Council, 2008

14. A MS4 is a conveyance or system of conveyances that is: 1) owned by a state, city, town, village, or other public entity that discharges to waters of the United States; 2) designed or used to collect or convey storm water (including storm drains, pipes, ditches, etc.); 3) not a combined sewer; and 4) not part of a Publicly Owned Treatment Works or sewage treatment plant.
15. On December 8, 1999, U.S. EPA promulgated Phase II storm water regulations under authority of the Clean Water Act section 402(p)(6). The Phase II Storm Water requires State Water Board to issue NPDES storm water permits to operators of Small MS4s.
16. On April 30, 2003, the State Water Board adopted [Water Quality Order No. 2003-0005-DWQ](#), NPDES General Permit CAS000004 WDRs for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems (General Permit) to comply with Clean Water Act section 402(p)(6).
17. Title 40 of the Code of Federal Regulations (40 C.F.R.) section 122.26(b)(16) defines Small MS4s as those not defined as “large” or “medium” MS4s under section 122.26(b)(4) or (b)(7) or designated under 40 Code of Federal Regulations section 122.26(a)(1)(v). The term Small MS4s includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. (40 C.F.R. §122.26(b)(16)(iii).) These latter subsets of Small MS4s are referred to herein as Non-traditional Small MS4s. Non-traditional Small MS4s discharge the same types of pollutants that are typically associated with urban runoff. Separate storm sewers in very discrete areas, such as individual buildings, are not defined as Small MS4s.
18. Of the Small MS4s defined by federal regulations, only “Regulated Small MS4s” (also referred to as “Permittees” herein) must obtain an NPDES permit. Small MS4s are designated as Regulated Small MS4s in this Order in accordance with the criteria described in Findings 19-25.<sup>2</sup>
19. Under 40 Code of Federal Regulations section 122.32(a)(1) all Small MS4s located within an “urbanized area” as determined by the latest Decennial Census by the Bureau of the Census (Urbanized Area) are automatically designated as Regulated Small MS4s.
20. Under 40 Code of Federal Regulations sections 122.32(a)(2) and 123.35(b) the State Water Board is directed to develop a process, as well as criteria, to designate Small MS4s located outside of an Urbanized Area as Regulated Small MS4s. These criteria are to evaluate whether a storm water discharge results in or has the potential to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.
21. Under guidance provided in 40 Code of Federal Regulations section 123.35(b)(1)(ii), for determining other significant water quality impacts, U.S. EPA recommends a balanced consideration of the following designation criteria on a watershed or other local basis: discharge to sensitive waters, high growth or growth potential, high population density,

---

<sup>2</sup> In addition to the designation criteria specified in this Order, the State Water Board may designate a Small MS4 as a Regulated Small MS4 in response to a petition received under 40 Code of Federal Regulations section 122.26(f). Any person may petition the State Water Board to require an NPDES permit for a discharge composed entirely of storm water that contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States. (*Id.*). The State Water Board must make a final determination on any petition within 180 days after receiving the petition. (40 C.F.R. [§123.35\(c\)](#).)

contiguity to an urbanized area, significant contributor of pollutants to waters of the U.S., and ineffective protection of water quality by other programs.

22. The State Water Board is required to apply the designation criteria at a minimum to all Small MS4s located outside of Urbanized Areas serving jurisdictions with a population density of at least 1,000 people per square mile and a population of at least 10,000. (40 C.F.R. §123.35(b)(2).) The State Water Board has discretion to apply the criteria to jurisdictions with smaller population or lower density. All such jurisdictions are then Regulated Small MS4s.
23. In developing the designation criteria, the State Water Board included factors indicative of the potential to result in exceedances of water quality standards and other significant water quality impacts. The following criteria are used to designate Small MS4s outside of Urbanized Areas as Regulated Small MS4s in this Order.
  - a. The Small MS4 has high population *and* high population density – High population means a population of 10,000 or more. High population density means a density of 1,000 residents per square mile or greater. Also to be considered in this definition is a high density created by a non-residential population, such as tourists or commuters.
  - b. The Small MS4 discharges to Areas of Special Biological Significance (ASBS) as defined in the California Ocean Plan.
24. Designation of additional Small MS4s as Regulated Small MS4s may be made by the Regional Water Boards on a case by case basis. Case by case determinations of designation shall be based on the potential of a Small MS4's discharges to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts. Where such case by case designations have been recommended by the Regional Water Boards prior to adoption of this Order, the designated Small MS4s are listed on the relevant Attachments to the Order and the reasons for designation are laid out in the Fact Sheet. The Regional Water Boards may continue to make case by case determinations of designation during the permit term. Such designations must be approved by the Regional Water Board after public review and comment.
25. 40 Code of Federal Regulations section 123.35(b)(4) requires designation as a Regulated Small MS4 of any Small MS4 outside an Urbanized Area that contributes substantially to the pollutant loadings of a physically interconnected MS4 regulated by the NPDES storm water program. A Small MS4 is interconnected with a separately permitted MS4 if storm water that has entered the Small MS4 is allowed to flow directly into a permitted MS4. In general, if the Small MS4 discharges more than ten percent of its storm water to the permitted MS4, or its discharge makes up more than ten percent of the permitted MS4's total storm water volume, it is a significant contributor of pollutants to the permitted MS4. In specific cases, the MS4s involved or third parties may show that the ten percent threshold is inappropriate for the MS4 in question.
26. Regulated Small MS4s may seek a waiver from Phase II requirements if they meet criteria specified in 40 Code of Federal Regulations sections 122.32(c)-(e).<sup>3</sup> The State

---

<sup>3</sup> Waiver criteria also found at 40 C.F.R. 123.35(d).



Water Board has additionally provided for a waiver for those communities outside of urbanized areas with a population of 20,000 or less with an annual median household income (MHI) that is less than 80 percent of the statewide annual MHI. (Wat. Code, § 79505.5, subd. (a)).

27. Small MS4s face highly variable conditions both in terms of threats to water quality from their storm water discharges and resources available to manage those discharges. Therefore, one set of prescriptive requirements is not an appropriate regulatory approach for all Regulated Small MS4s. This Order distinguishes between New and Renewal Traditional Small MS4 Permittees. Additionally, this Order addresses differences between Traditional and Non-traditional Small MS4s by detailing Non-traditional Small MS4 specific provisions in Section F Non-Traditional Small MS4 Provisions. Provisions are tailored to address the diverse program structures of Non-traditional Small MS4s to allow for an appropriate regulatory approach.
28. There are variable levels of resources available to Regulated Small MS4s for public outreach and education and water quality monitoring. Recognizing this, the Order gives Permittees numerous compliance options in these two program areas. However, all Regulated Small MS4s that discharge to ASBS or impaired water bodies<sup>4</sup> must conduct monitoring as specified in Attachment C and Attachment G, respectively. All Regulated Small MS4s with a population of 50,000 or more must conduct monitoring specified in Sections E.13.d.1. or E.13.d.2. of the Order or as approved by the Executive Officer of the applicable Regional Board. Additionally, for the public outreach program, the Regional Water Boards may require the Regulated Small MS4s to utilize the approach of Community-Based Social Marketing.
29. Renewal Traditional Small MS4 Permittees shall comply with Section E. Certain provisions within Section E contain compliance dates that are past the effective date of this Order, in these cases, the Permittee shall implement its existing program until that date.
30. This Order modifies the existing General Permit, Order 2003-0005-DWQ by establishing the storm water management program requirements in the Order and defining the minimum acceptable elements of the municipal storm water management program. Minimum permit requirements are known at the time of permit issuance and not left to be determined later through Regional Water Board review and approval of Storm Water Management Plans (SWMPs).
31. The State Water Board recognizes the necessity of a storm water program guidance document specific to each Permittee to provide planning and guidance for each program area and to identify responsible implementing parties. Permittees must develop and implement a storm water program guidance document and must submit the document during the application process.
32. The State Water Board recognizes that in some instances Renewal Permittees' SWMPs that were approved under the prior General Permit, Order 2003-0005-DWQ have incorporated BMPs designed to address locality-specific storm water issues and that in some cases these

---

<sup>4</sup> A waterbody that has been determined under state policy and federal law not meet water quality standards. An impaired water is a water that has been listed on the California 303(d) list or has not yet been listed but otherwise meets the criteria for listing. A water is a portion of a surface water of the state, including ocean, estuary, lake, river, creek, or wetland. The water currently may not be meeting state water quality standards or may be determined to be threatened and have the potential to not meet standards in the future. The State of California's 303(d) list can be found at <http://www.swrcb.ca.gov/quality.html>.

BMPs may, because of locality-specific factors, be more protective of water quality than the minimum requirements established by this Order. Renewal Permittees will additionally include in the guidance document the following: identification and brief description of each BMP and associated measurable goal included in the Permittee's previously approved SWMP under the prior General Permit, Order 2003-0005-DWQ, that constitutes a more specific local or tailored level of implementation that may be more protective of water quality than the minimum requirements of this Order; and identification of whether the Permittee proposes to maintain, reduce, or cease implementation for each more protective, locally-tailored BMP. In no instance may a BMP be reduced or ceased if it is required by the minimum standards set by this Order.

33. Minimum measures have been established in this Order to simplify assessment of compliance and allow the public to more easily assess each Permittee's compliance.
34. Each provision establishes the required task description, minimum implementation levels (i.e., escalating enforcement, reporting requirements for tracking projects, number of monitoring sites, etc.), and reporting elements to substantiate that the Permittee meets these implementation levels. Regional Water Board staff will be able to evaluate each individual Permittee's compliance through Annual Report review and the program evaluation (audit) process.
35. The provisions contained in this Order were derived from two main U.S. EPA documents: MS4 Program Evaluation Guide<sup>5</sup> and the MS4 Permit Improvement Guide<sup>6</sup> along with interviews and information gathered from a lengthy collaborative stakeholder process.
36. Consistent with Clean Water Act section 402(p)(3)(B)(iii), this Order requires controls to reduce pollutants from the MS4 to the maximum extent practicable (MEP). The MEP standard requires Permittees to apply Best Management Practices (BMPs) that are effective in reducing or eliminating the discharge of pollutants to the waters of the U.S. MEP emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff. MEP may require treatment of the storm water runoff if it contains pollutants. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. BMP development is a dynamic process and may require changes over time as the Permittees gain experience and/or the state of the science and art progresses. To do this, the Permittees must conduct and document evaluation and assessment of each relevant element of its program, and their program as a whole, and revise activities, control measures/BMPs, and measurable goals, as necessary to meet MEP. MEP is the cumulative result of implementing, evaluating, and creating corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate BMPs are implemented in the most effective manner.
37. The Order's Receiving Water Limitations language is consistent with [State Water Board Order WQ 99-05 \(Orange County\)](#) adopted by the State Water Board on June 17, 1999. Receiving Water Limitations apply to all Permittees subject to this Order. The State Water Board held a workshop on November 20, 2012, to hear comments on the receiving water limitations provisions in MS4 permits. This Order has a reopener clause that will allow the State Water Board to reopen the Order if the Board directs changes to the Receiving Water Limitations language based on comments received.
38. Non-storm water discharges consist of all discharges from an MS4 that do not originate from precipitation events. This Order effectively prohibits non-storm water discharges through an

---

<sup>5</sup> Municipal Separate Storm Sewer System (MS4) Program Evaluation Guidance, USEPA, EPA-833-R-07-003, January 1, 2007

<sup>6</sup> MS4 Permit Improvement Guide, USEPA, April 1, 2010

MS4 into waters of the U.S. Certain categories of non-storm water discharges are conditionally exempt as specified at 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B)(1). Non-storm water discharges that are regulated by a separate NPDES permit are not subject to the discharge prohibition. Prohibited non-storm water discharges include conditionally exempt discharges that are found to be a significant source of pollutants to waters of the U.S.

39. Non-storm water discharges to ASBS are prohibited except as specified in the General Exception. Certain enumerated non-storm water discharges are allowed under the General Exception if essential for emergency response purposes, structural stability, slope stability, or if occur naturally. In addition, an NPDES permitting authority may authorize non-storm water discharges to an MS4 with a direct discharge to an ASBS to the extent the NPDES permitting authority finds that the discharge does not alter natural ocean water quality in the ASBS. This Order allows utility vault discharges to an MS4 with a direct discharge to an ASBS, provided the discharge is authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. The State Water Board is in the process of reissuing the General NPDES Permit for Utility Vaults. As part of the renewal, the State Water Board will require a study to characterize representative utility vault discharges to an MS4 with a direct discharge to an ASBS and will impose conditions on such discharges to ensure the discharges do not alter natural ocean water quality in the ASBS. Given the limited number and intermittent nature of utility vault discharges to MS4s that discharge directly to an ASBS, the State Water Board finds that discharges from utility vaults and underground structures to an MS4 with a direct discharge to an ASBS are not expected to result in a substantial alteration of natural ocean water quality in the ASBS in the interim period while the General NPDES Permit for Discharges from Utility Vaults is renewed and the study is completed. Other short-duration, intermittent non-storm water discharges related to LUPs (e.g. groundwater dewatering, potable water system flushing, hydrotest discharges) are regulated under NPDES permits issued by the Regional Water Boards. Although such discharges are not specifically enumerated in the General Exception as essential for emergency response purposes, structural stability, or slope stability, they may be required to ensure the safety and stability of the utility systems or for operations and maintenance and for extending these essential services. For this reason, and because the short-duration and intermittent nature of these discharges renders them unlikely to result in substantial alteration of natural ocean water quality in the ASBS, this Order permits such discharges to a segment of the MS4 with a direct discharge to an ASBS provided they are authorized by an NPDES permit issued by the State Water Board or relevant Regional Water Board. However, if a Regional Water Board determines a specific discharge from a utility vault or underground structure does alter the natural ocean water quality in an ASBS, the Regional Water Board may prohibit the discharge as specified in this Order.
40. Total Maximum Daily Loads (TMDL) are numerical calculations of the maximum amount of a pollutant that a water body can assimilate and still meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point sources (waste load allocations) and non-point sources (load allocations), background contribution, plus a margin of safety. Discharges from Small MS4s are point source discharges subject to TMDLs. This Order requires Permittees to comply with all applicable TMDLs approved pursuant to 40 Code of Federal Regulations section 130.7 that assign a Waste Load Allocation to Permittee and that have been identified in Attachment G. The high variance in the level of detail and specificity of TMDLs necessitates the development of more specific permit requirements in many cases to provide clarity to the Permittees regarding responsibilities for compliance. The Regional Water Boards have submitted TMDL-specific permit requirements to the State Water Board, for applicable TMDLs, along with statements explaining how the requirements are designed to achieve the goals of the TMDLs (incorporated into the Fact Sheet). The TMDL-specific permit requirements are summarized

in Attachment G and are an enforceable component of this Order. The Regional Water Boards are additionally being directed through this Order to review the TMDL-specific permit requirements of Attachment G in consultation with the Permittees and the State Water Board staff and propose any revisions to the State Water Board within one year of the effective date of this Order. TMDLs applicable to non-traditional dischargers in the region of the Los Angeles Regional Water Board are listed in Attachment G without TMDL-specific permit requirements. The Los Angeles Water Board is being directed to develop and propose TMDL-specific permit requirements for Attachment G in consultation with the Permittees and the State Water Board staff within one year of the effective date of this Order. Any such revisions will be incorporated into the permit through a reopener.

41. Degraded watershed processes lead to degraded water quality. To fully protect beneficial uses, post-construction runoff retention and hydromodification control criteria for individual projects must be derived with a knowledge of dominant watershed processes. Watershed management zones will be delineated by the State Board during this permit term. The Watershed management zones will be used to identify applicable areas and appropriate criteria for runoff retention and hydromodification control to be incorporated into the next permit. Regional Water Boards that approve watershed process-based criteria for post-construction during this permit term will be permitted to require Permittees to implement these criteria.
42. The post-construction requirements and design standards contained in this Order are consistent with [State Water Board Order WQ 2000-11](#) (*Bellflower*).
43. State Water Board, California State Parks and the State Historic Preservation Officer may coordinate efforts to manage post-construction projects involving historic sites, structures or landscapes that cannot alter their original configuration in order to maintain their historic integrity.
44. Permittees will submit Annual Reports electronically using the State Water Board's Storm Water Multi-Application Reporting and Tracking System (SMARTS). The purpose of the Annual Report is to evaluate (1) the implementation of Permittees' storm water program; (2) the effectiveness of BMPs and Measurable Goals, (3) the Permittee's improvement opportunities to achieve MEP, and (4) any supplemental information required by a Regional Water Board in accordance with the Regional Water Board's specific requirements.
45. To apply for General Permit coverage authorizing storm water discharges to surface waters pursuant to this Order, the Permittees shall electronically file a Notice of Intent (NOI) using SMARTS and mail the appropriate permit fee to the State Water Board. The NOI represents the Permittee's commitment to comply with the BMPs specified in this Order to achieve compliance with the minimum control measures specified at 40 Code of Federal Regulations sections 122.34 (b)(1) through (b)(6).
46. Under 40 Code of Federal Regulations section 122.35, a Separate Implementing Entity (SIE) can implement a storm water management program for another entity such as a municipality, agency, or special district. The SIE implements parts or all of a storm water program for a Permittee. Permittees relying on a SIE to implement their entire program must electronically file an NOI using SMARTS and mail appropriate fee to the State Water Board.
47. Each Permittee is individually responsible for adoption and enforcement of ordinances and/or policies, implementation of identified control measures/BMPs needed to prevent or reduce pollutants in storm water and operation and maintenance (O&M). Enforcement actions concerning this Order will be pursued only against the individual Permittee responsible for specific violations of this Order.



48. In accordance with 40 Code of Federal Regulations section 122.28(b)(3), a Regional Water Board may issue an individual MS4 NPDES Permit to a Permittee otherwise subject to this Order, or adopt an alternative general permit that covers storm water discharges regulated by this Order. In accordance with Code of Federal Regulations section 122.34(b)(3), a Regulated Small MS4 in the same urbanized area as a medium or large MS4 may jointly with the medium or large MS4 seek a modification of the other MS4s permit to be added as a limited co-permittee. The applicability of this Order is automatically terminated on the effective date of the individual permit or joint permit or the date of approval for coverage under the alternative general permit.
49. Certain BMPs implemented or required by Permittees for urban runoff management may create a habitat for vectors (e.g., mosquitoes and rodents) if not properly designed or maintained. Close collaboration and cooperation among the Permittees, local vector control agencies, Regional Water Board staff, and the California Department of Public Health is necessary to identify and implement appropriate vector control measures that minimize potential nuisances and public health impacts resulting from vector breeding.
50. 40 Code of Federal Regulations section 131.12 requires that state water quality standards include an anti-degradation policy consistent with the federal policy. The State Water Board established California's anti-degradation policy in [State Water Board Resolution No. 68-16](#). Resolution No. 68-16 incorporates the federal anti-degradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Water Quality Control Plans (Basin Plans) implement, and incorporate by reference, both the State and federal anti-degradation policies.
51. This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code § 21100, et seq.) in accordance with Water Code section 13389. (*County of Los Angeles v. Cal. Water Boards*, (2006), 143 Cal.App.4th 985.)
52. Following public notice in accordance with State and federal laws and regulations, the State Water Board, in a public hearing on August 8, 2012, heard and considered all comments. The State Water Board has prepared written responses to all significant comments.
53. The State Water Board has considered the costs of complying with this Order and whether the required BMPs meet the minimum MEP Standard required by federal law. Further discussion of cost of compliance is included in the Fact Sheet.
54. This Order shall serve and become effective as an NPDES permit and the Permittees shall comply with all its requirements pursuant to the timeframes identified within the permit.

IT IS HEREBY ORDERED that operators of Small MS4s subject to this Order shall comply with the following:

## A. APPLICATION REQUIREMENTS FOR ALL SMALL MS4 PERMITTEES

Any Small MS4s designated under this Order that chooses to apply for an individual permit or request to join the permit of a Phase I Permittee must notify the Regional Water Board of its intent to do so by July 1, 2013. Census Designated Places (CDPs) listed on Attachment A that are located within an existing NPDES permit area are not required to file for separate coverage and pay separate fees.

### A.1. Small MS4 Permittees (Except for Department of Defense and Department of Corrections and Rehabilitation Permittees)

- a. New Permittees shall electronically file an NOI via SMARTS and mail the appropriate fee to the State Water Board by July 1, 2013. Renewal Permittees shall electronically file an NOI via SMARTS and pay the appropriate application fee to the State Water Board. Any Renewal Permittees with paid 2013 application fee invoices shall receive a prorated refund. If the Permittee is designated as a Regulated Small MS4 by a Regional Water Board after adoption of this Order, the Permittee shall file the NOI and mail the appropriate fee within six months of the date of designation.
- b. General Permit coverage will be in effect upon receipt of the following:
  - 1) NOI via SMARTS
  - 2) Appropriate Fee (in accordance with the most recent fee schedule<sup>7</sup>)
  - 3) Permit boundary map delineating permit jurisdiction: At a minimum the map shall include the following:
    - (a) Phase II MS4 permit boundary based on 2010 Census data. For cities, the permit area boundary is the city boundary. For Counties, permit boundaries must include urbanized areas and places identified in Attachment A located within their jurisdictions. The boundaries must be proposed in the permit boundary map and may be developed in conjunction with the applicable Regional Water Board
    - (b) City/County Boundaries
    - (c) Main Arterial Streets
    - (d) Highways
    - (e) Waterways
    - (f) Phase I MS4 Permit Boundary (if applicable)
  - 4) Guidance document: The document shall at least include the following:

New Permittees:

    - (a) Overall program planning
    - (b) Identification of all permit requirements and responsible implementing parties

Renewal Permittees:

    - (a) Overall program planning
    - (b) Identification of all permit requirements and responsible implementing parties

---

<sup>7</sup> California Code of Regulations. Title 23. Division 3. Chapter 9 Waste Discharge Reports and Requirements. Article 1 Fees.

- (c) Identification and brief description of each BMP and associated measurable goal included in the Permittee's most current SWMP that constitutes a more specific local or tailored level of implementation that may be more protective of water quality than the minimum requirements of this Order.
- (d) Identification of whether the Permittee will maintain, reduce, or cease implementation for each more protective, locally-tailored BMP.
- (e) For any more protective, locally-tailored BMP and associated measurable goal for which the Renewal Permittee will reduce or cease implementation, the Renewal Permittee shall demonstrate to the Executive Officer of the relevant Regional Water Board that the reduction or cessation is in compliance with this Order and the maximum extent practicable standard, and will not result in increased pollutant discharges. The demonstration by the Permittee will be subject to public comment before any approval by the Executive Officer of reduction or cessation of BMPs. In no instance may the Renewal Permittee reduce or cease a BMP if it is required by the minimum standards set by this Order.

The guidance document may be in spreadsheet, tabular or narrative format.

#### A.2. Department of Defense and Department of Corrections and Rehabilitation Permittees

- a. Permittee shall electronically file an NOI via SMARTS and mail the appropriate fee to the State Water Board by July 1, 2013. If the Permittee is designated as a Regulated Small MS4 by a Regional Water Board after adoption of this Order, the Permittee shall file the NOI and mail the appropriate fee within six months of the date of designation.
- b. General Permit coverage will be in effect upon receipt of the following:
  - 1) NOI via SMARTS
  - 2) Appropriate fee (in accordance with the most recent fee schedule<sup>8</sup>)
  - 3) Permit boundary map as developed by the Permittee

Renewal MS4s must continue implementing their current storm water management programs until submittal of a NOI via SMARTS.

#### A.3. Waiver Certification

Regulated Small MS4s may seek a waiver from the General Permit requirements if they meet criteria specified in 40 C.F.R. §122.32(c)-(e) or additional criteria specified in A.3.b.(3) below.

In order for a Regional Water Board to waive requirements for a Regulated Small MS4, (1) the Regulated Small MS4 must certify that its discharges do not cause or contribute to, or have the potential to cause or contribute to, a water quality impairment, and (2) the Regulated Small MS4 must meet one of the waiver options in Section b below:

- a. Waiver Certification Application Requirements - A Waiver Certification will only be in effect upon completion of the following:

---

<sup>8</sup> California Code of Regulations. Title 23. Division 3. Chapter 9 Waste Discharge Reports and Requirements. Article 1 Fees.

- 1) Annual Waiver Certification submitted via SMARTS.
- 2) Annual Waiver Certification renewal fee of \$200 plus any applicable surcharge.
- 3) Letter via SMARTS from Regional Water Board or its Executive Officer waiving requirements.

Requirements are automatically waived if the Regional Water Board does not respond within six months.

b. Waiver Criteria

(1) Option 1

- (a) The jurisdiction served by the system is less than 1,000 people;
- (b) The system is not contributing substantially (as defined in Finding 25) to the pollutant loadings of a physically interconnected regulated MS4; and
- (c) If the small MS4 discharges any pollutants identified as a cause of impairment of any water body to which it discharges, storm water controls are not needed based on WLAs that are part of a U.S.EPA approved or established TMDL that addresses the pollutant(s) of concern.

(2) Option 2

- (a) The jurisdiction served by the system is less than 10,000 people;
- (b) The Regional Water Board has evaluated all waters of the U.S. that receive a discharge from the system;
- (c) The Regional Water Board has determined that storm water BMPs are not needed based on WLAs that are part of a U.S. EPA approved or established TMDL that addresses the pollutant(s) of concern or an equivalent analysis; and
- (d) The Regional Water Board has determined that future discharges from the Regulated Small MS4 do not have the potential to result in exceedances of water quality standards.

(3) Option 3 (applicable to Small MS4s outside an Urbanized Area only)

Small Disadvantaged Community – The Regulated Small MS4 certifies that it is a community with a population of 20,000 or less with an annual median household income (MHI) that is less than 80 percent of the statewide annual MHI. (Wat. Code, § 79505.5 , subd.(a)).

If the Waiver Certification Application Requirements or conditions of any waiver option are not met by the Regulated Small MS4, then the Regulated Small MS4 must submit a NOI via SMARTS and appropriate fee for coverage under this General Permit or apply for an individual NPDES permit.

The State Water Board or a Regional Water Board can, at any time, require a previously waived Regulated Small MS4 to comply with this General Permit or an individual NPDES permit if circumstances change so that the conditions of the waiver are no longer met. Changed circumstances can also allow a Regulated Small MS4 to request a waiver at any time.



## B. DISCHARGE PROHIBITIONS

1. Discharges of waste from the MS4 that are prohibited by Statewide Water Quality Control Plans or applicable Regional Water Quality Control Plans (Basin Plans) are prohibited.
2. Discharges of storm water from the MS4 to waters of the U.S. in a manner causing or threatening to cause a condition of pollution or nuisance as defined in Water Code § 13050 are prohibited.
3. Discharges through the MS4 of material other than storm water to waters of the U.S. shall be effectively prohibited, except as allowed under this Provision or as otherwise authorized by a separate NPDES permit. The following non-storm water discharges are not prohibited provided any pollutant discharges are identified and appropriate control measures to minimize the impacts of such discharges, are developed and implemented under the Permittee's storm water program. This provision does not obviate the need to obtain any other appropriate permits for such discharges.
  - a. water line flushing;
  - b. individual residential car washing;
  - c. diverted stream flows;
  - d. rising ground waters;
  - e. uncontaminated ground water infiltration (as defined at 40 C.F.R. §35.2005(20)) to separate storm sewers;
  - f. uncontaminated pumped ground water;
  - g. discharges from potable water sources;
  - h. foundation drains;
  - i. air conditioning condensation;
  - j. springs;
  - k. water from crawl space pumps;
  - l. footing drains;
  - m. flows from riparian habitats and wetlands;
  - n. dechlorinated swimming pool discharges; and
  - o. incidental runoff from landscaped areas(as defined and in accordance with Section B.4 of this Order).

Discharges or flows from fire-fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the U.S.

If a Permittee or a Regional Water Board Executive Officer determines that any individual or class of non-storm water discharge(s) listed above may be a significant source of pollutants to waters of the U.S. or physically interconnected MS4, or poses a threat to water quality standards (beneficial uses), the Regional Water Board Executive Officer may require the appropriate Permittee to monitor and submit a report and to implement BMPs on the discharge.

4. Discharges in excess of an amount deemed to be incidental runoff shall be controlled. Regulated Small MS4s shall require parties responsible for such to implement Sections B.4.a-d below. Incidental runoff is defined as unintended amounts (volume) of runoff,

such as unintended, minimal over-spray from sprinklers that escapes the area of intended use. Water leaving an intended use area is not considered incidental if it is part of the facility design, if it is due to excessive application, if it is due to intentional overflow or application, or if it is due to negligence.

Parties responsible for controlling runoff in excess of incidental runoff shall:

- a. Detect leaks (for example, from broken sprinkler heads) and correct the leaks within 72 hours of learning of the leak;
- b. Properly design and aim sprinkler heads;
- c. Not irrigate during precipitation events; and
- d. Manage pond containing recycled water such that no discharge occurs unless the discharge is a result of a 25-year, 24-hour storm event or greater, and the appropriate Regional Water Board is notified by email no later than 24 hours after the discharge. The notification is to include identifying information, including the Permittee's name and permit identification number.

Non-storm water runoff discharge that is not incidental is prohibited, unless otherwise specified in Section B.3 above.

Incidental runoff may be regulated by waste discharge requirements or, where necessary, waste discharge requirements that serve as a NPDES permit, including MS4 permits.

5. Discharge to Areas of Special Biological Significance (ASBS) is prohibited except in compliance with the ASBS Special Protection Provisions in Attachment C. Regulated Small MS4s that discharge to an ASBS are listed in Attachment D and are subject to the ASBS Special Protection Provisions.

## **C. EFFLUENT LIMITATIONS**

1. Permittees shall implement controls as required by this Order to reduce the discharge of pollutants from their MS4s to waters of the U. S. to the MEP. Permittees shall additionally reduce the discharge of pollutants (1) to achieve TMDL waste load allocations (WLAs) established for discharges by the MS4s and (2) to comply with the Special Protections for discharges to ASBS.
2. Storm water discharges regulated by this Order shall not contain a hazardous substance in amounts equal to or in excess of a reportable quantity listed in 40 C.F.R. Part 117 or 40 C.F.R. Part 302.

## **D. RECEIVING WATER LIMITATIONS**

Discharges shall not cause or contribute to an exceedance of water quality standards contained in a Statewide Water Quality Control Plan, the California Toxics Rule (CTR), or in the applicable Regional Water Board Basin Plan.

The Permittee shall comply with Receiving Water Limitations through timely implementation of control measures/BMPs and other actions to reduce pollutants in the discharges and other requirements of this Order including any modifications. The storm water program shall be designed to achieve compliance with Receiving Water Limitations. If exceedance(s) of water quality objectives or water quality standards persist notwithstanding implementation of other storm water program requirements of this Order, the Permittee shall assure compliance with Receiving Water Limitations by complying with the following procedure:

1. Upon a determination by either the Permittee or the Regional Water Board that MS4 discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall promptly notify and thereafter submit a report to the Regional Water Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report shall include an implementation schedule. The Regional Board may require modifications to the report;
2. Submit any modifications to the report required by the Regional Water Board within 30 days of notification;
3. Implement the actions specified in the report in accordance with the approved schedule;
4. So long as the Permittee has complied with the procedure set forth above and is implementing the actions, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the State Water Board or the Regional Water Board to develop additional BMPs.

## **E. PROVISIONS FOR ALL TRADITIONAL SMALL MS4 PERMITTEES**

### **E.1. RENEWAL TRADITIONAL SMALL MS4 PERMITTEES**

All Renewal Traditional Small MS4s Permittees shall comply with this Section. Where the requirements of a certain subsection provide a compliance date that is past the effective date of this Order, the Renewal Traditional Small MS4 shall implement its existing program until that date.

### **E.2. NEW TRADITIONAL SMALL MS4 PERMITTEES**

New Traditional Small MS4s shall comply with this Section.

### **E.3. NON-TRADITIONAL SMALL MS4S PERMITTEES**

**E.3.a.** All Renewal Non-Traditional Small MS4 Permittees shall comply with Section F of this Order. Where the requirements of a certain subsection provide a compliance date that is past the effective date of this Order, the Renewal Non-Traditional Small MS4 shall implement its existing program until that date.

**E.3.b.** New Non-Traditional Small MS4s Permittees shall comply with Section F of this Order.

### **E.4. SMALL MS4 ASBS PERMITTEES**

Both Traditional and Non-traditional Small MS4s Permittees that discharge to ASBS as listed on Attachment D shall comply with Attachment C in addition to all other applicable provisions of this Order.

### **E.5. SEPARATE IMPLEMENTING ENTITY (SIE)**

Permittees, both Traditional and Non-traditional Small MS4s, may rely on a SIE to satisfy one or more of the permit obligations, if the SIE can appropriately and adequately address the storm water issues of the Permittee. The SIE must agree to implement the BMPs, or components thereof, to achieve compliance with this Order. If the SIE fails to implement the BMPs, the Permittee remains responsible for compliance with this Order.

### **E.6. PROGRAM MANAGEMENT ELEMENT**

To effectively implement a coordinated storm water program, the Permittee shall have an overarching Program Management element in its storm water management program. The Program Management element shall include the following:

#### **E.6.a. Legal Authority**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall review and revise relevant ordinances or other regulatory mechanisms, or adopt any new ordinances or other regulatory mechanisms, to obtain adequate legal authority, to the extent allowable under state or local law, to control pollutant discharges into and from, as applicable, its MS4, and to meet the requirements of this Order.
- (ii) **Implementation Level** –At a minimum, the Permittee shall have adequate legal authority to:
  - (a) Effectively prohibit non-storm water discharges through the MS4. Exceptions to this prohibition are NPDES-permitted discharges of non-storm water and non-storm water discharges in B.3 that are considered non-significant contributors of pollutants. Where the non-storm water discharge is to a segment of an MS4 that discharges directly to an ASBS, exceptions to the non-storm water prohibition are specified in Attachment C.

- (b) Detect and eliminate illicit discharges and illegal connections to the MS4. Illicit connections include pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4. Illicit discharges include all non-storm water discharges not otherwise authorized in this Order, including discharges from organized car washes, mobile cleaning and pressure wash operations,
- (c) Respond to the discharge of spills, and prohibit dumping or disposal of materials other than storm water into the MS4.
- (d) Require parties responsible for runoff in excess of incidental runoff to implement Discharge Prohibition B.4.a-e.
- (e) Require operators of construction sites, new or redeveloped land; and industrial and commercial facilities to minimize the discharge of pollutants to the MS4 through the installation, implementation, or maintenance of BMPs consistent with the California Storm Water Quality Association (CASQA) Best Management Practice Handbooks or equivalent.
- (f) Require information deemed necessary to assess compliance with this Order. The Permittee shall only require information in compliance with the Homeland Security Act or any other federal law that concerns security in the United States. The Permittee shall also have the authority to review designs and proposals for new development and redevelopment to determine whether adequate BMPs will be installed, implemented, and maintained during construction and after final stabilization (post-construction).
- (g) Enter private property for the purpose of inspecting, at reasonable times, any facilities, equipment, practices, or operations for active or potential storm water discharges, or non-compliance with local ordinances/standards or requirements in this Order, as consistent with any applicable state and federal laws.
- (h) Require that dischargers promptly cease and desist discharging and/or cleanup and abate a discharge, including the ability to:
  - 1) Effectively require the discharger to abate and clean up their discharge, spill, or pollutant release within 72 hours of notification; high risk spill should be cleaned up as soon as possible.
  - 2) Require abatement within 30 days of notification, for uncontrolled sources of pollutants that could pose an environmental threat;
  - 3) Perform the clean-up and abatement work and bill the responsible party, if necessary;
  - 4) Provide the option to order the cessation of activities until such problems are adequately addressed if a situation persists where pollutant-causing sources or activities are not abated;
  - 5) Require a new timeframe and notify the appropriate Regional Water Board when all parties agree that clean-up activities cannot be completed within the original timeframe and notify the appropriate Regional Water Board in writing within five business days of the determination that the timeframe requires revision.
- (i) When warranted, have the ability to:
  - 1) Levy citations or administrative fines against responsible parties either immediately at the site, or within a few days.



- 2) Require recovery and remediation costs from responsible parties.
- (j) Impose more substantial civil or criminal sanctions (including referral to a city or district attorney) and escalate corrective response, consistent with its Enforcement Response Plan developed pursuant to Section E.6.c., for persistent non-compliance, repeat or escalating violations, or incidents of major environmental harm.

#### **E.6.b. Certification**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall certify by its Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative as described in 40 Code of Federal Regulations section 122.22(b) that the Permittee has and will maintain full legal authority to implement and enforce each of the requirements contained in this Order.
- (ii) **Implementation Level** – The Permittee’s certification statement shall include the following:
  - (a) Identification of all departments within the Permittee’s jurisdiction that conduct storm water-related activities and their roles and responsibilities under this Order.
  - (b) Citation of storm water runoff related ordinances, identification of the topics each ordinance addresses;
  - (c) Identification of the local administrative and legal procedures and ordinances available to mandate compliance with storm water-related ordinances and therefore with the conditions of this Order.
  - (d) A description of how storm water related-ordinances are reviewed and implemented.
  - (e) A statement that the municipality will implement enforcement actions consistent with its Enforcement Response Plan developed pursuant to Section E.6.c.
- (iii) **Reporting** – All Permittees shall submit in the second year online Annual Report, a statement signed by an authorized signatory certifying the Permittee has adequate legal authority to comply with all Order requirements.

#### **E.6.c. Enforcement Measures and Tracking**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement an Enforcement Response Plan. The Enforcement Response Plan shall contain enforcement procedures and actions and identify the Permittee’s responses to violations and describe how the Permittee will address repeat and continuing violations by implementing progressively stricter responses as needed to achieve compliance.
- (ii) **Implementation Level** - The Enforcement Response Plan shall describe how the Permittee will use each of the following types of enforcement responses based on the type of violation:
  - (a) Verbal Warnings – Verbal warnings are primarily consultative in nature. At a minimum, verbal warnings shall specify the nature of the violation and required corrective action.

- (b) Written Notices – Written notices shall include nature of the violation and the required corrective action, with deadlines for taking such action.
- (c) Escalated Enforcement Measures – The Permittee shall establish legal authority to employ any combination of the enforcement actions below (or their functional equivalent), and to escalate enforcement responses where necessary to correct persistent non-compliance, repeat or escalating violations, or incidents of major environmental harm:
  - 1) Citations (with Fines) – The Enforcement Response Plan shall describe when the Permittee will assess monetary fines, which may include civil and administrative penalties.
  - 2) Stop Work Orders – The Enforcement Response Plan shall describe when the Permittee will issue stop work orders that require construction activities to be halted, except for those activities directed at cleaning up, abating discharge, and installing appropriate BMPs.
  - 3) Withholding of Plan Approvals or Other Authorizations – Where a facility is in non-compliance, the Enforcement Response Plan shall describe how the Permittee’s own approval or authorization processes that affect the facility’s ability to discharge to the MS4 can be used to abate the violation.
  - 4) Additional Measures – The Enforcement Response Plan may also describe other escalated measures the Permittee has under its local legal authorities. For example, the Permittee may need to improve erosion control measures and collect the funds to pay for work and materials from the responsible party by either collecting against the project’s bond or directly billing the responsible party.
- (d) NPDES Permit Referrals–For those construction projects or industrial facilities subject to the State’s Construction General Permit (CGP) or Industrial General Permit (IGP), the Permittee shall:
  - 1) Refer non-filers (i.e., those facilities that cannot demonstrate that they obtained permit coverage) to the appropriate Regional Water Board within 30 days of making that determination, or file a complaint on the State Water Board’s website:  
[http://www.dtsc.ca.gov/database/CalEPA\\_Complaint/index.cfm](http://www.dtsc.ca.gov/database/CalEPA_Complaint/index.cfm). In making such referrals, at a minimum include the following documentation:
    - a) Construction project or industrial facility location.
    - b) Name of owner or operator.
    - c) Estimated construction project size or type of industrial activity (including the Standard Industrial or the North American Industry Classification, if known).
    - d) Records of communication with the owner or operator regarding filing requirements.
  - 2) Refer ongoing violations to the appropriate Regional Water Board provided that the Permittee has made a good faith effort of progressive enforcement to achieve compliance with its own ordinances. At a minimum, the Permittee’s good faith effort shall include documentation

of two follow-up inspections and two warning letters or notices of violation. In making such referrals, the Permittee shall include, at a minimum, the following information:

- a) Construction project or industrial facility location
  - b) Name of owner or operator
  - c) Estimated construction project size or type of industrial activity (including Standard Industrial Classification or North American Industry Classification System if known)
  - d) Records of communication with the owner or operator regarding the violation, including at least two follow-up inspections, two warning letters or notices of violation, and any response from the owner or operator
  - e) Enforcement Tracking –Track instances of non-compliance via hard-copy files or electronically. The enforcement tracking documentation shall include, at a minimum, the following:
    - (1) Name of owner/operator
    - (2) Location of construction project or industrial facility
    - (3) Description of violation
    - (4) Required schedule for returning to compliance
    - (5) Description of enforcement response used, including escalated responses if repeat violations occur or violations are not resolved within the time specified in the enforcement action.
    - (6) Accompanying documentation of enforcement response (e.g., notices of noncompliance, notices of violations, etc.)
    - (7) Any referrals to different departments or agencies
  - f) Recidivism Reduction – The Permittee shall identify chronic violators of any provision of this Order or of any related local ordinance or regulation and reduce the rate of noncompliance recidivism. The Permittee shall develop incentives, disincentives, or increase inspection frequency at the operator's sites to prevent chronic violations.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

## **E.7. EDUCATION AND OUTREACH PROGRAM**

Traditional Small MS4 Permittees may be required to implement Community-Based Social Marketing (CBSM) requirements as detailed in Attachment E upon determination by a Regional Board Executive Officer. The Regional Board Executive Officer shall notify Permittees within

three months of the permit adoption date of their determination to require CBSM.<sup>9</sup> The notification shall include a statement of reasons why the Executive Officer finds that implementation of CBSM is appropriate. If the Permittee disagrees with the Executive Officer determination, the Permittee may bring the dispute to the State Water Board Executive Director or his designee as specified under the Dispute Resolution provision of this Order.

#### **E.7.a. Public Education and Outreach**

Within the first year of the effective date of the permit, all Permittees shall comply with the requirements in this Section by selecting one or more of the following Public Education and Outreach options:

- 1) Contributing to a countywide storm water program, as determined appropriate by the Permittee members, so that the countywide storm water program conducts outreach and education on behalf of its members; or
- 2) Contributing to a regional outreach and education collaborative effort (a regional outreach and education collaborative effort occurs when all or a majority of the Permittees collaborate to conduct regional outreach and education. Regional outreach and education collaboration includes Permittees defining a uniform and consistent message, deciding how best to communicate the message, and how to facilitate behavioral changes, then collaboratively apply what is learned through local jurisdiction groups, pooling resources and skills.); or
- 3) Fulfilling outreach and education requirements within their jurisdictional boundaries on their own; or
- 4) A combination of the previous options, so that all requirements are fulfilled.

**Reporting** – By the first year Annual Report, the Permittee shall submit information indicating which Public Education and Outreach option(s) it will use to comply with this Section. For each option involving a contribution to a countywide storm water program or regional outreach and education collaborative effort, the Permittee shall complete and have available in the first year Annual Report documentation, such as a written agreement, letter or similar document, which confirms the collaboration with other MS4s.

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop and implement a comprehensive storm water public education and outreach program. The public education and outreach program shall be designed to reduce pollutant discharges in storm water runoff and non-storm water discharges to the MS4 through increased storm water knowledge and awareness in target communities. The Public Education and Outreach Program shall be designed to measurably increase the knowledge and awareness of targeted audience regarding the municipal storm drain system, impacts of urban runoff and non-storm water discharges on receiving waters, and potential BMP solutions for the target audiences, thereby reducing pollutant releases to the MS4 and the environment.

---

<sup>9</sup> Getting in Step, A Guide to, Conducting Watershed Outreach Campaigns, 3<sup>rd</sup> Edition, November 2010, EPA 841-B-10-002, USEPA, Office of Water.

(ii) **Implementation Level** –The Permittee shall, at a minimum:

- (a) Develop and implement a public education strategy that establishes education tasks based on water quality problems, target audiences, and anticipated task effectiveness. The strategy must include identification of who is responsible for implementing specific tasks and a schedule for task implementation. The strategy must demonstrate how specific high priority storm water quality issues in the community or local pollutants of concern are addressed.
- (b) Implement surveys at least twice during the permit term to gauge the level of awareness in target audiences and effectiveness of education tasks.
- (c) Develop and convey a specific storm water message that focuses on the following:
  - 1) Local pollutants of concern
  - 2) Target audience
  - 3) Regional water quality issues
- (d) Develop and disseminate appropriate educational materials to target audiences and translate into applicable languages when appropriate (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, stenciling at storm drain inlets, radio advertisements, television advertisements, and websites);
- (e) Utilize public input (e.g., the opportunity for public comment, or public meetings) in the development of the program;
- (f) Distribute the educational materials, using whichever methods and procedures determined appropriate during development of the public education strategy;
- (g) Convey messages to explain the benefits of water-efficient and storm water-friendly landscaping<sup>10</sup>, using existing information if available;
- (h) Develop and convey messages specific to reducing illicit discharges with information about how the public can report incidents to the appropriate authorities. The Permittee must promote, publicize, and facilitate public reporting of illicit discharges or water quality impacts associated with discharges into or from MS4s through a central contact point, including phone numbers for complaints and spill reporting, and publicize to both internal Permittee staff and the public. If 911 is selected, the Permittee must also create, maintain, and publicize a staffed, nonemergency phone number with voicemail, which is checked daily;
- (i) Develop and convey messages specific to proper application of pesticides, herbicides, and fertilizers;
- (j) Within the Permittee's jurisdiction, provide independent, parochial, and public schools with materials to effectively educate school –age children about storm water runoff and how they can help protect water quality habitat in their local watershed (s). The Permittee is encouraged to use environmental and place-based, experiential learning materials that are integrated into school curricula and school facility management<sup>11</sup>. In the case that an environmental and place-

---

<sup>10</sup> For example, Surfrider's Ocean Friendly Garden Program (<http://www.surfrider.org/programs/entry/ocean-friendly-gardens>) and the Water Efficient Landscape Ordinance (WELO)

<sup>11</sup> For example, Splash ([www.sacsplash.org/](http://www.sacsplash.org/)), Effie Yeaw Nature Center ([www.sacnature.net](http://www.sacnature.net)) or Yolo Basin ([www.yolobasin.org](http://www.yolobasin.org))



based, experiential learning local program does not exist, the Permittee may use California's Education and Environment Initiative Curriculum<sup>12</sup> or equivalent.

- (k) Develop (or coordinate with existing, effective programs) and convey messages specific to reducing discharges from organized car washes, mobile cleaning and pressure washing operations, and landscape irrigation.
- (l) Conduct storm water-friendly education for organized car wash participants and provide information pertaining to car wash discharge reduction. The Permittee may use the Sacramento Stormwater Quality Partnership's River Friendly Carwash Program<sup>13</sup>, or equivalent, for guidance.
- (m) Develop and convey messages specific to mobile cleaning and pressure wash businesses.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a. for compliance directions.

## **E.7.b. Staff and Site Operator Training and Education**

### **E.7.b.1. Illicit Discharge Detection and Elimination Training**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement a training program for all Permittee staff who, as part of their normal job responsibilities, may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection to the storm drain system.
- (ii) **Implementation Level** – The training program shall include at a minimum:
  - (a) Identification of an illicit discharge or illegal connection.
  - (b) Proper procedures for reporting and responding to the illicit discharge or illegal connection.
  - (c) Follow-up training shall be provided as needed to address changes in procedures, techniques, or staffing.
  - (d) An annual assessment of their trained staff's knowledge of illicit discharge response and refresher training as needed.
  - (e) Training for new staff who, as part of their normal job responsibilities may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection shall be trained no later than six months after the start of employment.
  - (f) Contact information, including the procedure for reporting an illicit discharge, shall be included in each of the Permittee's fleet vehicles that are used by field staff.
  - (g) Focused education on identified illicit discharges and associated illicit discharge locations.

---

<sup>12</sup> <http://www.californiaeei.org/>

<sup>13</sup> <http://www.beriverfriendly.net/riverfriendlycarwashing/>

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.7.b.2. Construction Outreach and Education**

##### **(a) Permittee Staff Training**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall ensure that all staff implementing the construction site storm water runoff control program are adequately trained.
- (ii) **Implementation Level** – The Permittee may conduct in-house training or contract with consultants. Training shall be provided to the following staff positions of the MS4:
  - (a) Plan Reviewers and Permitting Staff - The Permittee shall ensure plan reviewers and permitting staff are qualified individuals, knowledgeable in the technical review of local erosion and sediment control plans, (including proper control measure selection, installation, implementation, and maintenance, as well as administrative requirements such as inspection reporting/tracking and the use of the Permittee's enforcement responses), and are certified pursuant to a State Water Board sponsored program as a Qualified Storm Water Pollution Prevention Plan (SWPPP) Developer (QSD), or a designated person on staff possesses the QSD credential.
  - (b) Erosion Sediment Control/Storm Water Inspectors - The Permittee shall ensure inspectors are qualified individuals, knowledgeable in inspection procedures, and are certified pursuant to a State Water Board sponsored program as either (1) a Qualified SWPPP Developer (QSD); (2) a Qualified SWPPP Practitioner (QSP); or (3) a designated person on staff possesses each credential (QSD to supervise plan review, QSP to supervise inspection operations).
  - (c) Third-Party Plan Reviewers, Permitting Staff, and Inspectors - If the Permittee utilizes outside parties to review plans and/or conduct inspections, the Permittee shall ensure these staff are trained.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

## **(b) Construction Site Operator Education**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and distribute educational materials to construction site operators.
- (ii) **Implementation Level** – The Permittee shall do the following:
  - (a) Each year, provide information on training opportunities for construction operators on BMP selection, installation, implementation, and maintenance as well as overall program compliance.
  - (b) Develop or utilize existing outreach tools (i.e. brochures, posters, etc.) aimed at educating construction operators on appropriate selection, installation, implementation, and maintenance of storm water BMPs, as well as overall program compliance.
  - (c) Distribute appropriate outreach materials to all construction operators who will be disturbing land within the MS4 boundary. The Permittee's contact information and website shall be included in these materials.
  - (d) Update the existing storm water website, as necessary, to include information on appropriate selection, installation, implementation, and maintenance of BMPs.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a. for compliance directions.

## **E.7.b.3. Pollution Prevention and Good Housekeeping Staff Training**

The Permittee shall train employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations.

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop a biennial employee training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices as specified in Section E.11. Pollution Prevention/Good Housekeeping for Permittee Operations of this Order. The Permittee shall determine the need for interim training during alternate years when training is not conducted, through an evaluation of employee Pollution Prevention/Good Housekeeping knowledge. All new hires whose jobs include implementation of pollution prevention and good housekeeping practices must receive this training within the first year of their hire date.
- (ii) **Implementation Level** – The training program shall include the following:
  - (a) Biennial training for all employees implementing this program element. This biennial training shall include a general storm water education component, any new technologies, operations, or responsibilities that arise during the year, and the permit requirements that apply to the staff being trained. Employees shall

receive clear guidance on appropriate storm water BMPs to use at municipal facilities and during typical O&M activities.

- (b) A biennial assessment of trained staff's knowledge of pollution prevention and good housekeeping and shall revise the training as needed.
- (c) A requirement that any contractors hired by the Permittee to perform O&M activities shall be contractually required to comply with all of the storm water BMPs, good housekeeping practices, and standard operating procedures described above.
- (d) The Permittee shall provide oversight of contractor activities to ensure that contractors are using appropriate BMPs, good housekeeping practices and following standard operating procedures.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

## **E.8. PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall involve the public in the development and implementation of activities related to the program. The public participation and involvement program shall encourage volunteerism, public comment and input on policy, and activism in the community. The Permittee shall also be involved in their Integrated Regional Water Management Plan (IRWMP) or other watershed-level planning effort, if applicable.
- (ii) **Implementation Level** – At a minimum, the Permittee shall:
  - (a) Develop a public involvement and participation strategy that establishes who is responsible for specific tasks and goals.
  - (b) Consider development of a citizen advisory group (either a stand-alone group or utilize an existing group or process). The advisory group may consist of a balanced representation of all affected parties, including residents, business owners, and environmental organizations in the MS4 service area and/or affected watershed. The Permittee may invite the citizen advisory group to participate in the development and implementation of all parts of the community's storm water program.
  - (c) Create opportunities for citizens to participate in the implementation of BMPs through sponsoring activities (e.g., stream/beach/lake clean-ups, storm drain stenciling, volunteer monitoring and educational activities).
  - (d) Ensure the public can easily find information about the Permittee's storm water program.
  - (e) Actively engage in the Permittee's IRWMP or other watershed-level planning effort.

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

## E.9. ILLICIT DISCHARGE DETECTION AND ELIMINATION

The Permittee shall develop an Illicit Discharge Detection and Elimination program to detect, investigate, and eliminate illicit discharges, including illegal dumping, into its system, to the extent allowable under law.<sup>14</sup> The Permittee may utilize the CWP's guide on Illicit Discharge Detection and Elimination as guidance.

### E.9.a. Outfall Mapping

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall create and maintain an up-to-date and accurate outfall map<sup>15</sup>. The map may be in hard copy and/or electronic form or within a geographic information system (GIS) the development of the outfall map shall include a visual outfall inventory involving a site visit to each outfall. Renewal Permittees that have an existing up-to-date outfall map that includes the minimum requirements specified in Section E.9.a.(ii)(a-e) are not required to re-create the outfall map. This does not exempt Renewal Permittees with an existing outfall map from conducting the field sampling specified in Section E.9.c.
- (ii) **Implementation Level** - The outfall map shall at a minimum show:
- (a) The location of all outfalls<sup>16</sup> that are operated by the Permittee within the urbanized area, drainage areas, and land use(s) contributing to those outfalls that are operated by the Permittee, and that discharge within the Permittee's jurisdiction to a receiving water. Each mapped outfall shall be located using coordinates obtained from a global positioning system (GPS) and given an individual alphanumeric identifier, which shall be noted on the map. Photographs or an electronic database shall be utilized to provide baseline information and track operation and maintenance needs over time.
  - (b) The location (and name, where known to the Permittee) of all water bodies receiving direct discharges from those outfall pipes.
  - (c) Priority areas, including, but not limited to the following:

---

<sup>14</sup> The Permittee shall use the Center for Watershed Protection's guide on Illicit Discharge Detection and Elimination (IDDE): A Guidance Manual for Program Development and Technical Assistance (available at [www.cwp.org](http://www.cwp.org)) or equivalent when developing an IDDE program. Guidance can also be found at: <http://cfpub.epa.gov/npdes/stormwater/idde.cfm>.

<sup>15</sup> The Permittee may utilize existing forms such as the CWP Outfall Reconnaissance Inventory/Sample Collection Field Sheet while conducting the mapping inventory and Field Sampling as specified below, in Section E.9.c. (<http://cfpub.epa.gov/npdes/stormwater/idde.cfm>).

<sup>16</sup> Submerged outfalls or other outfalls that may pose a threat to public safety and/or that are inaccessible are not required to be inventoried.



- 1) Areas with older infrastructure that are more likely to have illegal connections and a history of sewer overflows or cross-connections
- 2) Industrial, commercial, or mixed use areas;
- 3) Areas with a history of past illicit discharges;
- 4) Areas with a history of illegal dumping;
- 5) Areas with onsite sewage disposal systems;
- 6) Areas upstream of sensitive water bodies;
- 7) Areas that drain to outfalls greater than 36 inches that directly discharge to the ocean; and
- 8) Other areas that are likely to have illicit discharges

The priority area list shall be updated annually.

(d) Field sampling stations

(e) The permit boundary

Submerged outfalls or other outfalls that may pose a threat to public safety and/or that are inaccessible are not required to be inventoried.

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.9.b. Illicit Discharge Source/Facility Inventory**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall maintain an inventory of all industrial/commercial facilities/sources within the Permittee's jurisdiction (regardless of ownership) that could discharge pollutants in storm water to the MS4. The Permittee shall utilize the inventory to identify facilities for inspections of potential illicit discharges.
- (ii) **Implementation Level** - The inventory shall include the following:
- (a) Minimum information for each industrial facility/source:
    - Facility name;
    - Address;
    - Nature of business or activity;
    - Physical location (decimal latitude-longitude) of storm drain receiving discharge;
    - Name of receiving water and if the facility/source is tributary to a Clean Water Act Section 303(d) listed water body segment or water body segment subject to a TMDL;
    - Incorporation of facility information into GIS is optional.

- (b) At a minimum, the following industrial and commercial facilities/sources shall be included in the inventory.
- Vehicle salvage yards
  - Metal and other recycled materials collection facilities
  - Waste transfer facilities
  - Vehicle mechanical repair, maintenance or cleaning
  - Building trade central facilities or yards
  - Corporation yards
  - Landscape nurseries and greenhouses
  - Building material retailers and storage
  - Plastic manufacturers
  - Other facilities designated by the Permittees or Regional Water Boards to have reasonable potential to contribute to pollution of storm water runoff
- (c) The Permittee shall determine if the facilities that are required to be covered under the Statewide Industrial General Permit have done so. Upon discovering any facilities requiring permit coverage but are not yet permitted, the Permittee shall notify the appropriate Regional Water Board, and include copies of the notification in the online Annual Report.
- (d) The Permittee shall update the inventory annually. The update shall be accomplished through collection of new information obtained during inspections and contacts with commercial and industrial facility operators and owners, or through other readily available intra-agency informational databases (e.g., business licenses, pretreatment permits, sanitary sewer hook-up permits, and SMARTS database).
- (e) The Permittee shall develop and implement procedures to proactively identify illicit discharges originating from priority areas identified in Section E.9.a.(ii).(c). The Permittee shall implement the procedures to assess priority areas for the presence of illicit discharges at least once over the length of the permit term. The procedures shall include field observations, field screening, inspections, and any other appropriate and effective survey methods. Alternatively, Permittees may establish a self-certification program where Permittees require reports from authorized parties demonstrating the prevention and elimination of illicit discharges at their facilities in priority areas at least once over the length of the permit term.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

### **E.9.c. Field Sampling to Detect Illicit Discharges**

- (i) **Task Description** – Within the second year of the effective date of the permit (e.g. while conducting the outfall inventory under Section E.9.a.), the Permittee shall sample

any outfalls that are flowing or ponding more than 72 hours after the last rain event. The Permittee shall also conduct dry weather sampling (more than 72 hours since the last rain event) of outfalls annually identified as priority areas.

(ii) **Implementation Level** – The Permittee shall:

- (a) Conduct monitoring<sup>17</sup> for the following indicator parameters identified in Table 1 to help determine the source of the discharge. Alternatively, the Permittee may select parameters based on local knowledge of pollutants of concern in lieu of sampling for the parameters listed in Table 1. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section E.9.c.(i).

**Table 1. Indicator Parameters**

Indicator Parameters Used to Detect Illicit Discharges					
Parameter	Discharge Types It Can Detect				Laboratory/Analytical Challenges
	Sewage	Washwater	Tap Water	Industrial or Commercial Liquid Wastes	
Ammonia	●	⊙	○	⊙	Can change into other nitrogen forms as the flow travels to the outfall
Color	⊙	⊙	○	⊙	
Conductivity	⊙	⊙	○	⊙	Ineffective in saline waters
Detergents – Surfactants	●	●	○	⊙	Reagent is a hazardous waste
Fluoride*	○	○	●	⊙	Reagent is a hazardous waste Exception for communities that do not fluoridate their tap water
Hardness	⊙	⊙	⊙	⊙	
pH	○	⊙	○	⊙	
Potassium	⊙	○	○	●	May need to use two separate analytical techniques, depending on the concentration
Turbidity	⊙	⊙	○	⊙	

● Can almost always (>80% of samples) distinguish this discharge from clean flow types (e.g., tap water or natural water). For tap water, can distinguish from natural water.  
 ⊙ Can sometimes (>50% of samples) distinguish this discharge from clean flow types depending on regional characteristics, or can be helpful in combination with another parameter  
 ○ Poor indicator. Cannot reliably detect illicit discharges, or cannot detect tap water  
 N/A: Data are not available to assess the utility of this parameter for this purpose.  
 Data sources: Pitt (  
 \*Fluoride is a poor indicator when used as a single parameter, but when combined with additional parameters (such as detergents, ammonia and potassium), it can almost always distinguish between sewage and wash water.

<sup>17</sup> A description of indicator parameter sampling equipment is described in Chapter 12: Indicator Monitoring in the CWP IDDE: Guidance Manual found at: [http://www.epa.gov/npdes/pubs/idde\\_manualwithappendices.pdf](http://www.epa.gov/npdes/pubs/idde_manualwithappendices.pdf). Sampling may be conducted using field test kits.

- (b) Verify that indicator parameters, as specified in Table 2. Action Level Concentrations for Indicator Parameters are not exceeded. Alternatively, the Permittee may tailor Table 2 to align with parameters based on local knowledge of pollutants of concern. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section E.9.c.(i).

**Table 2. Action Level Concentrations for Indicator Parameters**

<b>Indicator Parameter</b>	<b>Action Level Concentration</b>
Ammonia	>= 50 mg/L
Color	>= 500 units
Conductivity	>= 2,000 $\mu$ S/cm
Hardness	<= 10 mg/L as CaCO <sub>3</sub> or >= 2,000 mg/L as CaCO <sub>3</sub>
pH	<= 5 or >=9
Potassium	>= 20 mg/L
Turbidity	>= 1,000 NTU

- (c) Conduct follow up investigations per Section E.9.d. if the action level concentrations are exceeded.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

**E.9.d. Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop written procedures for conducting investigations into the source of all non-storm water discharges suspected to be illicit discharges, including approaches to requiring such discharges to be eliminated, and procedures to implement corrective actions (e.g., BMPs). These procedures shall be included as part of the Illicit Discharge Detection and Elimination program. The Permittee may leverage existing inspection procedures and personnel to conduct illicit discharge detection and elimination source investigations and corrective actions.
- (ii) **Implementation Level** - At a minimum, the Permittee shall conduct an investigation(s) to identify and locate the source of any suspected illicit discharge within 72 hours of becoming aware of the suspected illicit discharge. For investigations that require more than 72 hours, the Permittee shall identify the actions being taken to identify and locate the source of the suspected illicit discharge.

- (a) Non-storm water discharges suspected of being sanitary sewage and/or significantly contaminated shall be investigated within 24 hours.
  - (b) The Permittee shall prioritize investigations of suspected sanitary sewage and/or significantly contaminated discharges over investigations of non-storm water discharges suspected of being cooling water, wash water, or natural flows.
  - (c) Report immediately the occurrence of any flows believed to be an immediate threat to human health or the environment to local Health Department.
  - (d) Determine and document through its investigations the source of all non-storm water discharges. If the source of the non-storm water discharge is found to be a discharge authorized under this General Permit, or authorized under another NPDES permit, no further action is required.
  - (e) Corrective Action to Eliminate Illicit Discharge – Once the source of the illicit discharge has been determined, the Permittee shall immediately notify the responsible party of the problem, and require the responsible party to conduct all necessary corrective actions to eliminate the non-storm water discharge within 72 hours of notification. Upon being notified that the discharge has been eliminated, conduct a follow-up investigation and field screening to verify that the discharge has been eliminated using BMPs or some other corrective action. The Permittee shall document its follow-up investigation. The Permittee may seek recovery and remediation costs from responsible parties or require compensation for the cost of field screening and investigations. Resulting enforcement actions shall follow the program's Enforcement Response Plan as specified in E.6.c.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.9.e. Spill Response Plan**

- (i) **Task Description** – Within the first year of the effective date of the permit, the Permittee shall develop and implement a spill response plan.
- (ii) **Implementation Level** - At a minimum, the spill response plan will incorporate the information from Section E.9.c. and outline the following:
  - (a) Agency roles and responsibilities (e.g. County Department of Environmental Health, local police department, local fire department, etc.)
  - (b) The procedures for responding to complaints
  - (c) How investigations are to be conducted
  - (d) How clean up is initiated or conducted
  - (e) How reporting is completed and what information is required
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this



program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

## **E.10. CONSTRUCTION SITE STORM WATER RUNOFF CONTROL PROGRAM**

The Permittee shall develop, implement, and enforce a program to prevent construction site discharges of pollutants and impacts on beneficial uses of receiving waters. The program shall include the development of an enforceable construction site storm water runoff control ordinance for all projects that disturb less than one acre of soil. The construction site storm water runoff control ordinance shall include, at a minimum, requirements for erosion and sediment controls, soil stabilization, dewatering, source controls, pollution prevention measures and prohibited discharges.

Projects that disturb one acre or more of soil or disturb less than one acre but are part of a larger common plan or development or sale are subject to the CGP in addition to the construction site storm water runoff control ordinance.

### **E.10.a. Construction Site Inventory**

- (i) **Task Description** - Within the first year of the effective date of the permit, the Permittee shall maintain an inventory of all projects subject to the local construction site storm water runoff control ordinance within its jurisdiction.
- (ii) **Implementation Level** –The Permittee shall maintain an inventory of all construction projects and continuously update as new projects are permitted and projects are completed. The inventory shall address all projects subject to the local construction site storm water runoff control ordinance. For projects subject to the CGP the Permittee may obtain the inventory from the SMARTS database and shall supplement as needed by the Permittee.

The inventory shall contain, at a minimum:

- (a) Relevant contact information for each project (e.g., name, address, phone, email, etc. for the owner and contractor);
- (b) The basic site information including location, status, size of the project and area of disturbance;
- (c) The location of the project with respect to all waterbodies, waterbodies listed as impaired by sediment-related pollutants, and waterbodies listed as impaired for sediment or turbidity under the CWA Section 303(d) and approved by U.S. EPA;
- (d) Project threat to water quality;
- (e) Current construction phase;
- (f) The required inspection frequency per the local construction site storm water runoff control ordinance;
- (g) The project start and anticipated completion dates; and
- (h) The date the Permittee approved the erosion and sediment control plan in accordance with this Section.

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.10.b. Construction Plan Review and Approval Procedures**

- (i) **Task Description** – Within the first year of the effective date of the permit, the Permittee shall develop procedures to review and approve relevant construction plan documents.
- (ii) **Implementation Level** – The review procedures shall meet the following minimum requirements:
  - (a) Prior to issuing a grading or building permit, the Permittee shall require each operator of a construction activity within its jurisdiction to prepare and submit an erosion and sediment control plan for the Permittee's review and written approval. The Permittee shall not approve any erosion and sediment control plan unless it contains appropriate site-specific construction site BMPs that meet the minimum requirements of the Permittee's construction site storm water runoff control ordinance. If the erosion and sediment control plan is revised, the Permittee shall review and approve those revisions.
  - (b) Require that the erosion and sediment control plan include the rationale used for selecting BMPs including supporting soil loss calculations, if necessary.
  - (c) Require that the erosion and sediment control plan list applicable permits directly associated with the grading activity, including, but not limited to the State Water Board's CGP, State Water Board 401 Water Quality Certification, U.S. Army Corps 404 permit, and California Department of Fish and Game 1600 Agreement. Include as a condition of the grading permit that the operator submit evidence to the MS4 that all permits directly associated with the grading activity have been obtained prior to commencing the soil disturbing activities authorized by the grading permit.
  - (d) Conduct and document review of each erosion and sediment control plan using a checklist or similar process.
  - (e) The SWPPP developed pursuant to the CGP may substitute for the erosion and sediment control plan for projects where a SWPPP is developed. The Permittee is responsible for reviewing applicable portions of the SWPPP for compliance with the Permittee's construction site storm water runoff control ordinance and this Order.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

### E.10.c. Construction Site Inspection and Enforcement

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall use legal authority to implement procedures for inspecting public and private construction projects and conduct enforcement if necessary. The Permittee may leverage existing inspection procedures and personnel to conduct construction site inspections and enforcement.
- (ii) **Implementation Level** – The inspection procedures shall be implemented to verify compliance with the Permittee's construction site storm water control ordinance. At a minimum, inspections must be conducted at priority construction sites (defined below) prior to land disturbance (during the rainy season), during active construction and following active construction. Construction site inspections shall include assessment of compliance with the Permittee's construction site storm water runoff control ordinance, and other applicable ordinances. A Permittee may propose, for Regional Water Board Executive Officer approval, an alternative approach for construction site oversight, provided the Permittee demonstrates the approach will be equally effective at reducing the discharge of pollutants from construction sites to the maximum extent practicable.

Prior to allowing an operator to commence land disturbance during the rainy season, the Permittee must perform an inspection, to ensure all necessary sediment controls are in place. During active construction, the Permittee shall conduct inspections, based on prioritization of construction sites. Active construction inspections shall include at a minimum: inspection of maintenance of BMPs, effectiveness of BMPs installed and verification that pollutants of concern are not discharged into receiving water bodies.

Prioritization criteria shall be based on project threat to water quality. Project threat to water quality includes soil erosion potential, site slope, projects size and type, sensitivity of receiving water bodies, proximity to receiving water bodies, non-storm water discharges, projects more than one acre that are not subject to the CGP (sites that have obtained an Erosivity Waiver) and past record of non-compliance by the operator of the construction site. Inspection frequencies shall be conducted based on the prioritization criteria described above.

At the conclusion of the project, the Permittee must inspect to ensure that all disturbed areas have been stabilized and that all temporary erosion and sediment control measures that are no longer needed have been removed as required by the local construction site storm water control ordinance.

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

## **E.11. POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR PERMITTEE OPERATIONS PROGRAM**

The Permittee shall develop and implement a program to prevent or reduce the amount of pollutant runoff from Permittee operations. The Permittee shall implement appropriate BMPs for preventing or reducing the amount of storm water pollution generated by Permittee operations.

### **E.11.a. Inventory of Permittee-Owned and Operated Facilities**

- (i) **Task Description** - Within the second year of the effective date of the permit, the Permittee shall develop and maintain an inventory of Permittee-owned or operated facilities within their jurisdiction that are a threat to water quality, if applicable.
- (ii) **Implementation Level** - The inventory shall include all Permittee-owned or operated facilities within their jurisdiction that are potential significant sources of pollution in storm water, including the following if applicable:
  - Airports
  - Animal control facilities
  - Chemical storage facilities
  - Composting facilities
  - Equipment storage and maintenance facilities (including landscape-related operations)
  - Fuel farms
  - Hazardous waste disposal facilities
  - Hazardous waste handling and transfer facilities
  - Incinerators
  - Landfills
  - Materials storage yards
  - Pesticide storage facilities
  - Public buildings, including schools, libraries, police stations, fire stations, Permittee (municipal) buildings, restrooms, and similar buildings (i.e., buildings with a similar potential to be sources of storm water pollution as the examples provided)
  - Public parking lots
  - Public golf courses
  - Public swimming pools
  - Public parks
  - Public works yards
  - Public marinas
  - Recycling facilities
  - Salt or de-icing storage facilities
  - Solid waste handling and transfer facilities
  - Transportation hubs (e.g. bus transfer stations)
  - Vehicle storage and maintenance areas
  - Vehicle fueling facilities
  - Other (as directed by appropriate Regional Water Board)

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.11.b. Map of Permittee-Owned or Operated Facilities**

- (i) **Task Description** – Within the second year of the effective date of the permit, submit a map of the area within the permit boundary and identify where the inventoried Permittee-owned or operated facilities are located.
- (ii) **Implementation Level** - The map identifying the location of the inventoried Permittee-owned or operated facilities shall identify the storm water drainage system (e.g., storm water outfalls or other mechanisms in which storm water leaves the site) corresponding to each of the facilities as well as the receiving waters to which these facilities discharge. The map shall also show the facility and the manager of each facility, including contact information.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.11.c. Facility Assessment**

- (i) **Task Description** – Within the third year of the effective date of the permit, for all the inventoried Permittee-owned or operated facilities, the Permittee shall conduct a comprehensive inspection and assessment of pollutant discharge potential and identification of pollutant hotspots using the Center for Watershed Protection's (CWP) guide on Urban Subwatershed and Site Reconnaissance, or equivalent.<sup>18</sup>
- (ii) **Implementation Levels** - Conduct an annual review and assessment of all municipally owned or operated facilities to determine their potential to impact surface waters. The assessment shall include the following:

- (a) Identification of pollutant hotspots:

Based on the annual assessment, the Permittee shall identify those facilities that have a high potential to generate storm water and non-storm water pollutants as pollutant hotspots and assign them a high priority. Among the factors to be considered are the type and volume of pollutants stored at the site, the presence of improperly stored materials,

---

<sup>18</sup> The Permittee shall use the Center for Watershed Protection's Restoration Manual Series guide on Urban Subwatershed and Site Reconnaissance: a User's Manual (available as a free download at [www.cwp.org](http://www.cwp.org)) or equivalent when identifying priority areas. Hotspots are specific operations in a subwatershed that may generate high storm water pollution.



activities that should not be performed outside (e.g., changing automotive fluids, vehicle washing), proximity to water bodies, poor housekeeping practices, and the discharge of pollutant(s) of concern to receiving water(s). Pollutant hotspots shall include, at a minimum, the Permittee's maintenance yards, hazardous waste facilities, fuel storage and/or dispensing locations, airports marinas, and any other facilities at which chemicals or other materials have a high potential to be discharged in storm water.

- (b) Documentation of the comprehensive assessment procedures and results:

The Permittee shall document the procedures it uses for conducting the comprehensive assessment along with a copy of any site evaluation checklists used to conduct the comprehensive assessment.

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.11.d. Storm Water Pollution Prevention Plans**

- (i) **Task Description** – Within the fourth year of the effective date of the permit, the Permittee shall develop and implement SWPPPs for pollutant hotspots. If a Permittee has an existing document such as Hazardous Materials Business Plan, Spill Prevention Plan, or other equivalent document the Permittee is not required to develop a SWPPP.
- (ii) **Implementation Level** – The Permittee shall implement the following:
  - (a) The Permittee shall develop and implement a site-specific SWPPP that identifies existing storm water BMPs and a set of storm water BMPs to be installed, implemented, and maintained to minimize the discharge of pollutants to protect water quality. The Permittee may utilize the CWP guide on Urban Subwatershed and Site Reconnaissance, or equivalent, as guidance.
  - (b) The SWPPP(s) shall be kept on-site at each of the Permittee-owned or operated facilities' offices for which it was completed. The SWPPP shall be updated as necessary.
  - (c) At a minimum the SWPPP will address the following:
    - 1) Facility specific information (location, owner, address, etc.)
    - 2) Purpose of the document
    - 3) Key staff/contacts at the facility
    - 4) Site map with drainage identified

- 5) Identification of significant materials that are handled and stored at the facility that may be exposed to storm water
  - 6) Description of potential pollutant sources
  - 7) Facility BMPs
  - 8) Spill control and cleanup – response to spills
  - 9) Inspection schedule
  - 10) Inspection procedures and checklist for inspections conducted to ensure proper selection, implementation, and maintenance of all BMPs
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.11.e. Inspections, Visual Monitoring and Remedial Action**

- (i) **Task Description** – Within the fifth year of the effective date of the Permit, the Permittee shall conduct regular inspections of Permittee-owned and operated facilities.
- (ii) **Implementation Level** – Inspections shall be conducted as follows:
  - (a) Quarterly visual hotspot inspections – Perform quarterly visual inspections, in accordance with the inspection procedures and inspection checklist developed for each Permittee-owned or operated hotspot, to ensure materials and equipment are clean and orderly; to minimize the potential for pollutant discharge; and to ensure effective selection, implementation, and maintenance of BMPs. The Permittee shall look for evidence of spills and immediately clean them up to prevent contact with precipitation or runoff. The quarterly inspections shall be tracked in a log for every facility, and records kept with the SWPPP (records may be kept electronically). The inspection report shall also include any identified deficiencies and the corrective actions taken to correct the deficiencies.
  - (b) Annual Hotspot comprehensive inspections – At least once per year, the Permittee shall conduct a comprehensive inspection of each hotspot facility, including all storm water BMPs, in accordance with the facility-specific inspection procedures and inspection checklist. The Permittee shall pay specific attention, without limiting its attention, to: waste storage areas, dumpsters, vehicle and equipment maintenance/fueling areas, material handling areas, and similar potential pollutant-generating areas. The annual inspection results shall be documented and records kept with the SWPPP. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct deficiencies.
  - (c) Quarterly Hotspot visual observation of storm water and non-storm water discharges – At least once per quarter visually observe discharge locations from hotspot facilities. Where discharges are observed identify any observed

problems (e.g., color, foam, sheen, turbidity) associated with pollutant sources or BMPs shall be remedied as soon as practicable or before the next storm event, whichever is sooner. Visual observations shall be documented, and records kept with the SWPPP. This inspection shall be done in accordance with the developed standard operating procedures. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct the deficiencies.

(d) **Non-Hotspot Inspection** – At a minimum, inspect each inventoried municipal facility that is not a hotspot, once per permit term.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a. for compliance directions.

#### **E.11.f. Storm Drain System Assessment and Prioritization**

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop and implement procedures to assess and prioritize MS4 storm drain system maintenance, including but not limited to, catch basins, pipe and pump infrastructure, above-ground conveyances, including receiving water bodies within the Permittee's urbanized area and detention basins.

If flood conveyance maintenance is undertaken by another entity, the Permittee shall coordinate with the flood conveyance management entity by year three to assess and prioritize maintenance of the MS4 storm drain system.

(ii) **Implementation Level** – The Permittee shall:

Assess/prioritize storm drain system facilities for cleanout – Assign a priority to MS4 storm drain facilities within the Permittee's urbanized areas based on accumulation of sediment, trash and/or debris. In particular, assign high priority to catch basin meeting any of the following criteria:

- 1) Catch basins known to accumulate a significant amount of sediment, trash, and/or debris;
- 2) Catch basins collecting large volumes of runoff;
- 3) Catch basin collecting runoff from area that do not receive regular street sweeping;
- 4) Catch basins collecting runoff from drainage areas with exposed or disturbed soil; or
- 5) Catch basins that receive citizen complaints/reports.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment

and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.11.g. Maintenance of Storm Drain System**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall begin maintenance of all high priority storm drain systems on an ongoing schedule.
- (ii) **Implementation Level** – The Permittee shall begin maintenance of storm drain systems according to the procedures and priorities developed according to this Section. At a minimum the Permittee shall:
  - (a) Inspect storm drain systems – Based on the priorities assigned above in Section E.11.f.(ii)(a), develop and implement a strategy to inspect storm drain systems within the Permittee's jurisdiction. At a minimum, inspect all high priority catch basins and systems annually.
  - (b) Clean storm drains – Develop and implement a schedule to clean high priority catch basins and other systems. Cleaning frequencies shall be based on priority areas, with higher priority areas receiving more frequent maintenance.
  - (c) Labeling catch basins – Ensure that each catch basin in high foot traffic areas includes a legible storm water awareness message (e.g., a label, stencil, marker, or pre-cast message such as “drains to the creek” or “only rain in the drain”). Catch basins with illegible or missing labels shall be recorded and re-labeled within one month of inspection.
  - (d) Maintain surface drainage structures – High priority facilities, such as those with recurrent illegal dumping, shall be reviewed and maintained annually as needed. Non-priority facilities shall be reviewed as needed. Removal of trash and debris from high priority areas shall occur annually prior to the rainy season.
  - (e) Dispose of waste materials – Develop and implement a procedure to dewater and dispose of materials extracted from catch basins. This procedure shall ensure that water removed during the catch basin cleaning process and waste material will not reenter the MS4.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.11.h. Permittee Operations and Maintenance Activities (O&M)**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall assess their O&M activities for potential to discharge pollutants in storm water and inspect all O&M BMPs on a quarterly basis.
- (ii) **Implementation Level** - The Permittee shall:

- (a) Develop and implement a program to assess O&M activities and subsequently develop applicable BMPs. The following Permittee O&M activities shall be included in the assessment for their potential to discharge pollutants in storm water:
    - 1) Road and parking lot maintenance, including sidewalk repair, curb and gutter repair, pothole repair, pavement marking, sealing, and re-paving
    - 2) Bridge maintenance, including re-chipping, grinding, saw cutting, and painting
    - 3) Cold weather operations, including plowing, sanding, and application of deicing compounds and maintenance of snow disposal areas
    - 4) Right-of-way maintenance, including mowing, herbicide and pesticide application, and planting vegetation
    - 5) Storm water relevant Permittee-sponsored or sanctioned events such as large outdoor festivals, parades, or street fairs (eg. Earth Day, Coastal Cleanup Day, Creek Week)
    - 6) Green waste deposited in the street
    - 7) Graffiti removal
    - 8) Hydrant flushing
  - (b) Identify all materials that could be discharged from each of these O&M activities, and which materials contain pollutants. Typical pollutants associated with these activities include metals, chlorides, hydrocarbons (e.g. benzene, toluene, ethylbenzene, and xylene), sediment, green waste, herbicide, pesticide, dried paint, and trash.
  - (c) Develop and implement a set of BMPs that, when applied during Permittee O&M activities, will reduce pollutants in storm water and non-storm water discharges. The Permittee shall use the CASQA Municipal Handbook or equivalent.
  - (d) Evaluate BMPs – All BMPs implemented during O&M activities shall be evaluated quarterly.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.11.i. Incorporation of Water Quality and Habitat Enhancement Features in New Flood Management Facilities**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement a process for incorporating water quality and habitat enhancement features into new and rehabilitated flood management facilities.
- (ii) **Implementation Level** – The Permittee shall develop and implement a process to incorporate water quality and habitat enhancement features in the design of all new



and rehabilitated flood management projects that are associated with the MS4 or that discharge to the MS4.

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.11.j. Landscape Design and Maintenance**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall implement a landscape design and maintenance program to reduce the amount of water, pesticides, herbicides and fertilizers used during Permittee operations and activities<sup>19</sup>.
- (ii) **Implementation Tasks** – At a minimum, the Permittee shall:
  - (a) Evaluate pesticides, herbicides and fertilizers used and application activities performed and identify pollution prevention and source control opportunities.
  - (b) Implement practices that reduce the discharge of pesticides, herbicides and fertilizers. At a minimum the Permittee shall:
    - 1) Implement educational activities for municipal applicators and distributors.
    - 2) Implement landscape management measures that rely on non-chemical solutions, including:
      - a) Create drought-resistant soils by amending soils with compost;
      - b) Create soil microbial community through the use of compost, compost tea, or inoculation;
      - c) Use native and/or climate appropriate plants to reduce the amount of water, pesticides, herbicides and fertilizers used;
      - d) Practice grasscycling on decorative turf landscapes to reduce water use and the need for fertilizers;
      - e) Keeping grass clippings and leaves away from waterways and out of the street using mulching, composting, or landfilling;
      - f) Preventing application of pesticides, herbicides and fertilizers during irrigation or within 48 hours of predicted rainfall with greater than 50% probability as predicted by National Oceanic and Atmospheric Administration (NOAA)<sup>20</sup>;
      - g) Limiting or replacing herbicide and pesticide use (e.g., conducting manual weed and insect removal);
      - h) Prohibiting application of pesticides, herbicides and fertilizers as required by the regulations DPR 11-004 Prevention of Surface Water Contamination by Pesticides enacted by the Department of Pesticide Regulation;

---

<sup>19</sup> Water Efficient Landscape Ordinance can be found at:

<http://www.water.ca.gov/wateruseefficiency/docs/MWEL09-10-09.pdf>

<sup>20</sup> [www.srh.noaa.gov/forecast](http://www.srh.noaa.gov/forecast)

- i) Reducing mowing of grass to allow for greater pollutant removal, but not jeopardizing public safety.
  - 3) Collect and properly dispose of unused pesticides, herbicides, and fertilizers.
  - 4) Minimize irrigation run-off by using an evapotranspiration-based irrigation schedule and rain sensors.
- (c) Record the types and amounts of pesticides, herbicides and fertilizers used in the permit area.
- (iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a. for compliance directions.

## **E.12. POST CONSTRUCTION STORM WATER MANAGEMENT PROGRAM**

### **E.12.a. Post-Construction Measures**

Permittees shall regulate development to comply with the following Sections:

- E.12.b Site Design Measures
- E.12.c. Regulated Projects
- E.12.d. Source Control Measures
- E.12.e. Low Impact Development (LID) Design Standards
- E.12.f. Hydromodification Measures
- E.12.g. Enforceable Mechanisms
- E.12.h. Operation and Maintenance of Storm Water Control Measures
- E.12.i. Post-Construction Best Management Practice Condition Assessment
- E.12.j. Planning and Development Review Process
- E.12.k. Post-Construction Storm Water Management Requirements Based on Assessment and Maintenance of Watershed Processes
- E.12.l. Alternative Post-Construction Storm Water Management Program

### **E.12.b. Site Design Measures**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall require implementation of site design measures for all projects that create and/or replace (including projects with no net increase in impervious footprint) between 2,500 square feet and 5,000 square feet of impervious surface, including detached single family homes that create and/or replace 2,500 square feet or more of impervious surface and are not part of a larger plan of development. Site design measures as specified in this section are not applicable to linear underground/overhead projects (LUPs).
- (ii) **Implementation Level** - Projects shall implement one or more of the following site design measures to reduce project site runoff:

- (a) Stream Setbacks and Buffers - a vegetated area including trees, shrubs, and herbaceous vegetation, that exists or is established to protect a stream system, lake reservoir, or coastal estuarine area;
- (b) Soil Quality Improvement and Maintenance - improvement and maintenance soil through soil amendments and creation of microbial community;
- (c) Tree Planting and Preservation - planting and preservation of healthy, established trees that include both evergreens and deciduous, as applicable;
- (d) Rooftop and Impervious Area Disconnection - rerouting of rooftop drainage pipes to drain rainwater to rain barrels, cisterns, or permeable areas instead of the storm sewer;
- (e) Porous Pavement - pavement that allows runoff to pass through it, thereby reducing the runoff from a site and surrounding areas and filtering pollutants;
- (f) Green Roofs - a vegetative layer grown on a roof (rooftop garden);
- (g) Vegetated Swales - a vegetated, open-channel management practice designed specifically to treat and attenuate storm water runoff;
- (h) Rain Barrels and Cisterns - system that collects and stores storm water runoff from a roof or other impervious surface.

Project proponents shall use the State Water Board SMARTS Post-Construction Calculator<sup>21</sup>, or equivalent to quantify the runoff reduction resulting from implementation of site design measures.

- (iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

### **E.12.c. Regulated Projects**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall implement standards to effectively reduce runoff and pollutants associated with runoff from Regulated Projects as defined below.
- (ii) **Implementation Level** - The Permittee shall regulate all projects that create and/or replace 5,000 square feet or more of impervious surface (Regulated Projects). The Permittee shall require these Regulated Projects to implement measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification management as defined in this Order.

Regulated Projects do not include:

- Detached single family home projects that are not part of a larger plan of development;
- Interior remodels;

<sup>21</sup> The State Water Board SMARTS Post-Construction Calculator can be found at: <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

- Routine maintenance or repair such as: exterior wall surface replacement, pavement resurfacing within the existing footprint.
- LUPs - Unless the LUP has a discrete location that has 5,000 square feet or more of newly constructed contiguous impervious surface. When the LUP has a discrete location that has 5,000 sq-ft or more of new contiguous impervious surface, only that specific discrete location is subject to Section E.12.c.

Regulated Projects include development projects. Development includes new and redevelopment projects on public or private land that fall under the planning and permitting authority of a Permittee. Redevelopment is any land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred. Redevelopment does not include trenching, excavation and resurfacing associated with LUPs; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway. The following (a-c) describe specific Regulated Project requirements for redevelopment, road projects and LUPs:

- (a) Where a redevelopment project results in an increase of more than 50 percent of the impervious surface of a previously existing development, runoff from the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included to the extent feasible.
- (b) Where a redevelopment project results in an increase of less than 50 percent of the impervious surface of a previously existing development, only runoff from the new and/or replaced impervious surface of the project must be included.
- (c) Road Projects and LUPs - Any of the following types of road projects and LUPs that create 5,000 square feet or more of newly constructed contiguous impervious surface and that are public road projects and/or fall under the building and planning authority of a Permittee shall comply with Section E.12.e. Low Impact Development Standards except that treatment of runoff of the 85<sup>th</sup> percentile that cannot be infiltrated onsite shall follow U.S. EPA guidance regarding green infrastructure to the extent feasible. Types of projects include:
  - 1) Construction of new streets or roads, including sidewalks and bicycle lanes built as part of the new streets or roads.
  - 2) Widening of existing streets or roads with additional traffic lanes.
    - a) Where the addition of traffic lanes results in an alteration of more than 50 percent of the impervious surface of an existing street or road, runoff from the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design.
    - b) Where the addition of traffic lanes results in an alteration of less than 50 percent (but 5,000 square feet or more) of the impervious surface

of an existing street or road, only the runoff from new and/or replaced impervious surface of the project must be included in the treatment system design.

- 3) Construction of linear underground/overhead projects (LUPs)
- 4) Specific exclusions are:
  - a) Sidewalks built as part of new streets or roads and built to direct storm water runoff to adjacent vegetated areas.
  - b) Bicycle lanes that are built as part of new streets or roads that direct storm water runoff to adjacent vegetated areas.
  - c) Impervious trails built to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas, preferably away from creeks or towards the outboard side of levees.
  - d) Sidewalks, bicycle lanes, or trails constructed with permeable surfaces.
  - e) Trenching, excavation and resurfacing associated with LUPs; pavement grinding and resurfacing of existing roadways and parking lots; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway.

Effective Date for Applicability of Low Impact Development Runoff Standards to Regulated Projects: By the second year of the effective date of the permit, the Permittee shall require these Post-Construction Standards be applied on applicable new and redevelopment Regulated Projects, both private development requiring municipal permits and public projects, to the extent allowable by applicable law. These include discretionary permit projects that have not been deemed complete for processing and discretionary permit projects without vesting tentative maps that have not requested and received an extension of previously granted approvals. Discretionary projects that have been deemed complete prior to the second year of the effective date of this Order are not subject to the Post-Construction Standards herein. For the Permittee's Regulated Projects, the effective date shall be the date their governing body or designee approves initiation of the project design.

Permittee's Development Projects - The Permittee shall develop and implement an equivalent approach, to the approach used for private development projects, to apply the most current version of the low impact development runoff standards to applicable public development projects, to the extent allowable by applicable law.

#### **E.12.d. Source Control Measures**

- (i) **Task Description** – Regulated Projects with pollutant-generating activities and sources shall be required to implement standard permanent and/or operation source control measures as applicable.
- (ii) **Implementation Level** - Measures for the following pollutant generating activities and sources shall be designed consistent with recommendations from the CASQA



Stormwater BMP Handbook for New Development and Redevelopment or equivalent manual, and include:

- (a) Accidental spills or leaks
- (b) Interior floor drains
- (c) Parking/storage areas and maintenance
- (d) Indoor and structural pest control
- (e) Landscape/outdoor pesticide use
- (f) Pools, spas, ponds, decorative fountains, and other water features
- (g) Restaurants, grocery stores, and other food service operations
- (h) Refuse areas
- (i) Industrial processes
- (j) Outdoor storage of equipment or materials
- (k) Vehicle and equipment cleaning
- (l) Vehicle and equipment repair and maintenance
- (m) Fuel dispensing areas
- (n) Loading docks
- (o) Fire sprinkler test water
- (p) Drain or wash water from boiler drain lines, condensate drain lines, rooftop equipment, drainage sumps, and other sources
- (q) Unauthorized non-storm water discharges
- (r) Building and grounds maintenance

#### **E.12.e. Low Impact Development (LID) Design Standards**

- (i) **Task Description** – The Permittee shall require all Regulated Projects to implement low impact development (LID) standards designed to reduce runoff, treat storm water, and provide baseline hydromodification management to the extent feasible, to meet the Numeric Sizing Criteria for Storm Water Retention and Treatment under Section E.12.e(ii)(c).
- (ii) **Implementation Level** – The Permittee shall adopt and implement requirements and standards to ensure design and construction of development projects achieve the following LID Design Standards.
  - (a) **Site Assessment**

At the earliest planning stages, the Permittee shall require Regulated Projects to assess and evaluate how site conditions, such as soils, vegetation, and flow paths, will influence the placement of buildings and paved surfaces. The evaluation will be used to meet the goals of capturing and treating runoff and assuring these goals are incorporated into the project design. The Permittee may adopt or reference an existing LID site assessment methodology<sup>22</sup> Permittees shall require Regulated Projects to consider optimizing the site layout through the following methods:

- 1) Define the development envelope and protected areas, identifying areas that are most suitable for development and areas to be left undisturbed.

---

<sup>22</sup> Low Impact Development Manual for Southern California (Low Impact Development Center – See CASQA's LID website at: <http://www.casqa.org/LID/tabid/240/Default.aspx>).

- 2) Concentrate development on portions of the site with less permeable soils and preserve areas that can promote infiltration.
- 3) Limit overall impervious coverage of the site with paving and roofs.
- 4) Set back development from creeks, wetlands, and riparian habitats.
- 5) Preserve significant trees.
- 6) Conform the site layout along natural landforms.
- 7) Avoid excessive grading and disturbance of vegetation and soils.
- 8) Replicate the site's natural drainage patterns.
- 9) Detain and retain runoff throughout the site.

**(b) Drainage Management Areas**

The Permittee shall require each Regulated Project to provide a map or diagram dividing the developed portions of the project site into discrete Drainage Management Areas (DMAs), and to manage runoff from each DMA using Site Design Measures, Source Controls and/or Storm Water Treatment and Baseline Hydromodification Measures.

**(c) Numeric Sizing Criteria for Storm Water Retention and Treatment**

The Permittees shall require facilities designed to evapotranspire, infiltrate, harvest/use, and biotreat storm water to meet at least one of the following hydraulic sizing design criteria:

1) Volumetric Criteria:

- a) The maximized capture storm water volume for the tributary area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998) pages 175-178 (that is, approximately the 85th percentile 24-hour storm runoff event); or
- b) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology in Section 5 of the CASQA's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data.

2) Flow-based Criteria:

- a) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or
- b) The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity as determined from local rainfall records.

(d) **Site Design Measures**

The Permittee shall implement Site Design Measures (as defined in Section E.12.b. Site Design Measures and Section E.12.e(ii)(a) Site Assessment), site layout and design measures, based on the objective of achieving infiltration, evapotranspiration and/or harvesting/reuse of the 85th percentile 24-hour storm runoff event. Site design measures shall be used to reduce the amount of runoff, to the extent technically feasible, for which retention and runoff is required. Any remaining runoff from impervious DMAs may then be directed to one or more bioretention facilities as specified in Section E.12.e.(ii)(f), below.

(e) **Source Controls**

The Permittee shall implement Source Controls as defined in Section E.12.d. Source Control Measures.

(f) **Storm Water Treatment Measures and Baseline Hydromodification Management Measures**

After implementation of Site Design Measures, remaining runoff from impervious DMAs must be directed to one or more facilities designed to infiltrate, evapotranspire, and/or bioretain the amount of runoff specified in Section E.12.e(ii)(c) Numeric Sizing Criteria for Storm Water Retention and Treatment. The facilities must be demonstrated to be at least as effective as a bioretention system with the following design parameters:

- 1) Maximum surface loading rate of 5 inches per hour, based on the flow rates calculated. A sizing factor of 4% of tributary impervious area may be used.
- 2) Minimum surface reservoir volume equal to surface area times a depth of 6 inches.
- 3) Minimum planting medium depth of 18 inches. The planting medium must sustain a minimum infiltration rate of 5 inches per hour throughout the life of the project and must maximize runoff retention and pollutant removal. A mixture of sand (60%-70%) meeting the specifications of American Society for Testing and Materials (ASTM) C33 and compost (30%-40%) may be used.
- 4) Subsurface drainage/storage (gravel) layer with an area equal to the surface area and having a minimum depth of 12 inches.
- 5) Underdrain with discharge elevation at top of gravel layer.
- 6) No compaction of soils beneath the facility, or ripping/loosening of soils if compacted.
- 7) No liners or other barriers interfering with infiltration.
- 8) Appropriate plant palette for the specified soil mix and maximum available water use.

(g) **Alternative Designs** — Facilities, or a combination of facilities, of a different design than in Section E.12.e.(ii)(f) may be permitted if all of the following

measures of equivalent effectiveness are demonstrated:

- 1) Equal or greater amount of runoff infiltrated or evapotranspired;
- 2) Equal or lower pollutant concentrations in runoff that is discharged after biotreatment;
- 3) Equal or greater protection against shock loadings and spills;
- 4) Equal or greater accessibility and ease of inspection and maintenance.

(h) **Allowed Variations for Special Site Conditions** - The bioretention system design parameters in Section E.12.e.(ii)(f) may be adjusted for the following special site conditions:

- 1) Facilities located within 10 feet of structures or other potential geotechnical hazards established by the geotechnical expert for the project may incorporate an impervious cutoff wall between the bioretention facility and the structure or other geotechnical hazard.
- 2) Facilities with documented high concentrations of pollutants in underlying soil or groundwater, facilities located where infiltration could contribute to a geotechnical hazard, and facilities located on elevated plazas or other structures may incorporate an impervious liner and may locate the underdrain discharge at the bottom of the subsurface drainage/storage layer (this configuration is commonly known as a "flow-through planter").
- 3) Facilities located in areas of high groundwater, highly infiltrative soils or where connection of underdrain to a surface drain or to a subsurface storm drain are infeasible, may omit the underdrain.
- 4) Facilities serving high-risk areas such as fueling stations, truck stops, auto repairs, and heavy industrial sites may be required to provide additional treatment to address pollutants of concern unless these high-risk areas are isolated from storm water runoff or bioretention areas with little chance of spill migration.

(i) **Exceptions to Requirements for Bioretention Facilities** - Contingent on a demonstration that use of bioretention or a facility of equivalent effectiveness is infeasible, other types of biotreatment or media filters (such as tree-box-type biofilters or in-vault media filters) may be used for the following categories of Regulated Projects:

- 1) Projects creating or replacing an acre or less of impervious area, and located in a designated pedestrian-oriented commercial district (i.e., smart growth projects), and having at least 85% of the entire project site covered by permanent structures;
- 2) Facilities receiving runoff solely from existing (pre-project) impervious areas;and
- 3) Historic sites, structures or landscapes that cannot alter their original configuration in order to maintain their historic integrity.

By the second year of the effective date of the permit, each Permittee shall adopt or reference appropriate performance criteria for such biotreatment and media filters.

- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.12.f. Hydromodification Management**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement Hydromodification Management procedures. Hydromodification management projects are Regulated Projects that create and/or replace one acre or more of impervious surface. A project that does not increase impervious surface area over the pre-project condition is not a hydromodification management project.

- (ii) **Implementation Level** - The Permittee shall implement the following Hydromodification Standard:

- (a) Post-project runoff shall not exceed estimated pre-project flow rate for the 2-year, 24-hour storm in the following geomorphic provinces (Figure 1):

- Coast Ranges
- Klamath Mountains
- Cascade Range
- Modoc Plateau
- Basin and Range
- Sierra Nevada
- Great Valley

- (b) Post-project runoff shall not exceed estimated pre-project flow rate for the 10-year, 24-hour storm in the following geomorphic provinces (Figure 1):

- Transverse Ranges
- Peninsular Ranges
- Mojave Desert
- Colorado Desert





Figure 1. California Geomorphic Provinces

Alternatively, the Permittee may use a geomorphically based hydromodification standard or set of standards and analysis procedures designed to ensure that Regulated Projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. The alternative hydromodification standard or set of standards and analysis procedures must be reviewed and approved by the Regional Board Executive Officer.

- (iii) **Reporting** –The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a for compliance directions.

### **E.12.g. Enforceable Mechanisms**

- (i) **Task Description** - Within the third year of the effective date of the permit, the Permittee shall develop and/or modify enforceable mechanisms that will effectively implement the requirements in Section E.12.b through f (if necessary).
- (ii) **Implementation Level** - The Permittee shall develop and/or modify enforceable mechanisms that will effectively implement the requirements in Section E.12.b through E.12.f and may include municipal codes, regulations, standards, and specifications. The Permittee shall:
  - (a) Conduct an analysis of all applicable codes, regulations, standards, and/or specifications to identify modifications and/or additions necessary to fill gaps and remove impediments to effective implementation of project-scale development requirements.
  - (b) Approve new and/or modified enforceable mechanisms that effectively resolve regulatory conflicts and implement the requirements in Sections E.12.b through E.12.f (if necessary)
  - (c) Apply new and/or modified enforceable mechanisms to all applicable new and redevelopment projects. Develop and make available specific guidance for LID BMP design
  - (d) Complete a Tracking Report indicating the Permittee's accomplishments in education and outreach supporting implementation of LID requirements for new and redevelopment projects.

### **E.12.h. Operation and Maintenance of Post-Construction Storm Water Management Measures**

- (i) **Task Description** –Within the second year of the effective date of the permit, the Permittee shall implement an O&M Verification Program for storm water treatment and baseline hydromodification management structural control measures defined in Section E.12.e(ii)(f). Storm Water Treatment Measures and Baseline Hydromodification Management Measures on all Regulated Projects.
- (ii) **Implementation Level** – At a minimum, the O&M Verification Program shall include the following elements:
  - (a) All Regulated Projects shall at a minimum, require at least one of the following from all project proponents and their successors in control of the Project or successors in fee title:
    - 1) The project proponent's signed statement accepting responsibility for the O&M of structural control measure(s) until such responsibility is legally transferred to another entity;
    - 2) Written conditions in the sales or lease agreements or deed for the project that requires the buyer or lessee to assume responsibility for the O&M of the installed treatment system(s) and hydromodification control(s) (if any) until such responsibility is legally transferred to another entity;

- 3) Written text in project deeds, or conditions, covenants and restrictions for multi-unit residential projects that require the homeowners association or, if there is no association, each individual owner to assume responsibility for the O&M of the installed treatment system(s) and hydromodification control(s) (if any) until such responsibility is legally transferred to another entity; or
  - 4) Any other legally enforceable agreement or mechanism, such as recordation in the property deed, that assigns the O&M responsibility for the installed treatment system(s) and hydromodification control(s) (if any) to the project owner(s) or the Permittee.
- (b) Coordination with the appropriate mosquito<sup>23</sup> and vector control agency with jurisdiction to establish a protocol for notification of installed treatment systems and hydromodification management controls. On an annual basis, before the wet season, prepare a list of newly installed (installed within the reporting period) storm water treatment systems and hydromodification management controls to the local mosquito and vector control agency and the appropriate Regional Water Board. The Permittee may submit the list of Regulated Projects as described in Section E.12.h.(ii)(e). This list shall include the facility locations and a description of the storm water treatment measures and hydromodification management controls installed.
  - (c) Conditions of approval or other legally enforceable agreements or mechanisms for all Regulated Projects that require the granting of site access to all representatives of the Permittee for the sole purpose of performing O&M inspections of the installed treatment system(s) and hydromodification control(s) (if any).
  - (d) A written implementation plan that describes O&M (including inspection) of all Regional Projects and regional controls that are Permittee-owned and/or operated.
  - (e) A database or equivalent tabular format of all Regulated Projects (public and private) that have installed treatment systems. This database or equivalent tabular format shall include the following information for each Regulated Project:
    - 1) Name and address of the Regulated Project;
    - 2) Specific description of the location (or a map showing the location) of the installed treatment system(s) and hydromodification control(s) (if any);
    - 3) Date(s) that the treatment system(s) and hydromodification controls (if any) is/are installed;
    - 4) Description of the type and size of the treatment system(s) and hydromodification control(s) (if any) installed;
    - 5) Responsible operator(s) of each treatment system and hydromodification control (if any);
    - 6) Dates and findings of inspections (routine and follow-up) of the treatment system(s) and hydromodification control(s) (if any) by the Permittee; and
    - 7) Any problems and corrective or enforcement actions taken.

---

<sup>23</sup> California Department of Public Health. (2012). Best Management Practices for Mosquito Control in California. Retrieved on July 20, 2012 from <http://www.westnile.ca.gov/resources.php>

- 8) **Maintenance Approvals:** The Permittee shall ensure that systems and hydromodification controls installed at Regulated Projects are properly operated and maintained for the life of the projects. In cases where the responsible party for a treatment system or hydromodification control has worked diligently and in good faith with the appropriate state and federal agencies and the Permittee to obtain approvals necessary to complete maintenance activities for the treatment system or hydromodification management control, but these approvals are not granted, the Permittee shall be deemed to be in compliance with this Provision.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

#### **E.12.i. Post-Construction Best Management Practice Condition Assessment**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall inventory and assess the maintenance condition of structural post-construction BMPs (including BMPs used for flood control) within the Permittee's jurisdiction.
- (ii) **Implementation Level** – The Permittee shall develop and implement a plan to inventory, map, and determine the relative maintenance condition of structural post-construction BMPs. Maintenance condition shall be determined through a self-certification program where Permittees require annual reports from authorized parties demonstrating proper maintenance and operations. The plan shall include:
- (a) An inventory and map of existing structural post-construction BMPs, in GIS if available.
  - (b) Assessments of the self-certification program annual reports. Assessment shall include a ranking of structural BMPs and verification that BMPs are operating to remove pollutants as designed. Regional BMPs should receive higher priority than lot-scale BMPs, and BMPs designed to remove pollutants for which receiving water is impaired should receive priority attention over other BMPs.
  - (c) Appropriate escalating enforcement based on the Permittee Enforcement Response Plan to ensure proper maintenance of BMPs and submittal of self-certification annual reports.
  - (d) Self-Certification Annual Reports. At a minimum, the self-certification annual reports shall include:
    - 1) Field observations to determine the effectiveness of the structural post construction BMPs in removing pollutants of concern from storm water runoff and/or reducing hydromodification impacts as designed.

- 2) Long-term plan for conducting regular maintenance of BMPs, including the frequency of such maintenance.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a. for compliance directions.

#### **E.12.j. Planning and Development Review Process**

- (i) **Task Description** – The Permittee shall review their planning and permitting process to assess any gaps or impediments impacting effective implementation of these post-construction requirements specified in Section E.12, and where these are found to exist, seek solutions to promote implementation of these requirements within the context of public safety and community goals for land use. The Permittee shall prioritize review of the landscape code (code detailing landscaping requirements and considerations which should be implemented to protect environmental quality) to correct gaps and impediments impacting effective implementation of post-construction requirements.
- (ii) **Implementation Level** – During years 1 – 3, the Permittee shall conduct the review using an existing guide or template already developed for MS4s (such as the Municipal Regulatory Update Assistance Program (MRUAP)<sup>24</sup> conducted by AHBL, Inc. for the Low Impact Development Initiative (LIDI) on the Central Coast). By the fourth year of the effective date of the permit, any changes to the planning and permitting process will be completed to effectively administer these provisions. Priority shall be placed on review of the landscape code, with the following implementation level.
  - (a) Within the first year of the effective date of this permit, the Permittee shall conduct an analysis of the landscape code to correct gaps and impediments impacting effective implementation of post-construction requirements.
  - (b) Within the second year of the effective date of the permit, the Permittee shall complete any changes to the landscape code to effectively administer post-construction requirements.
- (iii) **Reporting** – By the second year Annual Report and annually thereafter, complete and have available a summary of the review process, and any proposed or completed changes to the Permittee's program.

---

<sup>24</sup> <http://www.casqa.org/LIDDemo/LIDTraining/tabid/246/Default.aspx>



### **E.12.k. Post-Construction Storm Water Management Requirements Based on Assessment and Maintenance of Watershed Processes**

Small MS4s subject to Section E of this Order, in place of complying with the requirements set forth in Section E.12, except for Sections E.12.j. Planning and Development Review Process and E.12.e(ii)(e) Source Control Requirements, shall comply with post-construction storm water management requirements based on a watershed-process approach developed by Regional Water Board that include the following:

- Completion of a comprehensive assessment of dominant watershed processes affected by urban storm water
- LID site design and runoff reduction measures, numeric runoff treatment and retention controls, and hydromodification controls that will maintain watershed processes and protect water quality and beneficial uses.
- A process by which Regional Board staff will actively engage Permittees to adaptively manage requirements as determined by the assessment of watershed processes.
- An annual reporting program that involves Regional Board staff and State Board staff to inform statewide watershed process based criteria.

The regional watershed-process based approach must be approved by the Regional Water Board following a public process.

### **E.12.l. Alternative Post-Construction Storm Water Management Program**

A Permittee may propose alternative post-construction measures in lieu of some or all of Section E.12. requirements for multiple benefit projects. Multiple-benefit projects include projects that may address any of the following, in addition to water quality: water supply, flood control, habitat enhancement, open space preservation, recreation, climate change. Multiple-benefit projects may be applied at various scales including project site, municipal or sub-watershed level. Multiple-benefit projects may include, but are not limited to, projects developed under Watershed Improvement Plans (Water Code §16100 et seq.), IRWMP implementation and green infrastructure projects. Multiple benefit projects must be equally or more protective of water quality than Section E.12. requirements.

The Regional Water Board or the Executive Officer, may approve alternative post-construction measures for multiple-benefit projects, as described above, after an opportunity for public comment, if the Regional Water Board or Executive Officer finds that the alternative measures are consistent with the MEP standard.

## **E.13. WATER QUALITY MONITORING**

Traditional Small MS4 Permittees that are required to conduct monitoring of discharges to ASBS, TMDL, or 303(d) impaired water bodies, as described in Sections E.13.(a)-(c), are not required to perform additional monitoring as specified in Sections E.13.d.1. and E.13.d.2.

Permittees are encouraged to participate in a regional monitoring program in order to cost-effectively combine resources and water quality information. Regional monitoring is the

collaboration of local and regional monitoring programs that are designed to create a more comprehensive picture of water quality conditions within a watershed. The following management questions may be used to assist in guiding the development of a regional monitoring program, as applicable<sup>25</sup>:

- 1) Are water quality standards being met in receiving waters?
- 2) What is the extent and magnitude of the current or potential receiving water problems<sup>26</sup>?
- 3) What is the relative urban runoff contribution to the receiving water problem(s)?
- 4) What are the sources to urban runoff that contribute to the receiving water problem(s)?
- 5) Are conditions in receiving waters getting better or worse?

Regional monitoring programs shall be reviewed and approved by the Executive Officer of the applicable Regional Water Board<sup>27</sup>.

Where a regional monitoring group has initiated plans, before the effective date of this Order, to conduct monitoring that achieves Section E.13. compliance, the Permittee may request the Executive Officer of the applicable Regional Board tailor compliance dates to synchronize with such efforts. Additionally, existing regional water monitoring efforts shall be reviewed and approved by a Regional Water Board Executive Officer.

Where a Permittee receives grant funding to conduct monitoring that achieves Section E.13. compliance, the Permittee may request the Regional Water Board Executive Officer tailor compliance dates to synchronize with such efforts.

#### **E.13.a. ASBS Monitoring**

All Permittees that discharge to an ASBS and are covered by an Ocean Plan exception shall comply with the monitoring requirements described in the terms, prohibitions and special conditions in Attachment C.

#### **E.13.b. TMDL Monitoring**

All Permittees that are assigned a wasteload allocation or identified as a responsible party in a TMDL approved by the U.S. EPA where urban runoff is listed as the source, shall comply with the monitoring requirements included in Attachment G and consult with the Regional Water Board within one year of the effective date of the permit to determine the monitoring study design and a monitoring implementation schedule. Where a TMDL is limited to a single

---

<sup>25</sup> The five core management questions are based on the Stormwater Monitoring Coalition's Model Monitoring Technical Committee Technical Report # 419: Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California.

<sup>26</sup> Water quality problems include exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts.

<sup>27</sup> The regional monitoring programs may deviate from the specific requirements in Section E.13.a. to the extent approved by the Executive Officer, except that the regional monitoring program shall be SWAMP comparable and that all data shall be placed in the California Environmental Data Exchange Network (CEDEN).

constituent within a single reach of the watershed, the Regional Water Board Executive Officer may require additional monitoring, per Water Code § 13383. Permittees shall implement TMDL monitoring as specified by the Regional Water Board Executive Officer.

### **E.13.c. 303(d) Monitoring**

All Permittees that discharge to waterbodies listed as impaired on the 303(d)<sup>28</sup> list where urban runoff is listed as the source, shall consult with the Regional Water Board within one year of the effective date of the permit to assess whether monitoring is necessary and if so, determine the monitoring study design and a monitoring implementation schedule. Permittees shall implement monitoring of 303(d) impaired water bodies as specified by the Regional Water Board Executive Officer.

### **E.13.d. Receiving Water Monitoring and Special Studies**

Traditional Small MS4 Permittees with a population greater than 50,000 listed in Attachment A that are not already conducting ASBS, TMDL or 303(d) monitoring efforts shall participate in one of the following monitoring programs, subject to Regional Water Board Executive Officer approval:

- E.13.d.1. Receiving Water Monitoring
- E.13.d.2. Special Studies

#### **E.13.d.1. Receiving Water Monitoring**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop and implement a receiving water monitoring program to (1) Monitor receiving water quality at upstream location in an area undergoing development and evaluate changes in receiving water quality over time, and (2) Monitor receiving water quality at a downstream location in an urban area and evaluate changes in receiving water quality over time. Permittees may, to the extent allowed by law, establish a monitoring fund into which all new development contributes on a proportional basis (% development fee, size/number of lots, etc.). Monitoring funding may be overseen by municipalities or coalition of municipalities.
- (ii) **Implementation Level** - By the first year of the permit, the Permittee shall select one (1) urban/rural interface monitoring site to monitor receiving water quality at an upstream location in an area undergoing development and evaluate changes in receiving water quality over time, and; one (1) urban area monitoring site to monitor receiving water quality at a downstream location in an urban area and evaluate changes in receiving water quality over time. Site selection shall include the following:
  - (a) Urban/Rural Interface. Identify one characteristic waterway at the top, or upstream, of a HUC 12 level watershed planned for development in the near future that traverses an urban/rural interface, using the 2010 Census Data and urban area maps, and establish a permanent monitoring location at the

---

<sup>28</sup> [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2010.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml)

identified urban/rural interface<sup>29</sup>. Monitoring at the urban/rural interface shall address the question: Does receiving water quality change as LID BMPs are integrated into new development?

- (b) Urban Downstream. Identify one characteristic waterway at the bottom, or downstream, of the same HUC 12 watershed as the urban/rural interface monitoring location and within an urbanized area and establish a permanent monitoring location at the identified urbanized area waterway. Monitoring at the urban area site shall address the question: Does receiving water quality improve as a result of efforts to control the sources of pollution and educate the public?

By the second year of the permit term and after establishment of site selection, the Permittee shall monitor the urban/rural interface site to address the hypothesis that receiving water quality will remain the same as new development proceeds, and the urban area site to address the hypothesis that receiving water quality will improve over time as storm water and other water quality programmatic efforts are implemented. Monitoring shall be implemented in accordance with Table 3. Receiving Water Monitoring Parameters and Protocols.

**Table 3: Receiving Water Monitoring Parameters and Protocol**

<b>Urban/Rural Interface:</b>				
<u>Objective:</u> Monitor receiving water quality at upstream location in an area undergoing development. Evaluate changes in receiving water quality over time.				
<u>Question:</u> Does receiving water quality change as LID BMPs are integrated into new development?				
<u>Hypothesis:</u> Receiving water quality will remain the same as new development proceeds.				
<b>Urban Downstream:</b>				
<u>Objective:</u> Monitor receiving water quality at a downstream location in an urban area. Evaluate changes in receiving water quality over time.				
<u>Question:</u> Does receiving water quality improve as a result of efforts to control the sources of pollution and educate the public?				
<u>Hypothesis:</u> Receiving water quality will improve over time as storm water and other water quality programmatic efforts are implemented.				
PARAMETER	ENDPOINT	BENEFICIAL USED PROTECTED	JUSTIFICATION	PROTOCOL
<b>Water Quality</b>	Pyrethroids* (sediment)	Aquatic Life	Pyrethroids** among the most ubiquitous urban contaminant in storm water. Highly toxic to aquatic life.	Method with detection limit of 1 ppt (5 ppt for permethrin only) such as the GC-MS-MS method of Water Pollution Control Lab. Yearly in spring at urban/rural interface only. Refer to pending SWAMP guidelines.
	Dissolved oxygen (DO)	Aquatic life, recreation	DO reports on presence of excessive nutrients (N, P) and effects of organic matter loading into a waterbody. High DO during day, low DO at night suggests algae overgrowth.	Option 1: One week of evening grab samples (a minimum of 2 hours after dusk or 2 hours before sunrise) in spring (as soon as safe to get into waterway), summer, & fall. OR Option 2: Continuous sampling. 1

<sup>29</sup> The urban/rural interface is identified as the geographical location at which urban land use and rural land use interact

				week in spring summer, fall. In rivers or lakes, 2 samplers to obtain depth-integrated values.
	Temperature	Aquatic life	Aquatic life can survive within a temperature window, exceedances lethal. If loggers are deployed, DO probes often also measure temperature.	Option 1: Daytime measurement between noon – 5 pm, at the same time of day, for 2 weeks in the spring, summer, and fall. Option 2: Continuous sample. Same as for dissolved oxygen.
	Bacteria	Recreation	Increase cell count linked to poor management practices, high bacteria levels limit recreational use of waterways.	Once yearly in later summer or fall. Collect 1 sample weekly x 4 weeks. Calculate geometric mean. Measure e. coli.
	Nutrients	Aquatic life Recreation Other	Excess nutrients can cause eutrophication of waterways leading to low dissolved oxygen which harms aquatic life. Algal overgrowth can also impair flows, adversely affect aesthetics, limiting recreation.	Benthic algal biomass and % cover (benthic chlorophyll a) from sediment in wadeable and non-wadeable streams or planktonic algal biomass (water column chlorophyll ) from non-wadeable rivers and lakes. 3 times per year at beginning, middle, and end of growing season. Use SWAMP protocol.
<b>Physical Habitat</b>	PHAB assessment	Aquatic life	Expect to see few changes in habitat with effective LID implementation	Once yearly in spring. Use SWAMP protocol.
	Channel cross sections	Aquatic life	Reports on stability of creek/river channel	Once yearly in spring.
	Flow	Aquatic life	Expect minimal changes in flow rate if LID practices minimizes changes in hydrograph usually seen with urbanization	Option 1: Pressure transducer. Use channel cross sections put in same time as DO probe. Measure spring, summer, and fall Option 2: Install stage gage, develop rating curve. Evaluate spring, summer, and fall for 2 weeks.
	Photo documentation	Overall conditions	Pictures and flood prone area will aid in the interpretation of the data	Once yearly in spring.
<b>Aquatic Life</b>	Bioassessment	Aquatic life	BIMs integrate the sum of all conditions. Use early measurements as the baseline. In some cases, expect improved BIMs, depending on previous use of land.	In spring as soon as safe to enter water, use SWAMP protocol

\* Pyrethroid monitoring is required at the urban/rural interface site only.

\*\*Currently, pyrethroids are the pesticide of greatest concern and abundance in urban/suburban waterways. However, new regulations enacted by the Dept. of Pesticide Regulation restrict how pyrethroids may be applied. Initial models by UC Davis researchers suggest that this could result in a runoff reduction of 80-90%, depending on the amount of impervious cover in the watershed. In the future, other pesticides may become more of a threat to aquatic life in urban waterways. One pesticide that is being used with greater frequency is fipronil, a phenylpyrazole insecticide, that is more water soluble than pyrethroids. In order to use the resources of the permittees most efficiently, the State Water Resource Control Board reserves the right to modify the terms and conditions of the permit based on new information on pesticide use and toxicity. This could include substituting another pesticide for monitoring or eliminating this endpoint.

- (iii) **Reporting** – By the second year Annual Report, the Permittee shall complete and have available a report (50 page maximum) that includes a summary of baseline data collections and discussion of monitoring program results;

By the fifth year Annual Report, the Permittee shall complete and have available a report (50 page maximum) that includes a comparison of data collection to baseline data, and discussion of monitoring program results.

At a minimum, the second and fifth year Annual Reports shall include the following information:

- (a) The purpose of the monitoring, brief contextual background and a brief description of the study design and rationale.
- (b) Sampling site(s) locations, including latitude and longitude coordinates, water body name and water body segment if applicable. Sampling design, including sampling protocol, time of year, sampling frequency and length of sampling.
- (c) Methods used for sample collection: list methods used for sample collection, sample or data collection identification, collection date, and media if applicable.
- (d) Results of data collection, including concentration detected, measurement units, and detection limits if applicable.
- (e) Quantifiable assessment, analysis and interpretation of data for each monitoring parameter.
- (f) Comparison to reference sites (if applicable), guidelines or targets
- (g) Discussion of whether data collected addresses the objective(s) or question(s) of study design
- (h) Quantifiable discussion of program/study pollutant reduction effectiveness.

Where applicable, the Permittee shall prepare, maintain, and implement a Quality Assurance Project Plan (QAPP) in accordance with the Surface Water Ambient Monitoring Program. All monitoring samples shall be collected and analyzed according to the Program QAPP developed for the purpose of compliance with this Order. SWAMP Quality Assurance Program Plan (2008) is available at:

[http://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/qapp/qaprp082209.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qaprp082209.pdf)

A formatted Microsoft Word document that includes guidelines and boilerplate language for developing the permit QAPP is available at:

[http://www.waterboards.ca.gov/water\\_issues/programs/swamp/tools.shtml#qa](http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa)

Water quality data shall be uploaded to SMARTS and must conform to California Environmental Data Exchange Network (CEDEN) Minimum Data Templates format. CEDEN Minimum Data Templates are also available at: <http://ceden.org/>



### E.13.d.2. Special Studies

- (i) **Task Description** – Within the first year of the effective date of the permit, the Permittee, as an alternative to Section E.13.d.1. Receiving Water Monitoring, may develop and implement a special study monitoring program to assess and evaluate the effectiveness of water quality projects or storm water program elements designed to reduce specific water quality pollutants that are causing or contributing to beneficial use impairment. The special studies must demonstrate the nexus between storm water program implementation, water quality protection and pollutant reduction effectiveness and may include, but are not limited to:
  - (a) Assessment of effectiveness of habitat enhancement efforts and assessment of effectiveness of stream restoration projects (i.e., stream channel restoration as related to implementation of hydromodification standards);
  - (b) Assessment of effectiveness of low impact development pilot projects, and assessment of storm water program components through pollutant load reduction quantification and/or discharge water quality monitoring (i.e., reduction of impervious surface related to implementation of Post-Construction Storm Water Management Program).
  
- (ii) **Implementation Level** – By the first year of the permit, the Permittee shall develop and implement a special study plan and shall submit to an applicable Regional Board for review and approval. Within the second year of the effective date of the permit, the Permittee shall begin implementation of the approved special study plan. The study plan shall include, at a minimum:
  - (a) Purpose/objective of the monitoring (sampling rationale), including reasoning to implement a special study in lieu of the Receiving Water Monitoring described in Section E.13.d.1.
  - (b) Brief project background information and overall study design (i.e., surrounding land uses, reference monitoring data, if applicable, and site conditions)
  - (c) Parameters that are being measured, how parameters are measured and rationale for parameter selection.
  - (d) Frequency that parameters are being measured (sampling frequency)
  - (e) Sampling site location
  - (f) Description of how the data will be managed, analyzed (including statistical analysis) and reported
  - (g) Expected results based on study plan design and hypothesis
  
- (iii) **Reporting** – By the second year Annual Report, the Permittee shall complete and have available a report (50 page maximum) that includes a summary of baseline data collections and discussion of monitoring program results.

By the fifth year Annual Report, the Permittee shall complete and have available a report (50 page maximum) that includes a comparison of data collection to baseline data, and discussion of monitoring program results.

At a minimum, the second and fifth year Annual Reports shall include the following information:

- (a) The purpose of the monitoring, contextual background and a description of the study design and rationale.
- (b) Sampling site(s) locations, including latitude and longitude coordinates, water body name and water body segment if applicable. Sampling design, including sampling protocol, time of year, sampling frequency and length of sampling.
- (c) Methods used for sample collection: list methods used for sample collection, sample or data collection identification, collection date, and media if applicable.
- (d) Results of data collection, including concentration detected, measurement units, and detection limits if applicable.
- (e) Quantifiable assessment analysis and interpretation of data for each monitoring parameter or other data type.
- (f) Comparison to reference sites (if applicable), guidelines or targets
- (g) Discussion of whether data collected addresses the objective(s) or question(s) in the study plan
- (h) Quantifiable discussion of program/study pollutant reduction effectiveness.

Where applicable, the Permittee shall prepare, maintain, and implement a QAPP in accordance with SWAMP. All monitoring samples shall be collected and analyzed according to the Program QAPP developed for the purpose of compliance with this Order. SWAMP Quality Assurance Program Plan (2008) is available at:

[http://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/qapp/qapprp082209.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/qapprp082209.pdf)

A formatted Microsoft Word document that includes guidelines and boilerplate language for developing the permit QAPP is available at:

[http://www.waterboards.ca.gov/water\\_issues/programs/swamp/tools.shtml#qa](http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml#qa)

Water quality data shall be uploaded to the Storm Water Multi-Application Reporting and Tracking System (SMARTS) and must conform to "CEDEN Minimum Data Templates" format. CEDEN Minimum Data Templates are also available at:

<http://ceden.org/>

## E.14. PROGRAM EFFECTIVENESS ASSESSMENT AND IMPROVEMENT

### E.14.a. Program Effectiveness Assessment and improvement Plan

- (i) **Task Description** - The Permittee shall develop and implement a Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. The Program Effectiveness Assessment and Improvement Plan will assist the Permittee to document compliance with permit conditions and to adaptively manage its storm water program and make necessary modifications to the program to improve program effectiveness at reducing pollutants of concern, achieving the MEP standard, and protecting water quality. The Program Effectiveness Assessment and Improvement Plan shall identify the strategy used to gauge the effectiveness of prioritized BMPs and program implementation as a whole. Prioritized BMPs include BMPs implemented based on pollutants of concern. Where pollutants of concern are unidentified, prioritized BMPs are based on common urban pollutants (i.e., sediment, bacteria, trash, nutrients). The annual effectiveness assessments will help identify potential modifications to the program to ensure long-term effectiveness.
- (ii) **Implementation Level** - The Program Effectiveness Assessment and Improvement Plan may be modeled upon the most recent version (if applicable) Municipal Storm Water Program Effectiveness Assessment Guidance (CASQA, May 2007) or equivalent.
- (a) The Program Effectiveness Assessment and Improvement Plan shall include the following elements, at a minimum as applicable:
- 1) Identification of overall program goals including pollutants of concern and prioritized BMPs
  - 2) Documentation of the level of implementation of storm water program elements
  - 3) Identification and targeting of target audience(s)
  - 4) Assessment of BMP performance at achieving outcome levels
  - 5) Assessment of pollutant source reductions achieved by individual BMPs
  - 6) Quantification of pollutant loads and pollutant load reductions achieved by the program as a whole
  - 7) MS4 discharge quality, where available, including analysis of the data
  - 8) Receiving water quality data, including analysis of the data
  - 9) Identification of long-term effectiveness assessment, to be implemented beyond the permit term
- (b) The Program Effectiveness Assessment and Improvement Plan shall assess BMP and program effectiveness in terms of the following Outcome Levels:
- 1) Storm water program activities
  - 2) Awareness
  - 3) Behavior
  - 4) Pollutant load reductions
  - 5) MS4 discharge quality (where assessment is supported by MS4 discharge quality data)

6) Receiving water conditions

- (c) The Program Effectiveness Assessment and Improvement Plan shall identify assessment methods for privately owned BMPs.
- (d) The Program Effectiveness Assessment and Improvement Plan shall identify assessment methods the Permittee will use to quantitatively assess BMP performance at reducing pollutant loads wherever feasible, using the following or equivalent methods:
  - 1) Direct quantitative measurement of pollutant load removal for BMPs that lend themselves to such measurement (e.g., measuring sediment collected through street-sweeping activities);
  - 2) Science-based estimates of pollutant load removal for BMPs where direct measurement of pollutant removal is overly challenging (e.g., removal of heavy metals through a bioswale);
  - 3) Direct quantitative measurement of behaviors that serve as proxies of pollutant removal or reduction (e.g., the percentage of construction sites demonstrated by inspection to be in compliance with permit conditions);  
or
  - 4) Visual comparison (e.g., using photographs to compare the amount of trash in a creek between one year and the next).
- (e) The Program Effectiveness Assessment and Improvement Plan shall ask and answer the following Management Questions for prioritized BMPs for which answers to management questions can be based on quantitative data appropriate to the question being answered.
  - 1) Were prioritized BMPs or group of BMPs implemented in accordance with the permit requirements? The Permittee shall develop quantitative data using the following or equivalent methods:
    - a) Confirmation – Documenting whether an activity or task has been completed, expressed as positive or negative outcome (i.e., yes or no)
    - b) Tabulation – Simple accounting expressed in absolute (e.g., number of people participating), or relative terms (e.g. percent increase in recycled household hazardous waste)
  - 2) To what extent did prioritized BMPs or group of BMPs change the target audience’s behavior? The Permittee shall develop quantitative data using the following or equivalent methods:
    - a) Surveys or interviews to discern knowledge, attitudes, awareness, behavior of specific population, etc.
    - b) Interviews of site personnel to discern awareness and behavior
    - c) Inspections or site visits to directly observe or assess a practice.
  - 3) To what extent did prioritized BMPs or group of BMPs reduce pollutant loads from their sources to the storm drain system?
- (f) The Program Effectiveness Assessment and Improvement Plan shall include water quality monitoring data, where available, to answer the following long-term management questions, effectiveness of BMPs and the overall storm water program will be assessed in future permit terms.

- 1) To what extent did implementation of the BMP, group of BMPs, or storm water program enhance or change the urban runoff and discharge quality?
- 2) To what extent did implementation of the BMP, group of BMPs, or storm water program enhance or change receiving water quality?
- 3) Did exceedance(s) of water quality objectives or water quality standards persist notwithstanding implementation of the storm water program?

The Program Effectiveness Assessment and Improvement Plan shall include documentation of the effectiveness of BMPs implemented to reduce the discharge of pollutants to the MS4 to the MEP and protect water quality.

- (iii) **Reporting** – By the second year Annual Report complete and submit the Program Effectiveness Assessment and Improvement Plan. The Plan shall include the strategy the Permittee will use to assess the effectiveness of the program, the specific measures the Permittee will use to assess the effectiveness of BMPs and/or groups of BMPs, and how the Permittee will use the information obtained through effectiveness assessment to modify individual BMPs and the program as a whole to increase short and long-term effectiveness. In subsequent Annual Reports, describe implementation of the Program Effectiveness Assessment and Improvement Plan, summarize data obtained through effectiveness assessment measures and the short and long-term progress of the storm water program, and provide an analysis of the data to improve program effectiveness, to achieve the MEP standard, protect water quality, and to document the Permittee's compliance with permit conditions. Permittees that have a Program Effectiveness Assessment and Improvement Plans, or equivalent, approved by the applicable Regional Board, or that have a schedule approved by the applicable Regional Board to develop and implement such a Plan, shall adhere to the Plan and/or schedule approved by the Regional Board unless otherwise directed by the Regional Board. By the fifth year annual report, complete and submit an analysis of the effectiveness of modifications made at improving BMP and/or program effectiveness.

#### **E.14.b. Storm Water Program Modifications**

- (i) **Task Description** –The Permittee shall modify BMPs and/or the program as a whole to improve compliance with permit conditions and improve program effectiveness at reducing pollutant loads, achieving the MEP standard, and protecting water quality. The Permittee shall use information gained through effectiveness assessment and MS4 discharge and receiving water monitoring to identify priority areas for program improvement. In addition, the Permittee shall identify and make modifications to BMPs, including new BMPs or modification to existing BMPs, to improve effectiveness in each priority area. The Permittee shall consult with the applicable Regional Water Board in setting expectations for the scope, timing, and frequency of BMP modifications.
- (ii) **Implementation Level** – Within the fifth year of the effective date of the permit, the Permittee shall identify and summarize BMP and/or program modifications identified in priority program areas. Modifications shall include:
- (a) Improving upon BMPs that are underperforming

- (b) Continuing and expanding upon BMPs that proved to be effective, including identifying new BMPs or modifications to existing BMPs designed to increase pollutant load reductions;
  - (c) Discontinuing BMPs that may no longer be productive and replacing with more effective BMPs; and
  - (d) Shifting priorities to make more effective use of resources
- (iii) **Reporting** – By the fifth year Annual Report, complete and submit the list of BMP and/or program modifications, as specified in E.14.c(ii), the Permittee will make for priority program areas, including identification of priority program areas and the schedule the Permittee will follow to complete identified modifications during the next permit term. The modifications shall be aimed at the goal of reducing pollutant loads, achieving the MEP standard and protecting water quality.

## **E.15. TOTAL MAXIMUM DAILY LOADS COMPLIANCE REQUIREMENTS**

- E.15.a.** The Permittee shall comply with all applicable TMDLs approved pursuant to 40 Code of Federal Regulations section 130.7 that assign a Waste Load Allocation to the Permittee and that have been identified in Attachment G.
- E.15.b.** WLA, Load Allocations (LA), effluent limitations, implementation requirements, and monitoring requirements are specified in the adopted and approved Regional Water Board Basin Plans and authorizing resolutions which are incorporated herein by reference as enforceable parts of this Order. Applicable Basin Plan amendments and resolutions are identified in Attachment G. Attachment G additionally contains a list of TMDL-specific permit requirements developed by the Regional Water Boards for compliance with the implementation requirements of the relevant TMDLs. These requirements are an enforceable component of this Order. In some cases, dates are given that fall outside the term of this Order. Compliance dates that have already passed are enforceable on the effective date of this Order. Compliance dates that exceed the term of this Order are included for reference, and become enforceable in the event that this Order is administratively extended.
- E.15.c.** The Regional Water Boards are directed to review, within one year of the effective date of this Order, the TMDL-specific permit requirements contained in Attachment G and to develop or propose revisions, as appropriate, to TMDL-specific permit requirements to the State Water Board after consultation with the Permittees and State Water Board staff. Any proposed revisions by the Regional Water Boards shall be supported by an explanation of how the proposed TMDL-specific permit requirements are consistent with the assumptions and requirements of applicable WLAs and with the goals of the TMDL. Where a TMDL is limited to a single constituent within a single reach of the watershed, the Regional Water Board Executive Officer may require additional monitoring, per Water Code § 13383. The State Water Board will incorporate any necessary revisions through a reopener. The State Water Board may additionally revise this Order through a reopener to incorporate any modifications or revisions to the TMDLs in Attachment G, or to incorporate any new TMDLs adopted during the term of this Order that assign a WLA to a Regulated Small MS4 or that identify a Regulated Small MS4 as a responsible



party. In revising Attachment G, the State Water Board will allow adequate notice and public review.

**E.15.d.** The Permittee shall complete and report the status of their implementation of the specific TMDL implementation requirements that have been incorporated into the permit with each Annual Report via SMARTS. Reporting on TMDL implementation shall include the following information:

- (i) A description of BMPs implemented, including types, number, and locations
- (ii) An assessment of the effectiveness of implemented BMPs in progressing towards attainment of wasteload allocations within the TMDLs' specified timeframes
- (iii) All monitoring data, including a statistical analysis of the data to assess progress towards attainment of wasteload allocations within the TMDLs' specified timeframes
- (iv) Based on results of the effectiveness assessment and monitoring, a description of the additional BMPs that will be implemented to attain wasteload allocations within the TMDLs specified timeframes

**E.15.e.** The Permittee shall comply with implementation requirements specified in Category 4b demonstrations associated with Clean Water Act Sections 303d, 306b, and 314 Integrated Reporting and Listing Decisions. Implementation requirements described in Category 4b demonstrations are effective upon Regional Water Board approval of that region's Integrated Reporting and Listing Decisions and associated Category 4b demonstrations. The most recent Integrated Reporting and Listing Decisions and associated Category 4b demonstrations are available at [http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2010.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml).

## **E.16. ANNUAL REPORTING PROGRAM**

**E.16.a.** The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities for each program element and certify compliance with all requirements of this permit. If a Permittee is unable to certify compliance with a requirement, the Permittee must submit in SMARTS the reason for failure to comply, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance.

**E.16.b.** Permittees shall complete and retain all Annual Report information on the previous fiscal year beginning July 1 and ending June 30. The Annual Reporting requirements are set forth in Provisions E. The Permittee shall retain documentation as necessary to support their Annual Report. The Permittee shall make this supporting information available during normal business hours, unless agreed to by the applicable Regional Water Board's Executive Officer.

**E.16.c.** The Permittee shall submit when requested by the Executive Officer of the applicable Regional Water Board a detailed written online annual report or in-

person presentation of the annual report that addresses the activities described in Provision E. The detailed Annual Report must clearly refer to the permit requirements and describe in quantifiable terms, the status of activities undertaken to comply with each requirement.

**E.16.d.** Permittees involved in regional programs may coordinate with the members to identify reporting responsibility. The one report submitted on behalf of Permittees involved in a regional program must include a summary of the past year activities for each program element and certification of compliance with all requirements of this Order for each of the Permittees in the regional program.

## **F. NON – TRADITIONAL SMALL MS4 PERMITTEE PROVISIONS**

### **F.1. Non-Traditional Small MS4 Categories**

The Non-Traditional Small MS4s identified in Attachment B or by a Regional Water Board Executive Officer shall comply with the specific provisions in this Section. For military installations, this permit applies to areas, where the activities and population density resemble that of a traditional small MS4, as defined in the permit boundary map in Section A.2.b.(3). For Department of Corrections and Rehabilitation Permittees, this permit applies to facilities that are in active operation (i.e., does not apply to closed facilities lacking management oversight).

### **F.2. Security Concerns**

Department of Defense, Department of Corrections and Rehabilitation Permittees, ports and transportation agencies are exempt from Annual Reporting of any provision in this section that could pose a security risk and/or compromise facility security.

### **F.3. Maximize Efficiency**

Permittees may incorporate the required storm water provisions into already existing programs and leverage existing staff to implement BMPs during its day to day business and operations.

### **F.4. Equivalent or Existing Document**

A Permittee may utilize an equivalent or existing document such as a Standard Operations and Procedures manual, Operation and Maintenance Plan, or Spill Response Plan if that document includes the necessary information required to comply with the provisions of this section.

## F.5. PROVISIONS

### F.5.a. PROGRAM MANAGEMENT ELEMENT

#### F.5.a.1. Legal Authority

- (i) **Task Description** - Permittee shall have adequate legal authority to meet the requirements of this Order
- (ii) **Implementation Level** – Within the second year of the effective date of the permit, the Permittee shall review, revise or adopt new relevant policies, contractual provisions, base orders, resolutions or other regulatory mechanisms, to the extent allowable under state or local law, to ensure it has at a minimum the legal authority to:
  - (a) Effectively prohibit non-storm water discharges through the MS4. Exceptions to this prohibition are NPDES-permitted discharges of non-storm water and non-storm water discharges from B.3 that are considered non-significant contributors of pollutants. Where the non-storm water discharge is to a segment of an MS4 that discharges directly to an ASBS, exceptions to the non-storm water prohibition are specified in Attachment C.
  - (b) Detect and eliminate illicit discharges and illegal connections to the MS4. Illicit connections include pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4. Illicit discharges include all non-storm water discharges not otherwise authorized in this Order, including, but not limited to discharges from mobile cleaning and pressure washing operations.
  - (c) Respond to spills, and prohibit dumping or disposal of materials other than storm water into the MS4.
  - (d) Require vendors, contractors and operators of commercial facilities to minimize the discharge of pollutants to the MS4 through the installation, implementation, and maintenance of BMPs consistent with the CASQA Best Management Practice Handbooks or equivalent.
  - (e) Ensure construction site or industrial facility operators provide a Waste Discharge Identification Number for coverage under the CGP and IGP and comply with the appropriate permit.
  - (f) Review designs and proposals for new development and redevelopment to determine whether adequate BMPs will be installed, implemented, and maintained during construction and after final stabilization (post-construction).
  - (g) Promptly cease and desist discharges and/or cleanup and abate a discharge, including the ability to:
    - 1) Effectively require the discharger to abate and clean up their discharge, spill, or pollutant release within 72 hours of notification;
    - 2) Require abatement, within 30 days of notification, for uncontrolled sources of pollutants that could pose an environmental threat;

- 3) Perform the cleanup and abatement work and bill the responsible party, if necessary;
- 4) Provide the option to order the cessation of activities until such problems are adequately addressed if a situation persists where pollutant-causing sources or activities are not abated;
- 5) Require a new timeframe and notify the appropriate Regional Water Board when all parties agree that clean-up activities cannot be completed within the original timeframe and notify the appropriate Regional Water Board in writing within five business days of the determination that the timeframe requires revision.

(iii) **Reporting** – All Permittees shall submit by the second year online Annual Report, a statement signed by both the Permittee’s legal counsel and an authorized signatory certifying the Permittee has adequate legal authority to comply with all Order requirements.

## **F.5.b. EDUCATION AND OUTREACH PROGRAM**

### **F.5.b.1. Compliance Participation Options**

All Permittees shall comply with the requirements in this Section by participating in one or more of the following:

- (a) Contributing to a countywide storm water program, as determined appropriate by the Permittee members, so that the countywide storm water program conducts education and outreach on behalf of its members; or
- (b) Contributing to a regional education and outreach collaborative effort (a regional education and outreach collaborative effort occurs when all or a majority of the Permittees collaborate to conduct regional education and outreach. Regional education and outreach collaboration includes Permittees defining a uniform and consistent message, deciding how best to communicate the message, and how to facilitate behavioral changes. Then collaboratively apply what is learned through local jurisdiction groups, pooling resources and skills.); or
- (c) Fulfilling education and outreach requirements within their jurisdictional boundaries on their own. Some level of coordination of education and outreach efforts with an adjacent Phase I MS4 Permittee is recommended/anticipated for watershed/region-wide consistency.; or
- (d) A combination of the previous options, so that all requirements are fulfilled.

**Reporting** – By the first year online Annual Report, the Permittee shall submit information indicating which compliance participation option it will use to comply with the public education and outreach requirements in this Section. For each public education and outreach requirement in this Section that the Permittee will comply with through contribution to a countywide storm water program or regional education and outreach collaborative effort, the Permittee shall include in the first year online Annual Report documentation, such as a written agreement, letter or similar document, which confirms the collaboration with other MS4s.

### F.5.b.2. Public Education and Outreach

The public for a Non-traditional MS4 Permittee is considered the following, if applicable:

- Faculty
  - Inmates
  - Military personnel
  - Residents
  - Students
  - Staff
  - Visitors
- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop and implement a comprehensive storm water public education and outreach program. The public education and outreach program shall be designed to inform the public about storm water pollution and steps that can be taken to reduce storm water pollution. The Public Education and Outreach Program shall measurably increase the public’s knowledge regarding the storm drain system, impacts of urban runoff and illicit discharges on receiving waters, and potential BMP solutions for the target audiences.
- (ii) **Implementation Level** –The Permittee shall, at a minimum:
- (a) Develop and implement a public education strategy that establishes education tasks based on water quality problems, target audiences, and anticipated task effectiveness. The strategy must include identification of who is responsible for implementing specific tasks and a schedule for task implementation. The strategy must demonstrate how specific high priority storm water quality issues in their jurisdiction or local pollutants of concern are addressed.
  - (b) Implement BMPs that gauge level of awareness in target audiences and effectiveness of education tasks.
  - (c) Develop and convey a specific storm water message that focuses on the following:
    - 1) Local pollutants of concern
    - 2) Target audience
    - 3) Regional water quality issues
  - (d) Develop and disseminate appropriate educational materials to target audiences and translate into applicable languages when appropriate (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, stenciling at storm drain inlets, radio advertisements, television advertisements, and websites);
  - (e) Distribute educational materials, using whichever methods and procedures determined appropriate during development of the public education strategy;
  - (f) Develop and convey messages to explain the benefits of water-efficient landscaping (if appropriate);
  - (g) Utilize information from storm water-friendly landscaping<sup>30</sup> programs (if appropriate);

---

<sup>30</sup> For example, Surfrider’s Ocean Friendly Garden Program (<http://www.surfrider.org/programs/entry/ocean-friendly-gardens>)

- (h) Develop and convey messages specific to reducing illicit discharges with information about how the public can report incidents to the appropriate authorities;
  - (i) Develop and convey of messages specific to proper application of pesticides, herbicides, and fertilizers;
  - (j) Within the Permittee's jurisdiction, provide independent, parochial and public schools with materials to effectively educate school-age children, if applicable, about storm water and how they can help to protect water quality habitat in their local watersheds. The Permittee is encouraged to use environmental and place-based, experiential learning materials that are integrated into school curricula and school facility management<sup>31</sup>. In the case that a local program does not exist, the Permittee may use California's Education and Environment Initiative Curriculum<sup>32</sup> or equivalent;
  - (k) Develop (or coordinate with existing effective programs) and convey messages specific to reducing discharges from pressure washing operations and landscape irrigation;
  - (l) If applicable, utilize storm water-friendly education for organized car wash participants and provide information pertaining to car wash discharge reduction. The Permittee may use the Sacramento Stormwater Quality Partnership's River Friendly Carwash Program<sup>33</sup>, or equivalent, for guidance;
  - (m) The Permittee shall conduct focused education in identified illicit discharge flow areas based on identified illicit discharge(s).
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance directions.

### **F.5.b.3. Staff and Site Operator Training and Education: Illicit Discharge Detection and Elimination Training**

- (i) **Task Description** – Permittees shall develop and implement a training program for all Permittee staff, who, as part of their normal job responsibilities, may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection to the storm drain system.
- (ii) **Implementation Level** – Within the third year of the effective date of the permit, the Permittee shall develop the training program. The training program shall include at a minimum:
  - (a) Identification of an illicit discharge or illegal connection;
  - (b) Proper procedures for reporting and responding to the illicit discharge or illegal connection;
  - (c) Follow-up training provided as needed to address changes in procedures, techniques, or staffing;

<sup>31</sup> For example, Splash ([www.sacsplash.org/](http://www.sacsplash.org/)), Effie Yeaw Nature Center ([www.sacnature.net](http://www.sacnature.net)) or Yolo Basin ([www.yolobasin.org](http://www.yolobasin.org))

<sup>32</sup> <http://www.californiaeei.org/>

<sup>33</sup> <http://www.beriverfriendly.net/riverfriendlycarwashing/>



- (d) Annual assessment of their trained staff's knowledge of illicit discharge response and shall provide refresher training as needed;
  - (e) Training of new staff who, as part of their normal job responsibilities may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection;
  - (f) Contact information, including the procedure for reporting an illicit discharge, shall be included in each of the Permittee's fleet vehicles that are used by field staff.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance directions.

#### **F.5.b.4. Staff Pollution Prevention and Good Housekeeping**

The Permittee shall train employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations.

- (i) **Task Description** – The Permittee shall provide a biennial training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices in the Pollution Prevention/Good Housekeeping for Permittee Operations sections of this permit. The Permittee shall determine the need for interim training during alternate years when training is not conducted, through an evaluation of employee Pollution Prevention/Good Housekeeping knowledge.
- (ii) **Implementation Level** – The biennial training program shall include the following:
  - (a) General storm water education component, any new technologies, operations, or responsibilities that arise during the year and the permit requirements which apply to the staff being trained. Clear guidance on appropriate storm water BMPs to use at Permittee owned facilities and during typical Operation and Maintenance activities.
  - (b) An assessment of trained staff's knowledge of pollution prevention and good housekeeping and shall revise the training as needed.
  - (c) A requirement that any contractors hired by the Permittee to perform Operation and Maintenance activities shall be contractually required to comply with all of the storm water BMPs, good housekeeping practices, and standard operating procedures described above.
  - (d) The Permittee shall provide oversight of contractor activities to ensure that contractors are using appropriate BMPs, good housekeeping practices and following standard operating procedures.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of

this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance directions.

#### **F.5.c. PUBLIC INVOLVEMENT AND PARTICIPATION PROGRAM**

- (i) **Task Description** - Within the third year of the effective date of the permit, the Permittee shall involve its public in the development and implementation of activities related to the program. The public participation and involvement program shall encourage volunteerism, public comment and input on policy, and activism in the community.
- (ii) **Implementation Level** – The Permittee shall, at a minimum:
  - (a) Ensure that high priority storm drain inlets include a labeled, stenciled or other effective method (e.g., clearly visible sign strategically placed in area of high pedestrian activity) of communicating a storm water awareness message such as “drains to creek” or “only rain in the drain”.
  - (b) Integrate storm water awareness messages and information on a publicly accessible website
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance

#### **F.5.d. ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM**

The Permittee shall develop an Illicit Discharge Detection and Elimination program to detect, investigate, and eliminate illicit discharges, including illegal dumping, into its system or coordinate with an adjacent Phase I MS4 Permittees existing program. The existing program, at a minimum, must include the provisions in this section.

##### **F.5.d.1 Outfall Mapping**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall maintain an up-to-date and accurate outfall map. The map may be in hard copy and/or electronic form or within a geographic information system (GIS). The development of the outfall map shall include a visual outfall inventory involving a site visit to each outfall. It is recommended the Permittee coordinate with an adjacent Phase I MS4 Permittee to collect outfall data for which they may discharge to. Renewal Permittees that have an existing and up-to-date outfall map that includes the minimum requirements specified in Section F.5.d.1.(ii)(a-b) are not required to re-create the outfall map. This does not exempt renewal Permittees with an existing outfall map from conducting the field sampling specified in Section F.5.d.2.

(ii) **Implementation Level** - The outfall map shall at a minimum show:

- (a) The location of all outfalls and drainage areas within the urbanized area, contributing to those outfalls that are operated by the Permittee, and that directly discharge within the Permittee's jurisdiction to a receiving water. Each mapped outfall shall be given an individual alphanumeric identifier, which shall be noted on the map. Photographs shall be taken or an electronic database shall be utilized to provide baseline information and track operation and maintenance needs over time.
- (b) The location (and name, where known to the Permittee) of all water bodies receiving direct discharges from those outfall pipes.

Submerged outfalls or other outfalls that may pose a threat to public safety are not required to be inventoried.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2. for compliance.

#### **F.5.d.2. Field Sampling to Detect Illicit Discharges**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall conduct field sampling to detect potential illicit discharges while conducting the outfall inventory specified in Section F.5.d. Outfall Inventory. If while conducting the outfall inventory specified in Section F.5.d., an outfall is flowing or ponding and it has been more than 72 hours since the last rain event, then the Permittee shall sample the discharge.
- (ii) **Implementation Level** – If an outfall is flowing or ponding and it has been more than 72 hours since the last rain event, the Permittee shall:
  - (a) Conduct monitoring for the following indicator parameters identified in Table 1. Field Sampling Indicator Parameters (following page) to help determine the source and identification of the discharge. Alternatively, the Permittee may select parameters based on local knowledge of pollutants of concern in lieu of sampling for the parameters listed in Table 1. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section F.5.d.2.

**Table 1. Field Sampling Indicator Parameters**

Indicator Parameters Used to Detect Illicit Discharges					
Parameter	Discharge Types It Can Detect				Laboratory/Analytical Challenges
	Sewage	Washwater	Tap Water	Industrial or Commercial Liquid Wastes	
Ammonia	●	⊙	○	⊙	Can change into other nitrogen forms as the flow travels to the outfall
Color	⊙	⊙	○	⊙	
Conductivity	⊙	⊙	○	⊙	Ineffective in saline waters
Detergents – Surfactants	●	●	○	⊙	Reagent is a hazardous waste
Fluoride*	○	○	●	⊙	Reagent is a hazardous waste Exception for communities that do not fluoridate their tap water
Hardness	⊙	⊙	⊙	⊙	
pH	○	⊙	○	⊙	
Potassium	⊙	○	○	●	May need to use two separate analytical techniques, depending on the concentration
Turbidity	⊙	⊙	○	⊙	

● Can almost always (>80% of samples) distinguish this discharge from clean flow types (e.g., tap water or natural water). For tap water, can distinguish from natural water.  
 ⊙ Can sometimes (>50% of samples) distinguish this discharge from clean flow types depending on regional characteristics, or can be helpful in combination with another parameter  
 ○ Poor indicator. Cannot reliably detect illicit discharges, or cannot detect tap water  
 N/A: Data are not available to assess the utility of this parameter for this purpose.  
 Data sources: Pitt (this study)  
 \*Fluoride is a poor indicator when used as a single parameter, but when combined with additional parameters (such as detergents, ammonia and potassium), it can almost always distinguish between sewage and wash water.

(c) Verify that indicator parameters with the following action level concentrations specified in Table 2. Action Level Concentrations for Indicator Parameters are not exceeded. Alternatively, the Permittee may tailor Table 2 to align with parameters based on local knowledge of pollutants of concern. Modifications and associated justifications shall be identified within SMARTS prior to conducting field sampling as specified in Section F.5.d.2.:

**Table 2. Action Level Concentrations for Indicator Parameters**

Indicator Parameter	Action Level Concentration
Ammonia	>= 50 mg/L
Color	>= 500 units
Conductivity	>= 2,000 μS/cm
Hardness	<= 10 mg/L as CaCO <sub>3</sub> or >= 2,000 mg/L as CaCO <sub>3</sub>
pH	<= 5 or >=9
Potassium	>= 20 mg/L
Turbidity	>= 1,000 NTU

(d) Conduct follow up investigations per Section F.5.d.3. if the action level concentrations are exceeded.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance

#### **F.5.d.3. Illicit Discharge Detection and Elimination Source Investigations and Corrective Actions**

(i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop written procedures for conducting investigations into the source of all non-storm water discharges suspected to be illicit discharges, including approaches to requiring such discharges to be eliminated, and procedures to implement corrective actions (e.g., BMPs). These procedures shall be included as part of the Illicit Discharge Detection and Elimination program.

(ii) **Implementation Level** - At a minimum, the Permittee shall conduct an investigation(s) to identify and locate the source of any suspected illicit discharge within 72 hours of becoming aware of the suspected illicit discharge. For investigations that require more than 72 hours, the Permittee shall identify the actions being taken to identify and locate the source of the suspected illicit discharge. The Permittee shall prioritize investigations of suspected sanitary sewage and/or significant contributors over investigations of non-storm water discharges suspected of being cooling water, wash water, or natural flows.

(a) Report immediately the occurrence of any dry weather flows believed to be an immediate threat to human health or the environment to local Health Department.

(b) Determine and document through its investigations the source of all non-storm water discharges. If the source of the non-storm water discharge is found to be a discharge authorized under this permit, or authorized under another NPDES permit, no further action is required.

(c) Corrective Action to Eliminate Illicit Discharge – Once the source of the illicit discharge has been determined, the Permittee shall immediately notify the responsible party of the problem.

(d) Report immediately to the owners/operators of the downstream MS4 a non-storm water discharge suspected of being sanitary sewage and/or significantly contaminated.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of

this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance

#### **F.5.e. CONSTRUCTION SITE RUNOFF CONTROL PROGRAM**

The Permittee shall develop, implement, and enforce a program to prevent Construction site discharges of pollutants and impacts on beneficial uses of receiving waters. The program shall include the development of contract language ensuring the Permittee's in-house construction operators or outside contractors comply with the CGP.

- (i) **Task Description** – Within the first year of the effective date of the permit, each Permittee shall develop and implement contract language ensuring all outside contractors comply with the CGP and implement appropriate BMPs. Contract language shall apply to all projects that result in a total land disturbance of either one acre or more or that result in a total land disturbance of less than one acre if part of a larger common plan or development or sale.
- (ii) **Implementation Level** – The Permittee shall include CGP compliance requirements in construction contract language for all projects one acre or more or that result in a total land disturbance of less than one acre if part of a larger common plan or development or sale.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f. POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR PERMITTEE OPERATIONS PROGRAM**

The Permittee shall develop and implement a program to prevent or reduce the amount of pollutant runoff from Permittee operations. The Permittee shall train employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations. Permittee shall implement appropriate BMPs for preventing or reducing the amount of storm water pollution generated by Permittee operations.

##### **F.5.f.1. Inventory of Permittee-Owned or Operated Facilities**

- (i) **Task Description** - Prepare an inventory of Permittee-owned or operated facilities within their jurisdiction that are a threat to water quality, and are not covered by another storm water General Permit.
- (ii) **Implementation Level** - Within the second year of the effective date of the permit, the Permittee shall develop and maintain an inventory that shall include facilities that may impact storm water.



- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f.2. Map of Permittee-Owned or Operated Facilities**

- (i) **Task Description** – Within the second year of the effective date of the permit, prepare and submit a map of the urban area covered by the MS4 permit and identify where the Permittee-owned or operated facilities are located.
- (ii) **Implementation Level** - The Permittee shall complete and have available a map that identifies the storm water drainage system corresponding to each of the facilities as well as the receiving waters to which these facilities discharge. The map shall also show the facility and the manager of each facility, including contact information. Historic storm water collection facilities, conveyances and drainages located at historic places that are being operated for public interpretation and education shall be noted on this map so that the Regional Water Board can differentiate between modern and historic during site reviews or audits.
- (iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f.3. Facility Assessment**

- (i) **Task Description** –Within the third year of the effective date of the permit, conduct an inspection and assessment of pollutant discharge potential and pollutant hotspots.
- (ii) **Implementation Levels** - The Permittee shall conduct an annual review and assessment of all Permittee-owned or operated facilities to determine their potential to impact surface waters. The assessment shall include the following:
  - (a) Identification of pollutant hotspots based on the assessment, the Permittee shall identify as pollutant hotspots those facilities that have a high potential to generate storm water and non-storm water pollutants. Among the factors to be considered are the type and volume of pollutants stored at the site, the presence of improperly stored materials, activities that should not be performed outside (e.g., changing automotive fluids, vehicle washing), proximity to water bodies, poor housekeeping practices, and the discharge of pollutant(s) of concern to receiving water(s). Pollutant hotspots shall include, at a minimum, the Permittee's maintenance yards, hazardous waste facilities, fuel storage

locations, and any other facilities at which chemicals or other materials have a high potential to be discharged in storm water.

- (b) Documentation of the assessment procedures and results. The Permittee shall document the procedures it uses for conducting the assessment along with a copy of any site evaluation checklists used to conduct the assessment.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f.4. Storm Water Pollution Prevention Plans**

- (i) **Task Description** – the Permittee shall develop and implement SWPPPs for pollutant hotspots at high priority sites. If a Permittee has an existing or equivalent document such as Hazardous Materials Business Plan or Spill Prevention Plan, the Permittee is not required to develop a SWPPP if that document includes the necessary information required within a SWPPP.
- (ii) **Implementation Level** – Within the fourth year of the effective date of this permit, the Permittee shall implement the following:
  - (a) The Permittee shall develop and implement a site-specific SWPPP that identifies a set of storm water BMPs to be installed, implemented, and maintained to minimize the discharge of pollutants in storm water.
  - (b) The SWPPP(s) shall be kept on-site at each of the Permittee-owned or operated facilities' offices for which it was completed. The SWPPP shall be updated as necessary.
  - (c) At a minimum the SWPPP will address the following:
    - 1) Facility specific information (location, owner, address, etc.)
    - 2) Purpose of the document
    - 3) Key staff/contacts at the facility
    - 4) Site map with drainage identified
    - 5) Identification of significant materials that are handled and stored at the facility that may be exposed to storm water
    - 6) Description of potential pollutant sources
    - 7) BMPs employed at facility
    - 8) Spill control and cleanup – response to spills
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment

and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f.5. Inspections, Visual Monitoring and Remedial Action**

- (i) **Task Description** –Within the fifth year of the effective date of the permit, the Permittee shall conduct regular inspections of Permittee-owned and operated facilities not covered by another storm water General Permit. The Permittee may incorporate storm water inspections into existing, routine facility inspections.
- (ii) **Implementation Level** – The Permittee shall conduct inspections as follows:
  - (a) Quarterly hotspot visual inspections – Perform quarterly visual inspections in accordance with the developed standing operating procedures of all hotspot Permittee-owned or operated facilities to ensure materials and equipment are clean and orderly, to minimize the potential for pollutant discharge, and to ensure implementation of BMPs. The Permittee shall look for evidence of spills and immediately clean them up to prevent contact with precipitation or runoff. The quarterly inspections shall be tracked in a log for every facility, and records kept with the SWPPP. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct the deficiencies.
  - (b) Quarterly Hotspot comprehensive inspections – At least once per quarter, a comprehensive inspection of hotspot facilities, including all storm water BMPs, shall be performed, with specific attention paid to the following, but not limited to waste storage areas, dumpsters, vehicle and equipment maintenance/fueling areas, material handling areas, and similar potential pollutant-generating areas. The quarterly inspection results shall be documented and records kept with the SWPPP. This inspection shall be performed in accordance with the developed standard operating procedures. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct deficiencies.
  - (c) Quarterly Hotspot visual observation of storm water and non-storm water discharges – At least once per quarter, visually observe discharge location from hotspot facilities. Where discharges are observed identify any observed problems (e.g., color, foam, sheen, turbidity) associated with pollutant sources or BMPs shall be remedied within seven days or before the next storm event, whichever is sooner. Visual observations shall be documented, and records kept with the SWPPP. This inspection shall be done in accordance with the developed standard operating procedures. The inspection report shall also include any identified deficiencies and the corrective actions taken to correct the deficiencies.
  - (d) Non-Hotspot Inspection – At a minimum, inspect each inventoried facility that is not a hotspot, once per permit term. The inspection shall investigate and assess each of the items identified above.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the

program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f.6. Storm Drain System Assessment and Prioritization**

- (i) **Task Description** –Within the second year of the effective date of the permit, the Permittee shall develop and implement procedures to assess and prioritize the MS4 storm drain system, including but not limited to catch basins, pipe and pump infrastructure, above-ground conveyances, including receiving waterbodies within the Permittee's urbanized area and detention basins.
- (ii) **Implementation Level** – The Permittee shall:  
Assess/prioritize storm drain system facilities for cleanout– Assign a priority to all storm drain system facilities within the Permittee's urbanized areas based on accumulation of sediment, trash and/or debris. In particular, assign high priority to catch basins meeting the following criteria:
  - 1) Catch basins known to accumulate a significant amount of sediment, trash, and/or debris;
  - 2) Catch basins collecting large volumes of runoff;
  - 3) Catch basin collecting runoff from area that do not receive regular street sweeping;
  - 4) Catch basins collecting runoff from drainage areas with exposed or disturbed soil; and
  - 5) Catch basins that receive citizen complaints/reports.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f.7. Maintenance of Storm Drain System**

- (i) **Task Description** –The Permittee shall begin maintenance of all high priority storm drain systems at least annually prior to the rainy season.
- (ii) **Implementation Level** – Within the third year of the effective date of the permit, the Permittee shall begin a maintenance program of high priority storm drain systems that, at a minimum includes:
  - (a) Storm drain systems inspection – Based on the priorities assigned above, in Section F.5.f.6, develop a strategy to inspect storm drain systems within the Permittee's jurisdiction. At a minimum, inspect all catch basins of high priority systems annually, prior to the rainy season.

- (b) Storm drain cleaning – Develop and implement a schedule to clean high priority catch basins and other systems. Cleaning frequencies shall be based on priority areas, with higher priority areas receiving more frequent maintenance.
  - (c) Maintenance of surface drainage structures –Visually monitor all Permittee-owned open channels, detention basins, and other drainage structures for debris at least once per year and identify and prioritize problem areas. At a minimum, removal of trash and debris from open channels and other drainage structures shall occur annually.
  - (d) Disposal of waste materials - Develop a procedure to dewater and dispose of materials extracted from catch basins. This procedure shall ensure that water removed during the catch basin cleaning process and waste material will not reenter the MS4.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f.8. Permittee Operations and Maintenance Activities (O&M)**

- (i) **Task Description** –The Permittee shall assess their O&M activities for potential to discharge pollutants in storm water and inspect all BMPs on a quarterly basis.
- (ii) **Implementation Level** - Within the third year of the effective date of the permit, the Permittee shall:
  - (a) Develop and implement O&M activity assessment. The O&M activities assessment shall include, but not be limited to, the potential to discharge pollutants in storm water.
  - (b) Identify all materials that could be discharged from each of these O&M activities.
  - (c) Develop and implement a set of BMPs that, when applied during Permittee O&M activities, will reduce the discharge of pollutants in storm water. The Permittee shall use the CASQA Municipal Handbook or equivalent.
  - (d) Evaluate annually all BMPs implemented during O&M activities.
- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm

water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.f.9. Pesticide, Herbicide, and Fertilizer Application and New Landscape Design and Maintenance Management**

- (i) **Task Description** –The Permittee shall implement a program which focuses on pollution prevention, source control BMPs, and landscape design and maintenance to reduce the amount of pesticides, herbicides and fertilizers used during their Permittee operations and activities. The Permittee shall implement the landscape design and maintenance on new or decorative landscapes.
  
- (ii) **Implementation Tasks** – Within the second year of the effective date of the permit, the Permittee shall implement the following:
  - (a) Evaluate pesticides, herbicides and fertilizers used and application activities performed to identify pollution prevention and source control opportunities.
  - (b) Implement practices that reduce the discharge of pesticides, herbicides and fertilizers. At a minimum the Permittee shall do the following, but not limited to:
    - 1) Educate applicators and distributors of storm water issues.
    - 2) Implement integrated pest management measures that rely on non-chemical solutions, including:
      - a) Use of native and climate appropriate plants (reduces water usage and fertilization) for decorative landscape applications
      - b) Keeping clippings and leaves away from waterways and out of the street using mulching, composting, or landfilling
      - c) Preventing application of pesticides and fertilizers when two or more consecutive days with greater than 50% chance of rainfall are predicted by NOAA<sup>34</sup>
      - d) Limiting or replacing herbicide and pesticide use (e.g., conducting manual weed and insect removal)
      - e) Limiting or eliminating the use of fertilizers, including prohibiting application within five feet of pavement, 25 feet of a storm drain inlet, or 50 feet of a water body
      - f) Reducing mowing of grass to allow for greater pollutant removal, but not jeopardizing public safety
    - 3) Collect and properly dispose of unused pesticides, herbicides, and fertilizers.
    - 4) Minimize irrigation run-off.
  
- (iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm

---

<sup>34</sup> [www.srh.noaa.gov/forecast](http://www.srh.noaa.gov/forecast)



water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

### **F.5.g. POST CONSTRUCTION STORM WATER MANAGEMENT PROGRAM**

Permittees shall regulate development to comply with the following Sections:

- F.5.g.1. Site Design Measures
- F.5.g.2. Low Impact Development Design Standards
- F.5.g.3. Alternative Post-Construction Storm Water Management Program
- F.5.g.4. Operation and Maintenance of Post Construction Storm Water Management Measures

Non-traditional Permittees with Regional Water Board approved post-construction storm water management requirements based on a watershed process approach, as described in Section E.12.j. Post-Construction Storm Water Management Requirements Based on Assessment and Maintenance of Watershed Processes, shall implement those post-construction requirements in lieu of Section F.5.g. Post Construction Storm Water Management Program.

#### **F.5.g.1. Site Design Measures**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall require implementation of site design measures for all projects that create and/or replace (including projects with no net increase in impervious footprint) between 2,500 square feet and 5,000 square feet of impervious surface, including detached single family homes that are not part of a larger plan of development.
- (ii) **Implementation Level** - Projects shall implement one or more of the following site design measures to reduce project site runoff:
  - (a) Stream Setbacks and Buffers – a vegetated area including trees, shrubs, and herbaceous vegetation, that exists or is established to protect a stream system, lake reservoir, or coastal estuarine area;
  - (b) Soil Quality Improvement and Maintenance - improvement and maintenance soil through soil amendments and creation of microbial community;
  - (c) Tree planting and preservation – planting and preservation of healthy, established trees that include both evergreens and deciduous, as applicable;
  - (d) Rooftop and Impervious Area Disconnection - rerouting of rooftop drainage pipes to drain rainwater to rain barrels, cisterns, or permeable areas instead of the storm sewer;
  - (e) Porous Pavement - pavement that allows runoff to pass through it, thereby reducing the runoff from a site and surrounding areas and filtering pollutants;
  - (f) Green Roofs – a vegetative layer grown on a roof (rooftop garden);
  - (g) Vegetated Swales - a vegetated, open-channel management practice designed specifically to treat and attenuate storm water runoff;
  - (h) Rain Barrels and Cisterns - system that collects and stores storm water runoff from a roof or other impervious surface.

Project proponents shall use the State Water Board SMARTS Post-Construction Calculator<sup>35</sup>, or equivalent to quantify the runoff reduction resulting from implementation of site design measures.

- (iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.g.2. Low Impact Development (LID) Design Standards**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall implement standards to effectively reduce runoff and pollutants associated with runoff from development projects.
- (ii) **Implementation Level** - The Permittee shall regulate all development projects that create and/or replace 5,000 square feet or more of impervious surface (Regulated Projects). The Permittee shall require these Regulated Projects to implement measures for site design, source control, runoff reduction, storm water treatment and baseline hydromodification management as defined in this Order.

Regulated Projects do not include:

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

Regulated Projects include development projects. Development includes new and redevelopment projects on public or private land that fall under the planning and permitting authority of a Permittee. Redevelopment is any land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred. The following (a-c) describe specific Regulated Project requirements for redevelopment and road projects:

- (a) Where a redevelopment project results in an increase of more than 50 percent of the impervious surface of a previously existing development, runoff from the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included to the extent feasible.
- (b) Where a redevelopment project results in an increase of less than 50 percent of the impervious surface of a previously existing development, only runoff from the new and/or replaced impervious surface of the project must be included.

---

<sup>35</sup> The State Water Board SMARTS Post-Construction Calculator can be found at: <https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

(c) Road Projects - Any of the following types of road projects that create 5,000 square feet or more of newly constructed contiguous impervious surface and that are public road projects and/or fall under the building and planning authority of a Permittee shall comply with Low Impact Development Standards except that treatment of runoff of the 85th percentile 24-hour storm runoff event) that cannot be infiltrated onsite shall follow U.S. EPA guidance regarding green infrastructure to the extent feasible. Types of projects include:

- (1) Construction of new streets or roads, including sidewalks and bicycle lanes built as part of the new streets or roads which create 5,000 square feet or more of impervious surface.
- (2) Widening of existing streets or roads with additional traffic lanes.
  - a) Where the addition of traffic lanes results in an alteration of more than 50 percent of the impervious surface (5,000 square feet or more) of an existing street or road, runoff from the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design.
  - b) Where the addition of traffic lanes results in an alteration of less than 50 percent (but 5,000 square feet or more) of the impervious surface of an existing street or road, only the runoff equivalent from new and/or replaced impervious surface of the project must be included in the treatment system design.
- (3) Specific exclusions are:
  - a) Sidewalks built as part of new streets or roads and built to direct storm water runoff to adjacent vegetated areas.
  - b) Bicycle lanes that are built as part of new streets or roads that direct storm water runoff to adjacent vegetated areas.
  - c) Impervious trails built to direct storm water runoff to adjacent vegetated areas, or other non-erodible permeable areas, preferably away from creeks or towards the outboard side of levees.
  - (d) Sidewalks, bicycle lanes, or trails constructed with permeable surfaces.

Effective Date for Applicability of Low Impact Development Runoff Standards to Regulated Projects: By the second year of the effective date of the permit, the Permittee shall require these Post-Construction Standards be applied on applicable new and redevelopment Regulated Projects. These include Regulated Projects that have not been deemed complete for processing, Regulated Projects without vesting tentative maps that have not requested and received an extension of previously granted approvals, and Regulated Projects that have received Project Planning Guide funding. Discretionary projects that have been deemed complete prior to the second year of the effective date of this permit are not subject to the Post-Construction Standards herein. For the Permittee's Regulated Projects, the effective date shall be the date their governing body or designee approves initiation of the project design.

Permittee's Development Projects - The Permittee shall develop and implement an equivalent approach, to the approach used for private development projects, to apply the most current version of the low impact development runoff standards to applicable public development projects.

Where Project Planning Guide funding is applicable, Permittees shall ensure that adequate funding is available to implement post-construction treatment measures for Regulated Projects approved after the effective date of this permit.

Where State of California project approvals are applicable, Permittees shall implement post-construction treatment measures for Regulated Projects approved after the effective date of this permit.

#### **F.5.g.2.a. Source Control Measures**

- (i) **Task Description** – Regulated Projects with pollutant-generating activities and sources shall be required to implement standard permanent and/or operational source control measures as applicable.
- (ii) **Implementation Level** - Measures for the following pollutant-generating activities and sources shall be designed consistent with recommendations from the CASQA Stormwater BMP Handbook for New Development and Redevelopment or equivalent manual, and include:
  - (a) Accidental spills or leaks
  - (b) Interior floor drains
  - (c) Parking/Storage area maintenance
  - (d) Indoor and structural pest control
  - (e) Landscape/outdoor pesticide use
  - (f) Pools, spas, ponds, decorative fountains, and other water features
  - (g) Restaurants, grocery stores, and other food service operations
  - (h) Storage and handling of solid waste
  - (i) Outdoor storage of equipment or materials
  - (j) Vehicle and equipment cleaning
  - (k) Vehicle and equipment repair and maintenance
  - (l) Fuel dispensing areas
  - (m) Loading docks
  - (n) Fire sprinkler test water
  - (o) Drain or wash water from boiler drain lines, condensate drain lines, rooftop equipment, drainage sumps, and other sources
  - (p) Unauthorized non-storm water discharges
  - (q) Building and grounds maintenance

#### **F.5.g.2.b. Numeric Sizing Criteria for Storm Water Retention and Treatment**

The Permittees shall require facilities designed to evapotranspire, infiltrate, harvest/use, and biotreat storm water to meet at least one of the following hydraulic sizing design criteria:

(1) Volumetric Criteria:

- a) The maximized capture storm water volume for the tributary area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87 (1998) pages 175-178 (that is, approximately the 85th percentile 24-hour storm runoff event); or
- b) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology in Section 5 of CASQA's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data.

(2) Flow-based Criteria

- a) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or
- b) The flow of runoff produced from a rain event equal to at least 2 times the 85th percentile hourly rainfall intensity as determined from local rainfall records.

**F.5.g.2.c. Site Design Measures** as defined in Section F.5.g.1. shall be based on the objective of achieving infiltration, evapotranspiration and/or harvesting/reuse of the 85th percentile rainfall event, to the extent feasible, to meet Section F.5.g.2.b. Numeric Sizing Criteria for Storm Water Retention and Treatment. Site design measures shall be used to reduce the amount of runoff, to the extent technically feasible, for which retention and runoff is required. Any remaining runoff from impervious DMAs may then be directed to one or bioretention facility as specified in Section F.5.g.2.d. Storm Water Treatment Measures and Baseline Hydromodification Management Measures, described below.

**F.5.g.2.d. Storm Water Treatment Measures and Baseline Hydromodification Management Measures** After implementation of Site Design Measures in F.5.g.2.c., runoff from remaining impervious DMAs must be directed to one or more facilities designed to infiltrate, evapotranspire, and/or biotreat the amount of runoff specified in Section F.5.g.2.b. Numeric Sizing Criteria for Storm Water Retention and Treatment. The facilities must be demonstrated to be at least as effective as a bioretention system with the following design parameters.

- (1) Maximum surface loading rate of 5 inches per hour, based on the flow rates calculated. A sizing factor of 4% of tributary impervious area may be used.
- (2) Minimum surface reservoir volume equal to surface area times a depth of 6 inches.
- (3) Minimum planting medium depth of 18 inches. The planting medium must sustain a minimum infiltration rate of 5 inches per hour throughout the life of the project and must maximize runoff retention and pollutant removal. A mixture of sand (60%-70%) meeting the specifications of American Society for Testing and Materials (ASTM) C33 and compost (30%-40%) may be used.

- (4) Subsurface drainage/storage (gravel) layer with an area equal to the surface area and having a minimum depth of 12 inches.
  - (5) Underdrain with discharge elevation at top of gravel layer.
  - (6) No compaction of soils beneath the facility, or ripping/loosening of soils if compacted.
  - (7) No liners or other barriers interfering with infiltration.
  - (8) Appropriate plant palette for the specified soil mix and maximum available water use.
- a) **Alternative Designs for Bioretention Facilities** — Facilities, or a combination of facilities, of a different design than in Section F.5.g.2.d. may be permitted if the following measures of equivalent effectiveness are demonstrated:
- (1) Equal or greater amount of runoff infiltrated or evapotranspired
  - (2) Equal or lower pollutant concentrations in runoff that is discharged after bioretention
  - (3) Equal or greater protection against shock loadings and spills
  - (4) Equal or greater accessibility and ease of inspection and maintenance
- b) **Allowed Adjustments for Bioretention Facilities for Special Site Conditions** - The bioretention design parameters as specified in Section F.5.g.2.d. may be adjusted for the following special site conditions:
- (1) Facilities located within 10 feet of structures or other potential geotechnical hazards established by the geotechnical expert for the project may incorporate an impervious cutoff wall between the bioretention facility and the structure or other geotechnical hazard.
  - (2) Facilities in areas with documented high concentrations of pollutants in underlying soil or groundwater, facilities located where infiltration could contribute to a geotechnical hazard, and facilities located on elevated plazas or other structures may incorporate an impervious liner and may locate the underdrain discharge at the bottom of the subsurface drainage/storage layer (this configuration is commonly known as a “flow-through planter”).
  - (3) Facilities located in areas of highly infiltrative soils or high groundwater, or where connection of underdrain to a surface drain or to a subsurface storm drain are infeasible, may omit the underdrain.
- c) **Exceptions to Requirements for Bioretention Facilities** - Contingent on a demonstration that use of bioretention or a facility of equivalent effectiveness is infeasible, other types of biotreatment or media filters (such as tree-box-type biofilters or in-vault media filters) may be used for the following:
- (1) Projects creating or replacing an acre or less of impervious area, and located in a designated pedestrian-oriented commercial district (i.e., smart growth projects), and having at least 85% of the entire project site covered by permanent structures;
  - (2) Facilities receiving runoff solely from existing (pre-project) impervious areas;
  - (3) Historic sites, structures, or landscapes that cannot alter their original configuration in order to maintain their historic integrity.



- (iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

#### **F.5.g.3. Alternative Post-Construction Storm Water Management Program**

A Permittee may propose alternative post-construction measures in lieu of some or all of Section F.5.g. requirements for multiple benefit projects. Multiple-benefit projects include projects that may address any of the following, in addition to water quality: water supply, flood control, habitat enhancement, open space preservation, recreation, climate change. Multiple-benefit projects may be applied at various scales including project site, municipal or sub-watershed level. Multiple-benefit projects may include, but are not limited to, projects developed under Watershed Improvement Plans (Water Code §16100 et seq.), IRWMP implementation and green infrastructure projects. Multiple benefit projects must be equally or more protective of water quality than Section E.12. requirements.

The Regional Water Board or the Executive Officer may approve alternative post-construction measures for multiple-benefit projects, as described above, after an opportunity for public comment, if the Regional Water Board or Executive Officer finds that the alternative measures are consistent with the MEP standard.

#### **F.5.g.4. Operation and Maintenance (O&M) of Post-Construction Storm Water Management Measures**

- (i) **Task Description** –Within the third year of the effective date of the permit, the Permittee shall implement an O&M Verification Program for new development projects regulated under this Order.
- (ii) **Implementation Level** – At a minimum, the O&M Verification Program shall include the following elements:
  - (a) Projects shall at a minimum, require at least one of the following from all project proponents and their successors in control of the Project or successors in fee title:
    - (1)Written conditions in the sales or lease agreements or deed for the project that requires the buyer or lessee to assume responsibility for the O&M of the installed treatment system(s) and hydromodification control(s) (if any) until such responsibility is legally transferred to another entity;
    - (2) Any other legally enforceable agreement or mechanism, such as recordation in the property deed, that assigns the O&M responsibility for the installed treatment system(s) and hydromodification control(s) (if any) to the project owner(s) or the Permittee.

- (b) Coordination with the appropriate mosquito<sup>36</sup> and vector control agency with jurisdiction to establish a protocol for notification of installed treatment systems and hydromodification management controls. On an annual basis, before the wet season, prepare a list of newly installed (installed within the reporting period) storm water treatment systems and hydromodification management controls to the local mosquito and vector control agency and the appropriate Regional Water Board. This list shall include the facility locations and a description of the storm water treatment measures and hydromodification management controls installed.
  - (c) A database or equivalent tabular format of all projects that have installed treatment systems. This database or equivalent tabular format shall include the following information for each project:
    - (1) Name and address of the project;
    - (2) Specific description of the location (or a map showing the location) of the installed treatment system(s) and hydromodification control(s) (if any);
    - (3) Date(s) that the treatment system(s) and hydromodification controls (if any) is/are installed;
    - (4) Description of the type and size of the treatment system(s) and hydromodification control(s) (if any) installed;
    - (5) Responsible operator(s) of each treatment system and hydromodification control (if any);
    - (6) Dates and findings of inspections (routine and follow-up) of the treatment system(s) and hydromodification control(s) (if any) by the Permittee; and
    - (7) Any problems and corrective or enforcement actions taken.
  - (d) Maintenance Approvals: The Permittee shall ensure that systems and hydromodification controls installed at projects are properly operated and maintained for the life of the projects. In cases where the responsible party for a treatment system or hydromodification control has worked diligently and in good faith with the appropriate State and federal agencies and the Permittee to obtain approvals necessary to complete maintenance activities for the treatment system or hydromodification management control, but these approvals are not granted, the Permittee shall be deemed to be in compliance with this Provision.
- (iii) **Reporting** - The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section F.5.j.2.for compliance.

---

<sup>36</sup> "Best Management Practices for Mosquito Control on California State Properties" are available from the California West Nile virus website at <http://www.westnile.ca.gov/resources.php>. Please see Table 1, page 22, for a list of California mosquito control agencies or visit <http://mvmcac.org>.

## **F.5.h. PROGRAM EFFECTIVENESS ASSESSMENT AND IMPROVEMENT**

### **F.5.h.1. Program Effectiveness Assessment and Improvement Plan**

- (i) **Task Description** - The Permittee shall develop and implement a Program Effectiveness Assessment and Improvement Plan that tracks short and long-term progress of the storm water program. The Program Effectiveness Assessment and Improvement Plan will assist the Permittee to adaptively manage its storm water program and make necessary modifications to the program to improve program effectiveness, reduce pollutants of concern, achieve the MEP standard, and protect water quality, and to document the Permittee's compliance with permit conditions. The Program Effectiveness Assessment and Improvement Plan shall identify the strategy used to gauge the effectiveness of prioritized BMPs and program implementation as a whole. Prioritized BMPs include BMPs implemented based on pollutants of concern. Where pollutants of concern are unidentified, prioritized BMPs are based on common pollutants of concern (i.e., sediment, bacteria, trash, nutrients). The effectiveness assessments will build upon each other from one year to the next and shall identify modifications to the program the Permittee must undertake to improve effectiveness.
  
- (ii) **Implementation Level** - The Program Effectiveness Assessment and Improvement Plan may be modeled upon the most recent version (if applicable) Municipal Storm Water Program Effectiveness Assessment Guidance (CASQA, May 2007) or equivalent.
  - (a) The Program Effectiveness Assessment and Improvement Plan shall include the following minimum elements:
    - (1) Implementation of storm water program elements
    - (2) Identification and targeting of Target Audience(s)
  
- (iii) **Reporting** - By the second year Annual Report complete and submit the Program Effectiveness Assessment and Improvement Plan. At a minimum, the Plan shall include implementation of storm water program elements and identification of the Targeted Audience(s).

### **F.5.h.2 Storm Water Program Modifications**

- (i) **Task Description** – Within the fifth year of the effective date of the permit, based on the information gained from the effectiveness assessment, the Permittee shall identify modifications to control measures/significant activities, including new BMPs or modification to existing BMPs. The Permittee shall consult with the Regional Water Board in setting expectations for the scope, timing, and frequency of BMP modifications for the next permit cycle.
  
- (ii) **Implementation Level** –The Permittee shall identify program modifications to include:
  - (a) Improving upon BMPs that did not accomplish goals;
  - (b) Continuing and expanding upon BMPs that proved to be effective, including identifying new BMPs or modifications to existing BMPs designed to increase pollutant load reductions;

- (c) Discontinuing BMPs that may no longer be productive and replacing with more effective BMPs; and
  - (d) Shifting priorities to make more effective use of resources
- (iii) **Reporting** – By the fifth year Annual Report complete and have available a list of maintenance activities of highest priority BMPs. By the fifth year Annual Report, complete and have available a summary of proposed modifications to the storm water program to improve program effectiveness, to achieve the MEP standard, and to protect water quality.

#### **F.5.i. TOTAL MAXIMUM DAILY LOADS COMPLIANCE REQUIREMENTS**

- F.5.i.1.** The Permittee shall comply with all applicable TMDLs approved pursuant to 40 Code of Federal Regulations § 130.7 that assign a Waste Load Allocation to the Permittee and that have been identified in Attachment G.
- F.5.i.2.** Waste Load Allocations (WLA), Load Allocations (LA), effluent limitations, implementation requirements, and monitoring requirements are specified in the adopted and approved Regional Water Board Basin Plans and authorizing resolutions which are incorporated herein by reference as enforceable parts of this Order. Applicable Basin Plan amendments and resolutions are identified in Attachment G. With the exception of the TMDLs for the Los Angeles Regional Water Board, Attachment G additionally contains a list of TMDL-specific permit requirements developed by the Regional Boards for compliance with the implementation requirements of the relevant TMDLs. These requirements are an enforceable component of this Order. In some cases, dates are given that fall outside the term of this Order. Compliance dates that have already passed are enforceable on the effective date of this Order. Compliance dates that exceed the term of this Order are included for reference, and become enforceable in the event that this Order is administratively extended.
- F.5.i.3.** The Regional Water Boards are directed to review, within one year of the effective date of this Order, the TMDL-specific permit requirements contained in Attachment G and to propose to the State Water Board any appropriate revisions after consultation with the Permittees and State Water Board staff. The Los Angeles Regional Water Board will develop TMDL-specific permit requirements within one year of the effective date of this Order in consultation with the Permittees and State Water Board staff. Any proposed revisions by the Regional Water Boards shall be supported by a statement of reasons explaining how the proposed TMDL-specific permit requirements are consistent with the assumptions and requirements of applicable WLAs and with the goals of the TMDL. The State Water Board will incorporate into this Order any necessary revisions, including the statements of reasons through a reopener. The State Water Board may additionally revise this Order through a reopener to incorporate any modifications or revisions to the TMDLs in Attachment G, or to incorporate any new TMDLs adopted during the term of this General Permit that assign a WLA to the Permittee or that identify the Permittee as a responsible party. Where a TMDL is limited to a single constituent within a single reach of the watershed, the Regional Water Board Executive Officer may require additional monitoring, per Water Code § 13383. In revising Attachment G, the State Water Board will allow adequate notice and public review.

**F.5.i.4.** The Permittee shall complete and have available a report that includes the status of their implementation of the specific TMDL implementation requirements that have been incorporated into the Order with each Annual Report. The TMDL implementation report shall include the following information:

- (a) A description of BMPs implemented, including types, number, and locations
- (b) An assessment of the effectiveness of implemented BMPs in progressing towards attainment of wasteload allocations within the TMDLs' specified timeframes
- (c) All monitoring data, including a statistical analysis of the data to assess progress towards attainment of wasteload allocations within the TMDLs' specified timeframes
- (d) Based on results of the effectiveness assessment and monitoring, a description of the additional BMPs that will be implemented to attain wasteload allocations within the TMDLs/ specified timeframes

**F.5.i.5.** The Permittee shall comply with implementation requirements specified in Category 4b demonstrations associated with Clean Water Act Sections 303d, 306b, and 314 Integrated Reporting and Listing Decisions. Implementation requirements described in Category 4b demonstrations are effective upon Regional Water Board approval of that region's Integrated Reporting and Listing Decisions and associated Category 4b demonstrations.

#### **F.5.j. ONLINE ANNUAL REPORTING**

**F.5.j.1.** Department of Defense and Department of Corrections, ports, transportation agencies and Rehabilitation Permittees are exempt from Annual Reporting of any provision that could pose a security risk and compromise facility security. Any requested information to determine compliance with this Order [40 C.F.R. 122.41(h)] by the Water Boards or U.S. EPA shall be furnished during normal business hours.

**F.5.j.2.** The Permittee shall use State Water Board's SMARTS to submit a summary of the past year activities for each program element and certify compliance with all requirements of this permit. If a Permittee is unable to certify compliance with a requirement, it must submit in SMARTS the reason for failure to comply, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance.

**F.5.j.3.** Permittees shall complete and retain all Annual Report information on the previous fiscal year beginning July 1 and ending June 30. The Annual Reporting requirements are set forth in Provisions E. The Permittee shall retain documentation as necessary to support their Annual Report. The Permittee shall make this supporting information available during normal business hours, unless agreed to by the Regional Water Board's Executive Officer.

**F.5.j.4.** The Permittee shall submit when requested by the Executive Officer of the applicable Regional Water Board a detailed written online annual report or in-person presentation of the annual report that addresses the activities described in Provision F. The detailed Annual Report must clearly refer to the permit

requirements and describe in quantifiable terms, the status of activities undertaken to comply with each requirement.

**F.5.j.5.** Permittees involved in regional programs may coordinate with the members to identify reporting responsibility. The one report submitted on behalf of Permittees involved in a regional program must include a summary of the past year activities implemented for each program element and certification of compliance for each of the Permittees in the regional program.

## **G. REGIONAL WATER BOARD AUTHORITIES**

Regional Water Boards are responsible for overseeing compliance with this Order. Oversight may include, but is not limited to, reviewing reports, requiring modification to storm water program components and various submissions, imposing region-specific monitoring requirements, conducting inspections and program evaluations (audits), taking enforcement actions against violators of this Order. Permittees shall modify and implement their storm water management programs and monitoring as required by the Regional Water Board Executive Officer. The Regional Water Board may designate additional Small MS4s as Regulated Small MS4s under this Order consistent with the criteria articulated in Finding 24 of this Order. Such designations must be approved by the Regional Water Board following public review and comment. The Executive Director of the State Water Board may amend Attachments A and B to add Regional Water Board designations. The Regional Water Boards may also issue individual permits to Regulated Small MS4s, and alternative general permits to categories of Regulated Small MS4s. Upon issuance of such permits by a Regional Water Board, this Order shall no longer regulate the affected Small MS4(s).

## **H. DISPUTE RESOLUTION**

In the event of a disagreement between a Permittee or other interested party and a Regional Water Board over the interpretation or implementation of any provision of this Order, a Permittee or interested party shall first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a satisfactory resolution is not obtained at the Regional Water Board level, a Permittee or interested party may submit the issue in writing to the Executive Director of the State Water Board or his designee for resolution, with a copy to the Executive Officer of the Regional Water Board. The issue must be submitted to the Executive Director within thirty days of any final determination by the Executive Officer of the Regional Water Board; after thirty days the Permittee or interested party will be deemed to have accepted the Regional Water Board Executive Officer's determination. The Executive Officer of the Regional Water Board will be provided an opportunity to respond. The Executive Director or his/her designee shall make a determination on the request within 60 days. Determinations of the Regional Water Board Executive Officers in interpreting and implementing this permit are considered actions of the State Water Board except where the Regional Water Board itself acts or the Executive Officer acts under Water Code Sections 13300, 13304, or 13383.



## **I. PERMIT RE-OPENER**

This Order may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations 122.62, 122.63, 122.64, and 124.5. The State Board may additionally reopen and modify this Order at any time prior to its expiration under any of the following circumstances:

1. Present or future investigations demonstrate that the discharge(s) regulated by this Order may have the potential to cause or contribute to adverse impacts on water quality and/or beneficial uses.
2. New or revised Water Quality Objectives come into effect, or any TMDL is adopted or revised that is applicable to the Permittees
3. TMDL-specific permit requirements for adopted TMDLs are developed or revised by a Regional Water Board for incorporation into this Order.
4. The State Water Board determines, after opportunity for public comment and a public workshop, that revisions are warranted to those provisions of the Order addressing compliance with water quality standards in the receiving water or those provisions of the Order laying out an iterative process for implementation of management practices to achieve compliance with water quality standards in the receiving water.
5. The State Board completes the delineation of statewide watershed management zones based on watershed processes and the development of watershed based criteria for hydromodification measures.
6. The State Water Board completes the statewide policy for trash control in California's waterways.

**J. PERMIT EXPIRATION**

This Order expires on June 30, 2018. If this Order is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with 40 Code of Federal Regulations section 122.6 and remain in full force and effect. If you wish to continue an activity regulated by this Order after the expiration date of this Order, you must apply for and obtain authorization as required by the new permit once it is issued.

**CERTIFICATION**


The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of State Water Board held on February 5, 2013.

AYE: Chairman Charles R. Hoppin  
Vice Chair Frances Spivy-Weber  
Board Member Tam M. Doduc  
Board Member Steven Moore  
Board Member Felicia Marcus

NAY: None

ABSENT: None

ABSTAIN: None

  
\_\_\_\_\_  
Jeanine Townsend  
Clerk to the Board

**CALIFORNIA STATE WATER RESOURCES CONTROL BOARD  
1001 I STREET  
SACRAMENTO, CA 95814**

**FACT SHEET  
FOR**

**NPDES GENERAL PERMIT and WASTE DISCHARGE REQUIREMENTS  
FOR**

**STORM WATER DISCHARGES FROM SMALL MUNICIPAL SEPARATE STORM  
SEWER SYSTEMS (ORDER)**

**ORDER No. 2013-0001-DWQ**

*This Fact Sheet describes the factual, legal, and methodological basis for the General Permit, provides supporting documentation, and explains the rationale and assumptions used in deriving the limits and requirements.*

## I. BACKGROUND

### History

A 1972 amendment to the federal Water Pollution Control Act (also referred to as the Clean Water Act) provides that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the Clean Water Act added section 402(p), which established a framework for regulating storm water discharges under the NPDES Program. Subsequently, in 1990, the U.S. Environmental Protection Agency (U.S. EPA) promulgated regulations for permitting storm water discharges from industrial sites (including construction sites that disturb five acres or more) and from municipal separate storm sewer systems (MS4s) serving a population of 100,000 people or more. These regulations, known as the Phase I regulations, require operators of medium and large MS4s to obtain storm water permits. On December 8, 1999, U.S. EPA promulgated regulations, known as Phase II regulations, requiring permits for storm water discharges from Small MS4s and from construction sites disturbing between one and five acres of land. The Order accompanying this Fact Sheet regulates storm water discharges from Small MS4s.

A municipal separate storm sewer is a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) "owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity...." (ii) designed or used for collecting or conveying storm water; (iii) which is not a combined sewer; and (iv) which is not part of a Publicly Owned Treatment Works (POTW). [See Title 40, Code of Federal Regulations (40 C.F.R.) §122.26(b)(8).]

A Small MS4 is an MS4 that is not permitted under the municipal Phase I regulations. (40 C.F.R. §122.26(b)(16)). Small MS4s include systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares, but do not include separate storm sewers in very discrete areas, such as individual buildings. (40 C.F.R. §122.26(b)(16)(iii).) This permit refers to MS4s that operate throughout a community as "Traditional MS4s" and MS4s that are similar to traditional MS4s but operate at a separate campus or facility as "Non-traditional MS4s."

Federal regulations allow two permitting options for storm water discharges: individual permits and general permits. The State Water Resources Control Board (State Water Board) elected to adopt a statewide general permit for Small MS4s in order to efficiently regulate numerous storm water discharges under a single permit. In certain situations a storm water discharge may be more appropriately and effectively regulated by an individual permit, a region-specific general permit, or by inclusion in an existing Phase I MS4 permit. In these situations, the Regional Water Quality Control Board (Regional Water Board) Executive Officer will direct the Small MS4 operator to submit the appropriate application, in lieu of a Notice of Intent (NOI), to comply with the terms of

this Order. In these situations, the individual or regional permits will govern, rather than this Order.

The existing General Permit (Water Quality Order 2003-0005-DWQ) was adopted by the State Water Board in April 2003 for a 5-year permit term. The existing General Permit expired in May 2008; however, it continues in force and in effect until rescinded by the State Water Board, or until a new Order is issued.

The Order regulates storm water runoff from small municipalities and other facilities, including federal and State operated facilities that can include universities, prisons, hospitals, military bases (e.g. State Army National Guard barracks, parks and office building complexes.) Regulating many storm water discharges under one permit greatly reduces the administrative burden associated with permitting individual storm water discharges. Permittees obtain coverage under this Order by filing an electronic NOI through the State Water Board's Stormwater Multiple Application and Report Tracking System (SMARTS) and by mailing the appropriate permit fee to the State Water Board.

### **Order Goals**

The goals for the Order included:

1. Ensure statewide consistency for Regulated Small MS4s.
2. Include more specificity in Order language and requirements to streamline implementation of storm water programs.
3. Implement and enhance actions to control 303(d) listed pollutants, pollutants of concern, achieve Waste Load Allocations adopted under Total Maximum Daily Loads, and protect Areas of Special Biological Significance.
4. Implement more specific and comprehensive storm water monitoring, including monitoring for 303(d) listed pollutants.
5. Incorporate emerging technologies, especially those that are being increasingly utilized by municipalities (e.g., low impact development).
6. Include program elements that address Program Management Effectiveness Assessments.
7. Implement a step-wise stakeholder collaborative approach.

### **Stakeholder Collaborative Process**

State Water Board staff conducted a series of stakeholder meetings with Permittees and other interested parties over a five year period, from 2007- 2012. These meetings included the California Stormwater Quality Association (CASQA) Phase II Small MS4 Subcommittee, representatives of non-governmental organizations, Non-traditional Small MS4s and Regional Water Board staff. The following is a summary of the stakeholder process.

State Water Board staff completed an administrative draft Order and submitted it to CASQA, U.S. EPA, Natural Resources Defense Council, Coast/Bay Keepers, and Heal the Bay for informal stakeholder review in February 2011. Each of the nine Regional Water Boards provided comments. Staff revised the draft Order to address the informal comments received and released it for 60-day public review in June 2011.

Approximately 151 comments were received and several workshops were held throughout California to meet Stakeholders, answer questions and discuss the development process.

On May 4, 2012 a second administrative draft was completed and submitted for informal stakeholder review. On May 18, 2012 the second draft Order was released for 60-day public review. Approximately 110 comments were received and a public hearing was held on August 8, 2012 to hear oral comments on the second administrative draft.

On November 16, 2012 a third draft was completed and submitted for 30-day public review period. The comment deadline was set for noon on December 17, 2012. Approximately 55 comments were received and a board workshop was held on January 8, 2013 to hear comments on the revisions made to the second administrative draft.

On January 23, 2013, a final draft was completed and proposed for State Water Board adoption.

## **II. PERMITTING APPROACH**

### **Existing General Permit Approach**

U.S. EPA storm water regulations for Phase II storm water permits envision a process in which entities subject to regulation develop a Storm Water Management Plan (SWMP). The SWMP contains detailed Best Management Practices (BMPs) and specific level-of-implementation information reviewed and approved by the permitting agency before the Permittee obtains coverage under the storm water permit. The existing General Permit followed this approach as suggested by U.S. EPA and simply identified goals and objectives for each of the six Minimum Control Measures.

The existing General Permit approach provides the flexibility to target an MS4's problem areas while working within the existing organizational structure. However, audits of Permittees and information gained from interviews with Regional Water Board staff revealed that many of these storm water programs lacked a baseline program and specific details in the SWMP to implement an adequate program for protection from the impacts of storm water runoff. Regional Water Board staff found it difficult to determine Permittees' compliance with the existing General Permit, due to the lack of specific requirements. The permit language did not contain specific deadlines for compliance, did not incorporate clear performance standards, and did not include measurable goals or quantifiable targets for implementation.<sup>1</sup>

The Regional Water Boards conducted approximately 36 on-site audits of MS4 programs<sup>2</sup> in the state that addressed 122 Permittees, including some Phase II Small MS4s. They found that programs with more specific permit requirements generally resulted in more comprehensive and progressive storm water management programs. For example, the more prescriptive permit requirements in the Los Angeles and San Diego MS4 permits require Permittees to be specific in how they implement their storm water program. The auditors concluded that the specificity of the provisions enabled the

---

<sup>1</sup> Storm water Phase I MS4 Permitting: Writing more effective, measurable permits, EPA, Kosco.

<sup>2</sup> Assessment Report on Tetra Tech's Support of California's MS4 Storm Water Program, July 2006.



permitting authorities to enforce the MS4 permits and improve the quality of MS4 discharges. In addition, U.S. EPA on-site audits of MS4s throughout the nation have repeatedly shown the need for clear, measurable requirements in MS4 permits to ensure an effective and enforceable program.

Given this information, State Water Board staff aimed to write permit language clear enough to set appropriate standards and establish required outcomes.

### **Current Order Approach**

The current approach simplifies assessment of Permittee compliance and allows the public to more easily access measurable results. The Order provisions establish compliance implementation levels such as escalating enforcement and requirements for tracking projects. Required actions include specific reporting elements to substantiate compliance with implementation levels. Regional Water Board staff will be able to evaluate each individual Permittee's compliance through an online Annual Report review and the program evaluation (audit) process.

Federal regulations and State law require that the implementation specifics of Municipal Storm Water NPDES permits be adopted after adequate public review and comment.<sup>3</sup> This Order's approach satisfies the public involvement requirements of both the federal Clean Water Act and the California Water Code. Permit details are known at the time of adoption of the Order. Substantive information as to how the discharger will reduce pollutants to the Maximum Extent Practicable (MEP) is not left to the details of the SWMP. The public need not guess program details until Regional Water Board review and approval of a SWMP, as was the case in the existing General Permit.

This Order specifies the actions necessary to reduce the discharge of pollutants in storm water to the MEP in a manner designed to achieve compliance with water quality standards and objectives. This set of specific actions is equivalent to the requirements that were included in a separate SWMP for each Permittee in the existing General Permit.

This order effectively prohibits non-storm water discharges into municipal storm drain systems and watercourses within the Permittees' jurisdictions.

The State Board has also identified the most critical water quality problems as priorities in this Order. The priorities include (1) discharges to Areas of Special Biological Significance (2) discharges to water bodies listed as impaired on the 303[d] list (3) Post-Construction Requirements and (4) Water Quality Monitoring Requirements. A majority

---

<sup>3</sup> On January 14, 2003, the U.S. Ninth Circuit Court issued a decision in *Environmental Defense Center v. EPA* ((9<sup>th</sup> Cir. 2003) 344 F.3d 832.) This ruling upheld the Phase II regulations on all but three of the 20 issues contested. The court determined that applications for general permit coverage (including the NOI and any Storm Water Management Program [SWMP]) must be made available to the public, the applications must be reviewed and determined to meet the Maximum Extent Practicable (MEP) standard by the permitting authority before coverage commences, and there must be a process to accommodate public hearings. Regarding the issue of public participation, the Ninth Circuit noted that such participation was required because the "substantive information about how the operator of a small MS4 will reduce discharges to the maximum extent practicable" was found in the storm water management plan rather than the permit itself" (344 F3d at 857).

of the Permittees' implementation efforts focus on the four priority areas as identified by the State Water Board.

#### *Permittee Diversity*

In California, Permittees face highly variable conditions both in terms of threats to water quality from their storm water discharges and resources available to manage those discharges. Consequently, making one set of prescriptive requirements work for all of them is inherently difficult. This Order contains separate provisions for Traditional and Non-traditional MS4s. The requirements for the Non-traditional MS4s are tailored specifically to the Non-traditional management structure. Additionally, this permit introduces the concept of compliance tiers in particular sections, designed to relieve the Regional Water Board burden of reviewing and approving individual SWMPs while preserving the ability of the Permittees to tailor requirements that address their unique circumstances.

#### *Non-traditional MS4 Categories and Provisions*

This Order identifies specific provisions Non-traditional MS4 Permittees must comply with in Section F and considers the following categories to be Non-traditional MS4s, but not limited to:

- Community Services Districts
- Fairgrounds
- Higher Education Institutions (Community Colleges and Universities)
- Military Bases
- Ports
- State Parks/Beaches/Historical Areas
- School Districts K-12
- State and Federal Prisons/Health Institutions
- State Vehicle Recreation Areas
- Water Agencies
- Transit Agencies

The regulations direct that the term Small MS4s includes "large hospitals" and "prison complexes." (40 C.F.R. §122.26(b)(16)(iii).) For purposes of State Water Board designation of state and federal hospitals and prisons, the Board interprets the terms "large hospital" and "prison complex" to mean health institutions and prison facilities with a resident and staff population of 5,000 or more. However, Regional Water Boards may designate smaller facilities on a case by case basis.

#### *Guidance Document*

The case for eliminating a SWMP for this second permit term has been clearly addressed, however, the latent advantages of having some form of a storm water management document has not.

First, a storm water management document assists Permittees in managing their storm water program. Such a document serves as guidance to (1) identify different staff involved in storm water compliance over multiple departments within the Permittee agency and, (2) provide those staff with a simple narrative connecting all the detailed, specific BMPs in relation to multiple Permittee departments. Simply put, the document provides the Permittee with a map to the compliance process.

Second, the storm water management document is an essential tool for Regional Water Board audits. During MS4 audits, the Regional Water Board typically requests and reviews a SWMP to understand the Permittee's storm water program and management structure. Although the Order contains specific details on each program requirement, it lacks the simple narrative nexus that a storm water management document can provide on how the storm water program is implemented by a specific Permittee. The guidance document may be in spreadsheet form, as a flowchart, or as a written narrative. In other words, the structure is left up to the Permittee as to the way in which they want to demonstrate or illustrate the relationship between their storm water program and their management structure. To that end, the guidance document will provide the Permittee with a clear map to the compliance process. Therefore, although the draft Order eliminates the submittal for review and approval of a SWMP, the requirement to develop a planning/guidance document has been retained for new Permittees.

New Permittees are allowed six months to develop and upload the guidance document to SMARTS along with the NOI and appropriate fee. The document is open for public viewing, but will not be reviewed and approved by the relevant Regional Water Board.

Renewal Permittees will also submit a guidance document and are allowed six months to develop and upload the guidance document to SMARTS along with the NOI and appropriate fee.

Note: The finding corresponding to this discussion in the Fact Sheet is slightly modified in the Final Order. See Finding 32.

→ The State Water Board recognizes that in some instances Renewal Permittees' existing SWMPs have incorporated BMPs designed to address locality-specific storm water issues and that in some cases these BMPs may, because of locality-specific factors, be more protective of water quality than the minimum requirements established by this Order. Renewal Permittees will additionally include in the guidance document the following: identification and brief description of each BMP and associated measurable goal included in the Permittee's most current SWMP that constitutes a more specific local or tailored level of implementation that may be more protective of water quality than the minimum requirements of this Order; and identification of whether the Permittee proposes to maintain, reduce, or cease implementation for each more protective, locally-tailored BMP. In no instance may a BMP be reduced or ceased if it is required by the minimum standards set by this Order. Further, for each more protective, locally-tailored BMP and associated measurable goal for which the Renewal Permittee proposes to reduce or cease implementation, the Renewal Permittee may do so only if the Permittee can demonstrate, to the Regional Water Board Executive Officer, that the reduction or cessation is in compliance with this Order and the maximum extent practicable standard, and will not result in increased pollutant discharges. This process is designed to direct Renewal Permittees, where appropriate, to continue to implement more protective, locally-tailored BMPs and measurable goals developed in the previous permit term that were specifically designed to address local storm water priorities.

### **Summary of Significant Changes in this Order**

This Order significantly differs from the previous order (Order 2003-0005-DWQ) by including the following:

- Specific BMP and Management Measure Requirements
- Elimination of submission of a SWMP for review and approval by the Regional Water Boards

- Electronic filing of NOIs and Annual Reports
- Waiver Certification
- New State Water Board and Regional Water Board designation criteria
- Separate requirements for Traditional and Non-traditional MS4s
- New program management requirements
- Post-construction storm water management requirements
- TMDL implementation requirements
- Requirements for ASBS discharges
- Water quality monitoring and BMP assessment
- Program effectiveness assessment

### III. ECONOMIC CONSIDERATIONS

In 2000, the State Water Board issued a precedential order (Order WQ 2000-11 (Cities of Bellflower, et al.)) stating that cost of compliance with the programs and requirements of a municipal storm water permit is a relevant factor in determining MEP. The Order also explicitly stated that a cost benefit analysis is not required. The State Water Board discussed costs as follows:

*While the standard of MEP is not defined in the storm water regulations or the Clean Water Act, the term has been defined in other federal rules. . . .*

*These definitions focus mostly on technical feasibility, but cost is also a relevant factor. There must be a serious attempt to comply, and practical solutions may not be lightly rejected. If, from the list of BMPs, a permittee chooses only a few of the least expensive methods, it is likely that MEP has not been met. On the other hand, if a permittee employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit to be derived, it would have met the standard. MEP requires permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs would not be technically feasible, or the cost would be prohibitive. Thus while cost is a factor, the Regional Water Board is not required to perform a cost-benefit analysis.*

(State Water Board Order WQ 2000-11, *supra*, p.20.) The State Water Board received extensive comments addressing the costs associated with compliance with the first publicly released Phase II small MS4 draft Order in June 2011. The depressed economic conditions in California challenge Permittees' ability to fully implement the requirements of the first draft permit. The State Water Board recognizes that many Permittees currently have limited staff and resources to implement storm water provisions. State Water Board staff carefully considered comments received regarding economic feasibility while revising the June 2011 draft Order. The Order continues to address critical water quality priorities, namely discharges to ASBS, TMDLs, and waterbodies listed as impaired on the 303(d) list, but aims to do so in a focused and cost-effective manner.

#### *Brief History*

State Water Board staff completed an administrative draft Order and submitted it to CASQA, U.S. EPA, Natural Resources Defense Council, Water Keepers, and Heal the Bay for informal stakeholder review in February 2011. Each of the nine Regional Water

Boards also provided comments. Staff revised the draft Order to address the informal comments received and released it for 60-day public review in June 2011. Approximately 151 comments were received and several workshops were held throughout California to meet Stakeholders, answer questions and discuss the development process.

On October 6, 2011, the California Senate Select Committee on California Job Creation and Retention held a hearing on the economic impacts of the State Water Board's three general or statewide storm water permits that were under renewal: the Phase II Small MS4 permit, the Industrial General Permit, and the Caltrans statewide MS4 permit. The Executive Director of the State Water Board testified at the hearing that the comments regarding cost of compliance with the permits were being considered carefully and that the three permits required substantial revision to address the comments. Following the hearing, State Water Board staff launched Stakeholder meetings beginning in November 2011 to April 2012. The meetings were held with CASQA, National Resources Defense Council, Water Keepers, Heal the Bay and each category of Non-traditional Small MS4 proposed for designation in the draft permit. The meetings were designed to discuss implementation challenges and solutions for each section of this Order, given the issues raised at the Senate hearing and the written comments from the June 2011 draft Order. Substantial revisions were then made and were reflected in the May 2012 draft Order. State Water Board staff attempted to reduce costs while maintaining the level of water quality protection mandated by CWA, CWC and other applicable requirements.

#### *Approach to Cost of Compliance*

This section is a general discussion of the more significant changes between the June 2011 and the May 2012 draft Order, including cost of compliance. It is not possible to accurately predict the cost impact of requirements that involve an unknown level of implementation or that depend on environmental variables that are as yet undefined. Only general conclusions can be drawn from this information.

It is extremely important to note that many storm water program components and their associated costs existed before any MS4 permits were issued. For example, storm drain maintenance, street sweeping and trash/litter collection costs cannot be solely or even principally attributed to MS4 permit compliance since these long-standing practices preceded the adoption of the earliest storm water permit in 1990. Even many structural BMPs (erosion protection, energy dissipation devices, detention basins etc.) are standard engineering practice for many projects and are not implemented solely to comply with permit provisions. Therefore, the true cost resulting from MS4 permit requirements is some fraction of the total storm water program costs.

The California State University, Sacramento study found that only 38% of program costs are new costs fully attributable to MS4 permits. The remainder of program costs was either pre-existing or resulted from enhancement of pre-existing programs.<sup>4</sup> The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement its Drainage Area Management Plan is less than 20% of the total budget. The remaining 80% is

---

<sup>4</sup> Ibid. p. 58.

attributable to pre-existing programs.<sup>5</sup> Any increase in cost to the Permittees by the requirements of this Order will be incremental in nature.

Testimony from the California Senate Select Committee on California Job Creation and Retention hearing and comment letters on the June 2011 draft Order asserted numerous estimates of compliance costs. Generally, the estimates are based on worst-case scenarios or the most restrictive interpretation of the June 2011 draft Order. A worst-case scenario would come about, for example, if a new Traditional MS4 Permittee fails to leverage existing resources and maximize efficiencies, and does not segregate pre-existing program expenditures and new costs to implement the storm water program when considering cost of compliance. Furthermore, the assertions do not take into consideration the phased-in nature of many of the June 2011 draft Order requirements. Finally, the cost estimate assertions did not address the diversity among Permittees, specifically the different levels of compliance from a new vs. renewal Traditional MS4 Permittee expenditure and new vs. renewal Non-traditional MS4 expenditure and funding sources.

State Water Board staff estimated the cost of compliance in two ways. First, staff utilized cost data from the California State University (CSUS) NPDES Stormwater Cost Survey<sup>6</sup>. The rationale for using this document is that it's very difficult to precisely determine the true cost of implementation of the Permittees' storm water management program as affected by this Order. Reported costs of compliance for the same program element vary widely from city to city and by a very great margin that cannot be explained. However, economies of scale play a great role for the great margin of compliance costs. Some Permittees storm water programs are general funded while others utilize a service/user/utility fees to support the program. Unfortunately, those Permittees with general funded programs must compete for dollars in a dwindling economic climate. Furthermore, a study by the Los Angeles Regional Water Board reported wide variability in the cost of compliance among municipal permit holders, which was not easily explained.<sup>7</sup> Due to the wide diversity among the Permittees, Traditional and Non-traditional and new and renewal Permittees, the uncertainty of the extent of needed improvements, and the difficulty in isolating program costs attributable to permit compliance, the true cost of implementation can only be discussed in a general way.

Second, staff considered comparisons between the June 2011 draft Order and first term Phase I MS4 permits. The municipalities chosen in the CSUS survey were smaller Phase I cities, were early in the first permit term, and had reported cost in their annual reports. In addition, the cost categories correspond to the federal Phase II Small MS4 six minimum control measures. Given these factors, State Water Board staff estimated the worst-case scenario example to be a \$32 median annual cost per household to implement the June 2011 draft Order. The CSUS survey estimated the annual cost per household for the six storm water programs ranged from \$18 to \$46.

---

<sup>5</sup> County of Orange, 2000. A NPDES Annual Progress Report. P. 60. More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.

<sup>6</sup> California State University, NPDES Stormwater Cost Survey, 2005

<sup>7</sup> LARWQCB, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003. p.2



Of the 100 new Traditional Small MS4s proposed to be designated, 20,000 is the average population with an average of 2.8 individuals per household, therefore the average annual cost to implement the June 2011 draft Order is approximately \$229,000.

The average population of a renewal Traditional MS4 Permittee identified in the June 2011 draft Order is 27,353 with an average of 2.8 individuals per household. Therefore, the average annual cost to implement the June 2011 draft Order is approximately \$313,000.

As discussed previously, the May 2012 draft Order has undergone substantial edits and no requirements have been added to the draft Order that would materially increase the cost of compliance. State Water Board staff carefully evaluated comments from Stakeholder meetings, written public comments, and testimony from the Senate Select Committee hearing. And, although the May 2012 draft Order contains these substantial revisions, the draft Order continues to protect storm water quality without overburdening Permittees and Businesses. Below is a list of some of the more significant changes to reduce costs.

1. Deleted annual cost analysis
2. Deleted Industrial/Commercial Inspection Program
3. Deleted mandatory construction inspection frequency
4. Deleted Trash Reduction Program
5. Modified post-construction standard requirements
6. Modified Community-Based Social Marketing provision
7. Modified Non-traditional MS4 provisions
8. Extended compliance deadlines
9. Eliminated redundancy with construction inventory and tracking requirements
10. Deleted mandatory development of a citizen advisory group
11. Deleted costly IDDE monitoring, complaint response based
12. Made spatial data in a Geographic Information System (GIS) optional
13. Deleted requirement to identify 20% of storm drain system as high priority
14. Included Water Quality Monitoring Tiers

Though no firm conclusions or precise estimates can be drawn from this analysis, it is expected that the revisions to the May 2012 draft Order will significantly reduce the cost of compliance of the average annual cost per household from the estimated \$32 to substantially lower.

#### *TMDLs*

The cost of complying with TMDL waste load allocations is not considered since TMDLs are not subject to the MEP standard. Federal law requires that NPDES permits contain effluent limitations consistent with the assumptions of any applicable wasteload allocation in a TMDL. (40 C.F.R. §122.44(d)(1)(vii)(B).)

#### *Benefits of Permit Costs*

The State Water Board further found in adopting Order WQ-2000-11 that in considering the cost of compliance, it is also important to consider the costs of impairment; that is, the negative impact of pollution on the economy and the positive impact of improved water quality. For example, economic benefits may result through program

implementation, and alternative costs (as well as environmental impacts) may be incurred by not fully implementing the program.

Storm water management programs cannot be considered solely in terms of their costs. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by U.S. EPA to be \$158-210.<sup>8</sup> This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates U.S. EPA's estimates, reporting annual household willingness to pay for statewide clean water to be \$180.<sup>9</sup> Though these costs may be assessed differently at the state level than at the municipal level, the results indicate that there is public support for storm water management programs and that costs incurred by the Permittees to implement its storm water management program remain reasonable.

It is also important to consider the cost of not implementing a storm water management program. Urban runoff in southern California has been found to cause illness in people bathing near storm drains.<sup>10</sup> A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8% among bathers at those beaches resulted in about \$3 million annually in health-related expenses.<sup>11</sup> Extrapolation of such illness rates and associated health expenses to the beaches and other water contact recreation areas in the state would increase these costs significantly.

Storm water runoff and its impact on receiving waters also negatively affects the tourism industry. The California Travel and Tourism Commission estimated that out-of-state visitors spent \$168 per person per day (including transportation) in California in 2007. The Commission estimated total direct travel spending in California was \$97.6 billion, directly supporting 924,000 jobs, with earnings of \$30.6 billion. Effects on tourism from storm water runoff (e.g. beach closures) can have a significant impact on the economy. The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately eight miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

Finally, the benefits of storm water management programs must be considered in conjunction with their costs. A study conducted by University of Southern California and the University of California, Los Angeles assessed the costs and benefits of implementing various approaches for achieving compliance with the MS4 permits in the Los Angeles Region. The study found that non-structural systems would cost \$2.8 billion but provide \$5.6 billion in benefit. If structural systems were necessary, the study found that total costs would range from \$5.7 to \$7.4 billion, while benefits could reach \$18 billion.<sup>12</sup> Costs are anticipated to be borne over many years, approximately a ten year minimum. That the benefits of the programs would considerably exceed their costs

---

<sup>8</sup> Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.

<sup>9</sup> State Water Board, 2005. NPDES Storm water Cost Survey. P. iv.

<sup>10</sup> Haile, R.W., et al, 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

<sup>11</sup> Los Angeles Times, May 2, 2005. Here's What Ocean Germs Cost You: A UC Irvine Study Tallies the Cost of Treatment and Lost Wages for Beachgoers Who Get Sick.

<sup>12</sup> LARWQCB, 2004. Alternative Approaches to Storm water Control.

is a view corroborated by U.S. EPA, which also found that the benefits of implementation of its Phase II storm water rule would outweigh the costs.<sup>13</sup>

#### IV. UNFUNDED MANDATES

Article XIII B, Section 6(a) of the California Constitution provides that whenever “any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse that local government for the costs of the program or increased level of service.” The requirements of this Order do not constitute state mandates that are subject to a subvention of funds.

First, the requirements of this Order do not constitute a new program or a higher level of service as compared to the requirements of the Existing Order. The overarching requirement to impose controls to reduce the pollutants in municipal storm water is dictated by the Clean Water Act and is not new to this permit cycle. (33 U.S.C. §1342(p)(3)(B).) The inclusion of new and advanced measures as the storm water programs evolve and mature over time is anticipated under the Clean Water Act (55 Fed. Reg. 48052), and these new and advanced measures do not constitute a new program or higher level of service. Further, this Order sets out a more detailed set of requirements compared to the 2003 Order in large part because, unlike the 2003 Order, this Order does not require submission of SWMPs. Specifics concerning how the minimum measures will be implemented, which would have been proposed in the SWMP under the 2003 Order, are now incorporated into the Order itself.

Second, and more broadly, mandates imposed by federal law, rather than by a state agency, are exempt from the requirement that the local agency's expenditures be reimbursed. (Cal. Const., art. XIII B, §9, subd. (b).) The Draft Order implements federally mandated requirements under the Clean Water Act and its requirements are therefore not subject to subvention of funds. This includes federal requirements to effectively prohibit non-storm water discharges, to reduce the discharge of pollutants to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (30 U.S.C. §1342(p)(3)(B).) The authority exercised under this Order is not reserved state authority under the Clean Water Act's savings clause (*cf. Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628), but instead is part of a federal mandate to develop pollutant reduction requirements for municipal separate storm sewer systems. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Ass'n of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)

Further, the maximum extent practicable standard is a flexible standard that balances a number of considerations, including technical feasibility, cost, public acceptance, regulatory compliance, and effectiveness. (*Building Ind. Asso., supra*, 124 Cal. App.4<sup>th</sup> at pp. 873, 874, 889.) Such considerations change over time with advances in technology and with experience gained in storm water management. (55 Fed.Reg.

---

<sup>13</sup> Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

48052.) Accordingly, the determination of whether the Draft Order conditions exceed the requirements of federal law cannot be based on a point by point comparison of the permit conditions and the six minimum measures that are required “at a minimum” to reduce pollutants to the maximum extent practicable and to protect water quality (40 C.F.R. §122.34). Likewise, individual permit provisions cannot be considered in isolation. When implementing the federal requirement to reduce pollutants to the maximum extent practicable, the entire permit must be evaluated as a whole. This is so because the permitting agency may decide that it is more practicable to expend limited municipal resources on one aspect of the permit rather than another. In other words, requirements in one area may be relaxed to account for greater expenditures in another that will reduce pollutants to the maximum extent practicable

In recent months, the County of Los Angeles and County of Sacramento Superior Courts have granted writs setting aside decisions of the Commission on State Mandates that held that certain requirements in Phase I permits constituted unfunded mandates. In both cases, the courts found that the correct analysis in determining whether a municipal storm water permit constituted a state mandate was to evaluate whether the permit conditions were expressly specified in federal statute or regulation but whether the permit conditions exceeded the maximum extent practicable standard. (*State of Cal. v. Comm. On State Mandates* (Super. Ct. Sacramento County, 2012, No. 34-2010-80000604), *State of Cal. v. County of Los Angeles* (Super. Ct. Los Angeles County, 2011, No. BS130730.) It should be noted that USEPA has issued an MS4 Permit Improvement Guide (April 2010, available at: [http://www.epa.gov/npdes/pubs/ms4permit\\_improvement\\_guide.pdf](http://www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf)) that recommends many provisions for Phase II MS4 permits not explicitly specified in the six minimum measures established at Code of Federal Regulations, title 40, section 122.34.

As laid out in this Fact Sheet and as supported by the record of this permitting action, the requirements of the Draft Order, taken as a whole rather than individually, are necessary to reduce the discharge of pollutants to the maximum extent practicable, to effectively prohibit non-storm water discharges, and to protect water quality. The findings as to implementing these federal requirements are the expert conclusions of the principal state agency charged with implementing the NPDES program in California. (Wat. Code, §§13001.) The requirements of the Draft Order do not constitute an unfunded mandate.

It should be noted that the Draft Order provisions to effectively prohibit non-storm water discharges are also mandated by the Clean Water Act. (33 U.S.C. §1342(p)(3)(B)(ii).) Likewise, the provisions of this Draft Order to implement total maximum daily loads (TMDLs) are federal mandates. Federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable wasteload allocation in a TMDL. (40 C.F.R. §122.44(d)(1)(vii)(B).)

Finally, even if any of the permit provisions could be considered unfunded mandates, under Government Code section 17556, subdivision (d), a state mandate is not subject to reimbursement if the local agency has the authority to charge a fee. The local agency permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Order. (See, e.g., *Apartment Ass'n of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842.) The authority of a local agency to defray the cost of a program without raising taxes indicates that a

program does not entail a cost subject to subvention. (*Clovis Unified School Dist. v. Chiang* (2010) 188 Cal. App.4<sup>th</sup> 794, 812, quoting *Connell v. Superior court* (1997) 59 Cal.App.4<sup>th</sup> 382, 401; *County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487-488.)

## V. ROLE OF THE REGIONAL WATER BOARDS

Under the Water Code, either the State Water Board or the regional boards have authority to issue NPDES permits (Wat. Code, §13377.) The State Water Board is issuing this Order; however Regional Water Board staff will continue to have the authority to evaluate each individual Permittee's compliance through online Annual Report review and by requesting a detailed annual report from Permittees anytime during the permit term. In addition, Regional Board staff can conduct program evaluations (audits). These evaluations can either be targeted or comprehensive evaluations. Responsibilities of Regional Water Board staff also include oversight of implementation and compliance with this Order. As appropriate, they can require modification to programs and other submissions, impose region-specific monitoring requirements, conduct inspections, take enforcement actions, and make additional designations of Regulated Small MS4s. The Regional Water Boards also have a role in approving water quality monitoring efforts and may also direct that dischargers carry out a particular type of education and outreach program (see discussion under Section XII).

Regional Water Boards may also issue individual permits to Regulated Small MS4s, and alternative general permits to categories of Regulated Small MS4s. In addition, Regional Water Boards may allow Phase II Permittees the ability to become Phase I Permittees within the same urbanized area. Upon issuance of such permits by a Regional Water Board, this Order shall no longer regulate the affected MS4s.

The Permittees and Regional Water Boards are encouraged to work together to accomplish the goals of the storm water program, specifically, by coordinating the oversight of construction and industrial sites. For example, certain Permittees are required to implement a construction program that must include procedures for construction site inspection and enforcement. Construction sites disturbing an acre of land or more are also subject to inspections by the Regional Water Board under the State Water Board's Construction General Permit for Storm Water Discharges associated with Construction and Land Disturbance Activities (CGP). U.S. EPA intended to provide a structure that requires permitting through the federal Clean Water Act while at the same time achieving local oversight of construction projects. A structured plan review process and field enforcement at the local level, which is also required by this Order, were cited in the preamble to the Phase II regulations as the most effective components of a construction program.

The Permittees and Regional Water Boards are encouraged to coordinate efforts and use each of their enforcement tools in the most effective manner. However, in order to further ensure coordination, this Order requires Permittees to include procedures for referring non-filers as identified in the Program Management section and violations of the storm water general permits to the Regional Water Board when observed.

## *Dispute Resolution*

As discussed, several areas of the permit will be mandated at the discretion of the Regional Board Executive Officer after permit adoption. In this function, the Regional Water Board Executive Officers are in essence acting as agents of the State Water Board. Therefore, determinations of the Regional Water Board Executive Officers in interpreting and implementing this permit are considered actions of the State Water Board (and accordingly not actions of the Regional Water Board subject to the petition process under Water Code section 13320) except where the Regional Water Board itself acts or the Executive Officer acts under Water Code Sections 13300, 13304, or 13383. However, recognizing the need for some level of statewide consistency in interpretation and implementation of Order provisions, the Order includes a dispute resolution process where there is disagreement between a Permittee and a Regional Water Board Executive Officer. The Permittee should first attempt to resolve the issue with the Executive Officer of the Regional Water Board. If a satisfactory resolution is not obtained at the Regional Water Board level, the Permittee may submit the issue in writing to the Executive Director of the State Water Board or his designee for resolution, with a copy to the Executive Officer of the Regional Water Board. The issue must be submitted to the Executive Director within thirty days of any final determination by the Executive Officer of the Regional Water Board; after thirty days the Permittee will be deemed to have accepted the Regional Water Board Executive Officer's determination. The Executive Officer of the Regional Water Board will be provided an opportunity to respond.

## **VI. ENTITIES SUBJECT TO THIS ORDER**

This Order regulates discharges of storm water from Regulated Small MS4s. A Regulated Small MS4 is a Small MS4 that has been designated as regulated in accordance with criteria described in 40 C.F.R. 122.32.

### **a. Renewal Permittee - Traditional and Non-traditional MS4s**

All Traditional and Non-traditional MS4s currently covered under the existing General Permit are covered under this Order and must implement the requirements of this Order.

### **b. New Traditional MS4 Permittee or New Urbanized Areas**

In some cases, the urbanized boundaries and/or infrastructure of previously permitted Traditional MS4 Permittees may expand to include new areas designated as urbanized under the 2010 U.S. Decennial Census (e.g., when new areas are annexed within the urbanized area). Permittees must identify and include these new urbanized areas as part of their existing storm water program. Any new urbanized areas must be indicated on Permittees permit boundary map. For cities, the permit area boundary is the city boundary. For counties, permit boundaries must include urbanized areas and places identified in Attachment A located within their jurisdictions. The boundaries must be proposed in the permit boundary map and may be developed in conjunction with the applicable Regional Water Board

New Traditional MS4 Permittees that are outside of Urbanized Areas have been designated as Regulated Small MS4s based on one or more of the following criteria developed by the State Water Board:

- 1) High population and population density – High population means a population of 10,000 or more. High population density means a density greater than 1,000 residents per square mile. Also considered in this definition is high density created by a non-residential population, such as tourists or commuters.
- 2) Discharge to Areas of Special Biological Significance (ASBS) as defined in the California Ocean Plan.

The above factors were considered when evaluating whether an MS4 outside an Urbanized Area should be regulated pursuant to this Order. An MS4 and the population that it serves need not meet all of the factors to be designated. The criteria selected to designate MS4s to be regulated are based on the potential impact to water quality due to conditions influencing discharges into their system or due to their discharge location(s).

On a case by case basis, the Regional Water Boards may designate Small MS4s outside of Urbanized Areas as Regulated Small MS4s. Case by case determinations of designation shall be based on the potential of a Small MS4's discharges to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts. Where such case by case designations have been recommended by the Regional Water Boards prior to adoption of this Order, the designated Small MS4s are listed on the relevant Attachments to the Order and the reasons for designation are laid out in the Fact Sheet. The Regional Water Boards may continue to make case by case determinations of designation during the permit term by notification to the discharger, which shall include a statement of reasons for the designation.

Finally, any Small MS4 that contributes substantially to the pollutant loadings of a physically interconnected municipal separate storm sewer that is regulated by the NPDES storm water program must be designated as Regulated Small MS4s. An MS4 is interconnected with a separately permitted MS4 if storm water that has entered the MS4 is discharged to another permitted MS4. In general, if the MS4 discharges more than 10 percent of its storm water to the permitted MS4, or its discharge makes up more than 10 percent of the other permitted MS4's total storm water volume, it is a significant contributor of pollutants to the permitted MS4. In specific cases, the MS4s involved or third parties may show that the 10 percent threshold is inappropriate for the MS4 in question.

The definition for significant contributor of pollutants to an interconnected permitted MS4 uses a volume of 10 percent, with the assumption that storm water contains pollutants. This is meant to capture flows that may affect water quality or the permit compliance status of another MS4, but exclude incidental flows between communities.



c. **New Non-traditional MS4 Permittees**

Non-traditional MS4s include, but are not limited to, universities, prisons, large hospitals, military bases (e.g., State Army National Guard barracks), and State parks.

The existing General Permit, Water Quality Order 2003-0005-DWQ, Attachment 3 listed Non-traditional MS4s anticipated to be designated by the end of the permit term, either by the State or Regional Water Boards. However, some Non-traditional MS4s were not designated. All Non-traditional MS4s, except K-12 School Districts, Offices of Education and Community Colleges, not yet designated are now subject to this Order. These entities are listed in Attachment B.

Additional Non-traditional MS4 Permittees have been designated as Regulated Small MS4s in accordance with the same criteria described in b above.

**VII. APPLICATION REQUIREMENTS**

All Regulated Small MS4s listed in Attachments A and B are automatically designated upon adoption of this Order and must file for coverage. To file for coverage, Permittees must electronically file an NOI on the State Water Board's SMARTS website and mail the appropriate permit fee to the State Water Board:

<https://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp>

The NOI will include a statement that the discharger intends to comply with the BMP requirements of the Order in lieu of proposing BMP practices. Permittees must file the NOI by July 1, 2013.

Joint Phase II Co-Permittees or Permittees relying on Separate Implementing Entities must also electronically file an NOI via SMARTS and mail the appropriate fee to the State Water Board, by July 1, 2013.

Census Designated Places (CDPs) are included in Attachment A to clearly show that they are designated Phase II entities. However, CDPs that are located within an urbanized area and within an existing NPDES permit area do not have a government entity and as such, are not required to file separately and pay fees. The Permittee (ie. a designated county) will name the CDPs within their jurisdiction when they file their NOI via SMARTS.

For fee purposes, in determining the total population served by the MS4, both resident and commuter populations are to be included. For example, publicly operated school complexes including universities and colleges, the total population served would include the sum of the average annual student enrollment plus staff.

For community services districts, the total population served would include the resident population and any non-residents regularly employed in the areas served by the district.

Regulated Small MS4s that fail to obtain coverage under this Order or other NPDES permit for storm water discharges will be in violation of the Clean Water Act and the California Water Code.

The Order includes State and Regional Water Board contact information for questions and submittals.

#### *Waiver Certification*

This Order allows Regulated Small MS4s to request a waiver of requirements. Regulated Small MS4 must certify (1) their discharges do not cause or contribute to, or have the potential to cause or contribute to a water quality impairment, and (2) they meet one of the following three waiver options:

a. Option 1

- (1) The jurisdiction served by the system is less than 1,000 people;
- (2) The system is not contributing substantially to the pollutant loadings of a physically interconnected regulated MS4; and
- (3) If the small MS4 discharges any pollutants identified as a cause of impairment of any water body to which it discharges, storm water controls are not needed based on waste load allocations that are part of an EPA approved or established TMDL that addresses the pollutant(s) of concern.

b. Option 2

- (1) The jurisdiction served by the system is less than 10,000 people;
- (2) The Regional Water Board has evaluated all waters of the U.S. that receive a discharge from the system;
- (3) The Regional Water Board has determined that storm water BMPs are not needed based on wasteload allocations that are part of an EPA approved or established TMDL that addresses the pollutant(s) of concern or an equivalent analysis; and
- (4) The Regional Water Board has determined that future discharges from the Regulated Small MS4 do not have the potential to result in exceedances of water quality standards.

c. Option 3 (applicable to Small MS4s outside an Urbanized Area only)

- (1) Small Disadvantaged Community – a community with a population of 20,000 or less with an annual median household income (MHI) that is less than 80 percent of the statewide annual MHI (CWC § 79505.5 (a)).

### **VIII. POST-CONSTRUCTION STORMWATER MANAGEMENT CRITERIA FOR NEW DEVELOPMENT AND REDEVELOPMENT**

This Order incorporates Site Design and Low Impact Development (LID) Runoff requirements for new development and redevelopment. The Order will incorporate runoff retention and hydromodification control criteria in the next permit term that will be keyed to specific watershed processes as identified by the State Water Board within specific Watershed Management Zones (WMZs). The WMZs will be used to identify applicable areas and appropriate criteria for runoff retention and hydromodification control.

## IX. DISCHARGE PROHIBITIONS

### Storm Water Discharges

This Order authorizes storm water and conditionally exempt non-storm water discharges<sup>14</sup> from the Permittees' MS4s subject to effluent and receiving water limitations. This Order prohibits the discharge of material other than storm water, unless specifically authorized in this Order.

### Non-Storm Water Discharges

Section 402(p)(3)(B)(ii) of the Clean Water Act requires that MS4 permits include a requirement to effectively prohibit non-storm water discharges into the storm sewers. Prohibition B.3 of the Order implements this requirement. Although the Clean Water Act phrases the non-storm water discharge prohibition as a prohibition of discharges "into the storm sewers," this Order states that "discharges *through the MS4* of material other than storm water to waters of the U.S. shall be effectively prohibited." There is no meaningful distinction between the two language iterations as both prohibit discharges from reaching receiving waters and are consistent with the intent of the Clean Water Act. When discussing the effective prohibition of non-storm water discharges, U.S. EPA's preamble to its Phase I regulations uses the term "through" interchangeably with the term "into." (55 Fed. Reg. 47995.) Staff believes that the use of the phrasing "through the MS4 . . . to waters of the U.S." allows the Permittees greater flexibility with regard to utilizing dry weather diversions.

The Phase I regulations at 40 C.F.R. §122.34(b)(3)(iii) specify certain categories of non-storm water discharges that are conditionally exempt from the prohibition and the Order follows this approach. Unless authorized by a separate NPDES permit, non-storm water discharges that are not specifically exempted by this Order are prohibited. Certain enumerated conditionally exempt non-storm water discharges are allowed provided they are not found to be significant source of pollution. If a discharger or a Regional Water Board Executive Officer determines that any individual or class of conditionally exempt non-storm water discharge may be a significant source of pollutants, the Regional Water Board may require the discharger to monitor and submit a report and impose BMPs to control the discharge.

### Areas of Special Biological Significance

The State Water Board adopted the California Ocean Plan (Ocean Plan) on July 6, 1972 and revised the Ocean Plan in 1978, 1983, 1988, 1990, 1997, 2000, 2005 and 2009. The Ocean Plan prohibits the discharge of waste to Areas of Special Biological Significance (ASBS). The State Water Board designates ASBS as ocean areas requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.

The Ocean Plan states that the State Water Board may grant an exception to Ocean Plan provisions where the State Water Board determines that the exception will not compromise protection of ocean waters for beneficial uses and the public interest will be served.

---

<sup>14</sup> Conditionally exempt non-storm water also refers to authorized non-storm water.

On October 18, 2004, the State Water Board directed several dischargers to cease the discharge of storm water and nonpoint source waste into ASBS, or request an exception to the Ocean Plan. Several of these dischargers are designated as Regulated Small MS4s.

On March 20, 2012, the State Water Board adopted Resolution 2012-0012 granting an exception from the Ocean Plan prohibition to 13 parties (Attachment D) designated as Regulated Small MS4s under this Order. In order to legally discharge into an ASBS, the parties must comply with the terms of the exception and have an appropriate authorization to discharge. Authorization for point source discharges to ASBS consists of coverage under this NPDES Order.

The parties authorized to discharge under the general exception are listed in Attachment D. The general exception contains "Special Protections" to protect beneficial uses and maintain natural water quality in ASBS. Limited by the special conditions in the resolution, parties listed in Attachment D can legally discharge waste into ASBS as long as the discharges are also regulated under this Order.

This Order incorporates the terms of the exception and includes the monitoring requirements the 13 parties identified as Regulated Small MS4s must comply with.

## **X. EFFLUENT LIMITATIONS**

Consistent with Clean Water Act section 402(p)(3)(B)(iii), this Order requires that Permittees implement controls to reduce the discharge of pollutants from their MS4s to waters of the U. S. to the Maximum Extent Practicable (MEP). The MEP standard requires Permittees to apply Best Management Practices (BMPs) that are effective in reducing or eliminating the discharge of pollutants to the waters of the U.S. MEP emphasizes pollutant reduction and source control BMPs to prevent pollutants from entering storm water runoff. MEP may require treatment of the storm water runoff if it contains pollutants. The MEP standard is an ever-evolving, flexible, and advancing concept, which considers technical and economic feasibility. As knowledge about controlling urban runoff continues to evolve, so does that which constitutes MEP. BMP development is a dynamic process and may require changes over time as the Permittees gain experience and/or the state of the science and art progresses. Permittees must conduct and document evaluation and assessment of each relevant element of the program, and of the program as a whole, and revise activities, control measures/BMPs, and measurable goals, as necessary to meet MEP. MEP requires Permittees to choose effective BMPs, and to reject applicable BMPs only where other effective BMPs will serve the same purpose, the BMPs are not technically feasible, or the cost is prohibitive. Further, because local conditions vary, some BMPs may be more effective in one community than in another. MEP is the cumulative result of implementing, evaluating, and creating corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate BMPs are implemented in the most effective manner.

Under 40 Code of Federal Regulations section 122.44(k)(2)&(3), the State Water Board may impose BMPs for control of storm water discharges in lieu of numeric effluent limitations.<sup>15</sup>

In 2004, the State Water Board assembled a blue ribbon panel to address the feasibility of including numeric effluent limits as part of NPDES municipal, industrial, and construction storm water permits. The panel issued a report dated June 19, 2006, which included recommendations as to the feasibility of including numeric limits in storm water permits, how such limits should be established, and what data should be required.

The report concluded that “It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target.”

Consistent with the federal regulations, the findings of the Blue Ribbon Panel, and precedential State Water Board orders (State Water Board Orders Nos. WQ 91-03 and WQ 91-04), this Order allows the Permittees to implement BMPs to comply with the requirements of the Order.

## **XI. RECEIVING WATER LIMITATIONS**

Under federal law, an MS4 permit must include “controls to reduce the discharge of pollutants to the maximum extent practicable . . . and such other provisions as . . . the State determines appropriate for the control of such pollutants.” (Clean Water Act §402(p)(3)(B)(iii).) Consistent with this provision, requirements to meet water quality standards are at the discretion of the permitting agency. (*Defenders of Wildlife v. Browner* (9<sup>th</sup> Cir. 1999) 191 F3d 1159.)

The State Water Board has previously determined that limitations necessary to meet water quality standards are appropriate for the control of pollutants discharged by MS4s and must be included in MS4 permits. (State Water Board Orders WQ 91-03, 98-01, 99-05, 2001-15).) This Order accordingly prohibits discharges that cause or contribute to violations of water quality standards. Consistent with federal law, the State Water Board has also found it appropriate to require implementation of BMPs in lieu of numeric water quality-based effluent limitations and further, in lieu of “strict compliance” with water quality standards, has prescribed an iterative process of BMP improvement to achieve

---

<sup>15</sup> On November 12, 2010, U.S. EPA issued a revision to a November 22, 2002, memorandum in which it had “affirm[ed] the appropriateness of an iterative, adaptive management best management practices (BMP) approach” for improving storm water management over time. In the revisions, U.S. EPA recommended that, in the case the permitting authority determines that MS4 discharges have the reasonable potential to cause or contribute to a water quality excursion, the permitting authority, where feasible, include numeric effluent limitations as necessary to meet water quality standards. However, the revisions recognized that the permitting authority’s decision as to how to express water quality based effluent limitations (WQBELs), i.e. as numeric effluent limitations or BMPs, would be based on an analysis of the specific facts and circumstances surrounding the permit. U.S. EPA has since invited comment on the 2010 memorandum and will be making a determination as to whether to “either retain the memorandum without change, to reissue it with revisions, or to withdraw it.” [http://www.epa.gov/npdes/pubs/sw\\_tmdlwla\\_comments\\_pdf](http://www.epa.gov/npdes/pubs/sw_tmdlwla_comments_pdf)

water quality standards. (State Water Board Orders WQ 91-03, 98-01, 2001-15; 40 C.F.R. §122.44(k).) As a result, this Order further sets out that, upon determination that a Permittee is causing or contributing to an exceedance of applicable water quality standards, the Permittee must engage in an iterative process of proposing and implementing additional control measures to prevent or reduce the pollutants causing or contributing to the exceedance. This iterative process is modeled on receiving water limitations set out in State Water Board precedential Order WQ 99-05 and required by that Order to be included in all municipal storm water permits.

The Water Boards have generally directed dischargers to achieve compliance with water quality standards by improving control measures through the iterative process and, as a matter of practice, have generally declined to initiate enforcement actions against MS4 permittees who have been actively engaged in the iterative process. At the same time, however, the Water Boards have maintained that the iterative process does not provide a “safe harbor” to MS4 permittees:<sup>16</sup> that is, when a discharger is shown to be causing or contributing to an exceedance of water quality standards, that discharger is in violation of the relevant discharge prohibitions and receiving water limitations of the permit and potentially subject to enforcement by the Water Boards or through a citizen suit, even if the discharger is actively engaged in the iterative process.

The question of the “safe harbor” became a priority concern for storm water dischargers following the Ninth Circuit’s holding in *Natural Resources Defense Council, Inc. v. County of Los Angeles* (2011) 673 F.3d 880 that engagement in the iterative process does not provide a safe harbor from liability for violations of permit terms prohibiting exceedances of water quality standards. Although the U.S. Supreme Court has reversed the judgment of the Ninth Circuit and remanded (on grounds unrelated to the “safe harbor” holding), *LA County Flood Control District v. NRDC* (2013) 568 U.S.\_\_\_\_\_, the receiving water limitations provisions is expected to remain a significant issue for dischargers based on the position, to date, of the Water Boards that the iterative process does not provide a “safe harbor” from violations. The State Water Board has received multiple comments, from dischargers and from other interested parties, expressing confusion and concern about the Order provisions regarding receiving water limitations and the iterative process. Many commenters have stated that the provisions as currently written do not provide the dischargers with a viable path to compliance with the proposed Order. Other commenters, including environmental parties, support the current language.

As stated above, the provisions in this Order regarding receiving water limitations and the iterative process are based on precedential Board orders. Accordingly, substantially identical provisions are found in the adopted Caltrans MS4 NPDES permit, as well as the Phase I NPDES permits issued by the Regional Water Boards. Because of the broad applicability of any policy decisions regarding the receiving water limitations and iterative process provisions, the State Water Board held a public workshop on November 20, 2012, to consider this issue and seek public input.

Rather than delay consideration of adoption of the tentative Order in anticipation of any future changes to the receiving water limitations and iterative process provisions that

---

<sup>16</sup> *Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4<sup>th</sup> 866; *City of Rancho Cucamonga v. Regional Water Quality Control Bd.* (2006) 135 Cal.App.4<sup>th</sup> 1377.

may result from the public workshop and deliberation, the Board has added a specific reopener clause at Section H to facilitate any future revisions as necessary.

## **XII. STORM WATER MANAGEMENT PROGRAM FOR TRADITIONAL MS4s**

### **PROGRAM ELEMENTS**

#### **Program Management**

This component is essential to ensure timely implementation of all elements of the storm water program and consistency with the Order requirements. Lessons learned in California from Phase I Permittees and various municipal audits are that a Program Management element can:

- a. Identify departments that assist with the implementation of the program as well as their roles and responsibilities; and
- b. Maintain and enforce adequate legal authority to control pollutant discharges.

#### *Adequate Legal Authority and Certification*

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. §§ 122.22(b), 122.34(b)(3)(ii)(B), (b)(4)(ii)(A), and (b)(5)(ii)(B); 122.41(k). MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; MS4 Program Evaluation Guidance, U.S. EPA , EPA-833-R-07-003

Adequate legal authority is required for Permittees to implement and enforce their storm water programs. Without adequate legal authority, Permittees would be unable to perform many vital program elements such as performing inspections and requiring installation of control measures. In addition, Permittees would not be able to conduct enforcement activities, assess penalties and/or recover costs of remediation.

#### *Enforcement Response Plan*

Legal Authority: Clean Water Act §402(p)(3)(b); MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; MS4 Program Evaluation Guidance, U.S. EPA , EPA-833-R-07-003

In ordinances or other regulatory mechanisms, Permittees are required to include penalty provisions to (1) ensure compliance with construction and industrial requirements, (2) to require the removal of illicit discharges, and (3) to address noncompliance with post-construction requirements. To meet these requirements, this Order requires enforcement responses that vary with the type of permit violation, and escalate if violations are repeated or not corrected. The Permittee must develop and implement an Enforcement Response Plan (ERP), which clearly describes the action to be taken for common violations associated with the construction program, illicit discharge detection and elimination, or other program elements. A well-written ERP provides guidance to inspectors on the different enforcement responses available, actions to address general permit non-filers, when and how to refer violators to the State, and how to track enforcement actions.

#### **Education and Outreach on Storm Water Impacts**

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(1); MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; MS4 Program



Evaluation Guidance, U.S. EPA , EPA-833-R-07-003; U.S. EPA Stormwater Phase II Final Rule Fact Sheet Series, U.S. EPA Stormwater Phase II Final Rule (64 FR 68722), U.S. EPA National Menu of Best Management Practices for Stormwater Phase II<sup>17</sup>; Measurable Goals Guidance for Phase II Small MS4s; U.S. EPA Getting In Step

Without a focused and comprehensive program, outreach and education efforts will be poorly coordinated and ineffective. This Order requires Permittees to develop an education and outreach program that is tailored and targeted to specific water quality issues of concern in the community. These community-wide and targeted issues should then guide the development of the comprehensive outreach program, including the creation of appropriate messages and educational materials. Outreach and education not only includes the public as the target audience, but includes Permittee staff and construction site operators as well.

This Order includes a different compliance path that, upon determination by a Regional Board Executive Officer, requires the possible implementation of Community-Based Social Marketing (CBSM). CBSM is a systematic way to change the behavior of communities to reduce their impact on the environment. Simply providing information is usually not sufficient to initiate behavior change. CBSM uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.<sup>18</sup>

CBSM is also cited in EPA's Getting in Step<sup>19</sup> outreach guide which includes successful CBSM case studies. The CBSM path is included in Attachment E.

To ensure effective implementation of CBSM principles, Regional Water Boards who have invoked Attachment E, CBSM Requirements, are encouraged to consult with Permittees to ensure CBSM principles are implemented adequately. Regional Board staff should use the first year annual report and effectiveness assessment information during the consultation. The information gained from the consultation should assist the Regional Water Board's evaluation of program effectiveness and whether a Permittee should continue implementation of Attachment E.

In addition to external public outreach, outreach and education efforts should also be directed internally at Permittee staff who, as part of their normal job responsibilities, participate in storm water program operations such as illicit discharge detection and elimination, construction, and pollution prevention and good housekeeping. The training program will ensure proper illicit discharge and illicit connection identification, reporting and response. The construction training program will ensure that Permittee staff who is responsible for construction storm water program implementation receive adequate training. Additionally, the Permittee must develop educational materials and training for construction site operators to ensure program compliance. Construction operators must be educated about site requirements for control measures, local storm water requirements, enforcement activities, and penalties for non-compliance. Permittee staff

---

<sup>17</sup> <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/>

<sup>18</sup> A variation of social marketing, referred to as CBSM by Canadian environmental psychologist Doug McKenzie-Mohr.

<sup>19</sup> Getting in Step, 3<sup>rd</sup> Edition, A Guide to Watershed Outreach Campaigns, November 2010  
EPA 841-B-10-002

training in pollution prevention/good housekeeping will ensure the incorporation of pollution prevention/good housekeeping techniques into Permittee operations.

A comprehensive and cohesive outreach and education program will likely be effective and well-coordinated if it involves the public, storm water program staff, and construction site operators.

This Order includes a list of potential residential and commercial pollution sources, but the Permittee may also identify other sources that contribute significant pollutant loads to the MS4. The Order identifies specific pollutant generating activities that must be addressed, including organized car washes, mobile cleaning and power washing operations, and landscape over-irrigation.

The Permittee is encouraged to use existing public educational materials in its program. The Permittee is also encouraged to leverage resources with other agencies and municipalities with similar public education goals.

In addition, this Order requires storm water education for school-age children. The United States suffers from a “nature deficit disorder” as discussed in popular literature (e.g., “Last Child in the Woods” by Richard Louv) and elsewhere (American Fisheries Society “Fisheries” magazine, available at [www.fisheries.org](http://www.fisheries.org)). As discussed in the “America’s Great Outdoors: A Promise to Future Generations” report, in order to make environmental stewardship and conservation relevant to young Americans, environmental and place-based, experiential learning must be integrated into school curricula and school facility management across the country.<sup>20</sup> If a program such as Splash ([www.sacsplash.org/](http://www.sacsplash.org/)), Effie Yeaw Nature Center ([www.sacnature.net](http://www.sacnature.net)) or Yolo Basin ([www.Yolobasin.org](http://www.Yolobasin.org)) does not exist, Permittees are encouraged to use California’s Education and Environment Initiative Curriculum (EEI)<sup>21</sup> or equivalent. California’s landmark EEI Curriculum is a national model designed to help prepare today’s students to become future scientists, economists, and green technology leaders.

The K-12<sup>th</sup> grade curriculum is comprised of 85 units teaching select Science and History-Social Science academic standards. Each EEI Curriculum unit teaches these standards to mastery using a unique set of California Environmental Principles and Concepts. The EEI curriculum was created to bring education about the environment into the primary and secondary classrooms of more than 1,000 school districts serving over 6 million students throughout California.

Classroom education plays an integral role in any storm water pollution outreach program. Providing storm water education through schools conveys the message not only to students but to their parents. Permittees should partner with educators and experts to develop storm water-related programs for the classroom. These lessons need not be elaborate or expensive to be effective.

The Permittees’ role is to support a school district’s storm water education efforts, not to dictate what programs and materials the school should use. Permittees should work with school officials to identify their needs. For example, if the schools request storm water outreach materials, Permittees can provide a range of educational aids, from

---

<sup>20</sup> <http://americasgreatoutdoors.gov/files/2011/02/AGO-Report-With-All-Appendices-3-1-11.pdf>

<sup>21</sup> <http://www.californiaeei.org/>

simple photocopied handouts, overheads, posters and slide shows, to more costly and elaborate working models and displays.

The principal goal of any public education and outreach effort is to change awareness and knowledge. The advanced level public education and outreach effort goes a step further in pursuit of changing behavior. The Permittee should develop a process to assess its public education and outreach programs and to determine necessary improvements to raise public awareness and knowledge. The Permittee is encouraged to use a variety of assessment methods to evaluate the effectiveness of different public education activities. The first evaluation assessment must be conducted before the final year of the Permittee's coverage under this permit, before the next permit is issued. Permittees should coordinate their evaluation assessment with other Permittees on a regional level to determine how best to get the regional message out and how to facilitate awareness, knowledge and ultimately, behavior changes.

### **Public Involvement/Participation**

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(2).  
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Storm water management programs can be greatly improved by involving the community throughout the entire process of developing and implementing the program. Involving the public benefits both the Permittee as well as the community. By listening to public concerns and coming up with solutions together, the Permittee stands to gain public support and the community should become invested in the program. The Permittees will likewise gain more insight into the most effective ways to communicate their messages.

This Order requires the development of a public involvement strategy, which may include a citizen advisory group or process to solicit feedback on the storm water program, and opportunities for citizens to participate in implementation of the storm water program. If a citizen advisory group is developed, the group should meet with the local land use planners and provide input on land use code or ordinance updates so that land use requirements incorporate provisions for better management of storm water runoff and watershed protection. Public participation in implementation of the storm water program can include many different activities such as stream clean-ups, storm drain markings, volunteer monitoring, and participation in integrated regional water management and watershed planning efforts.

Permittees are encouraged to work together with other entities that have an impact on storm water (for example, schools, homeowner associations, Department of Transportation agencies, other MS4s). Permittees are also encouraged to work through existing advisory groups, community groups or processes in order to implement these public involvement requirements.

### **Illicit Discharge Detection and Elimination**

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(3).  
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Studies have shown that dry weather flows from the storm drain system may contribute a larger amount of some pollutants than wet weather storm water flows.<sup>22</sup> Detecting and eliminating these illicit discharges involves complex detective work, which makes it hard to establish a rigid prescription to identify and correct all illicit connections. There is no single approach to take, but rather a variety of ways to get from detection to elimination.

Local knowledge and available resources can play significant roles in determining which path to take. At the very least, communities need to systematically understand and characterize their stream, conveyance, and storm sewer infrastructure systems. Illicit discharges need to be identified and eliminated. The process is ongoing and the effectiveness of a program should improve with time. A well-coordinated IDDE programs can benefit from and contribute to other community-wide water resources-based programs such as public education, storm water management, stream restoration, and pollution prevention.<sup>23</sup>

This Order requires the Permittees to address illicit discharges into the MS4. An illicit discharge is defined as any discharge to a municipal separate storm sewer system that is not composed entirely of storm water, except allowable discharges pursuant to an NPDES permit (40 C.F.R. 122.34(b)(3)).<sup>24</sup> This Order includes requirements that the Permittee have the legal authority to effectively prohibit non-storm water discharges from entering storm sewers as well as provisions requiring the development of a comprehensive, proactive IDDE program.

Specifically, this Order requires the development of a map that includes outfalls operated by the Permittee within the urbanized area. The map will also include identification of receiving water bodies, priority areas (ie. areas with a history of past illicit discharges), and the permit boundary.

It is essential for Permittees to understand their stream and storm sewer systems and how illicit discharge sources are connected to outfalls that discharge to their system. To that end, this Order requires the development of an inventory that identifies potential illicit discharge sources and facilities. To proactively identify illicit discharges originating from priority inventoried sources, it is essential that an assessment is conducted at least once over the permit term. The assessment may include field observations, field screening, inspections and any other appropriate and effective survey methods that proactively identify potential illicit discharges. As an alternative, the Permittee may require a self-certification program that all appropriate BMPs are in place to prevent illicit discharges from the inventoried source or facility.

Further, a once per permit term survey of outfalls will identify outfalls needing sampling and possible follow-up actions<sup>25</sup>. The outfall inventory will also assist Permittees in the identification of “problem” outfalls, or those outfalls that may have a history of past illicit discharges. The inventory can be utilized to conduct source investigations and

---

<sup>22</sup> Evaluation of Non-Storm water Discharges to California Storm Drains and Potential Policies for Effective Prohibition. California Regional Water Quality Control Board. Los Angeles, CA., Duke, L.R. 1997., Results of the Nationwide Urban Runoff Program. Water Planning Division, PB 84-185552, Washington, D.C. U.S. EPA. 1983.

<sup>23</sup> Illicit Discharge Detection and Elimination A Guidance Manual for Program Development and Technical Assessments, CWP and Pitt, 2006

<sup>24</sup> Non-point source return flows from irrigated agriculture are not considered illicit discharges.

<sup>25</sup> The Permittee may utilize existing forms such as the CWP Outfall Reconnaissance Inventory/Sample Collection Field Sheet while conducting the mapping inventory and Field Sampling as specified below, in Section E.9.c. (<http://cfpub.epa.gov/npdes/stormwater/idde.cfm>)

corrective actions for potential illicit discharges into their system. Additionally, dry weather sampling must be conducted in each subsequent year of the permit term for outfalls identified as priority areas. While the Order specifies indicator parameters used to detect illicit discharges, the Permittee may select alternative parameters to sample that are based on local pollutants of concern. Similarly, the action level concentrations for the indicator parameters may also be tailored to match the parameters selected based on local knowledge. Finally, the outfall inventory will assist Permittees in clearly understanding the stream system and the storm sewer system within their jurisdiction.

The Permittee shall provide a mechanism for public reporting of illicit discharges and spills.

### **Construction Site Storm Water Runoff Control**

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(4).  
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Permittees must implement a construction site storm water runoff management program that includes an enforceable ordinance or other regulatory mechanism with commonly understood and legally binding definitions. These terms should be defined consistently across other related guidance and regulatory documents. The construction site storm water runoff management program is designed to prevent pollutants associated with construction activity from entering receiving water bodies (ie. sediment, fertilizers, pesticides, paints, solvents and/or fuels).

The Permittee must ensure that construction site operators select and implement appropriate construction site storm water runoff management measures to reduce or eliminate impacts to receiving waters. The Permittee is required to utilize California Stormwater Quality Association's (CASQA) Construction BMP handbook or equivalent to help guide their Construction Program). In the case that a project proponent is not implementing appropriate measures to reduce or eliminate impacts to receiving waters (ie. ineffective BMPs installed), the Permittee must take appropriate enforcement action to address the problem. Enforcement may include verbal warnings, written notices and escalated enforcement measures as described in the Enforcement Response Plan (Section E.6.c. of the Order).

The Permittee must establish review procedures for construction site plans to determine potential water quality impacts and ensure the proposed controls are adequate. These procedures should include a review of individual pre-construction site plans to ensure consistency with local sediment and erosion control requirements. In addition, the Permittee must conduct inspection and enforcement of erosion and sediment control measures once construction begins. The Permittees' Municipal Inspectors must be trained and qualified pursuant to the State Water Board sponsored Qualified Storm Water Pollution Prevention Plan (SWPPP) Practitioner (QSP) certification program. Inspections must be prioritized based on project threat to water quality. It is important that the following factors are considered in determining a project's threat to water quality: soil erosion potential, site slope, project size and type, sensitivity of receiving waterbodies, proximity to receiving waterbodies, non-stormwater discharges, and a past record of non-compliance by the operators of the construction site.

While the construction site storm water runoff management program focuses the Permittee's detailed inspections on projects less than one acre, Permittees must use their discretion to provide oversight to projects that are subject to the CGP that pose a threat to water quality. For example, in the case that a Permittee identifies a project subject to the CGP that has BMPs that have not been maintained, the Permittee should notify the local Regional Water Board. Priority project sites include: sites with 5 acres or more of soil disturbance, sites with one acre or more soil disturbance that discharge to a tributary listed as impaired water for sediment or turbidity under the CWA Section 303(d), and other sites with one acre or more of soil disturbance determined by the Permittee or State or Regional Water Quality Control Board to be a significant threat to water quality.

### **Pollution Prevention/Good Housekeeping for Permittee Operations**

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(6)

Permittees are required to develop a program to:

- a. Prevent or reduce the amount of storm water pollution generated by permittee operations.
- b. Train employees on how to incorporate pollution prevention/good housekeeping techniques into permittee operations.
- c. Identify appropriate control measures and measurable goals for preventing or reducing the amount of storm water pollution generated by permittee operations.

Permittees must first assess the areas and municipal facilities that it controls, determine which activities may currently have a negative impact on water quality, and find solutions for any problems. The simplest solution is to limit the number of activities that are conducted outside and exposed to storm water.

#### *Storm Drain System Maintenance*

Storm drain systems need maintenance to ensure that structures within the storm drain system that are meant to reduce pollutants do not become sources of pollution. Maintenance of catch basins and storm sewers will prevent the accumulation of pollutants that are later released during rain events as well as blockages, backups, and flooding. Most Permittees have an existing program to maintain the storm sewer infrastructure. Some of these programs have tended to focus on flood control and complaint response rather than reducing water quality impacts from storm water discharges.

This Order requires that the system be maintained to prevent the discharge of pollutants into receiving waters. To achieve this, the storm sewer system must be mapped and a program of regular maintenance established. The Permittee must establish a tiered maintenance schedule for the entire storm sewer system area, with the highest priority areas being maintained at the greatest frequency. Priorities are driven by water quality concerns and can be based on the land use within the watershed, the condition of the receiving water, the amount and type of material that typically accumulates in an area,

or other location-specific factors. The Permittee also must use spill and illicit discharge data to track areas that may require immediate sewer infrastructure maintenance. Any waste that is collected must be disposed of in a responsible manner.

All storm sewer system maintenance procedures should be documented in the Permittee's standard operating procedures (SOPs) or similar type of documents. All staff should be trained on these SOPs. Maintenance activities should be documented and, where possible, quantified (e.g., number and location of inspections and clean-outs, type and quantity of materials removed). Characterization of the quantity, location, and composition of pollutants removed from catch basins can be used to assess the program's overall effectiveness, identify illicit discharges, and help the Permittee better prioritize implementation activities in the future.

#### *Pollutant Generating Activities*

This Order contains specific requirements and recommendations related to pollutant-generating activities such as discouraging conventional landscaping practices (including the application of pesticides, herbicides, and fertilizer) and operating and maintaining public streets.

Resource-sensitive landscaping practices such as integrated pest management (IPM), climate appropriate plant selection and irrigation, and mechanical (non-chemical) removal of unwanted plants are required under this Order. The use of other landscaping practices, such as mulch and compost, minimizing chemical inputs (pesticides, herbicides, and fertilizer), emphasis on maintaining and enhancing soil quality, and erosion control is required. The Order recognizes the storm water quality benefits that will likely result from implementation of the Water Efficient Landscape Ordinance required under AB 1881.

#### *Flood Management Projects*

The Order requires that water quality be considered when designing new and upgraded flood management projects. The focus of storm water management in the past has been to control flooding and mitigate property damage, with less emphasis on water quality protection. These structures may handle a significant amount of storm water and therefore offer an opportunity to modify their design to include water quality features for less than the cost of building new controls. This requirement applies to new and upgraded flood control projects.

#### *Municipally-owned or operated facilities*

Municipally-owned or operated facilities often serve as the focal point of activity for municipal staff from different departments. Some municipalities have one facility at which all activities take place (e.g., the municipal maintenance yard), while others may have several specialized facilities. A comprehensive inventory and map of facilities will help Permittee staff build a better awareness of facility locations within the MS4 and their potential to contribute storm water pollutants. The facility inventory will also serve as a basis for scheduling periodic facility assessments and developing, where necessary, facility storm water pollution prevention plans.

The best way to avoid pollutant discharges is to keep precipitation and runoff from coming into contact with potential pollutants. For example, the Permittee should cover or build berms around stockpiles, create dedicated structures for stored materials, and



maintain a minimum distance between stockpiles and storm water infrastructure and receiving waters.

### *Inspections*

This Order requires comprehensive quarterly site inspections which is an appropriate frequency to ensure that material stockpiles that might be moved or utilized on a seasonal basis are protected from precipitation and runoff. Also, quarterly inspections will allow inspectors to observe different types of operations that occur at different times of the year (e.g., landscape maintenance crews are less active in the winter). Quarterly visual observations are required so that inspectors can see in real time the qualitative nature of the storm water discharge so that corrective action can be taken where necessary to improve on-site storm water controls.

This Order also specifies documentation requirements of inspection procedures and results, including inspection logs for each facility to ensure that the site inspections are consistent and that maintenance of storm water controls remains part of the municipality's standard operating procedures. The requirement for an inspection log will allow the Regional Water Boards to verify that periodic site inspections have been performed.

### *Storm Sewer System Maintenance*

Fine particles and pollutants from run-off, run-on, atmospheric deposition, vehicle emissions, breakup of street surface materials, littering, and sanding (for improving traction in snow and ice) can accumulate in the gutters between rainfall events. Storm drain maintenance is often the last opportunity to remove pollutants before they enter the environment. Because storm drain systems effectively trap solids, they need to be cleaned periodically to prevent those materials from being picked up during high flow storm events.

Some catch basins will accumulate pollutants faster than others due to the nature of the drainage area and whether controls are present upstream of the catch basin. A priority ranking system is required for catch basins so that municipal resources are directed to the areas and structures that generate the most pollutants. Catch basins with the highest accumulations will need to be cleaned more frequently than those with low accumulations. The Order also includes a requirement that triggers catch basin cleaning when a catch basin is one-third full.

Proper storm drain system cleanout includes vacuuming or manually removing debris from catch basins; vacuuming or flushing pipes to increase capacity and remove clogs; removing sediment, debris, and overgrown vegetation from open channels; and repairing structures to ensure the integrity of the drainage system. It is important to conduct regular inspections of all storm sewer infrastructure and perform maintenance as necessary. Though these activities are intended to ensure that the storm drain system is properly maintained and that any accumulated pollutants are removed prior to discharge, if not properly executed, cleanout activities can result in pollutant discharges. The Permittee should carefully evaluate maintenance practices to minimize unintended pollutant discharges, such as flushing storm drains without capturing the discharge.

Materials removed from catch basins must not be allowed to reenter the MS4. If necessary, the material can be dewatered in a contained area and the water treated with

Note: This requirement was eliminated from the Final Order as adopted on February 5, 2013.

an appropriate and approved control measure or discharged to the sanitary sewer. The solid material must be disposed of properly to avoid discharge during a storm event. Some materials removed from storm drains and open channels may require special handling and disposal, and may not be suitable for disposal in a landfill.

Note: This requirement was eliminated from the Final Order as adopted on February 5, 2013.

→ *Green waste on the streets*

For some Traditional MS4 Permittees, residents are allowed to deposit non-containerized green waste (lawn and garden clippings) onto the street for weekly collection by the municipal staff. Permittees instruct residents to put the green waste out right before collection and to avoid putting it in gutters or near storm drains. However, green waste on the street is a potential illicit discharge and maintenance concern.<sup>26</sup> This Order prohibits green waste on the streets. Permittees must find additional ways to educate residents on the potential problems this practice can cause or to find alternatives to the current practice.

*Street Sweeping and Cleaning Streets*

Street sweeping and cleaning streets and parking lots is a practice that most municipalities initially conducted for aesthetic purposes or air quality benefit. However, the water quality benefits are now widely recognized. As a result, many California MS4 permits require some sort of street sweeping provision that require the MS4 to prioritize streets as high, medium, and low pollutant-generators and base the cleaning schedule appropriately.

This Order does not include street sweeping and cleaning streets as a permit requirement because MS4s already conduct these activities for aesthetics and air quality benefit. Permittees should count street sweeping not as a storm water compliance cost, but an aesthetic and air quality cost.

*Third-party contractors*

Third-party contractors conducting municipal maintenance activities must be held to the same standards as the Permittee. These expectations are required to be defined in contracts between the Permittee and its contractors; however, the Permittee is responsible for ensuring, through contractually-required documentation or periodic site visits, that contractors are using storm water controls and following standard operating procedures.

**Post Construction Storm Water Management for New Development and Re-development**

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(5).  
MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; U.S. EPA Incorporating Environmentally Sensitive Development into Municipal Stormwater Programs, EPA 833-F-07-011

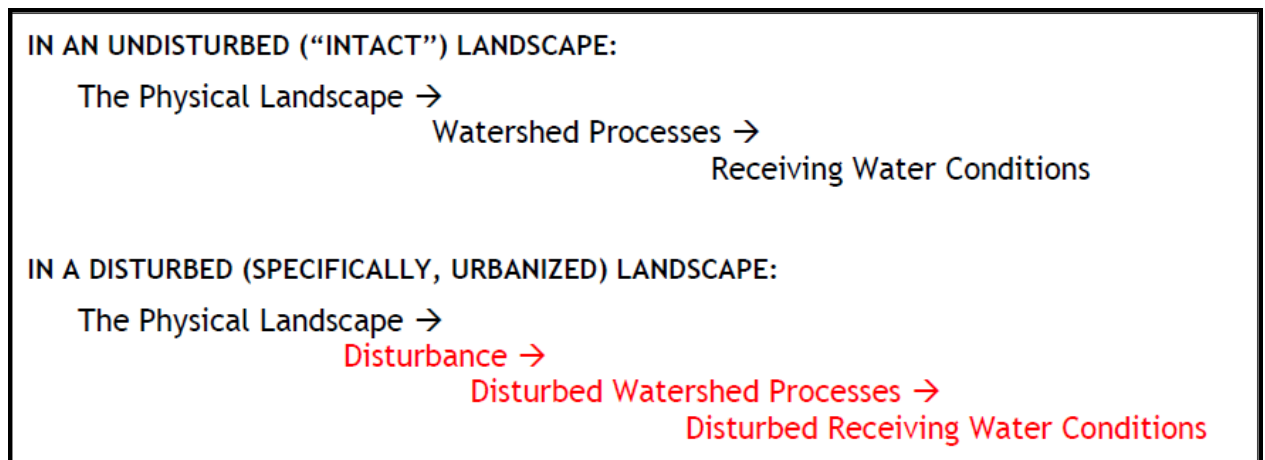
In California, urban storm water is listed as the primary source of impairment for ten percent of all rivers, ten percent of all lakes and reservoirs, and 17 percent of all estuaries (2010 Integrated Report). Although these numbers may seem low, urban areas cover just six percent of the land mass of California<sup>27</sup>, and so their influence is

<sup>26</sup> Program Evaluation Report, Sacramento Area Stormwater Program, NPDES Permit No. CA0082597, May 21, 2002, USEPA and Tetra Tech Inc.

<sup>27</sup> U.S. Department of Agriculture, 2009

disproportionately large. Urbanization causes a number of changes in the landscape, including increased loads of chemical pollutants; increased toxicity; changes to flow magnitude, frequency, and seasonality of various discharges; physical changes to stream, lake, or wetland habitats; changes in the energy dynamics of food webs, sunlight, and temperature; and biotic interactions between native and exotic species.<sup>28</sup> These impacts are also referred to as “urban stream syndrome”<sup>29</sup>. In addition to surface water impacts, urbanization can alter the amount and quality of storm water that infiltrates and recharges groundwater aquifers. In essence, once watershed processes are disturbed, receiving water conditions also become disturbed, (Figure 1) In California and the rest of the United States, the challenge to storm water managers and regulators has been to establish goals and performance standards that account for the highly variable nature of urban flow and pollutant inputs while ensuring that the ultimate biological response is within “acceptable” limits. The Surface Water Ambient Monitoring Program (SWAMP) is attempting to define biological responses through their Biological Objectives Development Process. Although final results and policy recommendations from this effort are not yet available, linking urbanization drivers to biological response represents the next phase in storm water management and cannot be delayed.<sup>30</sup>

Figure 1 – Relationship between Physical Landscape, Watershed Processes, and Receiving Water Condition



The Water Boards have historically derived site design, runoff reduction and hydromodification control criteria without identifying the dominant watershed processes and the sensitivity of receiving waterbodies to degradation of those processes. In most MS4 permits, projects are subject to the same set of criteria regardless of the dominant watershed processes and the sensitivity of receiving waters to degradation of those processes. In reality, every location on the landscape does not require the same set of control criteria because of intrinsic differences in the dominant watershed processes at each location and sensitivity of receiving waters to degradation of those processes. In recognizing this, the State Water Board is developing criteria that are more protective of receiving water quality.

<sup>28</sup> Urban Storm Water Management in the United States, National Research Council, 2008.

<sup>29</sup> Walsh, C.J., A.H.Roy, J.W. Feminella, P.D. Cottingham, P.M. Groffman, and R.P. Morgan. 2005. The urban stream syndrome: current knowledge and the search for a cure. J. N. Am. Benthol. Soc. 24(3):706–723.

<sup>30</sup> Urban Storm Water Management in the United States, National Research Council, 2008.

The existing General Permit requires post-construction controls for areas of high growth or areas with a population greater than 50,000. These requirements are contained in Attachment 4 of Order 2003-0005-DWQ and include matching pre-development peak discharge rates, conserving natural areas, minimizing storm water pollutants of concern, protecting slopes and channels, and designing volumetric and flow through treatment measures to handle a specific volume or flow rate. These requirements represented an initial attempt at establishing performance standards that account for hydrological and geomorphological processes (Figure 1). Recent research has yielded new information on complex watershed process interactions. For example, storm water management techniques that are intended to mimic natural hydrologic functions (e.g., low impact development) can protect key hydrologic processes such as surface and base flow, and groundwater recharge. Additionally, there is increasing awareness that, while site-based requirements are important to reduce impacts from urbanization, a site-based approach alone is unable to achieve a broader set of watershed goals, especially given the State Water Board's interest in regional issues such as water reuse, groundwater management, and maintaining instream flows. Consequently, a better understanding of watershed conditions and processes has become increasingly important in the development of MS4 permits.

This Order has specific site design and LID requirements for all projects. The LID requirements emphasize landscape-based site design features that are already required elsewhere (e.g., the Water Efficient Landscape Ordinance required under AB 1881).

#### Hydromodification Requirements

This Order also incorporates a baseline peak flow matching requirement for hydromodification control. During this permit term, the State Board will work towards developing runoff retention and hydromodification control criteria that are keyed to watershed processes (See discussion in Section VIII.) Watershed management zones<sup>31</sup> will be delineated by the State Board during this permit term. The watershed management zones will be used to identify applicable areas and to determine appropriate criteria for runoff retention and hydromodification control. Watershed process based runoff retention and hydromodification criteria will be incorporated into the next permit. Through the development of hydromodification measures based on watershed management zones, key watershed processes will be protected, and where degraded, restored. As a result of restored and maintained watersheds, key relationships between hydrology, channel geomorphology and biological health will be created and maintained and water quality/beneficial uses protected.

The State Water Board's efforts in developing runoff retention and hydromodification control criteria keyed to watershed processes can be significantly informed by similar efforts carried out regionally under the Regional Water Boards. This Order provides at Provision E.12.k (also referenced in F.5.g.) that Small MS4s shall comply with any post-construction storm water management requirements based on a watershed process approach developed by Regional Water Boards in lieu of the post-construction requirements of E.12 (also referenced in F.5.g.). The regional watershed process-based approach must be approved by the Regional Water Board following a public process and must include the following:

---

<sup>31</sup> A Watershed Management Zone (WMZ) is a combination of a Physical Landscape Zone (PLZ, based on surficial geology and slope) and direct receiving water type. Key watershed processes potentially impacted by urbanization (e.g., infiltration and groundwater recharge) are derived from each PLZ-receiving water combination.

- Completion of a comprehensive assessment of dominant watershed processes affected by urban storm water
- LID site design and runoff reduction measures, numeric runoff treatment and retention controls, and hydromodification controls that will maintain watershed processes and protect water quality and beneficial uses.
- A process by which Regional Board staff will actively engage Permittees to adaptively manage requirements as determined by the assessment of watershed processes.
- An annual reporting program that involves Regional Board staff and State Board staff to inform statewide watershed process based criteria.

A watershed process-based approach is already being used for Phase II MS4s that participated in the Central Coast Joint Effort for developing hydromodification control criteria. By Resolution No. R3-2012-0025 dated September 6, 2012, the Central Coast Water Board approved modifications to the SWMPs of MS4s participating in the Joint Effort. These modifications would incorporate the Central Coast-Specific Post-Construction Requirements into the SWMPs. Several petitions are currently pending before the State Water Board challenging the Resolution. In the November 16, 2012, draft of this Order, the requirements developed in the Joint Effort were proposed to be adopted into the Order as Attachment J. After receiving extensive public comment on Attachment J, the State Water Board determined that, while the Board continues to support a watershed process-based approach to hydromodification requirements, the Joint Effort process should be allowed to evolve and proceed, without incorporation into this Order, to address several unresolved issues acknowledged by the parties to that process, including the Regional Water Board. Under Provisions E.12.k (also referenced in F.5.g), the Central Coast Region Small MS4s will be required to implement watershed process-based requirements developed through the Joint Effort only after those requirements have been reconsidered and approved by the Central Coast Water Board. Because the requirements cannot be imposed through existing Resolution No. R3-2012-0025 (which operated as an update to SWMPs that are no longer required under this Order), the State Water Board expects the pending petitions on that Resolution to be moot as of adoption of this Order. As part of the petition process, the State Water Board will evaluate whether the entirety of the petitions are moot following adoption of the Order. However, any future action by a Regional Water Board, including the Central Coast Water Board, to adopt a regional watershed process-based approach would be subject to petitions for review by the State Water Board.

#### *Multiple-benefits Projects*

This Order encourages and allows for multiple-benefits projects at various scales. At the development site scale, multiple-benefit site design measures are required for all projects that create and/or replace more than 2,500 square feet of impervious surface. Designers are able to quantify runoff reduction using a site design runoff calculator in SMARTS for site design measures (e.g., trees, stream setbacks and buffers, and soil quality improvement). The site design measures in this Order all have multiple benefits (e.g., shading from trees, wildlife habitat from stream setbacks and buffers, less need for pesticides and irrigation from soil quality improvement) in addition to storm water runoff and pollutant load reduction. At the site and local scale, smart growth projects that utilize density, design and land use strategically to achieve multiple benefits including environmental, economic and social benefits are encouraged. For example, high density development contributes to less impervious surface than low density

development, generally resulting in less vehicle-related emissions and pollutants (e.g., heavy metals, oil and grease, fine sediment), improved water and air quality results, thus, achieving environmental benefits. The clustering of populations through high density development essentially substitutes evaluation of individual site design criteria for evaluation of per capita loading (Jacob and Lopez 2009<sup>32</sup>). As such, Permittees may implement an alternative approach to requirements for bioretention measures if they can effectively demonstrate a reduction in runoff volume per capita. In other words, alternative compliance may be achieved through the implementation of high density development, or smart growth projects.

Section E.12.I gives “credit” and creates incentive for Permittees to identify and implement watershed scale projects that achieve multiple-benefits. When evaluating watershed-scale, multiple-benefits projects, environmental, social, technical, economic, and political considerations can become intertwined to the point of intractability. These criteria need to be systematically examined through an organizing framework for rational analysis and alternative comparison. A Multi-Criterion Decision Analysis (MCDA) approach provides a flexible, rational, and transparent means to establish decision-making criteria and prioritize alternatives, assuring that projects achieve the desired multiple-benefit outcomes. Watershed scale multiple-benefit projects include projects that address water quality, water supply, flood control, habitat enhancement, open space preservation, recreation, and climate change. Once these projects are identified under Watershed Improvement Plans (Water Code §16100 et seq.), through an IRWMP process, or as part of an overall green infrastructure effort, the Permittee may impose requirements and create incentives on the site, local, and watershed scale to ensure project success.

#### *Post-Construction BMP Condition Assessment*

Permittees must understand how their actions reduce the discharge of pollutants to receiving waters. This is accomplished through an assessment of the performance of the Permittees BMPs, especially structural practices designed for specific pollutant/flow reductions. Only Renewal Permittees were required to install structural post-construction BMPs in the existing permit term. However, during MS4 audits by State and Regional Water Board staff, many of those BMP locations were unknown and not maintained causing water quality threats. In this Order, only Renewal Permittees are asked to implement a plan that contains simple and repeatable field observation and data management tools that can assist them in determining the relative condition of BMPs. The primary purpose is to inform Permittees of: 1) where the BMPs are located, 2) the relative urgency of water quality maintenance and, 3) provide a practical, consistent and reliable tool to track the condition of BMPs relative to observed condition at time of installation or immediately following complete maintenance. Permittees may implement this plan themselves or may be determined through a Self-Certification Annual Report submitted annually by an authorized party demonstrating proper maintenance and operations. Allowing an authorized party to conduct the BMP condition assessment offsets program costs and shifts responsibility to the party that should be maintaining the BMP they initially installed.

---

<sup>32</sup> Jacob, John S. and Lopez, Ricardo. Is Denser Greener? An Evaluation of Higher Density Development as an Urban Stormwater-Quality Best Management Practice. Journal of the American Water Resources Association. June 2009: 45:3: 687 – 701.

### *Applicability*

Renewal Permittees currently listed in Attachment 4 to WQO 2003-0005-DWQ (Attachment 4) must continue to implement Attachment 4 Post-Construction Requirements up until the date when Section E.12 requirements of this Order are effective (the second year of the effective date of the Permit). All Permittees that are not subject to Attachment 4 must implement the CGP Post-Construction Requirements up until the second year of the effective date of the Permit. In the second year of the effective date of the permit, all Permittees, New and Renewal, must implement Section E.12. Post-Construction Requirements contained within this Order.

Lastly, extensive monitoring studies conducted by the California Department of Public Health (CDPH) have documented that mosquitoes opportunistically breed in structural storm water Best Management Practices (BMPs), particularly those that hold standing water for over 96 hours. Certain Low Impact Development (LID) site design measures that hold standing water such as rainwater capture systems may similarly produce mosquitoes. These structures create a potential public health concern and increase the burden on local vector control agencies that are mandated to inspect for and abate mosquitoes and other vectors within their jurisdictional boundaries. These unintended consequences can be lessened when structures incorporate design, construction, and maintenance principles developed specifically to minimize standing water available to mosquitoes<sup>1</sup> while having negligible effects on the capacity of the structures to provide water quality improvements as intended. The California Health and Safety Code prohibits landowners from knowingly providing habitat for or allowing the production of mosquitoes and other vectors, and gives local vector control agencies broad inspection and abatement powers. This Order requires regulated MS4s to comply with applicable provisions of the Health and Safety Code and to cooperate and coordinate with CDPH and local mosquito and vector control agencies on vector-related issues.

### **Water Quality Monitoring Requirements**

Legal Authority: Clean Water Act §§308(a), 402(p)(3)(b); 40 C.F.R. §§122.44(i), 122.48(b); MS4Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; 2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report)<sup>33</sup>; Ecological Condition Assessments of California's Perennial Wadeable Streams: Highlights from the Surface Water Ambient Monitoring Program's Perennial Streams Assessment (PSA) (2000-2007)<sup>34</sup>; National Research Council Report on Urban Storm Water in the United States, 2008<sup>35</sup>

The existing General Permit included requirements meant to eliminate or reduce the discharge of pollutants to receiving waters. Improved knowledge of the water quality impacts and management practices, obtained either as part of the permit requirements or from outside sources (e.g., scientific literature, studies, and expert panels), is

---

<sup>33</sup> 2010 Integrated Report can be found at:

[http://www.waterboards.ca.gov/water\\_issues/programs/tmdl/integrated2010.shtml](http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml)

<sup>34</sup> Ode, P.R.1, T.M. Kincaid2, T. Fleming3 and A.C. Rehn 9. 2011. Ecological Condition Assessments of California's Perennial Wadeable Streams: Highlights from the Surface Water Ambient Monitoring Program's Perennial Streams Assessment (PSA) (2000-2007). A collaboration between the State Water Resources Control Board's Non-Point Source Pollution Control Program (NPS Program), Surface Water Ambient Monitoring Program (SWAMP), California Department of Fish and Game Aquatic Bioassessment Laboratory, and the U.S. Environmental Protection Agency.

<sup>35</sup> Urban Storm Water in the United States, National Research Council, 2008 can be found at: [http://www.epa.gov/npdes/pubs/nrc\\_stormwaterreport.pdf](http://www.epa.gov/npdes/pubs/nrc_stormwaterreport.pdf)



intended to be used in an adaptive management fashion to inform requirements in subsequent permits. As such, monitoring and assessment represents a critical component in understanding the link between permit requirements, the benefits achieved due to those requirements, and the condition of receiving waters. Aside from general knowledge that storm water discharges from urbanized watersheds contribute pollutants to receiving waters, little is known about the specific conditions in such receiving waters outside of major metropolitan areas. The effectiveness of almost a decade of storm water management in Phase I MS4s has not been systematically evaluated through receiving water monitoring.

Nationwide, there are few of analyses of available data and guidance on how Permittees should be using the data to inform their storm water management decisions.

This Order prioritizes monitoring for ASBS, TMDLs, and 303d listed waterbodies. Permittees that have a population of 50,000 or greater and are part of an urbanized area are required to choose from a number of monitoring options. These larger Permittees are assumed to have the resources to undertake monitoring. For the majority of Phase II Permittees, this permit term will be the first time a monitoring program has been implemented. As such, prioritization of monitoring allows for a firm foundation from which Phase II Permittees may initiate and develop monitoring programs that will result in improvement of local knowledge of water quality impacts and implementation of storm water management practices. Any of the monitoring requirements may be conducted through participation in a regional monitoring group. Regional monitoring not only allows Permittees to share costs but also facilitates monitoring data and information sharing across local regions. In effect, regional programs provide a broad-scale picture of water quality condition within a watershed.

### **Program Effectiveness Assessment**

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R.C.F.R. § 122.34(g) 40 CFR 122.34(g)(3), CASQA Effectiveness Assessment Guide<sup>36</sup>; Evaluating the Effectiveness of Municipal Stormwater Programs, U.S. EPA, EPA 833-F-07-010, MS4Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

A key requirement in the storm water Phase II rule is a report that includes “the status of compliance with permit conditions, an assessment of the appropriateness of identified [control measures] and progress towards achieving identified measurable goals for each of the minimum control measures.” This assessment is critical to the storm water program framework which uses the iterative approach of implementing controls, conducting assessments, and designating refocused controls leading toward attainment of water quality standards. As a result, this Order requires a quantitative evaluation of the Permittees MS4 programs. Measurable program evaluations are critical to the development, implementation, and adaptation of effective local storm water management programs.

To date, only a small number of Phase I MS4s have provided measurable outcomes with regard to aggregate pollutant reduction achieved by their municipal storm water programs. Most Permittees, both Phase I and II, are struggling simply to organize or document their program activities and few have provided a quantitative link between

---

<sup>36</sup> <https://www.casqa.org/casqastore/products/tabid/154/p-7-effectiveness-assessment-guide.aspx>

program activities and water quality improvements. The few that have determined whether or not water quality is improving as a result of storm water program implementation took many years. Despite these past obstacles, the process of evaluating and understanding the relationship between the storm water program implementation and water quality needs to begin now.

Building on the monitoring and assessment program, the Permittee must conduct an annual effectiveness assessment to assess the effectiveness of prioritized BMPs, program elements and the storm water program as a whole. Prioritized BMPs include BMPs implemented based on pollutants of concern. Where pollutants of concern are unidentified, prioritized BMPs are based on common urban pollutants (i.e., sediment, bacteria, trash, nutrients). The California Stormwater Quality Association's (CASQA) Municipal Stormwater Program Effectiveness Guidance describes strategies and methods for assessing effectiveness, including examples of effectiveness assessment for each program component. The CASQA Effectiveness Guidance is available at [www.casqa.org](http://www.casqa.org) for purchase. A two-hour EPA webcast focusing on the CASQA Guide is also available (available at [www.epa.gov/npdes/training](http://www.epa.gov/npdes/training) under "Assessing the Effectiveness of Your Municipal Stormwater Program"). A resources document from the webcast includes a 10 page summary of the Guide and example pages from the municipal chapter:

[www.epa.gov/npdes/outreach\\_files/webcast/jun0408/110961/municipal\\_resources.pdf](http://www.epa.gov/npdes/outreach_files/webcast/jun0408/110961/municipal_resources.pdf)

The Municipal Stormwater Program Effectiveness Assessment Guidance synthesizes information on designing and conducting program effectiveness assessments. The document also explains how to select certain methods based on programmatic outcomes and goals. The reader is led through a series of questions and case studies to demonstrate how proper assessments are selected. Techniques are related to different level of outcomes: level one – documenting activities, level two – raising awareness, level 3 – changing behavior, level 4 – reducing loads from sources, level 5 – improving runoff quality, and level 6 – protecting receiving water quality. The Guide includes fact sheets for all six NPDES program elements, outlining methods and techniques for assessing effectiveness of each program.

### **Annual Reporting**

In general, an annual report must document and summarize implementation of the storm water program during the previous year, evaluate program results and describe planned changes towards continuous improvement. The annual report also can serve as a "state of the storm water program" report for the general public or other stakeholders in the community serving as an excellent summary document to provide about the status of storm water program.

However, lessons learned from Phase I MS4 annual reports demonstrate that many Permittees tend to submit too much information, and, as a result, Regional Water Boards receive large binders full of materials that do not provide useful information to assess compliance. As a result, this Order requires Permittees to annually submit a summary of the past year activities. For example, the Permittees should not only address "bean counting" of required task, but address such questions as:

- For illicit discharge data, what are the most prevalent sources and pollutants in the illicit discharge data, and where are these illicit discharges occurring?
- How many illicit discharges have been identified, and how many of those have been resolved?
- How many outfalls or screening points were visually screened, how many had dry weather discharges or flows, at how many were field analyses completed and for what parameters, and at how many were samples collected and analyzed?
- Does the MS4 need to conduct more inspections in these areas, or develop more specific outreach targeting these sources and pollutants?

In addition, Permittees use SMARTS to certify Annual Reports which verifies compliance with all requirements of this Order.

*Nexus Between Annual Reporting and Program Effectiveness Assessment*

In addition to submitting program element summaries, Permittee must analyze their yearly activities and link it to their Program Effectiveness Assessment and Improvement Plan which tracks and documents their annual and long-term effectiveness of the storm water program. For example:

- **Planned Activities and Changes.** The annual report should describe activities planned for the next year highlighting any changes made to improve control measures or program effectiveness.

*Detailed Annual Report*

Most major areas of this Order require Permittees to submit, via SMARTS, a summary annual report for the past year’s activities. For certain program elements such as Water Quality Monitoring, Program Effectiveness Assessment, and TMDLs, more detailed annual report information is required to be tracked and submitted via SMARTS.

Additionally, at any time during the permit term, the Executive Officer of the applicable Regional Water Board can request a more detailed annual report. This information may be required to determine compliance or prior to targeted or comprehensive storm water program audit. The table below shows detailed annual reporting information an Executive Officer of the applicable Regional Water Board may require:

<b>Permit Provision</b>	<b>Detailed Annual Reporting Information</b>
<b>E.6.c.</b>	<p>By the third year Annual Report and annually thereafter, report on the Enforcement Response Plan summarizing all enforcement activities including inspections of chronic violators and the incentives, disincentives, or escalated enforcement responses at each site. Summarizations of enforcement activities shall include, at a minimum, the following information for each type of site or facility:</p> <p>(a) Number of violations, including a listing of sites or facilities with identified violations</p> <p>(b) Number of enforcement actions, including types</p>

	<p>(c) Other follow-up actions taken</p> <p>(d) Demonstration that compliance has been achieved for all violations, or a description of actions that are being taken to achieve compliance</p>
<b>E.7.a.</b>	<p>By the third year Annual Report, and annually thereafter, submit a report on the implementation and progress of the public education strategy and general program development and progress. Report on the development of education materials, methods for educational material distribution, public input, landscaping outreach, reporting of illicit discharges, proper application of pesticides, herbicides, and fertilizers, elementary school education, reduction of discharges from organized car washes, mobile cleaning and pressure washing operations, and landscape irrigation efforts. By the fifth year Annual Report, submit a report summarizing changes in public awareness and knowledge resulting from the implementation of the program and any modifications to the public outreach and education program.</p>
<b>E.7.b.1.</b>	<p>By the third year Annual Report, document and maintain records of the training provided and the staff trained annually. The annual report shall include the number and percentage of Permittee's applicable staff that were trained and summarize the knowledge assessment as specified in E.7.b.1.(ii)(d).</p>
<p><b>E.7.b.2.</b></p> <p><b>Permittee Staff</b></p>	<p>By the second year of the permit and annually thereafter, submit the following information:</p> <ol style="list-style-type: none"> <li>a. Training topics covered</li> <li>b. Dates of training</li> <li>c. Number and percentage of Permittees' staff, as identified in Sections E.7.b.2. possessing the specified credentials.</li> </ol>
<p><b>E.7.b.2.</b></p> <p><b>Construction Site Operator Education</b></p>	<p>By the third year Annual Report and annually thereafter, submit a report including the following information:</p> <ol style="list-style-type: none"> <li>(a) Training topics covered;</li> <li>(b) Dates of training;</li> <li>(c) Number and percentage of Permittee's operators and number of contractors attending each training;</li> <li>(d) Results of any surveys conducted to demonstrate the awareness and potential behavioral changes in the attendees.</li> </ol>
<b>E.7.b.3.</b>	<p>By the second year Annual Report and annually thereafter, submit a summary that includes oversight procedures and identifies and tracks all personnel requiring training and assessment and records. The annual report shall include the number and percentage of Permittee's applicable staff that were trained during the year</p>

	and summarize the knowledge assessment as specified in E.7.b.3(ii)(b).
<b>E.8.</b>	By the second year Annual Report and annually thereafter, submit a description of the public involvement program and summary of the MS4s efforts related to facilitating public involvement, including efforts to engage citizen advisory groups, increase citizen participation, and involvement with the IRWMP or other watershed-level planning effort.
<b>E.9.a.</b>	Submit a map by the second year Annual Report, and annually thereafter submit either (a) a current updated outfall map, or (b) verification that no changes or additions were made to the Permittee's MS4.
<b>E.9.b.</b>	By the second year online Annual Report, submit inventory and annually thereafter an updated inventory. By the second year online Annual Report, identify the illicit discharge procedures implemented and the locations of the implementation. Also identify in each online Annual Report the remaining inventoried facilities and priority areas still requiring illicit discharge assessment over the permit term.
<b>E.9.c.</b>	By the second year Annual Report, submit a report summarizing the field investigation results and areas of follow up actions.including the following information: (a) The number of outfalls found to be flowing or ponding more than 72 hours after the last rain event; (b) The number of such outfalls sampled in accordance with permit conditions; (c) Sampling result in tabular form; and (d) The number of outfalls found to be in exceedance of action levels
<b>E.9.d.</b>	By the second year Annual Report, submit all source investigations and corrective actions. At a minimum the report shall include: (a) Brief description of each non-stormwater discharge reported or observed; (b) Date(s) the non-storm water discharge was reported or observed; (c) Brief description of any actual or potential water quality impact resulting from the discharge; (d) Description and results of steps taken to investigate the source of the discharge; (e) Description and results of all follow-up or enforcement actions taken as a result of the investigation; (f) Date the investigation was closed, and whether the discharge was eliminated.

<b>E.9.e.</b>	Within the first year of the effective date of the permit, submit a spill response plan that contains the items specified in Section E.9.e. In subsequent Annual Reports summarize any spill response activities, and any follow-up actions, as specified in the spill response plan.
<b>E.10.a.</b>	Submit an up to date construction site inventory enumerating items listed in this Section with each Annual Report.
<b>E.10.b.</b>	By the first year Annual Report, submit a summary of review procedures. The summary should clearly indicate how the procedures will achieve compliance with all requirements of this Section, and clearly delineate responsibilities for implementing, and ensuring implementation of each aspect of the procedures.
<b>E.10.c.</b>	<p>By the second year Annual Report and annually thereafter, submit the following information:</p> <p>(a) Total number of active sites disturbing less than one acre of soil requiring inspection;</p> <p>(b) Number and percentage of each type of enforcement action taken as listed in each Permittee's Enforcement Response Plan;</p> <p>(c) Number of sites with discharges of sediment or other construction related materials, both actual and those inferred through evidence.;</p> <p>(d) Number and percentage of violations fully corrected prior to the next rain event but no longer than 10 business days after the violations are discovered or otherwise considered corrected in a Permittee-defined timely period.</p> <p>(e) Number and percentage of violations not fully corrected 30 days after the violations are discovered.</p> <p>(f) Number of follow-up inspections that demonstrated the operator continued to implement BMPs according to plan and the number of follow-up inspections that required further enforcement.</p>
<b>E.11.a.</b>	By the second year Annual Report submit the inventory and submit annual updates thereafter.
<b>E.11.b.</b>	By the second year Annual Report, submit the completed map and update annually thereafter if any of the information indicated on the map has changed.
<b>E.11.c.</b>	By the third year Annual Report, submit the results of the Permittee's annual assessment, including the list of identified hotspots and any identified deficiencies and corrective actions taken. The Permittee shall identify designated hotspots on the facility inventory updated and submitted in each subsequent year annual report.

<b>E.11.d.</b>	By the fourth year Annual Report, submit a summary of SWPPPs developed for pollutant hotspots. In subsequent Annual Reports, submit a summary of SWPPPs updated.
<b>E.11.e.</b>	<p>By the fifth year Annual Report and annually thereafter, submit the following information:</p> <p>(a) Total number of facilities required to be inspected.</p> <p>(b) Verification that all inspections were conducted at all facilities in accordance with the requirements of this Section</p> <p>(c) Summary of spills and corrective actions</p> <p>(d) Summary of the results of inspections, including a summary of deficiencies noted and corrective actions taken</p> <p>(e) Results of the quarterly visual observations of storm water discharges</p> <p>(f) Total number of facilities inspected (visual and comprehensive inspections) and frequency of inspections</p> <p>(g) All inspection records, reports, and logs</p> <p>(h) Records of corrective actions taken and the results of corrective actions</p>
<b>E.11.f.</b>	By the second year Annual Report, submit the assessment procedures and maintenance prioritization list, including a description of the method used to identify high priority storm drain system features and catch basins and number of catch basins identified as high priority. If flood conveyance maintenance is undertaken by another entity, submit a summary report of coordination by the first year Annual Report.
<b>E.11.g.</b>	<p>By the third year Annual Report, submit a summary of the following information:</p> <p>(a) Storm sewer maintenance schedule</p> <p>(b) List of storm sewer systems and the maintenance priority assigned</p> <p>(c) Documentation of all required storm sewer systems maintenance logs</p> <p>(d) Documentation of waste material disposal procedure</p> <p>By the third Annual Report and annually thereafter, the Permittee shall submit verification that all storm drain facilities were maintained according to the priorities, procedures, and schedules developed according to this Section. The report shall include a summary of the results of inspections, deficiencies found, corrective actions taken, and the results of corrective actions.</p>
<b>E.11.h.</b>	By the third year Annual Report, submit the following:



	<p>(a) List of BMPs and associated pollutants with each O&amp;M activity</p> <p>(b) BMPs applied during Permittee O&amp;M activities</p> <p>(c) Log of quarterly BMP evaluations.</p> <p>By the third Annual Report and annually thereafter, the Permittee shall submit verification that identified BMPs were effectively implemented for all O&amp;M activities.</p>
<b>E.11.i.</b>	<p>By the third year Annual Report, submit a summary of the development and implementation process to incorporate water quality and habitat enhancement design into new or upgraded flood management projects. By the fourth year Annual Report and annually thereafter, submit a list of new or upgraded flood management projects, including a summary of water quality and habitat enhancement features incorporated into their design.</p>
<b>E.11.j.</b>	<p>By the second year Annual Report, submit an evaluation of materials used and activities performed for pollution prevention and source control opportunities and a list of practices implemented to minimize the use of herbicide, pesticide, and fertilizers. By the second year Annual Report and annually thereafter, submit verification that identified BMPs were effectively implemented for all landscaping design and maintenance activities. By the second year Annual Report, submit a summary identifying the measures that the Permittee will use to demonstrate reductions in the application of pesticides, herbicides, and fertilizers. In subsequent annual reports, verify implementation of this measure, and describe reductions in pesticide, herbicide, and fertilizer application.</p>
<b>E.12.b</b>	<p>By the second year Annual Report and annually thereafter, the Permittee shall submit the following information:</p> <p>(a) A list of all project creating or replacing 2,500 square feet or more of impervious surface, as described above; and</p> <p>(b) A brief description of site design measures applied to each project.</p>
<b>E.12.c.</b>	<p>For each Regulated Project approved, the following information shall be submitted by the third year Annual Report:</p> <p>(a) Project Name, Number, Location (cross streets), and Street Address;</p> <p>(b) Name of Developer, Phase No. (if project is being constructed in phases, each phase shall have a separate entry), Project Type (e.g., commercial, industrial, multiunit residential, mixed-use, public), and description;</p>

	<ul style="list-style-type: none"> <li>(c) Project watershed(s);</li> <li>(d) Total project site area and total area of land disturbed;</li> <li>(e) Total new impervious surface area and/or total replaced impervious surface area;</li> <li>(f) For a redevelopment or road widening project: total pre-project impervious surface area and total post-project impervious surface area;</li> <li>(g) Status of project (e.g., application date, application deemed complete date, project approval date);</li> <li>(h) Source control measures;</li> <li>(i) Site design measures;</li> <li>(j) All post-construction storm water treatment systems installed onsite, at a joint storm water treatment facility, and/or at an offsite location;</li> <li>(k) O&amp;M responsibility mechanism for the life of the project.</li> <li>(l) Water quality treatment calculations used;</li> <li>(m) Off-site compliance measures for Regulated Project (if applicable);</li> </ul> <p>Additional (watershed-specific) hydromodification standards used.</p>
<p><b>E.12.h.</b></p>	<p>By the second year Annual Report and annually thereafter, for each Regulated Project inspected during the reporting period the following information shall be submitted in tabular form:</p> <ul style="list-style-type: none"> <li>(1) Name of facility/site inspected.</li> <li>(2) Location (street address) of facility/site inspected.</li> <li>(3) Name of responsible operator for installed storm water treatment systems and hydromodification management controls.</li> <li>(4) Inspection details including: date of inspection, type of inspection (e.g., initial, annual, follow-up, spot), type(s) of storm water treatment systems inspected (e.g., swale, bioretention unit, tree well, etc.) and an indication of whether the treatment system is an onsite, joint, or offsite system.</li> <li>(5) Type of hydromodification management controls inspected.</li> <li>(6) Inspection findings or results (e.g., proper installation, proper O&amp;M, system not operating properly because of plugging, bypass of storm water because</li> </ul>

	<p>of improper installation, maintenance required immediately, etc.).</p> <p>(7) Enforcement action(s) taken, if any (e.g., verbal warning, notice of violation, administrative citation, administrative order).</p> <p>(8) A discussion of the inspection findings for the year and any common problems encountered with various types of treatment systems and/or hydromodification management controls. This discussion shall include a general comparison to the inspection findings from the previous year.</p> <p>(9) A discussion of the effectiveness of the Permittee's O&amp;M Program and any proposed changes to improve the O&amp;M Program (e.g., changes in prioritization plan or frequency of O&amp;M inspections, other changes to improve effectiveness of O &amp; M program).</p> <p>On an annual basis, before the wet season, provide a list of newly installed (installed within the reporting period) storm water treatment systems and hydromodification management controls to the local mosquito and vector control agency and the appropriate Regional Water Board. This list shall include the facility locations and a description of the storm water treatment measures and hydromodification management controls installed.</p>
<b>E.12.i.</b>	By the third year Annual Report and subsequently thereafter, submit the post-construction best management practice condition assessment plan as required in E.12.i.(ii)a-d.
<b>F.5.b.2.</b>	By the third year Annual Report and annually thereafter, submit the public education strategy and general program development and progress. By the fifth year Annual Report, summarize changes in public awareness and knowledge resulting from the implementation of the program and any modifications to the public education and outreach program. If applicable, submit a report on development of education materials, methods for educational material distribution, public input, Water Efficient Landscape Ordinance, elementary school education, reduction of discharges from mobile cleaning and pressure washing operations, and landscape irrigation efforts.
<b>F.5.b.3.</b>	By the third year Annual Report, submit records of the training provided and the staff trained annually.
<b>F.5.b.4.</b>	By the second year Annual Report and annually thereafter, submit a summary of oversight procedures and identify and track all personnel requiring training and assessment and records.
<b>F.5.c.</b>	By the third year Annual Report and annually thereafter, submit a description of the public involvement program and summary of the MS4s efforts related to facilitating public involvement.

<b>F.5.d.</b>	By second year Annual Report submit the outfall inventory map, and annually thereafter submit either (a) a current updated outfall map, or (b) verification that no changes or additions were made to the Permittee's MS4.
<b>F.5.d.1.</b>	<p>By the second year Annual Report, submit a report summarizing the field investigation results and areas of follow up investigations. The report shall summarize all applicable observations.</p> <p>By the second year of the permit term and annually thereafter, submit all source investigations and corrective actions. At a minimum the report shall include:</p> <p>(a) Date(s) the non-storm water discharge was observed;</p> <p>(b) Results of the investigation;</p> <p>(c) Date the investigation was closed.</p> <p>(d) A summary of all non-storm water discharges that were found.</p>
<b>F.5.e.</b>	By the second year Annual Report, the Permittee submit an updated contract language that includes CGP compliance requirements for all projects subject to the CGP.
<b>F.5.f.1.</b>	By the second year Annual Report submit and annually thereafter an updated inventory.
<b>F.5.f.2.</b>	By the second year Annual Report and annually thereafter, submit the map.
<b>F.5.f.3.</b>	By the third year Annual Report, submit the results of the Permittee's annual assessment, any identified deficiencies and corrective actions taken, list of the pollutant hotspots.
<b>F.5.f.4.</b>	By the fourth year Annual Report and annually thereafter, submit a summary of SWPPPs developed and updated for pollutant hotspots.
<b>F.5.f.5.</b>	<p>By the fifth year Annual Report and annually thereafter, the following information shall be submitted:</p> <p>(a) Total number of facilities required to be inspected.</p> <p>(b) Total number of facilities inspected (visual and comprehensive inspections) and frequency of inspections</p> <p>(c) Summary of spills and corrective actions</p> <p>(d) Results of the quarterly visual observations of storm water discharges</p>
<b>F.5.f.6</b>	By the second year Annual Report, submit the assessment procedures and

	<p>maintenance prioritization list.</p>
<b>F.5.f.7</b>	<p>By the third year Annual Report, submit a summary of the following information:</p> <ul style="list-style-type: none"> <li>(a) Storm sewer maintenance schedule</li> <li>(b) List of storm sewer systems and the priority assigned</li> <li>(c) Documentation of all required storm sewer systems maintenance logs</li> <li>(d) Documentation of waste material disposal procedure</li> </ul>
<b>F.5.f.8.</b>	<p>By the third year Annual Report, submit the following:</p> <ul style="list-style-type: none"> <li>(a) List of BMPs and associated pollutants with each O&amp;M activity</li> <li>(b) BMPs applied during Permittee O&amp;M activities</li> <li>(c) Log of annual BMP evaluations.</li> </ul>
<b>F.5.f.9</b>	<p>By the second year Annual Report, submit an evaluation of materials used and activities performed for pollution prevention and source control opportunities and a list of practices implemented to minimize the use of herbicide, pesticide, and fertilizers. By the second year Annual Report, submit a document identifying the measures that the Permittee will use to demonstrate reductions in the application of pesticides, herbicides, and fertilizers. In subsequent annual reports, use this measure to demonstrate reductions in pesticide, herbicide, and fertilizer application.</p>
<b>F.5.g.</b>	<p>By the second year Annual Report and annually thereafter, the Permittee shall submit the following information:</p> <ul style="list-style-type: none"> <li>(a) A list of all project creating or replacing 2,500 square feet or more of impervious surface, as described above; and</li> </ul> <p>A brief description of site design measures applied to each project.</p> <p>For each project approved, the following information shall be submitted by the second year Annual Report:</p> <ul style="list-style-type: none"> <li>(a) Project Name, Number, Location (cross streets), and Street Address;</li> <li>(b) Name of Developer, Phase No. (if project is being constructed in phases, each phase shall have a separate entry), Project Type (e.g., commercial, industrial, multiunit residential, mixed-use, public), and description;</li> <li>(c) Project watershed(s);</li> </ul>

- (d) Total project site area and total area of land disturbed;
  - (e) Total new impervious surface area and/or total replaced impervious surface area;
  - (f) If a redevelopment or road widening project, total pre-project impervious surface area and total post-project impervious surface area;
  - (g) Status of project (e.g., application date, application deemed complete date, project approval date);
  - (h) Source control measures;
  - (i) Site design measures;
  - (j) All post-construction storm water treatment systems installed onsite, at a joint storm water treatment facility, and/or at an offsite location;
  - (k) O&M responsibility mechanism for the life of the project.
  - (l) Water quality treatment calculations used;
  - (m) Off-site compliance measures (if applicable)
  - (n) Additional (watershed-specific) hydromodification standards used
- (a) For each project inspected during the reporting period the following information shall be submitted in tabular form as part of each year's Annual Report:
- (1) Name of facility/site inspected.
  - (2) Location (street address) of facility/site inspected.
  - (3) Name of responsible operator for installed storm water treatment systems and hydromodification management controls.
  - (4) Inspection details including: Date of inspection, type of inspection (e.g., initial, annual, follow-up, spot), type(s) of storm water treatment systems inspected (e.g., swale, bioretention unit, tree well, etc.) and an indication of whether the treatment system is an onsite, joint, or offsite system.
  - (5) Type of hydromodification management controls inspected.
  - (6) Inspection findings or results (e.g., proper installation, proper O&M, system not operating properly because of plugging, bypass of storm water because of improper installation, maintenance required immediately, etc.).

	<p>(7) Enforcement action(s) taken, if any (e.g., verbal warning, notice of violation, administrative citation, administrative order).</p> <p>(8) A discussion of the inspection findings for the year and any common problems encountered with various types of treatment systems and/or hydromodification management controls. This discussion shall include a general comparison to the inspection findings from the previous year.</p> <p>(9) A discussion of the effectiveness of the Permittee's O&amp;M Program and any proposed changes to improve the O&amp;M Program (e.g., changes in prioritization plan or frequency of O&amp;M inspections, other changes to improve effectiveness of program).</p> <p>(b) On an annual basis, before the wet season, provide a list of newly installed (installed within the reporting period) storm water treatment systems and hydromodification management controls to the local mosquito and vector control agency and the appropriate Regional Water Board. This list shall include the facility locations and a description of the storm water treatment measures and hydromodification management controls installed.</p>
--	---

#### Program Management

Without the requirement of a SWMP, this section serves as the framework/backbone for the storm water program. This section is a consolidation of all of the Permittee's relevant ordinances or other regulatory requirements, the description of all programs and procedures (including standard forms to be used for reports and inspections) that will be implemented and enforced to comply with the permit and to document the selection, design, and installation of all storm water control measures.

#### Legal Authority

Without adequate legal authority the MS4 would be unable to perform many vital program functions such as performing inspections and requiring installation of control measures. In addition, the Permittee would not be able to penalize and/or attain remediation costs from violators.

#### Certification

Submittal and signature certifies Permittee will comply with this Order.

#### Enforcement Response Plan (ERP)

This Order requires Permittees to have an established, escalating enforcement policy identified in the ERP that clearly describes the action to be taken for common violations. The plan must describe the procedures to ensure compliance with local ordinances and standards, including the sanctions and enforcement mechanisms that will be used to ensure compliance. (See 40 CFR 122.26(d)(2)(i)). It is critical that the Permittee have the authority to initiate a range of enforcement actions to address the variability and severity of noncompliance.



#### IDDE and Good Housekeeping

Both these programs pose potential immediate threat to water quality without quick access to information submitted in SMARTS. For example, in order to respond to discharges, an effective IDDE program responds to complaints about illicit discharges or spills such as illegal connections to the storm sewer system, improper disposal of wastes, or dumping of used motor oil or other chemicals. In order to trace the origin of a suspected illicit discharge or connection, the Permittee must have an updated map of the storm drain system and a formal plan of how to locate illicit discharges and how to respond to them once they are located or reported.

#### Construction Inventory

To effectively conduct inspections, the Permittee must know where construction activity is occurring. A construction site inventory tracks information such as project size, disturbed area, distance to any waterbody or flow channel, when the erosion and sediment control/stormwater plan was approved by the Permittee, and whether the project is covered by the CGP. This inventory will allow the Permittee to track and target its inspections.

#### Effectiveness Assessment

Without assessing the effectiveness of the stormwater management program the Permittee will not know which parts of the program need to be modified to protect and/or improve water quality and instead will essentially be operating blindly.

### **XIII. TOTAL MAXIMUM DAILY LOAD (TMDL)**

Section 303(d) of the Clean Water Act requires States to identify waters that do not meet water quality standards after applying certain required technology-based effluent limitations ("impaired" waterbodies). States are required to compile this information in a list and submit the list to the U.S. EPA for review and approval. This list is known as the Section 303(d) list of impaired waters, which is incorporated into the Integrated Report.

This listing process requires States to prioritize waters/watersheds for future development of TMDLs. A TMDL is defined as the sum of the individual waste load allocations for point sources of pollution, plus the load allocations for nonpoint sources of pollution, plus the contribution from background sources of pollution. The Water Boards have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to subsequently develop TMDLs. The 2010 California 303(d) List identifies impaired receiving water bodies and their watersheds within the state.

TMDLs are developed by either the Regional Water Boards or U.S. EPA in response to Section 303(d) listings. Regional Water Board-developed TMDLs are subject to approval by the State Water Board, approval by the Office of Administrative Law, and ultimately approval by U.S. EPA. TMDLs developed by Regional Water Boards are incorporated as Basin Plan amendments and include implementation provisions. TMDLs developed by U.S. EPA typically contain the total load and waste load allocations required by Section 303(d), but do not contain comprehensive implementation provisions.

TMDLs are not self-implementing but rely on other regulatory mechanisms for implementation and enforcement. Urbanized areas typically utilize municipal storm

water permits as the implementation tool. Incorporation of TMDL implementation requirements into general permits (as opposed to individual MS4 permits) is difficult. First, there are numerous Traditional MS4s (municipalities) and Non-traditional MS4s such as military bases, public campuses, prison and hospital complexes covered under this Order. Second, the waste load allocations for many TMDLs are shared among several dischargers; that is, a single waste load allocation may be assigned to multiple dischargers, making it difficult to assign responsibility. Further, individual dischargers may not be explicitly identified. For example, “urban runoff” may be listed as a source of impairment, but the individual municipalities responsible for the impairment may not be identified. Third, the implementation plans adopted by the Regional Water Boards often provide for phased compliance with multiple milestones and deliverables, with optional and alternative means of compliance depending on the results of monitoring and special studies.

This Order requires Permittees to comply with all applicable TMDLs approved pursuant to 40 CFR §130.7 that assign a WLA to the Permittee and that have been identified in Attachment G. However, the high variance in the level of detail and specificity of TMDLs necessitates the development of more specific permit requirements in many cases to provide clarity to the Permittees regarding responsibilities for compliance. The Regional Water Boards have submitted TMDL-specific permit requirements to the State Water Board for applicable TMDLs and all TMDL-specific permit requirements for Traditional MS4s have been incorporated into Attachment G. The Regional Water Boards have also been directed to submit statements explaining how the requirements are designed to achieve the goals of the TMDLs and these have been incorporated into the Fact Sheet where provided (see the following discussions specific to each Regional Water Board).

This Order includes Attachment G, which identifies those approved TMDLs in which storm water or urban runoff is listed as a source. Attachment G then identifies municipalities subject to a given TMDL or assigned a waste load allocation under that TMDL. Finally, Attachment G includes TMDL-specific permit requirements developed by the Regional Water Boards for compliance with the TMDL, making the requirements directly enforceable through the permit.

Because the Permittees have not had an opportunity to meet with Regional Water Board staff to review and discuss the TMDL-specific permit requirements incorporated into this permit, the Regional Water Boards are additionally being directed through this Order to review the TMDL-specific permit requirements of Attachment G in consultation with the Permittees and propose any revisions to the State Water Board within one year of the effective date of this Order. Any such revisions will be incorporated into the permit through a reopener. To the extent they have not already done so, the Regional Water Boards will be expected during that process to prepare a statement for inclusion in the Fact Sheet explaining how the requirements are consistent with the assumptions and requirements of the TMDL WLAs and how they are designed to achieve the goals of the TMDLs.

Further, TMDL-specific permit requirements for TMDLs established in the Los Angeles Regional Water Quality Control Board’s region, which apply to Non-Traditional MS4s in the region, have not been included in Attachment G. These TMDL-specific permit requirements will be developed during the one-year review period described above. The State Water Board or the Regional Water Board may designate additional Traditional or Non-traditional MS4s based on applicability of the TMDL requirements.

Permittees will report compliance with the specific TMDL permit requirements in the online Annual Report via SMARTS.

### ***San Francisco Bay Water Board TMDLs***

#### ***Sonoma Creek Sediment TMDL***

The Sonoma Creek Sediment TMDL includes a wasteload allocation of 600 metric tons/year that applies to stormwater runoff discharges from stream crossings and with the operation of public and private roads, paved and unpaved within the watershed not otherwise covered by NPDES permits issued to County and City of Sonoma (Attachment G, Region Specific Requirements). It also includes a load allocation of 2,100 metric tons/year that applies to a roads and streams crossings source category that the City and County of Sonoma share with Caltrans. Caltrans is responsible for runoff from State highways and associated construction activities. Discharges from State highways are regulated via a Statewide Stormwater Permit issued to Caltrans.

The requirements in this Order are based on the TMDL Implementation Plan. To implement the roads and stream crossings allocation, the TMDL Implementation Plan establishes a performance standard for roads to design, construct, and maintain rural roads to minimize road-related sediment delivery to streams and calls on entities responsible for paved road, such as the City and County of Sonoma, to adopt and implement best management practices for maintenance of unimproved (dirt/gravel) roads, conduct a survey of stream-crossings associated with paved public roadways and develop a prioritized implementation plan for repair and/or replacement of high priority crossings/culverts to reduce road related erosion and protect stream-riparian habitat conditions.

#### ***Napa River Sediment TMDL***

The Napa River Sediment TMDL includes a wasteload allocation of 800 metric tons/year that applies to stormwater runoff discharges from stream crossings and stormwater runoff discharges associated with operation of public and private roads, paved and unpaved within the watershed not otherwise covered by NPDES permits issued to Napa County and municipalities including the City of Napa, Town of Yountville, City of St. Helena, City of Calistoga, and City of American Canyon (Attachment G, Region Specific Requirements). It also includes a load allocation of 27,000 metric tons/year that applies to a roads and streams crossings source category that Napa County and the City of Napa, Town of Yountville, City of St. Helena, City of Calistoga, and City of American Canyon share with Caltrans. Caltrans is responsible for runoff from State highways and associated construction activities. Discharges from State highways are regulated via a Statewide Stormwater Permit issued to Caltrans.

The requirements in this Order are based on the TMDL Implementation Plan. To implement the roads and stream crossings allocation, the TMDL Implementation Plan establishes a performance standard for roads as follows: road-related sediment delivery to channels should be  $\leq 500$  cubic yards per mile per 20 year period. The TMDL Implementation Plan also calls on entities responsible for paved roads to conduct a survey of stream-crossings associated with paved public roadways and develop a prioritized implementation plan for repair and/or replacement of high priority crossings/culverts to reduce road related erosion and protect stream-riparian habitat conditions.

#### *Sonoma Creek Pathogens TMDL*

The Sonoma Creek Pathogens TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this Order are based on the TMDL Implementation Plan. The Implementation Plan for the pathogen TMDL calls on parties responsible for municipal runoff (i.e., City and County of Sonoma) to comply with existing stormwater management plans and to update or amend them as needed, to include requirements for a) public participation and outreach, b) pet waste management, c) illicit sewage discharge detection and elimination to reduce and eliminate fecal coliform discharges to Sonoma Creek, and d) develop and implement pollution prevention strategies. The Implementation Plan also anticipates the City and County of Sonoma will participate in evaluation of *E. coli* concentration trends in Sonoma Creek and its tributaries and to report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures. These implementation actions would be extensions of existing programs.

#### *Napa River Pathogens TMDL*

The Napa River Pathogens TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this Order are based on the TMDL Implementation Plan. The Implementation Plan for the pathogen TMDL calls on parties responsible for municipal runoff (i.e., Napa County and municipalities including the City of Napa, Town of Yountville, City of St. Helena, City of Calistoga, and City of American Canyon) to comply with existing stormwater management plans and to update or amend them as needed, to include requirements for a) public participation and outreach, b) pet waste management, c) illicit sewage discharge detection and elimination to reduce and eliminate fecal coliform discharges to Sonoma Creek, and d) develop and implement pollution prevention strategies. The Implementation Plan also anticipates these parties to participate in evaluation of *E. coli* concentration trends in the Napa River and its tributaries and to report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures. These implementation actions would be extensions of existing programs.

#### *Tomaes Bay Pathogens TMDL*

The Tomales Bay Pathogens TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this order are based on the TMDL Implementation Plan. The Implementation Plan for the pathogen TMDL calls on parties responsible for municipal runoff (i.e., Marin County) to comply with existing stormwater management plans and to update or amend them as needed, to include requirements for a) public participation and outreach, b) pet waste management, c) illicit sewage discharge detection and elimination to reduce and eliminate fecal coliform discharges to Tomales Bay and its tributaries including Olema, Lagunitas, Walker, and San Geronimo Creeks, and d) develop and implement pollution prevention strategies. The Implementation Plan also anticipates these parties to participate in evaluation of *E. coli* concentration trends in Tomales Bay and its tributaries and to report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures.

The Implementation Plan anticipates that dischargers (including Marin County) and stakeholders, in collaboration with the Water Board will conduct water quality monitoring to evaluate fecal coliform concentration trends in Tomales Bay and its tributaries.

These implementation actions would be extensions of existing Stormwater Management Programs and would build upon previous and ongoing successful efforts to reduce pathogen loads to Tomales Bay and its tributaries.

#### *Richardson Bay Pathogens TMDL*

The Richardson Bay Pathogens TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this order are based on the TMDL Implementation Plan. The Implementation Plan for the pathogen TMDL calls on parties responsible for municipal runoff (i.e., Marin County, City of Mill Valley, City of Tiburon, City of Belvedere, and city of Sausalito) to comply with existing stormwater management plans and to update or amend them as needed, to include requirements for a) public participation and outreach, b) pet waste management, c) illicit sewage discharge detection and elimination to reduce and eliminate fecal coliform discharges to Sonoma Creek, and d) develop and implement pollution prevention strategies. The Implementation Plan also parties responsible for municipal runoff to report annually on progress made on implementation of human and animal runoff reduction measures. These implementation actions would be extensions of existing programs.

#### *Urban Creeks and Diazinon & Pesticide Toxicity TMDL*

The Urban Creeks and Diazinon & Pesticide TMDL assigns a waste load allocation to municipal runoff as specified in Attachment G, Region Specific Requirements.

The requirements in this order are based on the TMDL Implementation Plan. The Implementation Plan for the Urban Creeks and Diazinon & Pesticide Toxicity TMDL calls on parties responsible for municipal runoff (i.e., Marin County, City of Mill Valley, City of Belvedere, Town of Corte Madera, Town of Fairfax, City of Larkspur, City of Mill Valley, City of Novato, Town of Ross, Town of San Anselmo, City of San Rafael, City of Sausalito, Town of Tiburon, County of Sonoma, City of Sonoma, and City of Petaluma) to adopt an Integrated Pest Management Policy (IPM) or ordinance, as the basis of a Pesticide-Related Toxicity Program. Implementation actions of the program must include: a) training of all municipal employees who use or apply pesticides in the IPM practices and policy/ordinance, b) require contractors to implement IPM, c) keep County Agricultural Commissioners informed of water quality issues related to pesticides, d) conduct outreach to residents and pest control applicators on less toxic methods for pest control, e) keep records on pesticide use, and f) monitor water and sediment for pesticides and associated toxicity in urban creeks via an individual or regional monitoring program.

#### ***Central Valley Water Board TMDLs***

##### *Delta Methylmercury TMDL*

On April 22, 2010, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) adopted Resolution No. R5-2010-0043 to amend the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (Basin Plan) to

include a methylmercury TMDL and an implementation plan for the control of methylmercury and total mercury in the Sacramento-San Joaquin Delta Estuary (Delta Mercury Control Program). The Basin Plan amendment includes the addition of: (1) site-specific numeric fish tissue objectives for methylmercury; (2) the commercial and sport fishing (COMM) beneficial use designation for the Delta and Yolo Bypass; (3) methylmercury load allocations for non-point sources and waste load allocations for point sources; and (4) an implementation plan that includes adaptive management to address mercury and methylmercury in the Delta and Yolo Bypass.

The Delta TMDL covers the Counties of Alameda, Contra Costa, Sacramento, San Joaquin, Solano and Yolo both within legal Delta boundary defined by California Water Code Section 12220 and the Yolo Bypass, a 73,300-acre floodplain on the west side of the lower Sacramento River.

The Delta is on the Clean Water Act Section 303(d) List of Impaired Water Bodies because of elevated levels of mercury in fish. Beneficial uses of the Delta that are impaired due to the elevated methylmercury levels in fish are wildlife habitat (WILD) and human consumption of aquatic organisms. The Delta provides habitat for warm and cold-water species of fish and their associated aquatic communities. Additionally, the Delta and its riparian areas provide valuable wildlife habitat. There is significant use of the Delta for fishing and collection of aquatic organisms for human consumption. Further, water is diverted from the Delta for statewide municipal (MUN) and agricultural (AGR) use.

Mercury in the Central Valley comes primarily from historic mercury and gold mines and from resuspension of contaminated material in stream beds and banks downstream of the mines, as well as from modern sources such as atmospheric deposition from local and global sources, waste water treatment plants, and urban runoff. Methylmercury, the most toxic form of mercury, forms primarily by sulfate reducing bacteria methylating inorganic mercury. Sources of methylmercury include methylmercury flux from sediment in open water and wetland habitats, urban runoff, irrigated agriculture, and waste water treatment plants. Water management activities, including water storage, conveyance, and flood control, can affect the transport of mercury and the production and transport of methylmercury.

The Delta Mercury Control Program assigns mass-based methylmercury TMDL allocations to all sources of methylmercury in the Delta and Yolo Bypass, including urban runoff from Phase 1 and Phase 2 MS4s. In the Delta and Yolo Bypass, the TMDL assigns individual methylmercury waste load allocations to the following small urban runoff agencies:

City of Lathrop  
City of Lodi  
City of Rio Vista  
County of San Joaquin  
County of Solano  
City of West Sacramento  
County of Yolo  
City of Tracy

Mercury is often attached to sediment, and the formation of methylmercury is linked in part to the concentration of mercury concentrations in sediment. Reductions in mercury concentrations will result in methylmercury reductions and subsequently methylmercury levels in fish. To comply with the TMDL, the agencies are required to implement best management practices to control erosion and sediment discharges with the goal of reducing mercury discharges.

### ***Central Coast Water Board TMDLs***

#### **Morro Bay Sediment TMDL**

The numeric targets approved in the TMDL are expressed in terms of receiving water indicators, e.g. pool residual volume, median diameter of spawning graves, etc. The TMDL also expressed the sediment assimilative capacity and allocations required to achieve the numeric targets. The allocations require a 50% reduction of current loading (estimated in 2003) to achieve the numeric targets. The wasteload allocations assigned to the responsible parties in this permit represent a 50% reduction from 2003 loading estimates.

#### **San Lorenzo River Sediment TMDL**

The numeric targets approved in the TMDL are expressed in terms of receiving water indicators, e.g. pool residual volume, median diameter of spawning graves, etc. The TMDL also expressed the sediment assimilative capacity and allocations required to achieve the numeric targets. The allocations require reductions of 24-27 percent of current sediment loading (estimated in 2002) to achieve the numeric targets. The wasteload allocations assigned to the responsible parties in this permit represent a 24-27 percent reduction from the 2003 loading estimates.

#### **Pajaro River Sediment TMDL**

The numeric targets approved in the TMDL are expressed in terms of receiving water indicators, e.g. pool residual volume, median diameter of spawning graves, etc. The TMDL also expressed the sediment assimilative capacity and allocations required to achieve the numeric targets. The allocations require reductions of 90% from current sediment loading (estimated in 2005) to achieve the numeric targets. The wasteload allocations assigned to the responsible parties in this permit represent a 90% reduction of the 2005 loading estimate.

#### **For All TMDLs Requiring Wasteload Allocation Attainment Programs**

In situations where MS4s must reduce their wasteload discharges in accordance with TMDLs, the Central Coast Water Board has required the MS4s to develop Wasteload Allocation Attainment Programs. Since these MS4s have been documented as sources of impairment, they must be held to a high standard to ensure they ultimately achieve their wasteload allocations and no longer contribute to the water body impairments addressed by the TMDLs. Indeed, the TMDLs set forth the expectation that the MS4s achieve their wasteload allocations within specified timeframes. This approach stands in contrast to the typical regulatory approach applied to municipal stormwater, which calls for implementation of BMPs according to an iterative process of continual improvement, with no associated timelines for achieving water quality standards. The MS4s' contribution to the impairment of water bodies, combined with the expectation that they achieve their wasteload allocations within specified timeframes, necessitates a



systematic approach to program implementation as it relates to the discharge of pollutants associated with impairments.

The federal regulations indicate that such an approach is appropriate. The Preamble to the Phase II federal storm water regulations states: "Small MS4 permittees should modify their programs if and when available information indicates that water quality considerations warrant greater attention or prescriptiveness in specific components of the municipal program."<sup>37</sup>

Central Coast Water Board staff developed the Wasteload Allocation Attainment Programs as a means to systematically guide municipalities towards attainment of their wasteload allocations. Without a systematic approach of this type, Water Board staff believes that attainment of wasteload allocations is unlikely. This belief is supported by many MS4s' storm water management programs. For example, programs typically include basic or minimum BMPs to be implemented to attain wasteload allocations. While some of these BMPs are likely to be beneficial, the connection between others and wasteload reductions is unclear. In addition, it appears that most of these BMPs are currently implemented, yet impairments continue, indicating that greater efforts are warranted. Moreover, BMPs implemented by MS4s often do not address all of the issues identified in TMDLs. This insufficient approach to BMP implementation in light of documented impairments and approved TMDLs indicates that a more systematic approach, as represented by the Wasteload Allocation Attainment Programs, is warranted.

On a broader scale, storm water programs often do not exhibit the rationale used for BMP selection, or draw connections between those BMPs selected and eventual wasteload allocation attainment. Without this level of planning, the significant challenge of achieving wasteload allocations within specified timeframes is not likely to be met. The Wasteload Allocation Attainment Program requirements are expressly designed to ensure adequate planning is conducted so that MS4s' TMDL implementation efforts are effective. The main steps to be followed for Wasteload Allocation Attainment Program development and implementation are activities that are basic to successfully correcting water quality problems. The Wasteload Allocation Attainment Program requirements specify that MS4s address the following items as they apply to TMDLs: (1) An implementation and assessment strategy; (2) source identification and prioritization; (3) BMP identification, prioritization, implementation (including schedule), analysis, and assessment; (4) monitoring program development and implementation (including schedule); (5) reporting and evaluation of progress towards achieving wasteload allocations; and (6) coordination with stakeholders. The United States Environmental Protection Agency (U.S. EPA) forwards similar approaches for TMDL implementation in its *Draft TMDLs to Stormwater Permits Handbook*, which discusses BMP review and selection, establishing linkages between BMP implementation and load reductions, effectiveness assessment, and BMP/outfall/receiving water monitoring.<sup>38</sup>

Ultimately, the Wasteload Allocation Attainment Programs place the responsibility for program development, assessment, improvement, and success on the municipalities. Placement of responsibility on the municipalities is appropriate, since the municipalities are the parties contributing to the water quality impairment. This approach is also

---

<sup>37</sup> 64 FR 68753

<sup>38</sup> USEPA. 2008. *Draft TMDLs to Stormwater Permits Handbook*. Chapters 5 and 6.

consistent with the Water Board's approach of requiring plans for control of pollutants from other sources identified by TMDLs, such as sanitary sewer collection and treatment systems and domestic animal discharges. The Water Board will collectively assess the progress of the various sources towards achieving receiving water quality standards as part of its triennial review, but each source must be responsible for assessing its own progress towards achieving its wasteload allocation. Without progress by each responsible party, the Water Board will not be able to demonstrate progress towards correcting the impairment. The process of planning, assessment, and refinement outlined by the Wasteload Allocation Attainment Programs helps ensure continual improvement and ultimate attainment of water quality standards at impaired receiving waters. This will be especially important as the complexity of achieving wasteload allocations increases when more and more TMDLs are adopted.

The Central Coast Water Board staff believes this standardized process of development, implementation, assessment, and review of the Wasteload Allocation Attainment Programs provides the greatest likelihood for the TMDLs' wasteload allocations to be attained.

#### **XIV. STORM WATER MANAGEMENT PROGRAM FOR NON-TRADITIONAL MS4s**

##### *Differences between Traditional and Non-traditional MS4s*

Because of the differences between Traditional and Non-traditional MS4s this Order includes Section F to address their specific management structure.

Non-Traditional Small MS4s required to comply with this Order are identified in Attachment B.

Non-traditional MS4s differ from cities and counties, because most potential sources of illicit discharges and storm water pollution are associated with activities under their direct operational control.

Some Non-traditional MS4s may also lack the legal authority or employ a different type of enforcement mechanism than a city/county government to implement their storm water program.

Certain Non-traditional Small MS4s such as Department of Defense and Department of Corrections and Rehabilitation Permittees required exemption from certain provisions due to security risks and/or compromised facility security.

##### **Program Management – Applicable to all Non-traditional MS4 Categories**

Legal Authority: Clean Water Act § 40 CFR 122.26(d)(2)(i) and 40 CFR 122.34(b)(3)(ii)(B), (b)(4)(ii)(A), and (b)(5)(ii)(B).

MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; MS4 Program Evaluation Guidance, U.S. EPA, EPA-833-R-07-003

##### *Program Management*

Program Management is essential to ensure that all elements of the storm water program are implemented on schedule and consistent with the Order requirements.

See Online Annual Reporting for further discussion later in this section.

### *Legal Authority*

Legal authority to control discharges into a Permittee's storm sewer system is critical for compliance. Most Non-traditional MS4s lack the legal authority or employ a different type of enforcement mechanism than a city or county government to implement its storm water program. To the extent allowable under State and federal law, this Order requires each Non-traditional MS4 to operate with sufficient legal authority to control discharges into and from its MS4. The legal authority may be demonstrated by a combination of statutes, permits, contracts, orders, and interagency agreements. Non-traditional MS4 Permittees also do not generally have the authority to impose a monetary penalty. Although these differences exist, just like Traditional MS4s, Non-traditional MS4s must have the legal authority to develop, implement, and enforce the program.

### *Coordination*

This Order allows Non-traditional MS4s to coordinate their storm water programs with other entities within or adjacent to their MS4 and allows the concept of a Separate Implementing Entity. A Separate Implementing Entity allows Permittees to leverage resources and skills. Additional information regarding SIEs is discussed later in this section.

### **Education and Outreach Program**

Legal Authority: Clean Water Act § 40 CFR 122.34(b)(1).

MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Because the population served by most Non-traditional MS4s will generally be served by the public education and outreach efforts of the local jurisdiction, the most useful supplement to those education and outreach efforts would be to label the Non-traditional MS4 catch basins. However, some Non-traditional MS4s such as universities have tenants and residents that may not be as effectively served by the local jurisdiction's public education and outreach program, therefore a separate education and outreach program may be needed. Where the local jurisdiction's public education and outreach efforts do effectively target and reach these tenant and resident populations, the Non-traditional MS4s are not expected to duplicate those efforts.

Some Non-traditional MS4s are well suited for regional education and outreach. For example, school districts often have several schools located with a watershed or regional boundary. This Order allows Non-traditional MS4s to comply with the Education and Outreach provisions through a regional collaborative effort.

Regional outreach and collaboration requires the Permittees to define a uniform and consistent message, deciding how best to communicate the message, and how to facilitate behavioral changes.

### **Public Involvement and Participation**

Legal Authority: Clean Water Act § 40 CFR 122.34(b)(2).

MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Non-traditional MS4s have the same responsibilities as Traditional MS4s to ensure the storm water program is publicized and must involve the population they serve in the development of the program. However, the most effective BMP for Non-traditional

MS4s is to provide up-to-date information about the storm water program online if the Non-traditional MS4 maintains a website, or the Non-traditional MS4 Permittee may choose to post information about their program on the local jurisdiction's website.

### **Illicit Discharge Detection and Elimination Program**

Legal Authority: Clean Water Act § 40 CFR 122.26(d)(2)(iv)(B)

MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

The federal Phase II regulations require all MS4s to develop a process to trace the source of illicit discharges and eliminate them. The regulations also state that appropriate enforcement procedures and actions must be included in this process.

Unlike Traditional MS4s, Non-traditional MS4s have direct control of their own staff and contractors. Therefore, the enforcement provisions identified in the Illicit Discharge Detection and Elimination program are often not applicable to Non-traditional MS4 Permittees. Non-traditional MS4 Permittees should address illicit non-storm water discharges through the implementation of a Spill Response Plan. However, Non-traditional MS4 Permittees often comply with existing state/federal regulations that required a Spill Response Plan or Hazardous Materials plan that identifies notification procedures for other operators or local agencies and includes details that are similar if not the same as a Spill Response Plan. Therefore, to leverage resources and maximize efficiencies the requirements in this Order recommend utilizing existing documents if that document contains the same information.

### **Construction Site Storm Water Runoff Control and Outreach Program**

The purpose of this program component is to prevent sediment and other pollutants from entering the Non-traditional MS4 during the construction phase of development projects. In general, Non-traditional MS4 Permittees will obtain coverage under, and comply with, the CGP for their own construction projects. To the extent that they have the legal authority, Non-traditional MS4s must also require other entities discharging to their MS4 to obtain coverage under and comply with the CGP during the construction phase of their projects.

This Order relieves Non-traditional MS4 Permittees from development and implementation of a complete construction storm water runoff control program. This Order does require education and outreach to staff, construction site operators and contractors on how to control construction storm water runoff.

The CGP is inherently a robust permit with stringent reporting requirement for any construction project disturbing one acre or more in California. Often, Non-traditional MS4s have a few construction projects occurring at once such as those in a City or County. There are, however, very few Non-traditional MS4s that have dozens of active construction sites. Further, Non-traditional MS4 Permittees are often both the owner and contractor of a construction project. Finally, municipal governments must review and approve erosion and sediment control plans prior to the issuance of grading permits. Most all Non-traditional MS4s do not require approval from local municipalities prior to construction activity. Conditioning of a construction project is usually conducted in-house by Non-traditional MS4 Permittee staff. If contractors are brought in to conduct construction activity, this Order requires Non-traditional MS4 Permittees to include

“bullet proof” contract language ensuring construction operators or contractors comply with the CGP and implement appropriate BMPs.

### **Pollution Prevention and Good Housekeeping Program**

Legal Authority: Clean Water Act § 40 CFR 122.34(b)(6)

MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001

Non-traditional MS4s have the same responsibilities as Traditional MS4s to prevent or reduce storm water pollution generated by their own operations, to train employees about pollution prevention/good housekeeping practices, and to identify appropriate measures to prevent or reduce the amount of storm water generated by their operations.

### **Post-Construction Storm Water Management Program**

Legal Authority: Clean Water Act § 402(p)(3)(b); 40 C.F.R. § 122.34(b)(5).

MS4 Permit Improvement Guide, U.S. EPA, April 2010, EPA 833-R-10-001; U.S. EPA Incorporating Environmentally Sensitive Development into Municipal Stormwater Programs, EPA 833-F-07-011

This Order has specific site design and LID requirements for all projects. The LID requirements emphasize landscape-based site design features that are already required elsewhere (e.g., the California Water Efficient Landscape Ordinance). The goal during this permit term is to develop runoff retention and hydromodification control criteria that are keyed to watershed processes. Watershed management zones will be delineated by the State Board during this permit term. The Watershed management zones will be used to identify applicable areas and appropriate criteria for runoff retention and hydromodification control. Regional Boards that have approved watershed process-based criteria for post-construction will be permitted to continue requiring Permittees to implement these criteria.

### **Total Maximum Daily Load (TMDL)**

The Order includes Attachment G, which identifies only those approved TMDLs in which storm water or urban run-off is listed as a source. In addition, Attachment G identifies Permittees subject to TMDLs or assigned waste load allocation. If Non-traditional MS4 Permittees have been identified in Attachment G, they must implement the specific TMDL permit requirements.

### **Program Effectiveness Assessment**

Non-traditional MS4s have the same responsibilities as Traditional MS4s to conduct quantitative evaluation of their storm water program.

### **Online Annual Reporting**

Non-traditional MS4s have the same responsibilities as Traditional MS4s to submit online Annual Reports via SMARTS.

### **Separate Implementing Entity**

Legal Authority: Clean Water Act § 40 CFR 122.35

This Order allows a Regulated MS4s to rely on a Separate Implementing Entity to meet permit requirements, as allowed by U.S. EPA in the Phase II regulations. Reliance on Separate Implementing Entity may be particularly beneficial for Non-Traditional MS4s. An example is a community service district that is charged with creating and implementing a municipal storm water program.

Co-application and cooperative implementation of the storm water program by any Permittee with another Permittee can maximize efficiency and reduce overall costs. Non-traditional MS4s are encouraged to co-apply with local jurisdictions and utilize shared resources to implement the storm water program. Additionally, co-application and cooperative storm water program implementation can achieve watershed-wide consistency.

A Permittee may rely on a Separate Implementing Entity to implement one or more program elements, if the Separate Implementing Entity can appropriately and adequately address the storm water issues of the Permittee. To do this, both entities must agree to the arrangement, and the Permittee must comply with the applicable parts of the Separate Implementing Entity's program.

In accordance with 40 Code of Federal Regulations, section 122.35(a)(3), the Permittee remains responsible for compliance with its permit obligations if the Separate Implementing Entity fails to implement the control measure(s) or any component thereof. Therefore, the entities are encouraged to enter into a legally binding agreement to minimize any uncertainty about compliance with the permit.

If the Non-traditional MS4 Permittee relies on a Separate Implementing Entity to implement all program elements and the Separate Implementing Entity also has a storm water permit, the Permittee relying on Separate Implementing Entity must still file an NOI via SMARTS, submit the appropriate fee and file online Annual Reports. Both parties must also submit to the appropriate Regional Water Board a certification of the arrangement. The arrangement is subject to the approval of the Regional Water Board Executive Officer prior to filing an electronic NOI via SMARTS.

School districts present an example of where a Separate Implementing Entity arrangement may be appropriate, either by forming an agreement with a city or with an umbrella agency, such as the County Office of Education. Because schools provide a large audience for storm water education the two entities may coordinate an education program. An individual school or a school district may agree to provide a one-hour slot for all second and fifth grade classes during which the city would make its own storm water presentation. Alternatively, the school could agree to teach a lesson in conjunction with an outdoor education science project, which may also incorporate a public involvement component. Additionally, the school and the city or Office of Education may arrange to have the school's maintenance staff attend the other entity's training sessions.

## **XV. RELATIONSHIP BETWEEN THE ORDER AND THE STATEWIDE GENERAL PERMIT FOR DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITY**

In some cases, certain Non-traditional MS4s will be subject to both this Order and the IGP.

The intent of both of these permits is to reduce pollutants in storm water, but neither permit's requirements totally encompass the other. This Order requires that Non-traditional MS4 operators address storm water program elements, while the IGP requires the development and implementation of a SWPPP for certain "industrial" activities as well as requiring specific visual and chemical monitoring.

In the Preamble to the Phase II regulations, U.S. EPA notes that for a combination permit to be acceptable, it must contain all of the requirements for each permit. Further, "when viewed in its entirety, a combination permit, which by necessity would need to contain all elements of otherwise separate industrial and MS4 permit requirements, and require NOI information for each separate industrial activity, may have few advantages when compared to obtaining separate MS4 and industrial general permit coverage." (64 Fed. Reg. 68781.) Where the permits do overlap, one program may reference the other. More specifically, the Good Housekeeping for Permittee Operations program element requires evaluation of Permittee operations, some of which may be covered under the IGP. The development and implementation of the SWPPP under the IGP will likely satisfy the Good Housekeeping requirements for those industrial activities. The Non-traditional MS4 storm water program may incorporate by reference the appropriate SWPPP.

There may be instances where a Non-traditional MS4 has, under the IGP, obtained coverage for the entire facility (rather than only those areas where industrial activities occur) and has developed a SWPPP that addresses all the program elements required by this Order. In these instances, the Non-traditional MS4 is not required to obtain coverage under this Order. The entity should, in such cases, provide to the appropriate Regional Water Board documentation that its SWPPP addresses all program elements.

## **XVI. USE OF PARTNERSHIPS IN MS4 PERMITS**

Since the Phase II Rule applies to all small MS4s within an urbanized area regardless of political boundaries it is very likely that multiple governments and agencies within a single geographic area are subject to NPDES permitting requirements. For example, a city government that operates a small MS4 within an urbanized area may obtain permit coverage under this Order while other MS4s in the same vicinity (such as a County, other cities, public university, or military facility) may also be covered under this Order. All MS4s are responsible for permit compliance within their jurisdiction.

Given the potential for overlapping activities in close proximity, the State Water Board encourages MS4s in a geographic area to establish cooperative agreements in implementing their storm water programs, especially with receiving water monitoring. Partnerships and agreements between Permittees and/or other agencies can minimize unnecessary duplication of effort and result in efficient use of available resources. Sharing resources can allow MS4s to focus their efforts on high priority program components. By forming partnerships, water quality can be examined and improved on a consolidated, efficient, watershed-wide scale rather than on a piece-meal, site-by-site basis.



## XVII. REGIONAL BOARD DESIGNATIONS

Designation of additional Small MS4s outside of Urbanized Areas as Regulated Small MS4s may be made by the Regional Water Boards on a case by case basis. Case by case determinations of designation are based on the potential of a Small MS4's discharges to result in exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts, including habitat and biological impacts. The tables below includes designations recommend by the Regional Water Boards prior to adoption of this Order. The Regional Water Boards may continue to make case by case determinations of designation during the permit term by notification to the discharger (which shall include a statement of reasons for the designation) and following an opportunity for public review and comment.

### Traditional Small MS4s

Place name	County	Regional Board	Justification
Crescent City	Del Norte	1	7500 population and in urbanized area
Bayview CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of these areas is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Cutten CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Humboldt Hill CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Myrtle town CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds

Pine Hills CDP	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Ridgewood Heights USSA	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of these areas is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Rosewood USSA	Humboldt	1	Adjacent to, but outside of Eureka city limits located in southern Humboldt Bay, in unincorporated Humboldt County. Designation of this area is needed to address pollutant sources of urbanized and urbanizing areas within 303(d) listed watersheds
Cloverdale CDP	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation
Forestville CDP	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation
Guerneville CDP	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation

Monte Rio	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation
Occidental CDP	Sonoma	1	There are urbanized areas within the County of Sonoma not covered under the Phase I Permit. These areas are located within the Russian River watershed, a 303(d) listed watershed. Currently, there is only limited storm water management in these areas, allowing the discharge of pollutants to the impacted water body. Storm water management is needed in these areas to reduce the pollutant loads and for early TMDL implementation
Yreka City	Siskiyou	1	Discharges to a TMDL listed waterbody and identified on Attachment G
Gonzalez City	Monterey	3	Greater than 5,000 population
Moss Landing CDP	Monterey	3	Proximity to ocean areas (Monterey Bay National Marine Sanctuary, including Elkhorn slough)
Blacklake CDP	San Luis Obispo	3	Proximity to urbanized area (Oceano, Arroyo Grande, Grover Beach and Nipomo)
Cayucos CDP	San Luis Obispo	3	Greater than 2,000 population and proximity to Pacific Ocean

Lake Nacimiento CDP	San Luis Obispo	3	Greater than 2,000 population and proximity to Lake Nacimiento (drinking water source)
San Miguel	San Luis Obispo	3	Greater than 2,000 population High Growth Rate (16.8%)
Shandon CDP	San Luis Obispo	3	High Growth Rate (31.3%)
Guadalupe City	Santa Barbara	3	Incorporated area exceeding 5,000 population
Hope Ranch CDP	Santa Barbara	3	Proximity to urbanized area
Mission Canyon CDP	Santa Barbara	3	Proximity to urbanized area
Mission Hills CDP	Santa Barbara	3	Proximity to urbanized area
Toro Canyon CDP	Santa Barbara	3	Proximity to urbanized area
Live Oak CDP	Santa Cruz	3	Greater than 5,000 population Discharges to a TMDL listed waterbody and identified on Attachment G

City of Avalon	Los Angeles	4	Proximity to sensitive water body
Colusa County	Colusa	5S	Discharges to a TMDL listed waterbody and identified on Attachment G
Amador County	Amador	5S	<p>Currently, there is only limited storm water management in this area, allowing discharge of pollutants to waters of the State already impacted with multiple constituents and parameters. Storm water management is needed in these areas to reduce the pollutant loads prior to adoption of any TMDLs, which are typically not estimated to be completed until 2020 or thereafter in many cases.</p> <p>Additionally, several waterbodies or waterbody segments within or bounding Amador County are 303(d) listed for invasive species (Cosumnes River, above Michigan Bar), mercury (Pardee Reservoir, Camanche Reservoir), pH - High (Amador Lake, Bear River from Allen to Upper Bear River Reservoir), copper (Camanche Reservoir), and zinc (Camanche Reservoir) according to the 2010 CWA 303(d) list. Camanche Reservoir drains to Lower Mokelumne River. The Lower Mokelumne River (in Delta Waterways, eastern portion) is 303(d) listed for chlorpyrifos, copper, mercury, dissolved oxygen, unknown toxicity, and zinc. Both the Cosumnes and Mokelumne Rivers drain to the San Joaquin River, which is 303(d) listed for these same constituents and parameters. Many of these constituents are known to bind to various size sediment particles migrating into surface waters.</p>

### Non-Traditional Small MS4s

Place name	Category	Regional Board	Justification
Petaluma Coast Guard Training Center	Defense, Department of	1	Activities that could impact water quality, fueling, maintenance. Personnel that should be educated on how their activities effect water quality.
Alameda-Contra Costa Transit District (AC Transit)	Special District	2	The Alameda-Contra Costa Transit District (AC Transit) is a large special transit district like the Valley Transit Authority (VTA) and BART which are both already designated. In order to fully regulate both large bus storage and maintenance facilities and new development related to bus stops and plazas they need to be fully regulated under the Phase II stormwater permit, as they do not fall under the local city regulatory jurisdiction for all aspects of their operations.
AMTRAK	Special District	2	Within urbanized area
Bay Area Rapid Transit	Special District	2	Within urbanized area
CalTrain	Special District	2	Within urbanized area
Golden Gate Bridge, Highway and Transportation District	Special District	2	Within urbanized area
Valley Transit Authority	Special District	2	Within urbanized area
Port of Oakland	Port	2	Within urbanized area
Port of Redwood City	Port	2	Within urbanized area
San Jose Airport	Airport	2	Within urbanized area
Oceano Community Services District	Community Services District	3	Within urbanized area
Fort Ord Reuse Authority	Local Agency	3	Adjacent to urbanized area, Planned annexation into urbanized area
Fort Hunter Ligget, Army Garrison	Defense, Department of	3	Within urbanized area

<p>March Air Reserve Base</p>	<p>Defense, Department of</p>	<p>8</p>	<p>The former March Air Reserve Base was downsized and became known as March ARB. March ARB is an active military base that covers 2,300 acres. Activities in the base proper includes military activities such as air refueling, air cargo, air reconnaissance, military interceptors, military housing, recreational and dining facilities, commercial air cargo, training facilities, schools, operations centers for troop transport and industrial, including airport operations. Land use activities are under Base commander authority. The base is currently covered under an individual industrial storm water permit for their industrial operations and is a stakeholder under the Lake Elsinore/Canyon Lake TMDL. In addition to industrial permit monitoring, the Base monitors their compliance with the TMDL. We believe Phase II permit coverage is an appropriate permit to address the pollutants and flows generated from Base operations. Development and redevelopment post construction controls are of particular importance to be incorporated into the base's storm water program through Phase II permit coverage.</p>
<p>March Joint Powers Authority</p>	<p>March Joint Powers Commission</p>	<p>8</p>	<p>The March JPA is a federally recognized reuse authority for the former March Air Force base. It encompasses most of the 6, 500 acres of the former active duty March Air Force Base area and approximately 450 acres adjacent to the base in the industrial area of the City of Moreno Valley. March JPA also assumed the following authorities: 1 - Land Use Authority - Land use authority was transferred to March JPA from the County of Riverside, City of Riverside, and City of</p>

Note: This discharger was not designated in the final version of Attachment B of the Order adopted by the Board on February 5, 2013.



			<p>Moreno Valley. The March JPA has adopted development and building codes and standards. The March JPA General Plan has been developed by the March JPA in accordance with state statutes, as well as the associated Master Environmental Impact Report. The March JPA General Plan is designed to implement the March Final Reuse Plan and related activities.</p> <p>2 - Airport Authority - March Inland Port Airport Authority (MIPAA), is a governing body under the governance umbrella of the March JPA. MIPAA is responsible for the development and operation of the March Inland Port (MIP), a joint use aviation facility targeted for air cargo operations.</p> <p>The developments approved by the March JPA todate included residential, commercial and industrial sources of pollutants. About 1/8th of the area has been developed. March JPA has the authority to develop its own MS4s within their jurisdiction and connect to MS4s owned/operated by Phase 1 permittees. Many of the functions resemble that of a local agency. Therefore, March JPA should be subject to the Phase II (or they can join our Phase 1).</p>
Miramar Marine Corps Air Station	Defense, Department of	9	Within urbanized area
<p>Note: This discharger was not designated in the final version of Attachment B of the Order adopted by the Board on February 5, 2013.</p> <p>→ General Services Administration Facilities (GSA)</p>	Federal Facility	9	The site is the General Services Administration Facilities (GSA), located at 801 E. San Ysidro Blvd., San Ysidro, CA 92173 and is a federal facility. They are the owner and operator of a series of lateral drains which tie into a main open-trunk running and discharging along the border fence. They are responsible for the storm drains, including the new trunk slated for construction, and the entire system

			<p>acts as a MS4. Additionally, GSA is the landlord of the world's busiest Land Port of Entry (LPOE). Located between San Diego and Tijuana, the San Ysidro LPOE supports 24 northbound vehicle lanes into the United States and six southbound lanes into Mexico. Every day, this land port serves over 50,000 northbound vehicles and 25,000 northbound pedestrians. GSA maintains border crossing services, as well as increasing efficiency, security, and safety for federal agencies and the traveling public. Looking to the future, the San Ysidro LPOE is undergoing a major expansion that will include a new northbound inspection facility, primary vehicle inspection booths, secondary inspection area, administration space, and a pedestrian processing facility. A new southbound inspection facility will also be developed, and Interstate 5 will be shifted to the west to align with Mexico's planned use of a reconstructed entry facility at the vacant Virginia Avenue/El Chaparral commercial facility.</p>
Metropolitan Transit System (MTS)	Transportation Agency	9	<p>The Metropolitan Transit Development Board (MTDB) was created in 1975 by the passage of California Senate Bill 101 and came into existence on January 1, 1976. In 2005, MTDB changed its name to the Metropolitan Transit System (MTS). MTS licenses and regulates taxicabs, jitneys, and other private for-hire passenger transportation services by contract with the cities of San Diego, El Cajon, Imperial Beach, La Mesa, Lemon Grove, Poway, and Santee. MTS provides bus and rail services directly or by contract with public or private operators. MTS determines the routing, stops, frequency of service, and hours of</p>

			operation for its existing services. MTS does a significant amount of their vehicles maintenance.
North County Transit District (NCTD)	Transportation Agency	9	North county Transit district (NCTD) owns and operates the Sprinter Rail located along 22 miles of the rail corridor (see attached file) and adjacent staging areas within the Cities of Oceanside, Vista, San Marcos and Escondido and within the County of San Diego. The project's total disturbed acreage is approximately 280 acres. Storm water runoff from the project discharges directly into Waters of the State, the Municipal Separate Storm Sewer System (MS4) and, ultimately discharging to Loma Alta Creek, Buena Vista Creek, Buena Creek, San Marcos Creek, Escondido Creek and unmanned tributaries. Beginning October 2007, during construction, the San Diego Water Board had identified significant violations of the Stormwater Permit (99-08-DWQ). NCTD threatens to continue to discharge waste (e.g. sediment and sediment-laden water) in violation of the Basin Plan Prohibitions.

**Draft Attachment A - Traditional Small MS4 Designation and Monitoring Matrix**

Place Name	County	RB	Permittee Type	Population 2010	Monitoring Type	Urbanized Area/ Urban Cluster Name	Designation Criteria
<b>Monitoring Types: Ω = Water Quality Monitoring Options, λ = TMDL Attachment G Requirements, Δ = ASBS Special Protections</b>							
<b>*additional monitoring may be required if permittee discharges to a 303(d) listed waterbody</b>							
<b>**The list of Regulated MS4s may be amended by the Executive Director consistent with the designation criteria list in the Order</b>							
<b>***CDPs located within an existing NPDES permit area within an urbanized area are not required to file for separate coverage and pay separate fees</b>							
<b>Amador County</b>							
Amador County	Amador	5S	New				Regional Board Designation
<b>Butte County</b>							
Butte County	Butte	5R	Renewal		λ		Renewal
Chico City	Butte	5R	Renewal	86,187	λ	Chico, CA Urbanized Area	Renewal
Oroville City	Butte	5R	New	15,546		Oroville, CA Urban Cluster	High Population/Density
Paradise Town	Butte		New	26,218		Paradise, CA Urban Cluster	High Population/Density
<b>Calaveras County</b>							
Calaveras County	Calaveras	5S	Renewal				Renewal
<b>Colusa County</b>							
Colusa County	Colusa	5S	New		λ		TMDL
<b>Del Norte County</b>							
Crescent City	Del Norte	1	New	7,643		Crescent City, CA Urban Cluster	Regional Board Designation
<b>El Dorado County</b>							
Cameron Park CDP	El Dorado	5S	New	18,228		Sacramento, CA Urbanized Area	Within Urbanized Area
Diamond Springs CDP	El Dorado	5S	New	11,037		Sacramento, CA Urbanized Area	Within Urbanized Area
El Dorado County	El Dorado	5S	Renewal				Renewal
El Dorado Hills CDP	El Dorado	5S	Renewal	42,108		Sacramento, CA Urbanized Area	Renewal
Placerville City	El Dorado	5S	Renewal	10,389		Placerville--Diamond Springs, CA	Renewal
<b>Fresno County</b>							
Kingsburg City	Fresno	5F	Renewal	11,382		Selma, CA Urban Cluster	Renewal
Reedley City	Fresno	5F	Renewal	24,194		Reedley--Dinuba, CA Urban Clus	Renewal
Selma City	Fresno	5F	Renewal	23,219		Selma, CA Urban Cluster	Renewal
Coalinga City	Fresno	5F	New	13,380		Coalinga, CA Urban Cluster	High Population/Density
Mendota City	Fresno	5F	New	11,014		Mendota, CA Urban Cluster	High Population/Density
Parlier City	Fresno	5F	New	14,494		Parlier, CA Urban Cluster	High Population/Density
Sanger City	Fresno	5F	New	24,270		Sanger, CA Urban Cluster	High Population/Density
<b>Humboldt County</b>							
Arcata City	Humboldt	1	Renewal	17,231		Arcata-McKinleyville, CA Urban C	Renewal

Bayview CDP	Humboldt	1	New	2,510		Eureka, CA Urban Cluster	Regional Board Designation
Cutten CDP	Humboldt	1	New	3,108		Eureka, CA Urban Cluster	Regional Board Designation
Eureka City	Humboldt	1	Renewal	27,191		Eureka, CA Urban Cluster	Renewal
Fortuna City	Humboldt	1	Renewal	11,926		Fortuna, CA Urban Cluster	Renewal
Humboldt Hill CDP	Humboldt	1	New	3,414		Eureka, CA Urban Cluster	Regional Board Designation
Humboldt County	Humboldt	1	New		Δ		ASBS
McKinleyville CDP	Humboldt	1	Renewal	15,177		Arcata-McKinleyville, CA Urban C	Renewal
Myrtle town CDP	Humboldt	1	New	4,675		Eureka, CA Urban Cluster	Regional Board Designation
Pine Hills CDP	Humboldt	1	New	3,108		Eureka, CA Urban Cluster	Regional Board Designation
Ridgewood Heights USSA	Humboldt	1	New				Regional Board Designation
Rosewood USSA	Humboldt	1	New				Regional Board Designation
Trinidad City	Humboldt	1	New	367	Δ		ASBS
<b>Imperial County</b>							
Brawley City	Imperial	7	Renewal	24,953		Brawley, CA Urban Cluster	Renewal
Calexico City	Imperial	7	Renewal	38,572		El Centro--Calexico, CA Urbanize	Renewal
El Centro City	Imperial	7	Renewal	42,598		El Centro--Calexico, CA Urbanize	Renewal
Imperial City	Imperial	7	Renewal	14,758		El Centro--Calexico, CA Urbanize	Renewal
Imperial County	Imperial	7	Renewal				Renewal
<b>Kern County</b>							
Delano City	Kern	5F	New	38,824		Delano, CA Urbanized Area	Within Urbanized Area
Ridgecrest City	Kern	6V	New	27,616		Ridgecrest, CA Urban Cluster	High Population/Density
Tehachapi City	Kern	5F	New	14,414		Tehachapi--Golden Hills, CA Urb	High Population/Density
Wasco City	Kern	5F	New	25,545		Wasco, CA Urban Cluster	High Population/Density
<b>Kings County</b>							
Hanford City	Kings	5F	Renewal	53,967	Ω	Hanford, CA Urbanized Area	Renewal
Kings County	Kings	5F	Renewal				Renewal
Lemoore City	Kings	5F	Renewal	24,531		Hanford, CA Urbanized Area	Renewal
<b>Lake County</b>							
Clearlake City	Lake	5S	Renewal	15,250	λ	Clearlake, CA Urban Cluster	Renewal
Lakeport City	Lake	5S	Renewal	4,753		Clearlake, CA Urban Cluster	Renewal
Lake County	Lake	5S	Renewal		λ		Renewal
<b>Lassen County</b>							
Susanville City	Lassen	6SLT	New	17,947		Susanville, CA Urban Cluster	High Population/Density
<b>Los Angeles County</b>							
Avalon City	Los Angeles	4	New	3,728		Avalon, CA Urban Cluster	Regional Board Designation
<b>Madera County</b>							
Bonadelle Ranchos-Madera R	Madera	5F	New	8,569	λ	Bonadelle Ranchos-Madera Ran	Within Urbanized Area
Madera Acres CDP	Madera	5F	New	9,163		Madera, CA Urbanized Area	Within Urbanized Area

Madera City	Madera	5F	Renewal	61,416	λ	Madera, CA Urbanized Area	Renewal
Madera County	Madera	5F	Renewal		λ		Renewal
Chowchilla City	Madera	5F	New	18,720		Chowchilla, CA Urban Cluster	High Population/Density
<b>Marin County</b>							
Belvedere City	Marin	2	Renewal	2,068	λ	San Francisco--Oakland, CA Urb	Renewal
Black Point-Green Point CDP	Marin	2	Renewal	1,306		San Francisco--Oakland, CA Urb	Renewal
Corte Madera Town	Marin	2	Renewal	9,253		San Francisco--Oakland, CA Urb	Renewal
Fairfax Town	Marin	2	Renewal	7,441		San Francisco--Oakland, CA Urb	Renewal
Kentfield CDP	Marin	2	New	6,485		San Francisco--Oakland, CA Urb	Within Urbanized Area
Larkspur City	Marin	2	Renewal	11,926		San Francisco--Oakland, CA Urb	Renewal
Lucas Valley-Marinwood CDP	Marin	2	Renewal	6,094		San Francisco--Oakland, CA Urb	Renewal
Marin County	Marin	2	Renewal		Δ λ		Renewal
Mill Valley City	Marin	2	Renewal	13,903	λ	San Francisco--Oakland, CA Urb	Renewal
Novato City	Marin	2	Renewal	51,904	λ	San Francisco--Oakland, CA Urb	Renewal
Ross Town	Marin	2	Renewal	2,415		San Francisco--Oakland, CA Urb	Renewal
San Anselmo Town	Marin	2	Renewal	12,336		San Francisco--Oakland, CA Urb	Renewal
San Rafael City	Marin	2	Renewal	57,713	λ	San Francisco--Oakland, CA Urb	Renewal
Sausalito City	Marin	2	Renewal	7,061	λ	San Francisco--Oakland, CA Urb	Renewal
Strawberry CDP	Marin	2	New	5,393		San Francisco--Oakland, CA Urb	Within Urbanized Area
Tamalpais-Homestead Valley	Marin	2	Renewal	10,735		San Francisco--Oakland, CA Urb	Renewal
Tiburon Town	Marin	2	Renewal	8,962	λ	San Francisco--Oakland, CA Urb	Renewal
Woodacre CDP	Marin	2	Renewal	1,348		San Francisco--Oakland, CA Urb	Renewal
<b>Mendocino County</b>							
Fort Bragg City	Mendocino	1	Renewal	7,273		Fort Bragg, CA Urban Cluster	Renewal
Mendocino County	Mendocino	1	Renewal				Renewal
Ukiah City	Mendocino	1	Renewal	16,075		Ukiah, CA Urban Cluster	Renewal
<b>Merced County</b>							
Atwater City	Merced	5F	Renewal	28,168	λ	Merced, CA Urbanized Area	Renewal
Delhi CDP	Merced	5F	Renewal	10,755	λ	Turlock, CA Urbanized Area	Renewal
Franklin CDP	Merced	5F	New	6,149		Merced, CA Urbanized Area	Within Urbanized Area
Livingston City	Merced	5F	Renewal	13,058	λ	Turlock, CA Urbanized Area	Renewal
Los Banos City	Merced	5F	Renewal	35,972	λ	Los Banos, CA Urban Cluster	Renewal
Merced City	Merced	5F	Renewal	78,958	λ	Merced, CA Urbanized Area	Renewal
Merced County	Merced	5F	Renewal		λ		Renewal
Winton CDP	Merced	5F	Renewal	10,613	λ	Merced, CA Urbanized Area	Renewal
<b>Monterey County</b>							
Carmel Valley Village CDP	Monterey	3	Renewal	4,407		Carmel Valley Village, CA Urban	Renewal
Carmel-by-the-Sea City	Monterey	3	Renewal	3,722	Δ	Seaside--Monterey, CA Urbanize	Renewal
Castroville CDP	Monterey	3	Renewal	6,481		Salinas, CA Urbanized Area	Renewal

Del Rey Oaks City	Monterey	3	Renewal	1,624		Seaside--Monterey, CA Urbanize	Renewal
Elkhorn CDP	Monterey	3	New	12,723		Salinas, CA Urbanized Area	Within Urbanized Area
Gonzalez City	Monterey	3	New	8,187			Regional Board Designation
King City City	Monterey	3	Renewal	12,874		King City, CA Urban Cluster	Renewal
Las Lomas CDP	Monterey	3	Renewal	3,024		Watsonville, CA Urbanized Area	Renewal
Marina City	Monterey	3	Renewal	19,718		Seaside--Monterey, CA Urbanize	Renewal
Monterey City	Monterey	3	Renewal	27,810	Δ	Seaside--Monterey, CA Urbanize	Renewal
Monterey County	Monterey	3	Renewal		Δλ		Renewal
Moss Landing CDP	Monterey	3	Renewal	204			Regional Board Designation
Pacific Grove City	Monterey	3	Renewal	15,041	Δ	Seaside--Monterey, CA Urbanize	Renewal
Pajaro CDP	Monterey	3	Renewal	3,070		Watsonville, CA Urbanized Area	Renewal
Prunedale CDP	Monterey	3	Renewal	17,560		Salinas, CA Urbanized Area	Renewal
Sand City City	Monterey	3	Renewal	334		Seaside--Monterey, CA Urbanize	Renewal
Seaside City	Monterey	3	Renewal	33,025		Seaside--Monterey, CA Urbanize	Renewal
Soledad City	Monterey	3	Renewal	25,738		Soledad, CA Urban Cluster	Renewal
Greenfield City	Monterey	3	New	16,330		Greenfield, CA Urban Cluster	High Population/Density
<b>Napa County</b>							
American Canyon City	Napa	2	Renewal	19,454	λ	Vallejo, CA Urbanized Area	Renewal
Calistoga City	Napa	2	Renewal	5,155	λ	Calistoga, CA Urban Cluster	Renewal
Napa City	Napa	2	Renewal	76,915	λ	Napa, CA Urbanized Area	Renewal
Napa County	Napa	2	Renewal		λ		Renewal
St. Helena City	Napa	2	Renewal	5,814	λ	St. Helena, CA Urban Cluster	Renewal
Yountville City	Napa	2	Renewal	2,933	λ	Yountville, CA Urban Cluster	Renewal
<b>Nevada County</b>							
Grass Valley City	Nevada	5S	Renewal	12,860		Grass Valley, CA Urban Cluster	Renewal
Truckee Town	Nevada	5S	Renewal	16,180	λ	Truckee, CA Urban Cluster	Renewal
<b>Placer County</b>							
Placer County (Region 6)	Placer	6	Renewal		λ		Renewal
Auburn City	Placer	5S	Renewal	13,330		Auburn--North Auburn, CA Urban	Renewal
Granite Bay CDP	Placer	5S	Renewal	20,402		Sacramento, CA Urbanized Area	Renewal
Lincoln City	Placer	5S	Renewal	42,819	λ	Sacramento, CA Urbanized Area	Renewal
Loomis Town	Placer	5S	Renewal	6,430	λ	Sacramento, CA Urbanized Area	Renewal
North Auburn CDP	Placer	5S	Renewal	13,022		Auburn--North Auburn, CA Urban	Renewal
Placer County (Region 5S)	Placer	5S	Renewal				Renewal
Rocklin City	Placer	5S	Renewal	56,974	λ	Sacramento, CA Urbanized Area	Renewal
Roseville City	Placer	5S	Renewal	118,788	λ	Sacramento, CA Urbanized Area	Renewal
<b>San Benito County</b>							
Hollister City	San Benito	3	Renewal	34,928	λ	Hollister, CA Urban Cluster	Renewal
<b>San Bernardino County</b>							



Apple Valley Town	San Bernardino	6V	Renewal	69,135	Ω	Victorville--Hesperia, CA Urbaniz	Renewal
Barstow City	San Bernardino	6V	New	22,639		Riverside--San Bernardino, CA U	Within Urbanized Area
Hesperia City	San Bernardino	6V	Renewal	90,173		Victorville--Hesperia, CA Urbaniz	Renewal
Oak Hills CDP	San Bernardino	6V	New	8,879		Victorville--Hesperia, CA Urbaniz	Within Urbanized Area
Phelan CDP	San Bernardino	6V	New	14,304		Victorville--Hesperia, CA Urbaniz	Within Urbanized Area
Spring Valley Lake CDP	San Bernardino	6V	New	8,220		Victorville--Hesperia, CA Urbaniz	Within Urbanized Area
Victorville City	San Bernardino	6V	Renewal	115,903	Ω	Victorville--Hesperia, CA Urbaniz	Renewal
San Bernardino County	San Bernardino	6V	Renewal				Renewal
<b>San Francisco County</b>							
San Francisco City (San Fran	San Francisco	2	Renewal			San Francisco--Oakland, CA Urb	Renewal
San Francisco City (Port of Sa	San Francisco	2	Renewal			San Francisco--Oakland, CA Urb	Renewal
<b>San Joaquin County</b>							
Escalon City	San Joaquin	5S	New	7,132		Stockton, CA Urbanized Area	New
Lathrop City	San Joaquin	5S	Renewal	18,023	λ	Manteca, CA Urbanized Area	Renewal
Lathrop City	San Joaquin	5S	Renewal	18,023	λ	Stockton, CA Urbanized Area	Renewal
Lodi City	San Joaquin	5S	Renewal	62,134	λ	Lodi, CA Urbanized Area	Renewal
Manteca City	San Joaquin	5S	Renewal	347	λ	Stockton, CA Urbanized Area	Renewal
Manteca City	San Joaquin	5S	Renewal	67,096	Ω	Manteca, CA Urbanized Area	Renewal
Ripon City	San Joaquin	5S	Renewal	14,297	λ	Manteca, CA Urbanized Area	Renewal
San Joaquin County	San Joaquin	5S	Renewal		λ		Renewal
Tracy City	San Joaquin	5S	Renewal	82,922	λ	Tracy, CA Urbanized Area	Renewal
Woodbridge CDP	San Joaquin	5S	Renewal	3,984		Lodi, CA Urbanized Area	Renewal
<b>San Luis Obispo County</b>							
Arroyo Grande City	San Luis Obispo	3	Renewal	17,252		Arroyo Grande--Grover Beach, C	Renewal
Atascadero City	San Luis Obispo	3	Renewal	28,310		El Paso de Robles (Paso Robles	Renewal
Blacklake CDP	San Luis Obispo	3	New	930		Nipomo, CA Urban Cluster	Regional Board Designation
Cambria	San Luis Obispo	3	Renewal	6,032		Cambria, CA Urban Cluster	Renewal
Cayucos CDP	San Luis Obispo	3	New	2,592		Morro Bay--Los Osos, CA Urban	Regional Board Designation
El Paso de Robles (Paso Rob	San Luis Obispo	3	Renewal	29,793		El Paso de Robles (Paso Robles	Renewal
Grover Beach City	San Luis Obispo	3	Renewal	13,156		Arroyo Grande--Grover Beach, C	Renewal
Lake Nacimiento CDP	San Luis Obispo	3	New	2,411			Regional Board Designation
Morro Bay City	San Luis Obispo	3	Renewal	10,234	λ	Morro Bay--Los Osos, CA Urban	Renewal
Nipomo CDP	San Luis Obispo	3	Renewal	16,714		Nipomo, CA Urban Cluster	Renewal
Pismo Beach City	San Luis Obispo	3	Renewal	7,655		Arroyo Grande--Grover Beach, C	Renewal
San Luis Obispo City	San Luis Obispo	3	Renewal	45,119	λ	San Luis Obispo, CA Urbanized /	Renewal
San Luis Obispo County	San Luis Obispo	3	Renewal		λ		Renewal
San Miguel	San Luis Obispo	3	New	2,336			Regional Board Designation
Shandon CDP	San Luis Obispo	3	New	1,295			Regional Board Designation
<b>Santa Barbara County</b>							

Buellton City	Santa Barbara	3	Renewal	4,828		Solvang--Buellton--Santa Ynez, C	Renewal
Carpinteria City	Santa Barbara	3	New	13,040		Santa Barbara, CA Urbanized Ar	Within Urbanized Area
Goleta City	Santa Barbara	3	Renewal	29,888		Santa Barbara, CA Urbanized Ar	Renewal
Guadalupe City	Santa Barbara	3	New	7,080		Guadalupe, CA Urban Cluster	Regional Board Designation
Hope Ranch CDP	Santa Barbara	3	New				Regional Board Designation
Isla Vista CDP	Santa Barbara	3	Renewal	23,096		Santa Barbara, CA Urbanized Ar	Renewal
Lompoc City	Santa Barbara	3	Renewal	42,434		Lompoc, CA Urbanized Area	Renewal
Los Olivos CDP	Santa Barbara	3	Renewal	1,132		Solvang--Buellton--Santa Ynez, C	Renewal
Mission Canyon CDP	Santa Barbara	3	New	2,381			Regional Board Designation
Mission Hills CDP	Santa Barbara	3	New	3,576			Regional Board Designation
Montecito CDP	Santa Barbara	3	New	8,965		Santa Barbara, CA Urbanized Ar	Within Urbanized Area
Orcutt CDP	Santa Barbara	3	Renewal	28,905		Santa Maria, CA Urbanized Area	Renewal
Santa Barbara City	Santa Barbara	3	Renewal	88,410	Ω	Santa Barbara, CA Urbanized Ar	Renewal
Santa Barbara County	Santa Barbara	3	Renewal				Renewal
Santa Maria City	Santa Barbara	3	Renewal	99,553	Ω	Santa Maria, CA Urbanized Area	Renewal
Santa Ynez CDP	Santa Barbara	3	Renewal	4,418		Solvang--Buellton--Santa Ynez, C	Renewal
Solvang City	Santa Barbara	3	Renewal	5,245		Solvang--Buellton--Santa Ynez, C	Renewal
Summerland CDP	Santa Barbara	3	Renewal	1,448		Santa Barbara, CA Urbanized Ar	Renewal
Toro Canyon CDP	Santa Barbara	3	New	1,508			Regional Board Designation
Vandenberg Village CDP	Santa Barbara	3	Renewal	6,497		Lompoc, CA Urbanized Area	Renewal
<b>Santa Clara County</b>							
Gilroy City	Santa Clara	3	Renewal	48,821	λ	Gilroy--Morgan Hill, CA Urbanize	Renewal
Morgan Hill City	Santa Clara	3	Renewal	37,882	λ	Gilroy--Morgan Hill, CA Urbanize	Renewal
San Martin CDP	Santa Clara	3	Renewal	7,027		Gilroy--Morgan Hill, CA Urbanize	Renewal
Santa Clara County	Santa Clara	3	Renewal		λ		Renewal
<b>Santa Cruz County</b>							
Aptos CDP	Santa Cruz	3	Renewal	6,220		Santa Cruz, CA Urbanized Area	Renewal
Ben Lomond CDP	Santa Cruz	3	New	6,234		Santa Cruz, CA Urbanized Area	Within Urbanized Area
Capitola City	Santa Cruz	3	Renewal	9,918		Santa Cruz, CA Urbanized Area	Renewal
Interlaken CDP	Santa Cruz	3	New	7,321		Watsonville, CA Urbanized Area	Within Urbanized Area
Live Oak CDP	Santa Cruz	3	New	17,158		Santa Cruz, CA Urbanized Area	Regional Board Designation
Pleasure Point CDP	Santa Cruz	3	New	5846		Santa Cruz, CA Urbanized Area	Within Urbanized Area
Rio del Mar CDP	Santa Cruz	3	New	9,216		Santa Cruz, CA Urbanized Area	Within Urbanized Area
Santa Cruz City	Santa Cruz	3	Renewal	59,946	λ	Santa Cruz, CA Urbanized Area	Renewal
Santa Cruz County	Santa Cruz	3	Renewal		λ		Renewal
Scotts Valley City	Santa Cruz	3	Renewal	11,580	λ	Santa Cruz, CA Urbanized Area	Renewal
Soquel CDP	Santa Cruz	3	New	9,644		Santa Cruz, CA Urbanized Area	Within Urbanized Area
Watsonville City	Santa Cruz	3	Renewal	51,199	λ	Watsonville, CA Urbanized Area	Renewal
<b>Shasta County</b>							

Anderson City	Shasta	5R	New	9,932	λ	Redding, CA Urbanized Area	Renewal
Redding City	Shasta	5R	New	89,861	λ	Redding, CA Urbanized Area	Renewal
Shasta County	Shasta	5R	New		λ		Renewal
Shasta Lake City	Shasta	5R	New	10,164		Redding, CA Urbanized Area	Renewal
<b>Siskiyou County</b>							
Yreka City	Siskiyou	1	New	7,765	λ	Yreka, CA Urban Cluster	TMDL
<b>Solano County</b>							
Benicia City	Solano	2	Renewal	26,997		Vallejo, CA Urbanized Area	Renewal
Solano County (Region 2)	Solano	2	Renewal		λ		Renewal
Dixon City	Solano	5S	Renewal	18,351	λ	Dixon, CA Urban Cluster	Renewal
Rio Vista City	Solano	5S	Renewal	7,360	λ	Rio Vista, CA Urban Cluster	Renewal
Solano County (Region 5S)	Solano	5S	Renewal		λ		Renewal
Vacaville City	Solano	5S	Renewal	92,428	λ	Fairfield, CA Urbanized Area	Renewal
Vacaville City	Solano	5S	Renewal	92,428	Ω	Vacaville, CA Urbanized Area	Renewal
<b>Sonoma County</b>							
Cloverdale City	Sonoma	1	New	8,618		Cloverdale, CA Urban Cluster	Regional Board Designation
Cotati City	Sonoma	1	Renewal	7,265	λ	Santa Rosa, CA Urbanized Area	Renewal
Forestville CDP	Sonoma	1	New	3,293		Forestville, CA Urban Cluster	Regional Board Designation
Guerneville CDP	Sonoma	1	New	4,534		Guerneville, CA Urban Cluster	Regional Board Designation
Healdsburg City	Sonoma	1	Renewal	11,254		Santa Rosa, CA Urbanized Area	Renewal
Monte Rio	Sonoma	1	New	1,152		Guerneville, CA Urban Cluster	Regional Board Designation
Occidental CDP	Sonoma	1	New	1,115			Regional Board Designation
Rohnert Park City	Sonoma	1	Renewal	40,971	λ	Santa Rosa, CA Urbanized Area	Renewal
Sebastopol City	Sonoma	1	Renewal	7,379	λ	Santa Rosa, CA Urbanized Area	Renewal
Windsor Town	Sonoma	1	Renewal	26,801	λ	Santa Rosa, CA Urbanized Area	Renewal
Petaluma City	Sonoma	2	Renewal	57,941	λ	Petaluma, CA Urbanized Area	Renewal
Sonoma City	Sonoma	2	Renewal	10,648	λ	Sonoma, CA Urban Cluster	Renewal
Sonoma County and Sonoma	Sonoma	1&2	Renewal		λ		Renewal
<b>Stanislaus County</b>							
Bret Harte CDP	Stanislaus	5S	New	5,152		Modesto, CA Urbanized Area	Within Urbanized Area
Ceres City	Stanislaus	5S	Renewal	45,417	λ	Modesto, CA Urbanized Area	Renewal
Empire CDP	Stanislaus	5S	Renewal	4,189	λ	Modesto, CA Urbanized Area	Renewal
Hughson City	Stanislaus	5S	Renewal	6,640	λ	Modesto, CA Urbanized Area	Renewal
Keyes CDP	Stanislaus	5S	Renewal	5,601	λ	Modesto, CA Urbanized Area	Renewal
Oakdale City	Stanislaus	5S	Renewal	20,675	λ	Modesto, CA Urbanized Area	Renewal
Patterson City	Stanislaus	5S	Renewal	20,413	λ	Patterson, CA Urban Cluster	Renewal
Riverbank City	Stanislaus	5S	Renewal	22,678	λ	Modesto, CA Urbanized Area	Renewal
Salida CDP	Stanislaus	5S	Renewal	13,722	λ	Modesto, CA Urbanized Area	Renewal
Stanislaus County	Stanislaus	5S	Renewal		λ		Renewal

Turlock City	Stanislaus	5S	Renewal	68,549	λ	Turlock, CA Urbanized Area	Renewal
West Modesto CDP	Stanislaus	5S	New	5,682		Modesto, CA Urbanized Area	Within Urbanized Area
Newman City	Stanislaus	5S	New	10,224		Newman, CA Urban Cluster	High Population/Density
<b>Sutter County</b>							
Live Oak	Sutter	5S	New	8,392	λ	Live Oak (Sutter County), CA Urb	TMDL
Sutter County	Sutter	5S	Renewal		λ		Renewal
Yuba City City	Sutter	5S	Renewal	64,925	λ	Yuba City, CA Urbanized Area	Renewal
<b>Tehama County</b>							
Red Bluff City	Tehama	5R	New	14,076	λ	Red Bluff, CA Urban Cluster	High Population/Density
<b>Tulare County</b>							
East Porterville CDP	Tulare	5F	New	6,767		Porterville, CA Urbanized Area	Within Urbanized Area
Exeter City	Tulare	5F	Renewal	10,334		Visalia, CA Urbanized Area	Renewal
Farmersville City	Tulare	5F	Renewal	10,588		Visalia, CA Urbanized Area	Renewal
Goshen CDP	Tulare	5F	Renewal	3,006		Visalia, CA Urbanized Area	Renewal
Porterville City	Tulare	5F	Renewal	54,165	Ω	Porterville, CA Urbanized Area	Renewal
Strathmore CDP	Tulare	5F	Renewal	2,819		Porterville, CA Urbanized Area	Renewal
Tulare City	Tulare	5F	Renewal	59,278	Ω	Visalia, CA Urbanized Area	Renewal
Tulare County	Tulare	5F	Renewal		λ		Renewal
Visalia City	Tulare	5F	Renewal	124,442	Ω	Visalia, CA Urbanized Area	Renewal
Dinuba City	Tulare	5F	New	21,453		Reedley--Dinuba, CA Urban Clus	High Population/Density
<b>Yolo County</b>							
Davis City	Yolo	5S	Renewal	65,622	λ	Davis, CA Urbanized Area	Renewal
UC Davis CDP	Yolo	5S	New	5,786		Davis, CA Urbanized Area	Within Urbanized Area
West Sacramento City	Yolo	5S	Renewal	48,744	λ	Sacramento, CA Urbanized Area	Renewal
Woodland City	Yolo	5S	Renewal	55,468	λ	Woodland, CA Urbanized Area	Renewal
Yolo County	Yolo	5S	Renewal		λ		Renewal
<b>Yuba County</b>							
Linda CDP	Yuba	5S	Renewal	17,773	λ	Yuba City, CA Urbanized Area	Renewal
Marysville City	Yuba	5S	Renewal	12,072	λ	Yuba City, CA Urbanized Area	Renewal
Olivehurst CDP	Yuba	5S	Renewal	13,656	λ	Yuba City, CA Urbanized Area	Renewal
Yuba County	Yuba	5S	Renewal		λ		Renewal

**Draft Attachment B - Non-Traditional Small MS4 Permittees**

Region	Permittee Name	Agency	Designation Criteria	Permittee Type	Monitoring Type
Monitoring Type: Δ = Areas of Special Biological Significance Special Protections					
*The list of Regulated MS4s in this Attachment may be amended by the Executive Director consistent with the designation criteria listed in the Order. Revised 2/19/13 to change Agency to Department of Homeland Security for Petaluma Coast Guard Training Center and Alameda Coast Guard Integrated Support Command, removed VA Northern CA Healthcare Systems and Martinez Center for Rehab and Extended.					
<b>North Coast Regional Water Board</b>					
1	Sonoma State University	California State University	Within Urbanized Area	New	
1	Caspar Headlands SB	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Caspar Headlands SR	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Del Norte Coast Redwoods SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Humboldt Lagoons SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Jug Handle SR	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Mendocino Headlands SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Mill Creek Property	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Patrick's Point SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Pelican SB	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Point Cabrillo Light Station Property	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Prairie Creek Redwoods SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Sinkyone Wilderness SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Tolowa Dunes SP	Parks and Recreation, Dept. of	ASBS	New	Δ
1	Trinidad SB	Parks and Recreation, Dept. of	ASBS	New	Δ

1	Petaluma Coast Guard Training Center	Homeland Security, Department of	Regional Board Designation	New	
<b>San Francisco Regional Water Board</b>					
2	San Jose Airport	Airport	Regional Board Designation	New	
2	FCI Dublin	Bureau of Prisons	Within Urbanized Area	New	
2	California State University Maritime	California State University	Within Urbanized Area	New	
2	California State University East Bay - Hayward Campus	California State University	Within Urbanized Area	New	
2	California State University East Bay - Concord Campus	California State University	Within Urbanized Area	New	
2	San Jose State University	California State University	Within Urbanized Area	New	
2	San Quentin State Prison	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
2	Travis Air Force Base	Defense, Department of	Within Urbanized Area	New	
2	Agnews Developmental Center East & West	Developmental Services, Dept of	Within Urbanized Area	New	
2	Sonoma Development Center	Developmental Services, Dept of.	Renewal	Renewal	
2	Sonoma-Marin Fair	District Agricultural Association	Within Urbanized Area	New	
2	Napa County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
2	Montara SB	Parks and Recreation, Dept. of	ASBS	New	
2	Port of Oakland	Port	Regional Board Designation	New	
2	Port of Redwood City	Port	Regional Board Designation	New	
2	AMTRAK	Special District	Regional Board Designation	New	
2	Bay Area Rapid Transit	Special District	Regional Board Designation	New	
2	CalTrain	Special District	Regional Board Designation	New	
2	Golden Gate Bridge, Highway and Transportation District	Special District	Regional Board Designation	New	

2	Valley Transit Authority (VTA)	Special District	Regional Board Designation	New	
2	Alameda Coast Guard Integrated Support Command	Homeland Security, Department of	Regional Board Designation	New	
2	University of California Berkeley	University of California	Within Urbanized Area	New	
2	The University of California, San Francisco	University of California	Within Urbanized Area	New	
<b>Central Coast Regional Water Board</b>					
3	USP Lompoc	Bureau of Prisons	Within Urbanized Area	New	
3	FCI Lompoc	Bureau of Prisons	Within Urbanized Area	New	
3	California Polytechnic State University	California State University	Within Urbanized Area	New	
3	California State University Monterey Bay	California State University	Within Urbanized Area	New	
3	Los Osos Community Services District	Community Services District	Renewal	Renewal	
3	Oceano Community Services District	Community Services District	Renewal	Renewal	
3	Templeton Community Services District	Community Services District	Renewal	Renewal	
3	California Men's Colony	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
3	Fort Hunter Ligget, Army Garrison	Defense, Department of	Regional Board Designation	New	
3	US Army Presidio of Monterey; includes Defense Language Institute	Defense, Department of	Within Urbanized Area	New	
3	Vandenberg AFB	Defense, Department of	Renewal	Renewal	
3	Monterey County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
3	Santa Maria Fairpark	District Agricultural Association	Within Urbanized Area	New	
3	Santa Cruz County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
3	Earl Warren Showgrounds (National Horse Show)	District Agricultural Association	Within Urbanized Area	New	
3	San Luis Obispo County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	

3	Fort Ord Reuse Authority	Local Agency	Regional Board Designation	New	
3	Ano Nuevo SP	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Ano Nuevo SR	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Carmel River SB	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Julia Pfeiffer Burns SP	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Oceano Dunes SVRA	Parks and Recreation, Dept. of	Within Urbanized Area	New	
3	Pismo SB	Parks and Recreation, Dept. of	Within Urbanized Area	New	
3	Point Lobos SR	Parks and Recreation, Dept. of	ASBS	New	Δ
3	Carpinteria Unified School District	School District, Carpinteria Unified	Renewal	Renewal	
3	University of California, Santa Barbara	University of California	Renewal	Renewal	
3	University of California, Santa Cruz	University of California	Renewal	Renewal	
<b>Los Angeles Regional Water Board</b>					
4	FCI Terminal Island	Bureau of Prisons	Within Urbanized Area	New	
4	CCM Long Beach	Bureau of Prisons	Within Urbanized Area	New	
4	California State University Los Angeles	California State University	Within Urbanized Area	New	
4	California State University Northridge	California State University	Within Urbanized Area	New	
4	California State University Channel Islands	California State University	Within Urbanized Area	New	
4	California State University Long Beach	California State University	Within Urbanized Area	New	
4	California State Polytechnic University, Pomona	California State University	Within Urbanized Area	New	
4	California State University Dominguez Hills	California State University	Within Urbanized Area	New	
4	Naval Base Ventura County; includes Port Hueneme and Point Mugu	Defense, Department of	Within Urbanized Area	New	



4	Lanterman Developmental Center	Developmental Services, Dept of	Within Urbanized Area	New	
4	Ventura County Fairgrounds (Seaside Park and Ventura County Fairgrounds)	District Agricultural Association	Within Urbanized Area	New	
4	Point Dume SB	Parks and Recreation, Dept. of	ASBS	New	Δ
4	Point Mugu SP	Parks and Recreation, Dept. of	ASBS	New	Δ
4	Robert H. Meyer Memorial SB	Parks and Recreation, Dept. of	ASBS	New	Δ
4	UCLA	University of California	Within Urbanized Area	New	
4	Long Beach VA Medical Center	Veteran Affairs	Within Urbanized Area	New	
4	VA Greater Los Angeles Healthcare System (GLA)	Veteran Affairs	Within Urbanized Area	New	
<b>Central Valley Regional Water Board</b>					
5F	USP Atwater	Bureau of Prisons	Within Urbanized Area	New	
5F	California State University Bakersfield	California State University	Within Urbanized Area	New	
5F	Porterville Developmental Center	Developmental Services, Dept of	Within Urbanized Area	New	
5F	Madera County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	Kern County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	Tulare County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	Kings County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	The Big Fresno Fair	District Agricultural Association	Within Urbanized Area	New	
5F	Merced County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5F	University of California, Merced	University of California	Within Urbanized Area	New	
5F	Lemoore NAS	Defense, Department of	Within Urbanized Area	New	
5R	California State University Chico	California State University	Within Urbanized Area	New	

5R	Silver Dollar Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5R	Shasta County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5R	Carnegie State Vehicular Recreation Area	Parks and Recreation, Dept. of	Within Urbanized Area	New	
5S	California State University Sacramento	California State University	Renewal	Renewal	
5S	California State University Stanislaus	California State University	Within Urbanized Area	New	
5S	Rancho Murieta Community Services District	Community Services District	Renewal	Renewal	
5S	Mountain House Community Services District	Community Services District	Renewal	Renewal	
5S	Cosumnes Community Services District	Community Services District	Renewal	Renewal	
5S	CSP, Solano County	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	Deuel Vocational Institution	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	Folsom State Prison	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	CSP, Sacramento	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	California Medical Facility	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
5S	Contra Costa County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	Sutter County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	Yolo County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	Stanislaus County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	San Joaquin County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
5S	California Exposition & State Fair	Exposition & State Fair, California	Renewal	Renewal	
5S	Elk Grove Unified School District	School District, Elk Grove Unified	Renewal	Renewal	

5S	Tracy Joint Unified School District	School District, Tracy Joint Unified	Renewal	Renewal	
5S	The University of California, Davis	University of California	Renewal	Renewal	
5S	Sacramento Medical Center at Mather	Veteran Affairs	Within Urbanized Area	New	

**Lahontan Regional Water Board**

6V	FCI Victorville	Bureau of Prisons	Within Urbanized Area	New	
6V	San Bernardino County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	

**Santa Ana Regional Water Board**

8	Los Alamitos AFRC	California Army National Guard	Within Urbanized Area	New	
8	California State University Fullerton	California State University	Within Urbanized Area	New	
8	California State University San Bernardino	California State University	Within Urbanized Area	New	
8	California Institution for Men	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
8	California Institution for Women	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
8	California Rehabilitation Center	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
8	Fairview Developmental Center	Developmental Services, Dept of.	Within Urbanized Area	New	
8	March Air Force Base	Department of Defense	Regional Board Designation	New	
8	Orange County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
8	Crystal Cove SP	Parks and Recreation, Dept. of	ASBS	New	Δ
8	University of California, Irvine	University of California	Within Urbanized Area	New	
8	University of California, Riverside	University of California	Within Urbanized Area	New	
8	Jerry L. Pettis Memorial VA Medical Center	Veteran Affairs	Within Urbanized Area	New	

<b>San Diego Regional Water Board</b>					
9	MCC San Diego	Bureau of Prisons	Within Urbanized Area	New	
9	San Diego State University	California State University	Within Urbanized Area	New	
9	California State University San Marcos	California State University	Within Urbanized Area	New	
9	R J Donovan Correctional Facility at Rock Mountain	Corrections and Rehabilitation, Dept of	Within Urbanized Area	New	
9	Miramar Marine Corps Air Station	Defense, Department of	Regional Board Designation	New	
9	Camp Pendleton	Defense, Department of	Within Urbanized Area	New	
9	Del Mar Fairgrounds	District Agricultural Association	Renewal	Renewal	
9	San Diego County Fairgrounds	District Agricultural Association	Within Urbanized Area	New	
9	North County Transit District (NCTD)	Transportation Agency	Regional Board Designation	New	
9	University of California, San Diego	University of California	Within Urbanized Area	New	
9	VA San Diego Healthcare System	Veteran Affairs	Within Urbanized Area	New	

### **Special Conditions (Specific Provisions) for Traditional and Non-Traditional Small MS4 ASBS Discharges**

---

All Traditional and Non-traditional Small MS4 Permittees that discharge to ASBS as listed in Attachment D have been granted an exception to the Ocean Plan and shall comply with the following Special Protections requirements. Special Protections for Areas of Special Biological Significance, Governing Point Source Discharges of Storm Water and Nonpoint Source Waste Discharges (Attachment B to State Water Board Resolution 2012-0001) (Special Protections).

The Special Protections for Areas of Special Biological Significance require submittal of Compliance Plans to be included in a SWMP. However, SWMPs are no longer required for submittal by this Order. As such, Permittees shall submit a stand-alone Compliance Plan document for ASBS discharges and submit per the Special Conditions compliance schedule, through their online Annual Report.

#### **I. PROVISIONS FOR POINT SOURCE DISCHARGES OF STORM WATER**

The following terms, prohibitions, and special conditions (hereafter collectively referred to as special conditions) are established as limitations on point source storm water. These special conditions provide Special Protections for marine aquatic life and natural water quality in Areas of Special Biological Significance (ASBS), as required for State Water Quality Protection Areas pursuant to California Public Resources Code Sections 36700(f) and 36710(f). These Special Protections are adopted by the State Water Board as part of the California Ocean Plan (Ocean Plan) General Exception.

#### **A. PERMITTED POINT SOURCE DISCHARGES OF STORM WATER**

1. General Provisions for Permitted Point Source Discharges of Storm Water
  - a. Existing storm water discharges into an ASBS are allowed only under the following conditions:
    - (1) The discharges are authorized by this Order;
    - (2) The discharges comply with all of the applicable terms, prohibitions, and special conditions contained in the Special Protections as laid out in this Attachment; and
    - (3) The discharges:
      - (i) Are essential for flood control or slope stability, including roof, landscape, road, and parking lot drainage;
      - (ii) Are designed to prevent soil erosion;
      - (iii) Occur only during wet weather;
      - (iv) Are composed of only storm water runoff.
  - b. Discharges composed of storm water runoff shall not alter natural ocean water quality in an ASBS.

- c. The discharge of trash is prohibited.
- d. Only discharges from existing storm water outfalls are allowed. Any proposed or new storm water runoff discharge shall be routed to existing storm water discharge outfalls and shall not result in any new contribution of waste to an ASBS (i.e., no additional pollutant loading). "Existing storm water outfalls" are those that were constructed or under construction prior to January 1, 2005. "New contribution of waste" is defined as any addition of waste beyond what would have occurred as of January 1, 2005. A change to an existing storm water outfall, in terms of re-location or alteration, in order to comply with these special conditions, is allowed and does not constitute a new discharge.
- e. Non-storm water discharges are prohibited except as provided below:
  - (1) The term "non-storm water discharges" means any waste discharges from a municipal separate storm sewer system (MS4) or other NPDES permitted storm drain system to an ASBS that are not composed entirely of storm water.
  - (2) The following non-storm water discharges are allowed, provided that the discharges are essential for emergency response purposes, structural stability, slope stability or occur naturally:
    - (i) Discharges associated with emergency firefighting operations.
    - (ii) Foundation and footing drains.
    - (iii) Water from crawl space or basement pumps.
    - (iv) Hillside dewatering.
    - (v) Naturally occurring groundwater seepage via a storm drain.
    - (vi) Non-anthropogenic flows from a naturally occurring stream via a culvert or storm drain, as long as there are no contributions of anthropogenic runoff.
  - (3) Discharges from utility vaults and underground structures to a segment of the MS4 with a direct discharge to an ASBS are permitted if such discharges are authorized by the General NPDES Permit for Discharges from Utility Vaults and Underground Structures to Surface Water, NPDES No. CAG 990002. Other short-duration, intermittent non-storm water discharges related to utilities (e.g. groundwater dewatering, potable water system flushing, hydrotest discharges) to a segment of the MS4 with a direct discharge to an ASBS are permitted if such discharges are authorized by an NPDES permit issued by the relevant Regional Water Board. A Regional Water Board may nonetheless prohibit a specific discharge from a utility vault or underground structure or other specific utility-related discharge if it determines that the discharge is causing the MS4 discharge to the ASBS to alter natural ocean water quality in the

ASBS. Additional non-storm water discharges to a segment of the MS4 with a direct discharge to an ASBS are allowed only to the extent the relevant Regional Water Board finds that the discharge does not alter natural ocean water quality in the ASBS.

This provision does not supersede the authority of the MS4 to effectively prohibit a non-storm water discharge that has been found to alter natural ocean water quality in the ASBS.

- (4) Authorized non-storm water discharges shall not cause or contribute to a violation of the water quality objectives in Chapter II of the Ocean Plan nor alter natural ocean water quality in an ASBS.

2. Compliance Plans for Inclusion in Storm Water Management Plans (SWMP) and Storm Water Pollution Prevention Plans (SWPPP)

The Permittee shall specifically address the prohibition of non-storm water runoff and the requirement to maintain natural water quality for storm water discharges to an ASBS in an ASBS Compliance Plan to be submitted to the appropriate Regional Water Board. The ASBS Compliance Plan is subject to approval by the Executive Director of the State Water Board.

- a. The Compliance Plan shall include a map of surface drainage of storm water runoff, showing areas of sheet runoff, prioritize discharges, and describe any structural Best Management Practices (BMPs) already employed and/or BMPs to be employed in the future. Priority discharges are those that pose the greatest water quality threat and which are identified to require installation of structural BMPs. The map shall also show the storm water conveyances in relation to other features such as service areas, sewage conveyances and treatment facilities, landslides, areas prone to erosion and waste and hazardous material storage areas, if applicable. The SWMP or SWPPP shall also include a procedure for updating the map and plan when changes are made to the storm water conveyance facilities.
- b. The ASBS Compliance Plan shall describe the measures by which all non-authorized non-storm water runoff (e.g., dry weather flows) has been eliminated, how these measures will be maintained over time, and how these measures are monitored and documented.
- c. The ASBS Compliance Plan shall require minimum inspection frequencies as follows:
  - (1) The minimum inspection frequency for construction sites shall be weekly during rainy season;
  - (2) The minimum inspection frequency for industrial facilities shall be monthly during the rainy season;
  - (3) The minimum inspection frequency for commercial facilities (e.g., restaurants) shall be twice during the rainy season;

- (4) Storm water outfall drains equal to or greater than 18 inches (457 mm) in diameter or width shall be inspected once prior to the beginning of the rainy season and once during the rainy season and maintained to remove trash and other anthropogenic debris.
- d. The ASBS Compliance Plan shall address storm water discharges (wet weather flows) and, in particular, describe how pollutant reductions in storm water runoff, that are necessary to comply with these special conditions, will be achieved through BMPs. Structural BMPs need not be installed if the Permittee can document to the satisfaction of the State Water Board Executive Director that such installation would pose a threat to health or safety. BMPs to control storm water runoff discharges (at the end-of-pipe) during a design storm shall be designed to achieve on average the following target levels:
    - (1) Table B Instantaneous Maximum Water Quality Objectives in Chapter II of the Ocean Plan; or
    - (2) A 90% reduction in pollutant loading during storm events, for the Permittee's total discharges. The baseline for the reduction is the effective date of the Exception. The baseline for these determinations is the effective date of the Exception, and the reductions must be achieved and documented within six (6) years of the effective date.
  - e. The ASBS Compliance Plan shall address erosion control and the prevention of anthropogenic sedimentation in ASBS. The natural habitat conditions in the ASBS shall not be altered as a result of anthropogenic sedimentation.
  - f. The ASBS Compliance Plan shall describe the non-structural BMPs currently employed and planned in the future (including those for construction activities), and include an implementation schedule. The ASBS Compliance Plan shall include non-structural BMPs that address public education and outreach. Education and outreach efforts must adequately inform the public that direct discharges of pollutants from private property not entering an MS4 are prohibited. The ASBS Compliance Plan shall also describe the structural BMPs, including any low impact development (LID) measures, currently employed and planned for higher threat discharges and include an implementation schedule. To control storm water runoff discharges (at the end-of-pipe) during a design storm, permittees must first consider using LID practices to infiltrate, use, or evapotranspire storm water runoff on-site.
  - g. The BMPs and implementation schedule shall be designed to ensure that natural water quality conditions in the receiving water are achieved and maintained by either reducing flows from impervious surfaces or reducing pollutant loading, or some combination thereof.
  - h. If the results of the receiving water monitoring described in Section IV. B. below indicate that the storm water runoff is causing or contributing to an alteration of natural ocean water quality in the ASBS, the Permittee shall submit a report to the State Water Board and Regional Water Board within 30 days of receiving the results.



- (1) The report shall identify the constituents in storm water runoff that alter natural ocean water quality and the sources of these constituents.
- (2) The report shall describe BMPs that are currently being implemented, BMPs that are identified in the ASBS Compliance Plan for future implementation, and any additional BMPs that may be added to the ASBS Compliance Plan to address the alteration of natural water quality. The report shall include a new or modified implementation schedule for the BMPs.
- (3) Within 30 days of the approval of the report by the State Water Board Executive Director, the Permittee shall revise its ASBS Compliance Plan to incorporate any new or modified BMPs that have been or will be implemented, the implementation schedule, and any additional monitoring required.
- (4) As long as the Permittee has complied with the procedures described above and is implementing the revised ASBS Compliance Plan, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of natural ocean water quality conditions due to the same constituent.
- (5) Compliance with this section does not excuse violations of any term, prohibition, or condition contained in the Special Protections.

### 3. Compliance Schedule

- a. On the effective date of the Exception, all non-authorized non-storm water discharges (e.g., dry weather flow) are effectively prohibited.
- b. Within 18 months from the effective date of the Exception, the Permittee shall submit a written ASBS Compliance Plan to the State Water Board Executive Director that describes its strategy to comply with these special conditions, including the requirement to maintain natural water quality in the affected ASBS. The ASBS Compliance Plan shall include a time schedule to implement appropriate non-structural and structural controls (implementation schedule) to comply with these special conditions.
- c. Within 18 months of the effective date of the Exception, any non-structural controls that are necessary to comply with these special conditions shall be implemented.
- d. Within six (6) years of the effective date of the Exception, any structural controls identified in the ASBS Compliance Plan that are necessary to comply with these special conditions shall be operational.
- e. Within six (6) years of the effective date of the Exception, all Permittees must comply with the requirement that their discharges into the affected ASBS maintain natural ocean water quality. If the initial results of post-storm receiving water quality testing indicate levels higher than the 85th percentile threshold of reference water quality data and the pre-storm receiving water levels, then the Permittee must re-sample the receiving water, pre- and post-storm. If after re-sampling the post-storm levels are still higher than the 85th percentile threshold of reference water quality data, and the pre-storm receiving water levels, for any constituent, then natural ocean water quality is exceeded. See attached Flowchart Section C.

- f. The Executive Director of the State Water Board may only authorize additional time to comply with the special conditions d. and e., above if good cause exists to do so. Good cause means a physical impossibility or lack of funding.

If a Permittee claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the Permittee first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in d. or e. The notice shall describe the reason for the noncompliance or anticipated noncompliance and specifically refer to this Section of this Exception. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Permittee to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Permittee shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality.

The Permittee may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. for Traditional Small MS4s, a demonstration of significant hardship to Permittee ratepayers, by showing the relationship of storm water fees to annual household income for residents within the Permittee's jurisdictional area, and the Permittee has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate; or
2. for Non-Traditional Small MS4s, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process.

## **II. ADDITIONAL REQUIREMENTS FOR PARKS AND RECREATION FACILITIES**

In addition to the provisions in Section I (A) a Permittee with parks and recreation facilities shall comply with the following:

- A. The Permittee shall include a section in an ASBS Compliance Plan to address storm water runoff from parks and recreation facilities.
  1. The Section shall identify all pollutant sources, including sediment sources, which may result in waste entering storm water runoff. Pollutant sources include, but are not limited to, roadside rest areas and vistas, picnic areas, campgrounds, trash receptacles, maintenance facilities, park personnel housing, portable toilets, leach fields, fuel tanks, roads, piers, and boat launch facilities.
  2. The Section shall describe BMPs or Management Measures/Practices that will be implemented to control soil erosion (both temporary and permanent erosion controls) and reduce or eliminate pollutants in storm water runoff in order to achieve and maintain natural water quality conditions in the affected ASBS. The plan shall include BMPs or Management Measures/Practices to ensure that trails and culverts are maintained to prevent erosion and minimize waste discharges to ASBS.

3. The Section shall include BMPs or Management Measures/Practices to prevent the discharge of pesticides or other chemicals, including agricultural chemicals, in storm water runoff to the affected ASBS.
  4. The Section shall include BMPs or Management Measures/Practices that address public education and outreach. The goal of these BMPs or Management Measures/Practices is to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in in the Special Protections as laid out in this Attachment . The BMPs or Management Measures/Practices shall include signage at camping, picnicking, beach and roadside parking areas, and visitor centers, or other appropriate measures, which notify the public of any applicable requirements of the Special Protections as laid out in this Attachment and identify the ASBS boundaries.
  5. The Section shall include BMPs or Management Measures/Practices that address the prohibition against the discharge of trash to ASBS. The BMPs or Management Measures/Practices shall include measures to ensure that adequate trash receptacles are available for public use at visitor facilities, including parking areas, and that the receptacles are adequately maintained to prevent trash discharges into the ASBS. Appropriate measures include covering trash receptacles to prevent trash from being windblown and periodically emptying the receptacles to prevent overflows.
  6. The Section shall include BMPs or Management Measures/Practices to address runoff from parking areas and other developed features to ensure that the runoff does not alter natural water quality in the affected ASBS. BMPs or Management Measures/Practices shall include measures to reduce pollutant loading in runoff to the ASBS through installation of natural area buffers (LID), treatment, or other appropriate measures.
- B. Maintenance and repair of park and recreation facilities must not result in waste discharges to the ASBS. The practice of road oiling must be minimized or eliminated, and must not result in waste discharges to the ASBS.

### **III. ADDITIONAL REQUIREMENTS – WATERFRONT AND MARINE OPERATIONS**

In addition to the provisions in Section I (A), a Permittee with waterfront and marine operations shall comply with the following:

- A. For discharges related to waterfront and marine operations, the Permittee shall develop a Waterfront and Marine Operations Management Section (Waterfront Section) for its ASBS Compliance Plan. The Waterfront Section shall contain appropriate Best Management Practices (BMPs) to address pollutant discharges to the affected ASBS.
  1. The Waterfront Section shall contain appropriate BMPs for any waste discharges associated with the operation and maintenance of vessels, moorings, piers, launch ramps, and cleaning stations in order to ensure that beneficial uses are protected and natural water quality is maintained in the affected ASBS.

2. For discharges from marinas and recreational boating activities, the Waterfront Section shall include appropriate Management Measures, described in The Plan for California's Nonpoint Source Pollution Control Program, for marinas and recreational boating, or equivalent practices, to ensure that nonpoint source pollutant discharges do not alter natural water quality in the affected ASBS.
  3. The Waterfront Section shall include BMPs to address public education and outreach to ensure that the public is adequately informed that waste discharges to the affected ASBS are prohibited or limited by special conditions in the Special Protections as laid out in this Attachment. The BMPs shall include appropriate signage, or similar measures, to inform the public of the ASBS restrictions and to identify the ASBS boundaries.
  4. The Waterfront Section shall include BMPs to address the prohibition against trash discharges to ASBS. The BMPs shall include the provision of adequate trash receptacles for marine recreation areas, including parking areas, launch ramps, and docks. The plan shall also include appropriate BMPs to ensure that the receptacles are adequately maintained and secured in order to prevent trash discharges into the ASBS. Appropriate BMPs include covering the trash receptacles to prevent trash from being windblown, staking or securing the trash receptacles so they don't tip over, and periodically emptying the receptacles to prevent overflow.
  5. The Permittee shall submit the Waterfront Plan to the Executive Director of the State Water Board within six months of the effective date of these special conditions. The Waterfront Plan is subject to approval by the State Water Board Executive Director. The plan must be fully implemented within 18 months of the effective date of the Exception.
- B. The discharge of chlorine, soaps, petroleum, other chemical contaminants, trash, fish offal, or human sewage to ASBS is prohibited. Sinks and fish cleaning stations are point source discharges of wastes and are prohibited from discharging into ASBS. Anthropogenic accumulations of discarded fouling organisms on the sea floor must be minimized.
- C. Limited-term activities, such as the repair, renovation, or maintenance of waterfront facilities, including, but not limited to, piers, docks, moorings, and breakwaters, are authorized only in accordance with Chapter III.E.2 of the Ocean Plan.
- D. If the Permittee anticipates that it will fail to fully implement the approved Waterfront Plan within the 18 month deadline, the Permittee shall submit a technical report as soon as practicable to the State Water Board Executive Director. The technical report shall contain reasons for failing to meet the deadline and propose a revised schedule to fully implement the plan.
- E. The State Water Board Executive Director may, for good cause, authorize additional time to comply with the Waterfront Plan. Good cause means a physical impossibility or lack of funding.

If a Permittee claims physical impossibility, it shall notify the Board in writing within thirty (30) days of the date that the Permittee first knew of the event or circumstance that caused or would cause it to fail to meet the deadline in Section III.A.5. The notice shall describe the reason for

the noncompliance or anticipated noncompliance and specifically refer to this Section of the Special Protections as laid out in this Attachment. It shall describe the anticipated length of time the delay in compliance may persist, the cause or causes of the delay as well as measures to minimize the impact of the delay on water quality, the measures taken or to be taken by the Permittee to prevent or minimize the delay, the schedule by which the measures will be implemented, and the anticipated date of compliance. The Permittee shall adopt all reasonable measures to avoid and minimize such delays and their impact on water quality. The Permittee may request an extension of time for compliance based on lack of funding. The request for an extension shall require:

1. a demonstration of significant hardship by showing that the Permittee has made timely and complete applications for all available bond and grant funding, and either no bond or grant funding is available, or bond and/or grant funding is inadequate.
2. for governmental agencies, a demonstration and documentation of a good faith effort to acquire funding through that agency's budgetary process, and a demonstration that funding was unavailable or inadequate.

#### **IV. MONITORING REQUIREMENTS**

Monitoring is mandatory for all Permittees to assure compliance with the Ocean Plan. Monitoring requirements include both: (A) core discharge monitoring, and (B) ocean receiving water monitoring. The State and Regional Water Boards must approve sampling site locations and any adjustments to the monitoring programs. All ocean receiving water and reference area monitoring must be comparable with the Water Boards' Surface Water Ambient Monitoring Program (SWAMP).

Safety concerns: Sample locations and sampling periods must be determined considering safety issues. Sampling may be postponed upon notification to the State and Regional Water Boards if hazardous conditions prevail.

Analytical Chemistry Methods: All constituents must be analyzed using the lowest minimum detection limits comparable to the Ocean Plan water quality objectives. For metal analysis, all samples, including storm water effluent, reference samples, and ocean receiving water samples, must be analyzed by the approved analytical method with the lowest minimum detection limits (currently Inductively Coupled Plasma/Mass Spectrometry) described in the Ocean Plan.

#### **A. CORE DISCHARGE MONITORING PROGRAM**

1. General sampling requirements for timing and storm size:

Runoff must be collected during a storm event that is greater than 0.1 inch and generates runoff, and at least 72 hours from the previously measurable storm event. Runoff samples shall be collected when post-storm receiving water is sampled, and analyzed for the same constituents as receiving water and reference site samples (see section IV B) as described below.

2. Runoff flow measurements

- a. For municipal/industrial storm water outfalls in existence as of December 31, 2007, 18 inches (457mm) or greater in diameter/width (including multiple outfall pipes in combination having a width of 18 inches, runoff flows must be measured or calculated, using a method acceptable to and approved by the State and Regional Water Boards.
- b. This will be reported annually for each precipitation season to the State and Regional Water Boards.

3. Runoff samples – storm events

- a. For outfalls equal to or greater than 18 inches (0.46m) in diameter or width:
  - (1) samples of storm water runoff shall be analyzed during the same storm as receiving water samples for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination, and
  - (2) samples of storm water runoff shall be analyzed for critical life stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS
  - (3) If a Permittee has no outfall greater than 36 inches, then storm water runoff from the Permittee's largest outfall shall be further analyzed during the same storm as receiving water samples for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates).
- b. For outfalls equal to or greater than 36 inches (0.91m) in diameter or width:
  - (1) samples of storm water runoff shall be analyzed during the same storm as receiving water samples for oil and grease, total suspended solids, and, within the range of the southern sea otter indicator bacteria or some other measure of fecal contamination; and
  - (2) samples of storm water runoff shall be further analyzed during the same storm as receiving water samples for Ocean Plan Table B metals for protection of marine life, Ocean Plan polynuclear aromatic hydrocarbons (PAHs), current use pesticides (pyrethroids and OP pesticides), and nutrients (ammonia, nitrate and phosphates) and
  - (3) samples of storm water runoff shall be analyzed for critical stage chronic toxicity (one invertebrate or algal species) at least once during each storm season when receiving water is sampled in the ASBS.
- c. For a Permittee not participating in a regional monitoring program [see below in Section IV (B)] in addition to (a.) and (b.) above, a minimum of the two largest outfalls or 20 percent of the larger outfalls, whichever is greater, shall be sampled (flow weighted composite samples) at least three times annually during wet weather (storm event) and

analyzed for all Ocean Plan Table A constituents, Table B constituents for marine aquatic life protection (except for toxicity, only chronic toxicity for three species shall be required), DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, and Ocean Plan indicator bacteria. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one (the largest) such discharge shall be sampled annually in each Region.

4. The Executive Director of the State Water Board may reduce or suspend core monitoring once the storm runoff is fully characterized. This determination may be made at any point after the discharge is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.

## **B. OCEAN RECEIVING WATER AND REFERENCE AREA MONITORING PROGRAM**

In addition to performing the Core Discharge Monitoring Program in Section IV..A above, all applicants having authorized discharges must perform ocean receiving water monitoring. In order to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS, Permittees may choose either (1) an individual monitoring program, or (2) participation in a regional integrated monitoring program.

1. Individual Monitoring Program: The requirements listed below are for those Permittees who elect to perform an individual monitoring program to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within the affected ASBS. In addition to Core Discharge Monitoring, the following additional monitoring requirements shall be met:
  - a. Three times annually, during wet weather (storm events), the receiving water at the point of discharge from the outfalls described in section (IV)(A)(3)(c) above shall be sampled and analyzed for Ocean Plan Table A constituents, Table B constituents for marine aquatic life, DDT, PCBs, Ocean Plan PAHs, OP pesticides, pyrethroids, nitrates, phosphates, salinity, chronic toxicity (three species), and Ocean Plan indicator bacteria.

The sample location for the ocean receiving water shall be in the surf zone at the point of discharges; this must be at the same location where storm water runoff is sampled. Receiving water shall be sampled at approximately the same time prior to (pre-storm) and during (or immediately after) the same storm (post storm). Reference water quality shall also be sampled and analyzed for the same constituents pre-storm and post-storm, during the same storms when receiving water is sampled. Reference stations will be determined by the State Water Board's Division of Water Quality and the applicable Regional Water Board(s).
  - b. Sediment sampling shall occur at least three times during every five (5) year period. The subtidal sediment (sand or finer, if present) at the discharge shall be sampled and analyzed for Ocean Plan Table B constituents for marine aquatic life, DDT, PCBs, PAHs, pyrethroids, and OP pesticides. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed.

- c. A quantitative survey of intertidal benthic marine life shall be performed at the discharge and at a reference site. The survey shall be performed at least once every five (5) year period. The survey design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The results of the survey shall be completed and submitted to the State Water Board and Regional Water Board at least six months prior to the end of the permit cycle.
  - d. Once during each five (5) year period, a bioaccumulation study shall be conducted to determine the concentrations of metals and synthetic organic pollutants at representative discharge sites and at representative reference sites. The study design is subject to approval by the Regional Water Board and the State Water Board's Division of Water Quality. The bioaccumulation study may include California mussels (*Mytilus californianus*) and/or sand crabs (*Emerita analoga* or *Blepharipoda occidentalis*). Based on the study results, the Regional Water Board and the State Water Board's Division of Water Quality, may adjust the study design in subsequent permits, or add or modify additional test organisms (such as shore crabs or fish), or modify the study design appropriate for the area and best available sensitive measures of contaminant exposure.
  - e. Marine Debris: Representative quantitative observations for trash by type and source shall be performed along the coast of the ASBS within the influence of the Permittee's outfalls. The design, including locations and frequency, of the marine debris observations is subject to approval by the Regional Water Board and State Water Board's Division of Water Quality.
  - f. The monitoring requirements of the Individual Monitoring Program in this section are minimum requirements. After a minimum of one (1) year of continuous water quality monitoring of the discharges and ocean receiving waters, the Executive Director of the State Water Board (may require additional monitoring, or adjust, reduce or suspend receiving water and reference station monitoring. This determination may be made at any point after the discharge and receiving water is fully characterized, but is best made after the monitoring results from the first permit cycle are assessed.
2. Regional Integrated Monitoring Program: Permittees may elect to participate in a regional integrated monitoring program, in lieu of an individual monitoring program, to fulfill the requirements for monitoring the physical, chemical, and biological characteristics of the ocean receiving waters within their ASBS. This regional approach shall characterize natural water quality, pre- and post-storm, in ocean reference areas near the mouths of identified open space watersheds and the effects of the discharges on natural water quality (physical, chemical, and toxicity) in the ASBS receiving waters, and should include benthic marine aquatic life and bioaccumulation components. The design of the ASBS stratum of a regional integrated monitoring program may deviate from the otherwise prescribed individual monitoring approach (in Section IV.B.1) if approved by the State Water Board's Division of Water Quality and the Regional Water Boards.
    - a. Ocean reference areas shall be located at the drainages of flowing watersheds with minimal development (in no instance more than 10% development), and shall not be located in CWA Section 303(d) listed waterbodies or have tributaries that are 303(d) listed. Reference areas shall be free of wastewater discharges and anthropogenic non-storm water runoff. A minimum of low threat storm runoff discharges (e.g. stream highway overpasses and campgrounds) may be allowed on a case-by-case basis.



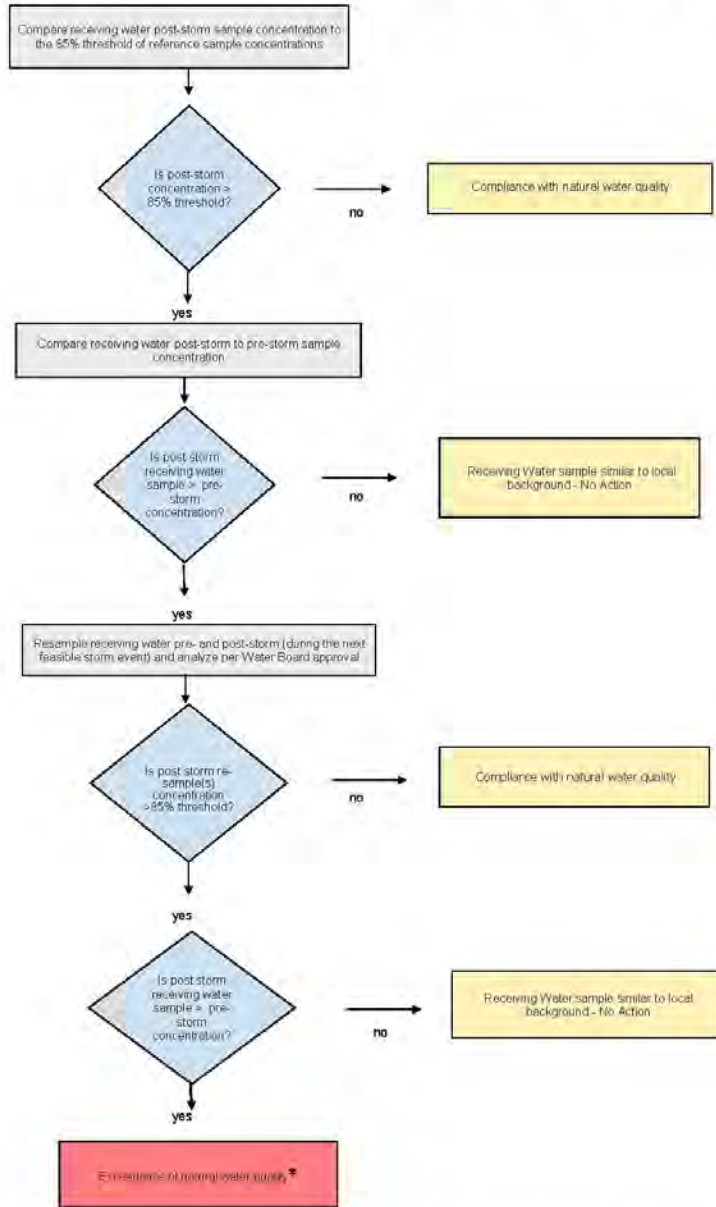
Reference areas shall be located in the same region as the ASBS receiving water monitoring occurs. The reference areas for each Region are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean reference water samples must be collected from each station, each from a separate storm. A minimum of one reference location shall be sampled for each ASBS receiving water site sampled per responsible party. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.

- b. ASBS ocean receiving water must be sampled in the surf zone at the location where the runoff makes contact with ocean water (i.e. at "point zero"). Ocean receiving water stations must be representative of worst-case discharge conditions (i.e. co-located at a large drain greater than 36 inches, or if drains greater than 36 inches are not present in the ASBS then the largest drain greater than 18 inches.) Ocean receiving water stations are subject to approval by the participants in the regional monitoring program and the State Water Board's Division of Water Quality and the applicable Regional Water Board(s). A minimum of three ocean receiving water samples must be collected during each storm season from each station, each from a separate storm. A minimum of one receiving water location shall be sampled in each ASBS per responsible party in that ASBS. For parties discharging to ASBS in more than one Regional Water Board region, at a minimum, one reference station and one receiving water station shall be sampled in each region.
  - c. Reference and receiving water sampling shall commence during the first full storm season following the adoption of these special conditions, and post-storm samples shall be collected when annual storm water runoff is sampled. Sampling shall occur in a minimum of two storm seasons. For those ASBS Permittees that have already participated in the Southern California Bight 2008 ASBS regional monitoring effort, sampling may be limited to only one storm season.
  - d. Receiving water and reference samples shall be analyzed for the same constituents as storm water runoff samples. At a minimum, constituents to be sampled and analyzed in reference and discharge receiving waters must include oil and grease, total suspended solids, Ocean Plan Table B metals for protection of marine life, Ocean Plan PAHs, pyrethroids, OP pesticides, ammonia, nitrate, phosphates, and critical life stage chronic toxicity for three species. In addition, within the range of the southern sea otter, indicator bacteria or some other measure of fecal contamination shall be analyzed.
3. Waterfront and Marine Operations: In addition to the above requirements for ocean receiving water monitoring, additional monitoring must be performed for marinas and boat launch and pier facilities:
- a. For all marina or mooring field operators, in mooring fields with 10 or more occupied moorings, the ocean receiving water must be sampled for Ocean Plan indicator bacteria, residual chlorine, copper, zinc, grease and oil, methylene blue active substances (MBAS), and ammonia nitrogen.

- (1) For mooring field operators opting for an individual monitoring program (Section IV.B.1 above), this sampling must occur weekly (on the weekend) from May through October.
  - (2) For mooring field operators opting to participate in a regional integrated monitoring program (Section IV.B.2 above), this sampling must occur from May through October on a high weekend in each month. The Water Boards may allow a reduction in the frequency of sampling, through the regional monitoring program, after the first year of monitoring.
- b. For all mooring field operators, the subtidal sediment (sand or finer, if present) within the mooring fields and below piers shall be sampled and analyzed for Ocean Plan Table B metals (for marine aquatic life beneficial use), acute toxicity, PAHs, and tributyltin. For sediment toxicity testing, only an acute toxicity test using the amphipod *Eohaustorius estuarius* must be performed. This sampling shall occur at least three times during a five (5) year period. For mooring field operators opting to participate in a regional integrated monitoring program, the Water Boards may allow a reduction in the frequency of sampling after the first sampling effort's results are assessed.

**C. ASBS Flow Chart**

**Figure 2**  
**ASBS Special Protections**  
**Flowchart to Determine Compliance with Natural Water Quality**



\* When an exceedance of natural water quality occurs, the Department must comply with section I.A.2.h of the Special Protections as well as the requirements of this Order. Note, when sampling data is available, end-of-pipe effluent concentrations will be considered by the Water Boards in making this determination.

**D. ASBS Monitoring Constituents**

**TABLE A**  
**Monitoring Constituent List**  
**(excerpted from California Ocean Plan dated 2009)**

<b>Constituent</b>	<b>Units</b>
Grease and Oil	mg/L
Suspended Solids	Mg/L
Settleable Solids	mL/L
Turbidity	NTU
PH	

**TABLE B**  
**Monitoring Constituent List**  
**(excerpted from California Ocean Plan dated 2009)**

<b>Constituent</b>	<b>Units</b>
Arsenic	ig/L
Cadmium	ig/L
Chromium	ig/L
Copper	ig/L
Lead	ig/L
Mercury	ig/L
Nickel	ig/L
Selenium	ig/L
Silver	ig/L
Zinc	ig/L
Cyanide	ig/L
Total Chlorine Residual	ig/L
Ammonia (as N)	ig/L
Acute Toxicity	TUa
Chronic Toxicity	TUc
Phenolic Compounds (non-chlorinated)	ig/L
Chlorinated Phenolics	ig/L
Endosulfan	ig/L
Endrin	ig/L
HCH	µg/L

**Phase II Small MS4 Entities Authorized to Discharge to  
 Areas of Special Biological Significance (ASBS)**

<b>Regional Board</b>	<b>Applicant</b>	<b>ASBS</b>
<b>North Coast Water Board</b>	City of Trinidad	Trinidad Head
	County of Humboldt	King Range
	Humboldt Bay Harbor District	King Range
	Department of Parks and Recreation	Gerstle Cove
	Department of Parks and Recreation	Jughandle Cove
	Department of Parks and Recreation	King Range
	Department of Parks and Recreation	Trinidad Head
	Department of Parks and Recreation	Redwoods State and National Park
<b>San Francisco Water Board</b>	County of Marin	Duxbury Reef
	Defense, Department of (Vandenberg Air Force Base)	James V. Fitzgerald
	National Park Service	Point Reyes National Seashore
<b>Central Coast Water Board</b>	City of Monterey	Pacific Grove
	City of Pacific Grove	Pacific Grove
	City of Carmel by The Sea	Carmel Bay
	County of Monterey	Carmel Bay
	Department of Parks and Recreation	Año Nuevo
	Department of Parks and Recreation	Carmel Bay
	Department of Parks and Recreation	Julia Pfeiffer Burns
	Department of Parks and Recreation	Point Lobos
<b>Los Angeles Water Board</b>	Department of Parks and Recreation	Laguna Point to Latigo Point
<b>Santa Ana Water Board</b>	Department of Parks and Recreation	Irvine Coast

## **Community-Based Social Marketing (CBSM) Education and Outreach Requirements**

---

### **A. Public Education and Outreach Program**

#### **A.1 Compliance Participation Options**

Within the first year of the effective date of the permit, all Permittees shall comply with the requirements in this Section by participating in one or more of the following:

- (i) Contributing to a countywide storm water program, as determined appropriate by the Permittee members, so that the countywide storm water program conducts education and outreach on behalf of its members; or
- (ii) Contributing to a regional education and outreach collaborative effort (a regional outreach and education collaborative effort occurs when all or a majority of the Permittees collaborate to conduct regional outreach and education. Regional education and outreach collaboration includes Permittees defining a uniform and consistent message, deciding how best to communicate the message, and how to facilitate behavioral changes. Then collaboratively apply what is learned through local jurisdiction groups, pooling resources and skills.); or
- (iii) Fulfilling education and outreach requirements within their jurisdictional boundaries on their own; or
- (iv) A combination of the previous options, so that all requirements are fulfilled.

**Reporting** – By the first year online Annual Report, the Permittee shall identify which compliance participation option it will use to comply with the public education and outreach requirements in this Section. For each public education and outreach requirement in this Section that the Permittee will comply with through contribution to a countywide storm water program or regional education and outreach collaborative effort, the Permittee shall include in the first year online Annual Report documentation, such as a written agreement, letter or similar document, which confirms the collaboration with other MS4s.

#### **A.2. Public Education and Outreach**

##### **A.2.a. Public Education and Outreach**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop and implement a comprehensive storm water public education and outreach program. The public education and outreach program shall be designed to reduce pollutant discharges in storm water runoff and non-storm water discharges to the MS4 through behavior changes in target communities. The Public Education and Outreach Program shall (1) measurably increase the knowledge of targeted communities regarding the municipal storm drain system, impacts of urban runoff and non-storm water discharges on receiving waters, and potential BMP solutions for the target audiences and (2) measurably change the behavior of target audiences, thereby reducing pollutant releases to the MS4 and the environment.

- (ii) **Implementation Level** –The Permittee shall, at a minimum:
- (a) Develop and implement a public education strategy that establishes education tasks based on water quality problems, target audiences, and anticipated task effectiveness. The strategy must include identification of who is responsible for implementing specific tasks, a schedule for task implementation, and a budget for implementing the tasks. The strategy must demonstrate how specific high priority storm water quality issues in the community or local pollutants of concern are addressed. The Permittee shall use CBSM <sup>1</sup>strategies or equivalent.
  - (b) Implement surveys at least twice during the five year permit term to gauge the level of awareness and behavior change in target audiences and effectiveness of education tasks.
  - (c) Use of CBSM strategies or equivalent. The Public Education strategy shall at a minimum include the following Permittee actions:
    - (1) Research on barriers to desired behaviors and benefits of desired behaviors (ex. Literature review, observation, focus groups).
    - (2) Elicit commitment to implement desired behavior from target audience.
    - (3) Provide prompts reminding target audience of desired behavior.
    - (4) Use the concept of social norms/modeling of desired behavior.
    - (5) Use education messages that are specific, easy to remember, from a credible source, and appropriate for the target audience.
    - (6) Create incentives for the desired behavior.
    - (7) Remove barriers to the desired behavior.
  - (d) Development and conveyance of a specific storm water message that focuses on the following:
    - (1) Local pollutants of concern
    - (2) Target audience
    - (3) Behavior of concern
    - (4) Regional water quality issues
  - (e) Development and disseminate appropriate educational materials to target audiences and translate into applicable languages when appropriate (e.g. the materials can utilize various media such as printed materials, billboard and mass transit advertisements, signage at select locations, stenciling at storm drain inlets, radio advertisements, television advertisements, and websites);
  - (f) Utilization of public input (e.g., the opportunity for public comment, or public meetings) in the development of the program;

---

<sup>1</sup> CBSM: A systematic way to change the behavior of communities to reduce their impact on the environment. Realizing that simply providing information is usually not sufficient to initiate behavior change, CBSM uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.

- (g) Distribution of the educational materials, using whichever methods and procedures determined appropriate during development of the public education strategy, in such a way that is designed to convey the program's message to 20% of the target audience each year;
  - (h) Coordination with outreach programs for the Water Efficient Landscape Ordinance to explain the benefits of storm water-friendly landscaping;
  - (i) Technical and financial assistance and implementation guidance related to storm water-friendly landscaping;
  - (j) Development and conveyance of messages specific to reducing illicit discharges with information about how the public can report incidents to the appropriate authorities;
  - (k) Development and conveyance of messages specific to proper application of pesticides, herbicides, and fertilizers;
  - (l) Storm water education for school-age children. The Permittee may use California's Education and Environment Initiative Curriculum or equivalent.
  - (m) Reducing discharges from charity car washes, mobile cleaning and pressure washing operations, and landscape irrigation.
- (iii) **Reporting** – By the second year online Annual Report and annually thereafter, report on the public education strategy and general program development and progress. By the fifth year online Annual Report, summarize changes in public awareness and behavior resulting from the implementation of the program and any modifications to the public outreach and education program. Report on the public education and CBSM strategies such as pilot programs, survey results, research on barriers to desired behaviors and benefits of desired behaviors, commitments from target audience to implement desired behavior, prompts, implementation of the social norms/modeling, education messages, incentives for desired behaviors, methods for removing barriers to behavior change, development of education materials, methods for educational material distribution, public input, Water Efficient Landscape Ordinance, technical and financial assistance for storm water friendly landscaping, reporting of illicit discharges, proper application of pesticides, herbicides, and fertilizers, elementary school education, reduction of discharges from charity car washes, mobile cleaning and pressure washing operations, and landscape irrigation efforts. Annually report number of trainings, describe the technical and financial program and implementation, and the study and results to date. For each whole five years of the permit life, submit the online Annual Report summarizing the changes in public awareness and behavior.

#### **A.2.b. Construction Education and Outreach Program**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop and implement a construction outreach and education program for construction sites smaller than one acre. The construction outreach and education program shall be designed to reduce pollutant discharges in storm water runoff and non-storm water discharges to the MS4 through behavior changes in target communities. The multi-media program shall (1) measurably increases the knowledge of the construction



community regarding the municipal storm drain system, impacts of urban runoff and non-storm water discharges on receiving waters, and potential BMP solutions for the target audiences and (2) measurably changes the behavior of the construction community, thereby reducing pollutant releases to the MS4 and the environment.

- (ii) **Implementation Level** –The program shall include, at a minimum:
- (a) Development of a watershed-based inventory of the high priority residential and commercial construction sites within the Permittee's jurisdiction.
  - (b) Development and implementation of a construction outreach and education strategy that establishes measurable goals and prioritizes education tasks based on water quality problems, target audiences, and anticipated task effectiveness. The strategy must include identification of who is responsible for implementing specific tasks and attaining measurable goals, a schedule for task implementation, and a budget for implementing the tasks and meeting the measurable goals. The strategy must include measurable goals designed to demonstrate how specific high priority storm water quality issues in the community or local pollutants of concern are addressed. Establish who is responsible for specific tasks and goals and a budget for meeting the tasks and goals.
  - (c) Implementation of CBSM to address the MS4's highest priority water quality problems. For each high priority water quality problem, implementation of CBSM shall first be conducted on a pilot project level. CBSM techniques found to be effective at the pilot project level shall be implemented jurisdiction-wide by permit year four. Pilot project and jurisdiction level CBSM shall include the following Permittee actions:
    - (1) Research on barriers to desired behaviors and benefits of desired behaviors (ex. Literature review, observation, focus groups).
    - (2) Elicit commitment to implement desired behavior from construction community.
    - (3) Provide prompts reminding construction community of desired behavior.
    - (4) Use the concept of social norms/modeling of desired behavior.
    - (5) Use education messages that are specific, easy to remember, from a credible source, and appropriate for the target audience.
    - (6) Create incentives for the desired behavior.
    - (7) Remove barriers to the desired behavior.
- (iii) **Reporting** – By the second year online Annual Report and annually thereafter, report program progress and mechanisms used for outreach and education including measureable increases in the knowledge of the construction community and measurable changes in the construction community's behavior. This includes a watershed-based inventory of high priority residential and commercial construction sites, outreach and education strategy and implementation, implementation of CBSM, pilot project, research on barriers to desired behaviors and benefits of desired behaviors, commitments from target audience to implement desired behavior, prompts, implementation of the social norms/modeling, education

messages, incentives for desired behaviors, methods for removing barriers to behavior change.

### **A.3. STAFF AND SITE OPERATOR TRAINING AND EDUCATION**

#### **A.3.a. Illicit Discharge Detection and Elimination Training**

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement a training program for all Permittee staff who, as part of their normal job responsibilities, may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection to the storm drain system.
- (ii) **Implementation Level** – The training program shall include at a minimum:
  - (a) Identification of an illicit discharge or illegal connection.
  - (b) Proper procedures for reporting and responding to the illicit discharge or illegal connection.
  - (c) Follow-up training shall be provided as needed to address changes in procedures, techniques, or staffing.
  - (d) The Permittee shall annually perform an assessment of their trained staff's knowledge of illicit discharge response and shall provide refresher training as needed.
  - (e) New staff that, as part of their normal job responsibilities may be notified of, come into contact with, or otherwise observe an illicit discharge or illegal connection shall be trained no later than six months after the start of employment.
  - (f) Contact information, including the procedure for reporting an illicit discharge, shall be included in each of the Permittee's fleet vehicles that are used by field staff.
  - (g) The Permittee shall conduct focused education in identified illicit discharge flow areas based on identified illicit discharge(s).
- (iii) **Reporting** - The Permittee shall document and maintain records of the training provided and the staff trained annually in the online Annual Report.

#### **A.3.b. Construction Outreach and Education**

##### **1. Permittee Staff Training**

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall ensure that all staff implementing the construction storm water program are adequately trained.
- (ii) **Implementation Level** – The Permittee may conduct in-house training or contract with consultants. Training shall be provided to the following staff positions of the MS4:
  - (a) Plan Reviewers and Permitting Staff - Ensure staff and consultants are qualified individuals, knowledgeable in the technical review of local erosion and sediment control plans, and are certified pursuant

to a State Water Board sponsored program as a Qualified SWPPP Developer (QSD), or a designated person on staff possesses the QSD credential.

- (b) Erosion Sediment Control/Storm Water Inspectors - The Permittee shall ensure inspectors are qualified individuals, knowledgeable in inspection procedures, and are certified pursuant to a State Water Board sponsored program as either (1) a *Qualified SWPPP Developer (QSD)* (2) a Qualified SWPPP Practitioner (QSP) or (3) a designated person on staff possesses each credential (QSD to supervise plan review, QSP to supervise inspection operations).
  - (c) Third-Party Plan Reviewers, Permitting Staff, and Inspectors - If the Permittee utilizes outside parties to conduct inspections and/or review plans, the Permittee shall ensure these staff are trained.
- (iii) **Reporting** – By the second year of the permit term and annually thereafter, submit the following information:
- (a) Training topics covered.
  - (b) Dates of training.
  - (c) Number and percentage of Permittee's staff, as identified in Sections a-c above, attending each training.
  - (d) Results of any surveys conducted to demonstrate the awareness and potential behavioral changes in the attendees.

## 2. Construction Site Operator Education

- (i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and distribute educational materials to construction site operators.
- (ii) **Implementation Level** – The Permittee shall do the following:
  - (a) Each year, provide information on training opportunities for construction operators on BMP selection, installation, implementation, and maintenance as well as overall program compliance.
  - (b) Develop or utilize existing outreach tools (i.e. brochures, posters, etc.) aimed at educating construction operators on appropriate selection, installation, implementation, and maintenance of storm water BMPs, as well as overall program compliance.
  - (c) Distribute appropriate outreach materials to all construction operators who will be disturbing land within the MS4 boundary. The Permittee's contact information and website shall be included in these materials.
  - (d) Update the existing storm water website to include information on appropriate selection, installation, implementation, and maintenance of BMPs.
- (iii) **Reporting** – By the third year online Annual Report and annually thereafter, include the following information:

- (a) Training topics covered;
- (b) Dates of training;
- (c) Number and percentage of Permittee's operators, inspectors, and number of Contractors attending each training;
- (d) Results of any surveys conducted to demonstrate the awareness and potential behavioral changes in the attendees.

### **A.3.c. Pollution Prevention and Good Housekeeping Staff Training**

The Permittee shall train employees on how to incorporate pollution prevention/good housekeeping techniques into Permittee operations.

- (i) **Task Description** – Within the second year of the effective date of the permit, the Permittee shall develop a bi-annual employee training program for appropriate employees involved in implementing pollution prevention and good housekeeping practices in the Pollution Prevention/Good Housekeeping for Permittee Operations sections of this General Permit. The Permittee shall determine the need for interim training during alternate years when training is not conducted, through an evaluation of employee Pollution Prevention/Good Housekeeping knowledge. All new hires whose jobs include implementation of pollution prevention and good housekeeping practices must receive this training within the first year of their hire date.
- (ii) **Implementation Level** – The training program shall include the following:
  - (a) Bi-annual training for all employees implementing this program element. This bi-annual training shall include a general storm water education component, any new technologies, operations, or responsibilities that arise during the year, and the permit requirements that apply to the staff being trained. Employees shall receive clear guidance on appropriate storm water BMPs to use at municipal facilities and during typical O&M activities.
  - (b) A bi-annual assessment, occurring on alternate years between training, of trained staff's knowledge of pollution prevention and good housekeeping and shall revise the training as needed.
  - (c) A requirement that any contractors hired by the Permittee to perform O&M activities shall be contractually required to comply with all of the storm water BMPs, good housekeeping practices, and standard operating procedures described above.
  - (d) The Permittee shall provide oversight of contractor activities to ensure that contractors are using appropriate BMPs, good housekeeping practices and following standard operating procedures.
- (iii) **Reporting** – By the second year online Annual Report and annually thereafter, summarize oversight procedures and identify and track all personnel requiring training and assessment and records.

## Standard Provisions

---

### 1. General Authority

Various storm water program components (e.g. IDDE) require enforceable controls on third party activities to ensure successful implementation of the program. Some non-traditional operators, however, may not have the necessary legal or regulatory authority to adopt enforceable controls. As with local governments that lack such authority, NTMS4s shall utilize the authority they do possess and seek cooperative agreements with local municipalities to implement enforceable controls.

### 2. Duty to Comply

The Permittee shall comply with all conditions of this Permit. Any Permit noncompliance constitutes a violation of the CWA and the Porter-Cologne Water Quality Control Act, which may be grounds for enforcement action or denial of General Permit coverage. [40 CFR 122.41(a)]

The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this Permit has not yet been modified to incorporate the requirement.

In the event that the Permittee is removed from coverage under the General Permit, the Permittee will be required to seek coverage under an individual or alternative general permit.

### 3. General Permit Actions

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not nullify any General Permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under §307(a) of CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and Permittee will be so notified.

### 4. Enforcement

- a. The enforcement provisions contained in this section shall not act as a limitation on the statutory or regulatory authority of the State and Regional Water Board.

- b. Any violation of the permit constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.
  - c. The State Water Board has authority to regulate discharges from a MS4 on a system-wide or jurisdiction-wide basis. [CWA Section 402(p) & 40 CFR 122.26(a)(v)]
  - d. The State and Regional Boards may impose administrative civil liability, may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law for violation of Board orders.
  - e. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this order and permit.
  - f. Significant penalties may be imposed for violation of this General Permit, pursuant to CWC section 13385 and other State and federal statutes. Court-imposed liability may exceed \$25,000 per day, and Regional Water Board's may impose administrative fines exceeding \$10,000 per day. [40 CFR 122.41(a)(2)&(3)]
  - g. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 CFR 122.41(k)(2)]
  - h. The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. Higher penalties may be imposed for repeat offenders. [40 CFR 122.41(j)(5)]
5. Noncompliance Reporting

Permittees who cannot certify compliance and/or who have had other instances of noncompliance shall notify the appropriate Regional Water Board within 30 days. Instances of noncompliance resulting in emergencies (i.e., that endanger human health or the environment) shall be reported orally to the Regional Water Board within 24 hours from the time the discharger becomes aware of the circumstance and in writing to the Regional Water Board within five days of the occurrence. The notification shall identify the noncompliance event and an initial assessment of any

impact caused by the event, describe the actions necessary to achieve compliance, and include a time schedule indicating when compliance will be achieved. The time schedule and corrective measures are subject to modification by the Regional Water Board Executive Officer.

6. Duty to Mitigate

The Permittee shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit that has a reasonable likelihood of adversely affecting human health or the environment. [40 CFR 122.41(d)]

7. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this General Permit and with the requirements of the storm water program. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by the Permittee when necessary to achieve compliance with the conditions of this General Permit. [40 CFR 122.41(e)]

8. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of federal, State, or local laws or regulations.[40 CFR 122.41(g)]

9. Duty to Provide Information

The Permittee shall furnish Regional Water Boards or U.S. EPA, during normal business hours, any requested information to determine compliance with this General Permit. The Permittee shall also furnish, upon request, copies of records required to be kept by this General Permit. [40 CFR 122.41(h)]

10. Inspection and Entry

Upon the presentation of credentials and other documents as may be required by law, the Permittee shall allow the State and Regional Water Boards, U.S. EPA, or municipal storm water management agency to enter upon the Permittee premises where a regulated facility or activity is located or conducted or where records are required to be kept under the conditions of this General Permit to [40 CFR 122.41(i)]:

- a. Have access to and copy at reasonable times any records that are required to be kept under the conditions of this Permit;

- b. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment) that are related to or may impact any storm water or non-storm water discharge; and
- c. Conduct monitoring activities at reasonable times to ensure Permit compliance.
- d. Photograph or videotape outdoor areas of the facility to document compliance or non-compliance with this Permit.

11. Signatory Requirements

All NOIs, certifications, reports, or other information prepared in accordance with this General Permit that are submitted to State or Regional Water Boards shall be signed by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of U.S. EPA). For the military: any military officer or Department of Defense civilian, acting in an equivalent capacity to a military officer, who has been designated.

12. Certification

Any person signing documents under this General Permit shall make the following certification:

*I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

13. Anticipated Noncompliance

The Permittee will give advance notice to the Regional Water Board of any planned changes in the regulated Small MS4 activity that may result in noncompliance with General Permit requirements.

14. Penalties for Falsification of Reports

Section 309(c)(4) of CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance, shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years or by both.



15. Penalties for Violations of Permit Conditions

- a. Part 309 of CWA provides significant penalties for any person who violates a permit condition implementing Parts 301, 302, 306, 307, 308, 318, or 405 of CWA or any permit condition or limitation implementing any such section in a permit issued under Part 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed \$27,500 per calendar day of such violation, as well as any other appropriate sanction provided by Part 309 of CWA.
- b. the California Water Code also provides for administrative, civil, and criminal penalties, which in some cases are greater than those under CWA.

16. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action against the Permittee or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject to under Part 311 of CWA.

17. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

18. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, or otherwise in accordance with 40 CFR sections 122.62, 122.63, 122.64, and 124.5.

19. Availability

A copy of this General Permit and Annual Reports shall be made available for public review, program evaluation (audit) and inspection.

20. Transfers

This General Permit is not transferable. A Permittee shall submit written notification to the appropriate Regional Water Board to terminate coverage of this General Permit.

21. Continuation of Expired Permit

This General Permit expires five years from the date of adoption. This General Permit continues in force and in effect until a new General Permit is issued or the State Water Board rescinds this General Permit. Only those Small MS4s authorized to discharge under the expired General Permit are covered by the continued General Permit.

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Entity	Impaired water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 1: North Coast Regional Water Board</b>			
<p><b>Laguna de Santa Rosa</b>  <i>Ammonia &amp; Dissolved Oxygen</i></p> <p>Effective Date:                      May 4, 1995</p> <p>BPA: none</p> <p>Resolution No.:                      none</p>	<p>City of Cotati</p> <hr/> <p>City of Rohnert Park</p> <hr/> <p>City of Sebastopol</p> <hr/> <p>Town of Windsor</p>	<p>Laguna de Santa Rosa</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Waste Reduction Strategy for the Laguna de Santa Rosa which includes TMDLs for nitrogen and ammonia to address low dissolved oxygen and high ammonia impairments.</p> <p><b>Requirements for Implementing the Waste Reduction Strategy for the Laguna de Santa Rosa</b>                      Implement a storm water runoff program that is aimed at nutrient load reduction and pollution control through the execution of the provisions of this Phase II Small MS4 General Permit.</p>
<p><b>Shasta River</b>  <i>Temperature &amp; Dissolved Oxygen</i></p> <p>Effective Date:                      January 26, 2007</p> <p>BPA: Action Plan for the Shasta River Watershed Temperature and Dissolved Oxygen Total Maximum Daily Loads</p> <p>Resolution No.: R1-2006-0052</p>	<p>City of Yreka</p>	<p>Shasta River</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Action Plan for the Shasta River Watershed Temperature and Dissolved Oxygen TMDLs.</p> <p><b>Requirements for Implementing the Action Plan for the Shasta River Watershed Temperature and Dissolved Oxygen TMDLs</b>                      Within one year of approval of the Phase II Small MS4 General Permit, the City of Yreka shall develop a plan to minimize, control, and preferably prevent discharges of fine sediment, nutrients and other oxygen-consuming materials, and elevated water temperature waste discharge from affecting waters of the Shasta River and its tributaries. The plan shall be submitted to the Regional Water Board's Executive Officer for review, comment, and approval. Within four years of approval of the Phase II Small MS4 General Permit, the City of Yreka shall begin implementing the plan.</p>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required
<b>Region 2: San Francisco Regional Water Board</b>			
<p align="center"><b>Napa River Sediment</b></p> <p>Effective Date: January 20, 2011</p> <p>BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs</p> <p>Resolution No. R2-2009-0064</p>	Napa County	Napa River	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Napa River sediment TMDL.</p> <p><b>TMDL Wasteload and Load Allocations</b>                      The Napa River sediment TMDL assigns to municipal storm water a wasteload allocation and load allocation for the roads source category.</p> <p>The sediment wasteload allocation is 600 tons/year and applies to storm water runoff discharges from municipalities' facilities associated with construction and/or maintenance activities.</p> <p>The load allocation 27,000 metric tons/year of sediment is for the road and stream crossings category and applies to stream crossings and storm water runoff discharges associated with operation of public and private roads, paved and upaved, within the watershed not otherwise covered by NPDES permits. Municipalities share this allocation with another entity (i.e., Caltrans).</p> <p><b>Requirements for Implementing the Napa River Sediment TMDL Wasteload and Load Allocations</b></p> <p><b>A. Implementation of Sediment Wasteload Allocations</b></p> <p>i. To attain the wasteload allocation, municipalities shall comply with the construction and maintenance requirements of this Order.</p> <p><b>B. Implementation of Sediment Load Allocations</b></p> <p>i. To attain the shared load allocation of 27,000 metric tons/year, municipalities shall determine opportunities to retrofit and/or reconstruction of road crossings to minimize road-related sediment delivery (≤500 cubic yards/mile per 20-year period) to stream channels. Specifically, to reduce road-related erosion and protect stream-riparian habitat conditions, municipalities shall by October 31, 2014:</p> <ul style="list-style-type: none"> <li>• Adopt and implement best management practices for maintenance of unimproved (dirt/gravel) roads</li> <li>• Conduct a survey of stream-crossings associated with paved public roadways</li> <li>• Develop a prioritized implementation plan for repair and/or replacement of high priority crossings/culverts.</li> </ul> <p>For paved roads, erosion and sediment control actions shall primarily focus on road crossings to meet the sediment load allocation.</p>
	City of Napa		
	Town of Yountville		
	City of St. Helena		
	City of Calistoga		
	City of American Canyon		

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required
<b>Region 2: San Francisco Regional Water Board</b>			
<p align="center"><b>Sonoma Creek Sediment</b></p> <p>Effective Date: September 8, 2010</p> <p>BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs</p> <p>Resolution No. R2-2008-0103</p>	<p align="center">County of Sonoma</p>	<p align="center">Sonoma Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Sonoma Creek sediment TMDL.</p> <p><b>TMDL Wasteload and Load Allocations</b>                      The Sonoma Creek sediment TMDL assigns to municipal storm water a wasteload allocation and load allocation for the roads source category.</p> <p>The sediment wasteload allocation is 600 tons/year and applies to storm water runoff discharges from municipalities' facilities associated with construction and/or maintenance activities.</p> <p>The load allocation 2,100 tons/year of sediment is for the road and stream crossings category and applies to stream crossings and storm water runoff discharges associated with operation of public and private roads, paved and upaved, within the watershed not otherwise covered by NPDES permits. Municipalities share this allocation with another entity (i.e., Caltrans).</p> <p><b>Requirements for Implementing the Sonoma Creek Sediment TMDL Wasteload and Load Allocations</b></p> <p><b>A. Implementation of Sediment Wasteload Allocations</b></p> <p>i. To attain the wasteload allocation, municipalities shall comply with the construction and maintenance requirements of this Order.</p> <p><b>B. Implementation of Sediment Load Allocations</b></p> <p>i. To attain the shared load allocation of 2,100 tons/year, municipalities shall determine opportunities to retrofit and/or reconstruction of road crossings to minimize road-related sediment delivery to stream channels. Specifically, to reduce road-related erosion and protect stream-riparian habitat conditions, municipalities shall by October 31, 2014:</p> <ul style="list-style-type: none"> <li>• Adopt and implement best management practices for maintenance of unimproved (dirt/gravel) roads</li> <li>• Conduct a survey of stream-crossings associated with paved public roadways</li> <li>• Develop a prioritized implementation plan for repair and/or replacement of high priority crossings/culverts.</li> </ul> <p>For paved roads, erosion and sediment control actions shall primarily focus on road crossings to meet the sediment load allocation.</p>
	<p align="center">City of Sonoma</p>		

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required																		
<b>Region 2: San Francisco Regional Water Board</b>																					
<p align="center"><b>Napa River Pathogens</b></p> <p>Effective Date: February 29, 2008</p> <p>BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs</p> <p>Resolution No. R2-2006-0079</p>	Napa County	<p align="center">Napa River</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Napa River pathogens TMDL.</p> <p><b>TMDL Wasteload Allocations</b>                      The Napa River pathogens TMDL assigns a wasteload allocation to municipal storm water as follows:</p> <table border="1"> <thead> <tr> <th colspan="2"><i>E. coli</i> (CFU/100 mL)</th> <th colspan="2">Fecal coliform (CFU/100 mL)</th> <th colspan="2">Total coliform (CFU/100 mL)</th> </tr> <tr> <th>Geometric Mean</th> <th>90<sup>th</sup> percentile</th> <th>Geometric Mean</th> <th>90<sup>th</sup> percentile</th> <th>Geometric Mean</th> <th>90<sup>th</sup> percentile</th> </tr> </thead> <tbody> <tr> <td>&lt;113</td> <td>&lt;368</td> <td>&lt;180</td> <td>&lt;360</td> <td>&lt;216</td> <td>&lt;9,000</td> </tr> </tbody> </table> <p>These allocations are applicable year-round and apply to any sources (existing or future) subject to regulation by NPDES permit.</p> <p><b>Requirements for Implementing the Napa River Pathogens TMDL Wasteload Allocations</b></p> <p>Municipalities shall, within 18 months of permit adoption :</p> <ol style="list-style-type: none"> <li>i. Public Participation and Outreach. Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce pathogen loading.</li> <li>ii. Pet Waste Management. Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.</li> <li>iii. Illicit Discharge Detection and Elimination. Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to the Napa River.</li> <li>iv. Pollution Prevention and Good Housekeeping. Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas that potentially collect and discharge fecal coliform to the Napa River.</li> <li>v. Conduct baseline water quality monitoring to evaluate <i>E. coli</i> concentration trends in the Napa River and its tributaries. Table 7-g in Chapter 7, Water Quality Attainment Strategies, presents locations and frequency for the required baseline water quality monitoring.</li> <li>vi. Report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures.</li> </ol>	<i>E. coli</i> (CFU/100 mL)		Fecal coliform (CFU/100 mL)		Total coliform (CFU/100 mL)		Geometric Mean	90 <sup>th</sup> percentile	Geometric Mean	90 <sup>th</sup> percentile	Geometric Mean	90 <sup>th</sup> percentile	<113	<368	<180	<360	<216	<9,000
	<i>E. coli</i> (CFU/100 mL)			Fecal coliform (CFU/100 mL)		Total coliform (CFU/100 mL)															
	Geometric Mean			90 <sup>th</sup> percentile	Geometric Mean	90 <sup>th</sup> percentile	Geometric Mean	90 <sup>th</sup> percentile													
	<113			<368	<180	<360	<216	<9,000													
	City of Napa																				
	Town of Yountville																				
City of St. Helena																					
City of Calistoga																					
City of American Canyon																					

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required																		
<b>Region 2: San Francisco Regional Water Board</b>																					
<p align="center"><b>Sonoma Creek Pathogens</b></p> <p>Effective Date: February 29, 2008</p> <p>BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs</p> <p>Resolution No. R2-2006-0042</p>	<p align="center">County of Sonoma</p>	<p align="center">Sonoma Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Sonoma Creek pathogens TMDL.</p> <p><b>TMDL Wasteload Allocations</b>                      The Sonoma Creek pathogens TMDL assigns a wasteload allocation to municipal storm water as follows:</p> <table border="1" data-bbox="890 483 1575 662"> <thead> <tr> <th colspan="2"><i>E.coli</i> (CFU/100 mL)</th> <th colspan="2">Fecal coliform (CFU/100 mL)</th> <th colspan="2">Total coliform (CFU/100 mL)</th> </tr> <tr> <th>Geometric Mean</th> <th>90<sup>th</sup> percentile</th> <th>Geometric Mean</th> <th>90<sup>th</sup> percentile</th> <th>Geometric Mean</th> <th>90<sup>th</sup> percentile</th> </tr> </thead> <tbody> <tr> <td>&lt;113</td> <td>&lt;368</td> <td>&lt;180</td> <td>&lt;360</td> <td>&lt;216</td> <td>&lt;9,000</td> </tr> </tbody> </table> <p>These allocations are applicable year-round and apply to any sources (existing or future) subject to regulation by NPDES permit.</p> <p><b>Requirements for Implementing the Sonoma Creek Pathogens TMDL Wasteload Allocations</b></p> <p>Municipalities shall, within 18 months of permit adoption:</p> <ol style="list-style-type: none"> <li>i. Public Participation and Outreach. Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce pathogen loading.</li> <li>ii. Pet Waste Management. Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.</li> <li>iii. Illicit Discharge Detection and Elimination. Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to Sonoma Creek.</li> <li>iv. Pollution Prevention and Good Housekeeping. Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas that potentially collect and discharge fecal coliform to Sonoma Creek.</li> <li>v. Conduct baseline water quality monitoring to evaluate <i>E. coli</i> concentration trends in Sonoma Creek and its tributaries. Table 7-n in Chapter 7, Water Quality Attainment Strategies, presents locations and frequency for the required baseline water quality monitoring.</li> <li>vi. Report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures.</li> </ol>	<i>E.coli</i> (CFU/100 mL)		Fecal coliform (CFU/100 mL)		Total coliform (CFU/100 mL)		Geometric Mean	90 <sup>th</sup> percentile	Geometric Mean	90 <sup>th</sup> percentile	Geometric Mean	90 <sup>th</sup> percentile	<113	<368	<180	<360	<216	<9,000
	<i>E.coli</i> (CFU/100 mL)		Fecal coliform (CFU/100 mL)		Total coliform (CFU/100 mL)																
Geometric Mean	90 <sup>th</sup> percentile	Geometric Mean	90 <sup>th</sup> percentile	Geometric Mean	90 <sup>th</sup> percentile																
<113	<368	<180	<360	<216	<9,000																
<p align="center">City of Sonoma</p>																					

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required												
<b>Region 2: San Francisco Regional Water Board</b>															
<p align="center"><b>Tomales Bay Pathogens</b></p> <p>Effective Date: February 8, 2007</p> <p>BPA: Chapter 4, Surface Water Protection and Management, Nonpoint Source Control</p> <p>Resolution No. R2-2005-0046</p>	<p align="center">Marin County</p>	<p>Tomales Bay, Lagunitas Creek, Walker Creek, and Olema Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Tomales Bay pathogens TMDL.</p> <p><b>TMDL Wasteload Allocations</b>                      The Tomales Bay pathogens TMDL assigns a wasteload allocation to municipal storm water as follows:</p> <table border="1" data-bbox="890 496 1646 704"> <thead> <tr> <th colspan="3" data-bbox="890 496 1646 548">Fecal Coliform<sup>a</sup> (MPN/100 mL)</th> </tr> <tr> <th colspan="2" data-bbox="890 548 1272 600">For Direct Discharges to Tomales Bay</th> <th data-bbox="1272 548 1646 600">For Discharges to Major Tomales Bay Tributaries</th> </tr> <tr> <th data-bbox="890 600 1020 652">Median<sup>b</sup></th> <th data-bbox="1020 600 1272 652">90<sup>th</sup> percentile<sup>c</sup></th> <th data-bbox="1272 600 1646 652">Log Mean<sup>b</sup></th> </tr> </thead> <tbody> <tr> <td data-bbox="890 652 1020 704">&lt;14</td> <td data-bbox="1020 652 1272 704">&lt;43</td> <td data-bbox="1272 652 1646 704">&lt;200</td> </tr> </tbody> </table> <p><sup>a</sup> These allocations are applicable year-round and apply to any sources (existing or future) subject to regulation by NPDES permit.  <sup>b</sup> Based on a minimum of five consecutive samples equally spaced over a 30-day period.  <sup>c</sup> No more than 10% of total samples during any 30-day period may exceed this number</p> <p><b>Requirements for Implementing the Tomales Bay Pathogens TMDL Wasteload Allocations</b></p> <p>Municipalities shall, by within 18 months of permit adoption,:</p> <ol style="list-style-type: none"> <li>i. Public Participation and Outreach. Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce pathogen loading.</li> <li>ii. Pet Waste Management. Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.</li> <li>iii. Illicit Discharge Detection and Elimination. Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to Tomales Bay.</li> <li>iv. Pollution Prevention and Good Housekeeping. Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas that potentially collect and discharge fecal coliform to Tomales Bay.</li> <li>v. Report annually on water quality monitoring results and progress made on implementation of human and animal runoff reduction measures.</li> </ol>	Fecal Coliform <sup>a</sup> (MPN/100 mL)			For Direct Discharges to Tomales Bay		For Discharges to Major Tomales Bay Tributaries	Median <sup>b</sup>	90 <sup>th</sup> percentile <sup>c</sup>	Log Mean <sup>b</sup>	<14	<43	<200
Fecal Coliform <sup>a</sup> (MPN/100 mL)															
For Direct Discharges to Tomales Bay		For Discharges to Major Tomales Bay Tributaries													
Median <sup>b</sup>	90 <sup>th</sup> percentile <sup>c</sup>	Log Mean <sup>b</sup>													
<14	<43	<200													

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required						
<b>Region 2: San Francisco Regional Water Board</b>									
<p align="center"><b>Richardson Bay Pathogens</b></p> <p>Effective Date: December 18, 2009</p> <p>BPA: Chapter 7, Water Quality Attainment Strategies including TMDLs</p> <p>Resolution No. R2-2008-0061</p>	Marin County	Richardson Bay	<p><b>Purpose of Provisions</b> The purpose of these provisions is to implement the requirements of the Richardson Bay pathogens TMDL.</p> <p><b>TMDL Wasteload Allocations</b> The Richardson Bay pathogens TMDL assigns a wasteload allocation to municipal storm water as follows:</p> <table border="1" data-bbox="890 483 1646 597"> <thead> <tr> <th colspan="2" data-bbox="890 483 1646 537">Fecal Coliform<sup>a</sup> (MPN/100 mL)</th> </tr> <tr> <th data-bbox="890 537 1268 570">Median<sup>b</sup></th> <th data-bbox="1268 537 1646 570">90<sup>th</sup> Percentile<sup>c</sup></th> </tr> </thead> <tbody> <tr> <td data-bbox="890 570 1268 597" style="text-align: center;">&lt;14</td> <td data-bbox="1268 570 1646 597" style="text-align: center;">&lt;43</td> </tr> </tbody> </table> <p><sup>a</sup> These allocations are applicable year-round.  <sup>b</sup> based on a minimum of five consecutive samples equally spaced over a 30-day period  <sup>c</sup> No more than 10% of total samples during any 30-day period may exceed this number</p> <p><b>Requirements for Implementing the Richardson Bay Pathogens TMDL Wasteload Allocations</b></p> <p>Municipalities shall, by within 18 months of permit adoption:</p> <ol style="list-style-type: none"> <li>i. Public Participation and Outreach. Educate the public regarding sources of fecal coliform and associated health risks of fecal coliform in surface waters. Educate the public regarding actions that individuals can take to reduce pathogen loading.</li> <li>ii. Pet Waste Management. Develop and implement enforceable means of reducing/eliminating fecal coliform loading from pet waste.</li> <li>iii. Illicit Discharge Detection and Elimination. Develop and implement strategies to detect and eliminate illicit discharges (whether mistaken or deliberate) of sewage to Richardson Bay.</li> <li>iv. Pollution Prevention and Good Housekeeping. Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas that potentially collect and discharge fecal coliform to Richardson Bay.</li> <li>v. Report annually on progress made on implementation of pathogen reduction measures.</li> </ol>	Fecal Coliform <sup>a</sup> (MPN/100 mL)		Median <sup>b</sup>	90 <sup>th</sup> Percentile <sup>c</sup>	<14	<43
	Fecal Coliform <sup>a</sup> (MPN/100 mL)								
	Median <sup>b</sup>			90 <sup>th</sup> Percentile <sup>c</sup>					
	<14			<43					
	City of Mill Valley								
City of Tiburon									
City of Belvedere									
City of Sausalito									



**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required
<b>Region 2: San Francisco Regional Water Board</b>			
<p align="center"><b>Urban Creek</b>  <i>Diazinon &amp; Pesticide Toxicity</i></p> <p>Effective Date: May 16, 2007</p> <p>BPA: BPA – Chapter 3, Toxicity</p> <p>Resolution No. R2-2005-0063</p>	Marin County	<p align="center">Arroyo Corte Madera del Presidio,                      Corte Madera Creek,                      Coyote Creek (Marin Co.),                      Gallinas Creek,                      Miller Creek,                      Novato Creek,                      San Antonio Creek, and                      San Rafael Creek</p>	<p><b>Purpose of Provision</b></p> <p>The purpose of the following provisions is to prevent the impairment of urban streams by pesticide-related toxicity. This provision implements requirements of the TMDL for Diazinon and Pesticide Related Toxicity for Urban Creeks in the San Francisco Bay Region. Pesticides of concern include: organophosphorous pesticides (chlorpyrifos, diazinon, and malathion); pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin); carbamates (e.g., carbaryl); and fipronil.</p> <p><b>Wasteload Allocations</b>                      Diazinon: 100 ng/l                      Toxicity: 1.0 TUa (acute toxicity units) and 1.0 TUc (chronic toxicity units)</p> <p><b>Requirements for Implementing the Wasteload Allocations</b></p> <p>Urban runoff management agencies' responsibilities for addressing the allocations set above will be satisfied by complying with the requirements set forth below. Permittees may coordinate with the Bay Area Storm water Management Agencies Association, the Urban Pesticide Pollution Prevention Project, the Urban Pesticide Committee, and other agencies and organizations in carrying out these activities.</p> <p><b>A. Adopt a Pesticide-Related Toxicity Control Program</b></p> <p>To prevent the impairment of urban streams by pesticide-related toxicity, adopt an Integrated Pest Management Policy (IPM) or Ordinance, applicable to all the permittees' operations and property, as described in the Basin Plan amendment (Implementation Section) for this TMDL.</p> <p>The IPM Policy or Ordinance shall be adopted by the permittee's governing body within 18 months of permit adoption.</p> <p><b>B. Implement the Pesticide-Related Toxicity Control Program</b></p> <p>Implementation actions shall include:</p> <ul style="list-style-type: none"> <li>• Ensure all municipal employees who apply or use pesticides within the scope of their duties are trained in the IPM practices and policy/ordinance.</li> <li>• Require all contractors to implement the IPM policy/ordinance.</li> <li>• Keep the County Agricultural Commissioners informed of water quality issues related to pesticides and of violations of pesticides regulations (e.g., illegal handling) associated with storm water management.</li> <li>• Conduct outreach to residents and pest control applicators on less toxic methods of pest control.</li> <li>• Keep records of the permittees' own use of pesticides of concern and the pesticide use by the permittees' hired contractors. Report on pesticide use when requested by the Regional Water Board.</li> <li>• Monitor water and sediment for pesticides and associated toxicity in urban creeks via an individual or regional program designed to answer the following questions:                         <ul style="list-style-type: none"> <li>○ Are the TMDL toxicity targets being met? Is toxicity observed in urban creeks caused by a pesticide?</li> </ul> </li> </ul>
	City of Mill Valley		
	City of Belvedere		
	Town of Corte Madera		
	Town of Fairfax		
	City of Larkspur		
	City of Mill Valley		
	City of Novato		
	Town of Ross		
	Town of San Anselmo		
	City of San Rafael		
	City of Sausalito		
Town of Tiburon			

**ATTACHMENT G – Region Specific Requirements**

Regional Water Board Approved TMDLs where urban runoff is listed as a source

	County of Sonoma	Petaluma River, and	<ul style="list-style-type: none"> <li>○ Is urban runoff the source of any observed toxicity in urban creeks?</li> <li>○ How does observed pesticide-related toxicity in urban creeks (or pesticide concentrations contributing to such toxicity) vary in time and magnitude across urban creek watersheds, and what types of pest control practices contribute to such toxicity?</li> <li>○ Are actions already being taken to reduce pesticide discharges sufficient to meet the targets, and if not, what should be done differently?</li> </ul>
City of Petaluma	Calabazas Creek		
City of Sonoma			

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
<p><b>TMDL and Implementation Plan for Pathogens for Morro Bay and Chorro and Los Osos Creeks</b></p> <p>Effective Date: 11/19/2003</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2003-0060</p>	<p>City of Morro Bay</p>	<p>Morro Bay</p> <p>Chorro Creek</p> <p>Los Osos Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Morro Bay (Chorro and Los Osos Creeks) Pathogen TMDL.</p> <p><b>TMDL Wasteload Allocations</b>                      The City of Morro Bay and County of San Luis Obispo are assigned the following wasteload allocations: 1) for discharges to Los Osos Creek, Chorro Creek, and their tributaries, the fecal coliform geometric mean concentration shall not exceed 200 MPN/100 mL over a 30-day period nor shall 10% of the samples exceed 400 MPN/100 mL over any 30-day period. 2) For discharges to Morro Bay, the fecal coliform geometric mean concentration of 14 MPN/100 mL must be achieved and no more than 10% of the samples may be over 43 MPN/100 mL.</p> <p><b>Provisions for Implementing TMDL</b>                      Within one year of adoption of this Order, the City of Morro Bay and County of San Luis Obispo shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4's wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment interim targets and wasteload</li> </ol>
	<p>County of San Luis Obispo</p>	<p>Pennington Creek</p> <p>San Bernardo Creek</p> <p>San Luisito Creek</p> <p>Walters Creek</p> <p>Warden Creek</p>	

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
			<p>allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</p> <ol style="list-style-type: none"> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</li> </ol> <p>All allocations shall be achieved by November 19, 2013.</p>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
<p><b>Watsonville Slough Total Maximum Daily Load and Implementation Plan for Pathogens</b></p> <p>Effective Date: 11/20/2006</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2006-0025</p>	<p>City of Watsonville</p>	<p>Watsonville Slough</p> <p>Struve Slough</p> <p>Harkins Slough</p> <p>Gallighan Slough</p> <p>Hanson Slough</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Watsonville Slough Pathogen TMDL.</p> <p><b>TMDL Wasteload Allocations</b>                      The City of Watsonville and the County of Santa Cruz are assigned the following concentration based wasteload allocation: Fecal coliform concentration, based on a minimum of five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100mL, nor shall more than ten percent of total samples collected during any 30-day period exceed 400 MPN per 100mL.</p> <p>These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water.</p> <p>The City of Watsonville is assigned allocations in the following water bodies: Watsonville, Struve, Harkins, Gallighan and Hanson Sloughs.</p> <p>The County of Santa Cruz is assigned allocation in the following water bodies: Watsonville, Struve and Harkins Sloughs.</p> <p><b>Provisions for Implementing the TMDL</b>                      The City and County public participation and outreach efforts must include the following tasks: a) Educating the public about sources of fecal coliform and its associated health risks in surface waters; and b) Identifying and promoting specific actions that responsible parties can implement to reduce pathogen loading from sources such as homeless encampments, agricultural field workers, and homeowners who contribute waste from domestic pets.</p> <p>The County of Santa Cruz and City of Watsonville shall implement practices that will assure their allocation is achieved. By June 30, 2013, the County of Santa Cruz and City of Watsonville shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> </ol>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
	County of Santa Cruz		<ol style="list-style-type: none"> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</li> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment, including public education and participation items identified above.</li> </ol> <p>All allocations shall be achieved by November 20, 2016.</p>

**ATTACHMENT G – Region Specific Requirements**  
Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
<p><b>TMDL for Fecal Coliform in Pajaro River, San Benito River, Llagas Creek, Tequesquita Slough, San Juan Creek, Carnadero/Uvas Creek, Bird Creek, Pescadero Creek, Tres Pinos Creek, Furlong (Jones) Creek, Santa Ana Creek, Pachecho Creek</b></p> <p>Effective Date: 07/12/2010</p> <p>BPA: Chapter 4</p> <p>Resolution No. RB3-2009-0008</p>	County of Santa Cruz	Pajaro River	<p><b>Purpose of Provisions</b> The purpose of these provisions is to implement the requirements of the Pajaro River, San Benito River, Llagas Creek, Tequesquita Slough, San Juan Creek, Carnadero/Uvas Creek, Bird Creek, Pescadero Creek, Tres Pinos Creek, Furlong (Jones) Creek, Santa Ana Creek, and Pachecho Creek Fecal Coliform TMDL.</p>
		San Benito River	<p><b>TMDL Wasteload Allocations</b> The Cities of Hollister, Morgan Hill, Gilroy and Watsonville and the Counties of Monterey, Santa Clara and Santa Cruz are assigned the following concentration based wasteload allocation: Fecal coliform concentration, based on a minimum of five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100mL, nor shall more than ten percent of total samples collected during any 30-day period exceed 400 MPN per 100mL.</p>
		Llagas Creek	<p>These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water.</p>
	City of Hollister	Tequesquita Slough	<p>The Counties of Santa Cruz, Santa Clara and Monterey and the Cities of Hollister, Morgan Hill, Gilroy and Watsonville are assigned allocations in the following water bodies: Pajaro River, San Benito River, Llagas Creek and Tequisquita Slough.</p>
		San Juan Creek	<p><b>Provisions for Implementing the TMDL</b> Within one year of adoption of this Order, the Cities of Hollister, Morgan Hill, Gilroy and Watsonville and the Counties of Monterey, Santa Clara and Santa Cruz shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include:</p>
		Carnadero/Uvas Creek	<p>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</p>
	City of Morgan Hill	Bird Creek	<p>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</p>
		Pescadero Creek	<p>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</p>
		Tres Pinos Creek	<p>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</p>
	City of Gilroy	Furlong (Jones) Creek	<p>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</p>
		Santa Ana Creek	<p>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and/or other available tools, the MS4's wasteload allocation according to the schedule</p>
		Pachecho Creek	

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
	City of Watsonville		<p>identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</p> <p>7. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</p> <p>8. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</p> <p>9. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</p> <p>10. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</p> <p>11. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</p> <p>12. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</p> <p>All allocations shall be achieved by July 12, 2023.</p>
	County of Monterey		
	County of Santa Clara		



**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
<p><b>Morro Bay TMDL for Sediment (including Chorro Creek, Los Osos Creek, and the Morro Bay Estuary)</b></p> <p>Effective Date: 12/3/2003</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2002-0051</p>	<p>County of San Luis Obispo</p>	<p>Morro Bay</p> <p>Los Osos Creek</p> <p>Chorro Creek</p> <p>Dairy Creek</p> <p>Pennington Creek</p> <p>San Luisito Creek</p> <p>San Bernardo Creek</p> <p>Warden Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the Morro Bay TMDL for sediment.</p> <p><b>TMDL Wasteload and Load Allocations</b>                      The County of San Luis Obispo is assigned a wasteload allocation of 5,137 tones/year of sediment. This allocation represents a 50% reduction in sediment loading relative to 2003 levels. The aggregated sediment discharge from all storm water outfalls into Morro Bay, or any tributary that has the potential to discharge sediment to Morro Bay, shall not exceed the allocation.</p> <p><b>Provisions for Implementing the TMDL</b>                      The County of San Luis Obispo shall implement practices that will assure their allocation is achieved, including identifying and implementing specific road sediment control measures. Within one year of adoption of this Order, the County of San Luis Obispo shall develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions it will take to attain its wasteload allocation. The Wasteload Allocation Attainment Program shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload</li> </ol>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
			<p>allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</p> <ol style="list-style-type: none"> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</li> </ol> <p>The allocations shall be achieved by December 3, 2053.</p>
<p align="center"><b>San Lorenzo River TMDL for Sediment (Including Carbonera Creek, Lompico Creek, and Shingle Mill Creek)</b></p> <p align="center">Effective Date: 12/18/2003</p> <p align="center">BPA: Chapter 4</p> <p align="center">Resolution No. R3-2002-0063</p>	<p align="center">County of Santa Cruz</p>	<p align="center">San Lorenzo River and Carbonera, Lompico, and Shingle Mill Creeks</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the San Lorenzo River TMDL for sediment.</p> <p><b>TMDL Wasteload and Load Allocations</b>                      The County of Santa Cruz, City of Santa Cruz, and City of Scotts Valley are assigned the following wasteload allocations: sediment discharges from public roads to the San Lorenzo River shall be reduced by 27%, sediment discharges from public roads to Lompico Creek shall be reduced by 24%, sediment discharges from public roads to Carbonera Creek shall be reduced by 27%, sediment discharges from public roads to Shingle Mill Creek shall be reduced by 27%.</p> <p><b>Provisions for Implementing the TMDL</b>                      The County of Santa Cruz, City of Santa Cruz, and City of Scotts Valley shall implement practices that will assure their allocation is achieved, including identifying and implementing specific road sediment control measures. By June 30, 2013, the County of Santa Cruz, City of Santa Cruz, and City of Scotts Valley shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> </ol>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
	City of Santa Cruz		<ol style="list-style-type: none"> <li>3. Prioritization of sources within the MS4’s jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4’s wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s’ wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</li> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</li> </ol> <p>The allocations shall be achieved by December 18, 2028.</p>
	City of Scotts Valley		

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations																
<b>Region 3: Central Coast Regional Water Board</b>																			
<p><b>Pajaro River TMDL and Implementation Plan for Sediment including Llagas Creek, Rider Creek, and San Benito River</b></p> <p>Effective Date: 11/27/2006</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2005-0132</p>	City of Morgan Hill	Tres Pinos	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the San Lorenzo River TMDL for sediment.</p> <p><b>TMDL Wasteload and Load Allocations</b>                      The City of Morgan Hill, City of Gilroy, City of Hollister, and the City of Watsonville shall not discharge sediment to the following water bodies in excess of the values shown:</p> <table border="1" data-bbox="884 516 1297 873"> <thead> <tr> <th>Major Subwatershed</th> <th>Metric tons per year</th> </tr> </thead> <tbody> <tr> <td>Tres Pinos</td> <td>1</td> </tr> <tr> <td>San Benito</td> <td>100</td> </tr> <tr> <td>Llagas</td> <td>787</td> </tr> <tr> <td>Uvas</td> <td>139</td> </tr> <tr> <td>Upper Pajaro</td> <td>161</td> </tr> <tr> <td>Corralitos (including Rider Creek)</td> <td>284</td> </tr> <tr> <td>Mouth of Pajaro River</td> <td>191</td> </tr> </tbody> </table> <p>The allocations represent a 90% reduction in sediment loading to each water body from urban roads.</p> <p><b>Provisions for Implementing the TMDL</b></p> <p>1. The Cities of Morgan Hill, Gilroy, Hollister, and Watsonville shall implement practices that will assure their allocation is achieved.</p> <p>The allocations shall be achieved by November 27, 2051.</p>	Major Subwatershed	Metric tons per year	Tres Pinos	1	San Benito	100	Llagas	787	Uvas	139	Upper Pajaro	161	Corralitos (including Rider Creek)	284	Mouth of Pajaro River	191
	Major Subwatershed	Metric tons per year																	
	Tres Pinos	1																	
	San Benito	100																	
	Llagas	787																	
	Uvas	139																	
Upper Pajaro	161																		
Corralitos (including Rider Creek)	284																		
Mouth of Pajaro River	191																		
City of Gilroy	San Benito River	Llagas Creek																	
	Uvas Creek	Upper Pajaro River																	
	Corralitos Creek (including Rider Creek),	Mouth of Pajaro River																	

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
<p><b>San Luis Obispo Creek Total Maximum Daily Load and Implementation Plan for Pathogens</b></p> <p>Effective Date: 7/25/2005</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2004-0142</p>	<p>City of San Luis Obispo</p> <p>County of San Luis Obispo</p> <p>Cal Poly State University</p>	<p>San Luis Obispo Creek</p> <p>Stenner Creek</p> <p>Brizzolari Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the San Luis Obispo Creek TMDL for Pathogens.</p> <p><b>TMDL Wasteload Allocations</b>                      The City of San Luis Obispo, the County of San Luis Obispo, and Cal Poly State University-San Luis Obispo, are assigned a concentration based wasteload allocation for fecal coliform equal to 200 MPN/100mL, measured as a log mean of five samples taken in a 30-day period from impaired water body receiving waters, nor shall more than 10% of the total samples during any 30-day period exceed 400 MPN per 100mL in receiving waters; storm water discharge cannot cause or contribute to exceedance of the allocations.</p> <p>The City of San Luis Obispo is assigned these allocations in the following water bodies: San Luis Obispo Creek, Stenner Creek.</p> <p>The County of San Luis Obispo is assigned these allocations in the following water bodies: San Luis Obispo Creek.</p> <p>Cal Poly State University-San Luis Obispo is assigned these allocations in the following water bodies: Stenner Creek, Brizzoliola</p> <p><b>Provisions for Implementing the TMDL</b>                      The City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University are required to implement best management practices specifically targeting fecal coliform loading. Required actions include development and implementation of: public education regarding fecal coliform sources and associated health risk, enforceable means of addressing pet waste and wild animals that are attracted to storm water infrastructure, elimination of illicit discharges.</p> <p>Within one year of adoption of this Order, the City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each</li> </ol>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
			<p>BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</p> <ol style="list-style-type: none"> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</li> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL Schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</li> </ol> <p>All allocations shall be achieved no later than July 25, 2015.</p>
<p><b>San Luis Obispo Creek TMDL and Implementation Plan for Nitrate-Nitrogen</b></p> <p>Effective Date: 8/04/2006</p>	<p>City of San Luis Obispo</p>	<p>San Luis Obispo Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the San Luis Obispo Creek TMDL for Nitrate.</p> <p><b>TMDL Wasteload Allocations</b>                      Urban storm water from the City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State</p>

**ATTACHMENT G – Region Specific Requirements**

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
BPA: Chapter 4  Resolution No. R3-2005-0106	County of San Luis Obispo		<p>University shall not cause an increase in receiving water nitrate concentration greater than the increase in nitrate concentration resulting from their discharge in 2006 (when the TMDL became effective). In 2006, the nitrate concentration of storm water discharge was 0.3 mg/L-N.</p> <p>The City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University were achieving their allocations at the time the TMDL became effective; these municipalities shall implement measures to assure continued compliance with their allocations.</p> <p><b>Provisions for Implementing the TMDL</b>                      The City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University shall implement best management practices that specifically address the reduction or elimination of nutrient loading.</p> <p>The City of San Luis Obispo, County of San Luis Obispo, and Cal Poly State University shall submit reports required by their storm water permits and in those reports outline best management practices implemented to assure ongoing compliance with their allocations.</p>
	Cal Poly State University		

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
<p><b>TMDL for Fecal Coliform in Corralitos and Salsipuedes Creeks</b></p> <p>Effective Date: OAL approval anticipated early 2011</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2009-0009</p>	<p>County of Santa Cruz</p>	<p>Corralitos Creek</p> <p>Salsipuedes Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the TMDL for Fecal Coliform in Corralitos/Salsipuedes Creeks</p> <p><b>TMDL Wasteload Allocations</b>                      The County of Santa Cruz and the City of Watsonville are assigned the following concentration based wasteload allocation: Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL.</p> <p>These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water.</p> <p>The County of Santa Cruz and the City of Watsonville are assigned allocations in the following water bodies: Corralitos Creek and Salsipuedes Creek.</p> <p><b>Provisions for Implementing the TMDL</b>                      Within one year of adoption of this order, the County of Santa Cruz and the City of Watsonville shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> </ol>



**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
	City of Watsonville		<ol style="list-style-type: none"> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</li> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</li> </ol> <p>All allocations shall be achieved no later than September 8, 2024.</p>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
<p><b>TMDL for Fecal Coliform in the Lower Salinas River Watershed</b></p> <p>Effective Date: OAL approval anticipated in 2011</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2010-0017</p>	<p>County of Monterey</p>	<p>Lower Salinas River</p> <p>Old Salinas River Estuary</p> <p>Tembladero Slough</p> <p>Salinas Reclamation Canal</p> <p>Alisal Creek</p> <p>Gabilan Creek</p> <p>Salinas River Lagoon (North)</p> <p>Santa Rita Creek</p> <p>Quail Creek</p> <p>Towne Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the TMDL for fecal coliform in the Lower Salinas River Watershed.</p> <p><b>TMDL Wasteload Allocations</b>                      The County of Monterey is assigned the following concentration based wasteload allocation for fecal coliform:</p> <p>Fecal coliform concentration, based on a minimum of five samples for any 30-day period, shall not exceed a log mean of 200 MPN per 100mL, nor shall more than ten percent of total samples collected during any 30-day period exceed 400 MPN per 100mL.</p> <p>These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocation as measured in receiving water.</p> <p><b>Provisions for Implementing the TMDL</b>                      Within one year of adoption of this Order, the County of Monterey shall develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions it will take to attain its wasteload allocation. The Wasteload Allocation Attainment Program shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess</li> </ol>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
			<p>discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</p> <p>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</p> <p>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</p> <p>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</p> <p>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</p> <p>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</p> <p>All allocations shall be achieved no later than December 20, 2024.</p>
<p><b>TMDL for Pathogens in San in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek</b></p>	<p>City of Santa Cruz  County of Santa Cruz  City of Scotts Valley</p>	<p>San Lorenzo River Estuary  San Lorenzo River  Branciforte Creek</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the TMDL for Pathogens in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, Camp Evers Creek, Carbonera Creek, and Lompico Creek.</p> <p><b>TMDL Wasteload Allocations</b>                      The City of Santa Cruz, County of Santa Cruz and the City of Scotts Valley are assigned the following concentration based wasteload allocation for fecal coliform: based on a minimum of not less than five samples for any 30-day period, fecal coliform shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL.</p>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
Effective Date: OAL approval pending; anticipated March 2011  BPA: Chapter 4  Resolution No. R3-2009-0023		Camp Evers Creek  Carbonera Cree  Lompico Creek	<p>These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water.</p> <p>The City of Santa Cruz is assigned allocations in San Lorenzo River Estuary, San Lorenzo River, Branciforte Creek, and Carbonera Creek.</p> <p>The County of Santa Cruz is assigned allocations in San Lorenzo River, Branciforte Creek, Lompico Creek, and Carbonera Creek,</p> <p>The City of Scotts Valley is assigned allocations in Camp Evers Creek and Carbonera Creek.</p> <p><b>Provisions for Implementing the TMDL</b>                      By June 30, 2013, the County of Santa Cruz and the Cities of Santa Cruz and Scotts Valley shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate</li> </ol>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
			<p>BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</p> <ol style="list-style-type: none"> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</li> </ol> <p>All allocations shall be achieved no later than June 8, 2024.</p>
<p><b>TMDL for Pathogens in Soquel Lagoon, Soquel Creek, and Noble Gulch</b></p> <p>Effective Date: 9/15/2010</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2009-0024</p>	<p>City of Capitola</p> <p>County of Santa Cruz</p>	<p>Soquel Lagoon</p> <p>Soquel Creek</p> <p>Noble Gulch</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the TMDL for Pathogens in Soquel Lagoon, Soquel Creek, and Noble Gulch.</p> <p><b>TMDL Wasteload Allocations</b>                      The City of Capitola and the County of Santa Cruz are assigned the following concentration based wasteload allocation for fecal coliform: based on a minimum of not less than five samples for any 30-day period, fecal coliform shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL.</p> <p>These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water.</p>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
			<p>The City of Capitola is assigned allocations in Soquel Lagoon.</p> <p>The County of Santa Cruz is assigned allocations in Soquel Creek and Noble Gulch.</p> <p><b>Provisions for Implementing the TMDL</b>                      By June 30, 2013, the City of Capitola and the County of Santa Cruz shall each develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions they will take to attain their wasteload allocations. The Wasteload Allocation Attainment Programs shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL Schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and</li> </ol>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
			<p>implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</p> <ol style="list-style-type: none"> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</li> </ol> <p>All allocations shall be achieved by September 15, 2023.</p>
<p><b>TMDL for Pathogens in Aptos Creek, Valencia Creek, and Trout Gulch</b></p> <p>Effective Date: 10/29/2010</p> <p>BPA: Chapter 4</p> <p>Resolution No. R3-2009-0025</p>	<p>County of Santa Cruz</p>	<p>Aptos Creek</p> <p>Valencia Creek</p> <p>Trout Gulch</p>	<p><b>Purpose of Provisions</b>                      The purpose of these provisions is to implement the requirements of the TMDL for Pathogens in Aptos Creek, Valencia Creek, and Trout Gulch.</p> <p><b>TMDL Wasteload Allocations</b>                      The County of Santa Cruz is assigned the following concentration based wasteload allocation for fecal coliform: based on a minimum of not less than five samples for any 30-day period, fecal coliform shall not exceed a log mean of 200 MPN per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 MPN per 100 mL.</p> <p>These wasteload allocations are receiving water allocations; storm water discharge cannot cause or contribute to exceedance of the allocations as measured in receiving water.</p> <p>The County of Santa Cruz is assigned allocations in Aptos Creek, Valencia Creek, and Trout Gulch.</p> <p><b>Provisions for Implementing the TMDL</b>                      By June 30, 2013, the County of Santa Cruz shall develop, submit, and begin implementation of a Wasteload Allocation Attainment Program that identifies the actions it will take to attain its wasteload allocation. The Wasteload Allocation Attainment Program shall include:</p> <ol style="list-style-type: none"> <li>1. A detailed description of the strategy the MS4 will use to guide BMP selection, assessment, and implementation, to ensure that BMPs implemented will be effective at abating pollutant sources, reducing pollutant discharges, and achieving wasteload allocations according to the TMDL schedule.</li> <li>2. Identification of sources of the impairment within the MS4's jurisdiction, including specific information on various source locations and their magnitude within the jurisdiction.</li> <li>3. Prioritization of sources within the MS4's jurisdiction, based on suspected contribution to the impairment, ability to control the source, and other pertinent factors.</li> </ol>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Wasteload Allocations
<b>Region 3: Central Coast Regional Water Board</b>			
			<ol style="list-style-type: none"> <li>4. Identification of BMPs that will address the sources of impairing pollutants and reduce the discharge of impairing pollutants.</li> <li>5. Prioritization of BMPs, based on suspected effectiveness at abating sources and reducing impairing pollutant discharges, as well as other pertinent factors.</li> <li>6. Identification of BMPs the MS4 will implement, including a detailed implementation schedule. For each BMP, identify milestones the MS4 will use for tracking implementation, measurable goals the MS4 will use to assess implementation efforts, and measures and targets the MS4 will use to assess effectiveness. MS4s shall include expected BMP implementation for future implementation years, with the understanding that future BMP implementation plans may change as new information is obtained.</li> <li>7. A quantifiable numeric analysis demonstrating the BMPs selected for implementation will likely achieve, based on modeling, published BMP pollutant removal performance estimates, best professional judgment, and/or other available tools, the MS4's wasteload allocation according to the schedule identified in the TMDL. This analysis will most likely incorporate modeling efforts. The MS4 shall conduct repeat numeric analyses as the BMP implementation plans evolve and information on BMP effectiveness is generated. Once the MS4 has water quality data from its monitoring program, the MS4 shall incorporate water quality data into the numeric analyses to validate BMP implementation plans.</li> <li>8. A detailed description, including a schedule, of a monitoring program the MS4 will implement to assess discharge and receiving water quality, BMP effectiveness, and progress towards any interim targets and ultimate attainment of the MS4s' wasteload allocation. The monitoring program shall be designed to validate BMP implementation efforts and quantitatively demonstrate attainment of interim targets and wasteload allocations. If the approved TMDL does not explicitly include interim targets, the MS4 shall establish interim targets (and dates when stormwater discharge conditions will be evaluated) that are equally spaced in time over the TMDL compliance schedule and represent measurable, continually decreasing MS4 discharge concentrations or other appropriate interim measures of pollution reduction and progress towards the wasteload allocation. At least one interim target and date must occur during the five-year term of this Order. The MS4 shall achieve its interim targets by the date it specifies in the Wasteload Allocation Attainment Program. If the MS4 does not achieve its interim target by the date specified, the MS4 shall develop and implement more effective BMPs that it can quantitatively demonstrate will achieve the next interim target.</li> <li>9. A detailed description of how the MS4 will assess BMP and program effectiveness. The description shall incorporate the assessment methods described in the CASQA Municipal Storm water Program Effectiveness Assessment Guide.</li> <li>10. A detailed description of how the MS4 will modify the program to improve upon BMPs determined to be ineffective during the effectiveness assessment.</li> <li>11. A detailed description of information the MS4 will include in annual reports to demonstrate adequate progress towards attainment of wasteload allocations according to the TMDL schedule.</li> <li>12. A detailed description of how the MS4 will collaborate with other agencies, stakeholders, and the public to develop and implement the Wasteload Allocation Attainment Program.</li> <li>13. Any other items identified by Integrated Report fact sheets, TMDL Project Reports, TMDL Resolutions, or that are currently being implemented by the MS4 to control its contribution to the impairment.</li> </ol> <p>All allocations shall be achieved October 29, 2023.</p>



**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 5: Central Valley Regional Water Board</b>			
<p><b>Lower San Joaquin River</b>  <i>Diazinon &amp; Chlorpyrifos</i></p> <p>Effective Date: December 20,2006</p> <p>BPA: Chapter 3</p> <p>Resolution No.: R5-2005-0138</p>	City of Madera (including the area known as Bonadelle Ranchos-Ma and Madera Acres)	San Joaquin River from Mendota Dam to Vernalis	<p><b>Purpose of Provisions:</b>                      The purpose of these provisions is to implement the Lower San Joaquin River Diazinon and Chlorpyrifos Control Program</p> <p><b>Wasteload Allocations:</b>                      The wasteload allocations for NPDES permitted municipal storm water dischargers shall not exceed the sum (S) of one (1) as defined below:</p> $S = \frac{C_D}{WQOD} + \frac{C_C}{WQOC} \leq 1.0$ <p>where                      CD = diazinon concentration                      CC = chlorpyrifos concentration                      WQOD = acute or chronic diazinon water quality objective (0.160 and 0.100 ug/L, respectively)                      WQOC = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 ug/L, respectively)</p> <p>For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero.</p> <p><b>Provisions for implementing the Control Program:</b>                      Dischargers not meeting wasteload allocations will be required by the Executive Officer to submit a management plan describing actions that will be taken to reduce diazinon and chlorpyrifos discharges to meet the applicable allocations. The Executive Officer may require revisions to the management plans if compliance with wasteload allocations are not attained or the management plan is not likely to attain compliance. Management plans may be submitted by individual dischargers or discharger groups.</p> <p>In determining compliance with the waste load allocations, the Regional Water Board will consider data or information submitted by the discharger regarding diazinon and chlorpyrifos inputs from sources outside of the jurisdiction of the permitted discharge.</p> <p>Dischargers must consider whether a proposed alternative to diazinon or chlorpyrifos has the potential to degrade ground or surface water. If the alternative has the potential to degrade groundwater, alternative pest control methods must be considered. If the alternative has the potential to degrade surface water, control measures must be implemented to ensure the applicable water quality objectives and State and Regional Water Boards' policies are not violated, including State Water Resources Control Board Resolution 68-16.</p>
	City of Merced		
	City of Turlock		
	County of San Joaquin		
	County of Madera		
	County of Merced		
	County of Stanislaus		
	County of Tulare		
	City of Atwater		
	City of Ceres		
	City of Delhi		
	City of Hughson		
	City of Keyes		
	City of Livingston		
City of Los Banos			
City of Patterson			
City of Winton			

**ATTACHMENT G – Region Specific Requirements**  
Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 5: Central Valley Regional Water Board</b>			
<b>Lower San Joaquin River</b> <i>Diazinon &amp; Chlorpyrifos</i> <b>continued</b>	City of Oakdale		<b>Compliance with wasteload allocations:</b> 01 December 2010
	City of Ripon		
	City of Riverbank		
	City of Salida		
<b>Sacramento and San Joaquin Delta</b> Diazinon & Chlorpyrifos  Effective Date: October 10, 2006  BPA: Chapter 31  Resolution No.: R5-2006-0061	City of Lathrop	Sacramento-San Joaquin Delta Waterways	<b>Purpose of Provisions:</b> The purpose of these provisions is to implement the Control Program for Diazinon and Chlorpyrifos Runoff into the Sacramento-San Joaquin Delta Waterways  <b>Wasteload Allocations:</b> The wasteload allocations for NPDES permitted municipal storm water dischargers shall not exceed the sum (S) of one (1) as defined below:  $S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$ where  CD = diazinon concentration CC = chlorpyrifos concentration WQOD = acute or chronic diazinon water quality objective (0.160 and 0.100 ug/L, respectively) WQOC = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 ug/L, respectively)
	City of Rio Vista		
	City of Tracy		
	County of San Joaquin		
	City of Davis		
	City of Dixon		
	City of French Camp		
	City of Lodi		
	City of Manteca		
	City of Morada		
<b>Sacramento and San Joaquin Delta</b> <i>Diazinon &amp; Chlorpyrifos</i> <b>continued</b>	City of Vacaville		For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero.  <b>Provisions for implementing the Control Program:</b> Dischargers not meeting wasteload allocations will be required by the Executive Officer to submit a management plan describing actions that will be taken to reduce diazinon and chlorpyrifos discharges to meet the applicable allocations. The Executive Officer may require revisions to the management plans if compliance with wasteload allocations are not attained or the management plan is not likely to attain compliance. Management plans may be submitted by individual dischargers or discharger groups.  In determining compliance dates for wasteload allocations, the Regional Water Board will consider data or information submitted by the discharger regarding diazinon and chlorpyrifos inputs from sources outside of the jurisdiction of the permitted discharge.
	City of West Sacramento		
	City of Woodland		

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 5: Central Valley Regional Water Board</b>			
<p align="center"><b>Sacramento and San Joaquin Delta Diazinon &amp; Chlorpyrifos continued</b></p>			<p>To address pesticide impairment of receiving waters, Permittees shall create and implement a Regional Board-approved Pesticide Plan that addresses their own use of pesticides including diazinon and chlorpyrifos, and to the extent authorized by law, the use of such pesticides by other sources within their jurisdictions. The goal of the Pesticides Plan is to reduce the discharge of pesticides from municipal storm water systems to receiving waters. The Permittees shall identify and promote within the context of integrated pest management (IPM) programs, the use of pest management practices that minimize the risk of pesticide impacts on surface water quality resulting from urban runoff discharges. IPM shall be integrated into the Permittee municipal operations and promoted to residents, businesses, and public agencies through the public outreach program.</p> <p>Permittees shall complete an assessment to determine the diazinon and chlorpyrifos levels in receiving waters. Monitoring may be done in conjunctions with other municipalities and/or discharges in the Central Valley. Permittees are responsible for providing the necessary information. The information may come from the dischargers' monitoring efforts; monitoring programs conducted by State or federal agencies or collaborative watershed efforts; or from special studies that evaluate the effectiveness of management practices. The purposes of the study are to evaluate compliance with established water quality objectives applicable to diazinon and chlorpyrifos for the receiving water and to determine compliance with wasteload allocations. In cases where the Permittees are not in compliance with the wasteload allocations, the Regional Water Board may request additional assessments and documentation of control program effectiveness. Assessment shall also consider whether alternatives to diazinon and chlorpyrifos are causing surface water quality impacts and if toxicity impairment is being caused or contributed to due to synergistic effects of multiple pollutants.</p> <p>Modifications to these requirements may be made through approval from the Executive Officer in order to facilitate discharger participation in the Delta Regional Monitoring Program.</p> <p><b>Compliance with wasteload allocations:</b> 01 December 2011</p>

**ATTACHMENT G – Region Specific Requirements**  
Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 5: Central Valley Regional Water Board</b>			
<p><b>Sacramento and Feather Rivers</b> <i>Diazinon &amp; Chlorpyrifos</i></p> <p>Effective Date: May 3, 2007</p> <p>BPA: Attachment 1</p> <p>Resolution No.: R5-2007-0034</p> <p><b>Sacramento and Feather Rivers</b> <i>Diazinon &amp; Chlorpyrifos</i> <b>continued</b></p>	City of Anderson	<p>Sacramento River from Shasta Dam to I Street Bridge</p> <p>Feather River from Fish Barrier Dam to Sacramento River</p>	<p><b>Purpose of Provisions:</b> The purpose of these provisions is to implement the Control Program for Diazinon and Chlorpyrifos Runoff into the Sacramento and Feather Rivers</p> <p><b>Wasteload Allocations:</b> The wasteload allocations for NPDES permitted municipal storm water dischargers shall not exceed the sum (S) of one (1) as defined below:</p> $S = \frac{C_D}{WQO_D} + \frac{C_C}{WQO_C} \leq 1.0$ <p>where            CD = diazinon concentration            CC = chlorpyrifos concentration            WQOD = acute or chronic diazinon water quality objective (0.160 and 0.100 ug/L, respectively)            WQOC = acute or chronic chlorpyrifos water quality objective. (0.025 and 0.015 ug/L, respectively)</p> <p>For the purpose of calculating the sum (S) above, non-detectable concentrations are considered to be zero.</p> <p><b>Provisions for implementing the Control Program:</b> Dischargers not meeting wasteload allocations will be required by the Executive Officer to submit a management plan describing actions that will be taken to reduce diazinon and chlorpyrifos discharges to meet the applicable allocations. The Executive Officer may require revisions to the management plans if compliance with wasteload allocations are not attained or the management plan is not likely to attain compliance. Management plans may be submitted by individual dischargers or discharger groups.</p> <p>In determining compliance with the waste load allocations, the Regional Water Board will consider data or information submitted by the discharger regarding diazinon and chlorpyrifos inputs from sources outside of the jurisdiction of the permitted discharge.</p> <p>Dischargers must consider weather a proposed alternative to diazinon or chlorpyrifos has the potential to degrade ground or surface water. If the alternative has the potential to degrade groundwater, alternative pest control methods must be considered. If the alternative has the potential to degrade surface water, control measures must be implemented to ensure the applicable water quality objectives and State and Regional Water Boards' policies are not violated, including State Water Resources Control Board Resolution 68-16.</p> <p><b>Compliance with wasteload allocations:</b> 11 August 2008</p>
	City of Chico		
	City of Marysville		
	Olivehurst CDP		
	City of Red Bluff		
	South Yuba City		
	County of Butte		
	County of Colusa		
	County of Shasta		
	County of Sutter		
	City of Live Oak		
	City of Lincoln		
	City of Linda		
	City of Loomis		
	City of Redding		
City of Roseville			
City of Rocklin			
County of Yuba			

**ATTACHMENT G – Region Specific Requirements**

Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 5: Central Valley Regional Water Board</b>			
<p><b>Lower San Joaquin River San Joaquin River, Stockton DWSC TMDL</b>  <i>Organic Enrichment and Low Dissolved Oxygen</i></p> <p>Effective Date: February 27, 2007</p> <p>BPA: Chapter IV-37.01</p> <p>Resolution No.: R5-2005-005</p>	<p>County of San Joaquin</p> <p>City of French Camp</p> <p>City of Ceres</p> <p>City of Oakdale</p> <p>City of Patterson</p> <p>City of Riverbank</p> <p>City of Ripon</p> <p>City of Lathrop</p> <p>City of Turlock</p> <p>City of Manteca</p> <p>City of Livingston</p> <p>City of Los Banos</p> <p>County of Stanislaus</p> <p>City of Empire</p> <p>City of Keyes</p> <p>City of Salida</p> <p>City of Hughson</p> <p>County of Merced</p> <p>City of Atwater</p> <p>City of Merced</p> <p>City of Delhi</p> <p>City of Winton</p>	<p>Lower San Joaquin River (Stockton DWSC)</p>	<p><b>Purpose of Provisions:</b>                      The purpose of these provisions is to implement the requirements of the San Joaquin River Dissolved Oxygen TMDL.</p> <p><b>Wasteload Allocations:</b>                      Waste load allocations for all NPDES-permitted discharges of oxygen demanding substances were set at the corresponding effluent limitations applicable on 28 January 2005.</p> <p><b>Provisions for Implementing the Control Program:</b>                      Waste load allocations and permit conditions for new or expanded point source discharges in the SJR Basin upstream of the DWSC, including NPDES and storm water, will be based on the discharger demonstrating that the discharge will have no reasonable potential to cause or contribute to a negative impact on the dissolved oxygen impairment in the DWSC.</p> <p><b>Compliance with waste load allocations:</b>                      December 31, 2011</p> <p><b>Compliance with implementation provisions:</b>                      Ongoing</p>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 5: Central Valley Regional Water Board</b>			
<p><b>Delta TMDL</b> <i>Methylmercury</i></p> <p>Effective Date: Pending</p> <p>Resolution No.: R5-2010-0043</p> <p><b>Delta TMDL</b> <i>Methylmercury</i> <b>continued</b></p>	<p>City of Lathrop</p> <p>City of Rio Vista</p> <p>City of Tracy</p> <p>City of Lodi</p> <p>County of San Joaquin</p> <p>County of Solano</p> <p>City of West Sacramento</p> <p>County of Yolo</p>	<p>Sacramento-San Joaquin Delta Waterways</p>	<p><b>Purpose of Provisions:</b> The purpose of these provisions is to implement the requirements of the Delta methylmercury TMDL.</p> <p><b>Wasteload Allocations ( methylmercury g/yr):</b>                      Lodi (City of) 0.053                      San Joaquin (County of) 1.486                      Rio Vista (City of) 0.0078                      Solano (County of) 0.062                      West Sacramento (City of) 0.64                      Yolo (County of) 0.124                      Lathrop (City of) 0.097                      Tracy (City of) 0.65</p> <p><b>Provisions for Implementing the Control Program:</b> Implement BMPs to control erosion and sediment discharges with the goal of reducing mercury discharges.</p> <p><b>Compliance with implementation provisions:</b> Ongoing</p>
<p><b>Clear Lake TMDL</b> <i>Nutrients</i></p> <p>Effective Date: 6/23/2006</p> <p>BPA: Chapter IV-37.04</p> <p>Resolution No.: R5-2006-0060</p>	<p>County of Lake</p> <p>City of Clearlake</p> <p>City of Lakeport</p>	<p>Clear Lake</p>	<p><b>Purpose of Provisions:</b> The purpose of these provisions is to implement the requirements of the Clear Lake TMDL.</p> <p><b>Wasteload Allocations:</b> County of Lake, City of Clearlake and City of Lakeport combined 2,000 kg phosphorus/yr</p> <p><b>Provisions for Implementing the Control Program:</b> Storm water permittees will work with staff to develop and implement a plan to collect the information needed to determine what factors are important in controlling nuisance blooms and to recommend what control strategy should be implemented. Plan was submitted in 2008.</p> <p><b>Compliance with waste load allocations:</b> <b>June 2017</b></p>

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res.No.	Municipality	Impaired Water Body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 6: Lahontan Regional Water Board</b>			
<p align="center"><b>Middle Truckee River Watershed, Placer, Nevada and Sierra Counties Sediment</b></p> <p>Effective Date: May 14, 2008</p> <p>BPA: Section 4.13</p> <p>Resolution No.: R6T-2008-0019</p>	<p align="center">City of Truckee</p>	<p align="center">Truckee River</p>	<p><b>Purpose of Provisions:</b> The purpose of these provisions is to implement the requirements of the Middle Truckee River Watershed TMDL.</p> <p><b>Urban Areas Wasteload Allocations:</b> 4,936 tons per year of total suspended sediment load.</p> <p><b>Non-urban Wasteload Allocations:</b> 35,392 tons per year of total suspended sediment load.</p> <p><b>Provisions for Implementing the Control Program:</b></p> <ol style="list-style-type: none"> <li>1. Road sand application best management practices (BMPs) and recovery tracking - Road sand is applied using BMPs and recovered to the maximum extent practicable.</li> <li>2. Dirt roads maintained or decommissioned - Identified dirt roads with inadequate erosion control structures are rehabilitated and maintained, or decommissioned. Focus on dirt roads with high potential for sediment delivery to surface waters (e.g., within 200 feet of watercourse).</li> <li>3. Legacy sites restoration and best management practices implementation - Identified legacy sites are restored or storm water BMPs are implemented to prevent erosion and sedimentation to surface waters.</li> </ol> <p><b>Compliance with waste load allocations:</b> target of 25 milligrams per liter, or less, of suspended sediment is estimated for 2028 (i.e., 20 years after the adoption of the TMDL in 2008).</p>
	<p align="center">County of Placer</p>		

**ATTACHMENT G – Region Specific Requirements**  
Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res.No.	Municipality	Impaired Water Body	Deliverables/Actions Required/Waste Load Allocations																				
<b>Region 9: San Diego Regional Water Board</b>																							
<p align="center"><b>Chollas Creek</b> <i>Dissolved Copper, Lead, and Zinc</i>  Effective Date: October 22, 2008  Resolution No. R9-2007-0043</p>	City of San Diego	Chollas Creek	<p><b>WLA</b> WLA for point sources is concentration-based, equals to 90% of Numeric Target value (generated from the CTR equations) after applying 10% of Margin of Safety.</p> <p>TMDLs = WLAs = CTR WQOs * 0.9</p> <p align="center"><i>Wasteload Allocations for dissolved copper, lead, and zinc</i></p> <table border="1" data-bbox="1041 570 1803 943"> <thead> <tr> <th data-bbox="1041 570 1161 683">Metal</th> <th data-bbox="1161 570 1472 683">WLA for Acute Conditions – One-Hour Average = Loading Capacity* MOS</th> <th data-bbox="1472 570 1803 683">WLA for Chronic Conditions – Four-Day Average =Loading Capacity*MOS</th> </tr> </thead> <tbody> <tr> <td data-bbox="1041 683 1161 760">Copper</td> <td data-bbox="1161 683 1472 760"><math>(0.96) * \{e^{[0.9422 * \ln(\text{hardness}) - 1.700]}\} * 0.9</math></td> <td data-bbox="1472 683 1803 760"><math>(0.96) * \{e^{[0.8545 * \ln(\text{hardness}) - 1.702]}\} * 0.9</math></td> </tr> <tr> <td data-bbox="1041 760 1161 873">Lead</td> <td data-bbox="1161 760 1472 873"><math>[1.46203 - 0.145712 * \ln(\text{hardness})] * \{e^{[1.273 * \ln(\text{hardness}) - 1.460]}\} * 0.9</math></td> <td data-bbox="1472 760 1803 873"><math>[1.46203 - 0.145712 * \ln(\text{hardness})] * \{e^{[1.273 * \ln(\text{hardness}) - 4.705]}\} * 0.9</math></td> </tr> <tr> <td data-bbox="1041 873 1161 943">Zinc</td> <td data-bbox="1161 873 1472 943"><math>(0.978) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9</math></td> <td data-bbox="1472 873 1803 943"><math>(0.986) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9</math></td> </tr> </tbody> </table> <p>WLAs are regulated through San Diego Municipal Storm Water Permit (MS4 Permit) under Order No. R9-2007-0001. The municipal Copermittees regulated by this permit that have jurisdiction in the Chollas Creek watershed are the City of San Diego, the City of Lemon Grove, the City of La Mesa, County of San Diego, and the San Diego Unified Port District. These municipal Copermittees have responsibility for virtually all discharges to and from the municipal storm water conveyance system in the watershed through mechanisms such as enforcing existing or adopting new local ordinances, implementing waste load reduction plans and conducting public outreach/education programs.</p> <p>Over a 20-year compliance period:</p> <table border="1" data-bbox="879 1219 1383 1320"> <thead> <tr> <th data-bbox="879 1219 1016 1247">Years</th> <th data-bbox="1016 1219 1383 1247">Allowable Exceedance (% above)</th> </tr> </thead> <tbody> <tr> <td data-bbox="879 1247 1016 1274">1</td> <td data-bbox="1016 1247 1383 1274">100</td> </tr> <tr> <td data-bbox="879 1274 1016 1302">10</td> <td data-bbox="1016 1274 1383 1302">20</td> </tr> <tr> <td data-bbox="879 1302 1016 1320">20</td> <td data-bbox="1016 1302 1383 1320">0</td> </tr> </tbody> </table>	Metal	WLA for Acute Conditions – One-Hour Average = Loading Capacity* MOS	WLA for Chronic Conditions – Four-Day Average =Loading Capacity*MOS	Copper	$(0.96) * \{e^{[0.9422 * \ln(\text{hardness}) - 1.700]}\} * 0.9$	$(0.96) * \{e^{[0.8545 * \ln(\text{hardness}) - 1.702]}\} * 0.9$	Lead	$[1.46203 - 0.145712 * \ln(\text{hardness})] * \{e^{[1.273 * \ln(\text{hardness}) - 1.460]}\} * 0.9$	$[1.46203 - 0.145712 * \ln(\text{hardness})] * \{e^{[1.273 * \ln(\text{hardness}) - 4.705]}\} * 0.9$	Zinc	$(0.978) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9$	$(0.986) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9$	Years	Allowable Exceedance (% above)	1	100	10	20	20	0
	Metal			WLA for Acute Conditions – One-Hour Average = Loading Capacity* MOS	WLA for Chronic Conditions – Four-Day Average =Loading Capacity*MOS																		
	Copper			$(0.96) * \{e^{[0.9422 * \ln(\text{hardness}) - 1.700]}\} * 0.9$	$(0.96) * \{e^{[0.8545 * \ln(\text{hardness}) - 1.702]}\} * 0.9$																		
	Lead			$[1.46203 - 0.145712 * \ln(\text{hardness})] * \{e^{[1.273 * \ln(\text{hardness}) - 1.460]}\} * 0.9$	$[1.46203 - 0.145712 * \ln(\text{hardness})] * \{e^{[1.273 * \ln(\text{hardness}) - 4.705]}\} * 0.9$																		
Zinc	$(0.978) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9$	$(0.986) * \{e^{[0.8473 * \ln(\text{hardness}) + 0.884]}\} * 0.9$																					
Years	Allowable Exceedance (% above)																						
1	100																						
10	20																						
20	0																						
City of Lemon Grove																							
City of La Mesa																							
County of San Diego																							



**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res.No.	Municipality	Impaired Water Body	Deliverables/Actions Required/Waste Load Allocations																																																							
<b>Region 9: San Diego Regional Water Board</b>																																																										
<p><b>Bacteria Project I – Twenty Beaches and Creeks in the San Diego Region (Including Tecolote Creek)</b></p> <p><i>Indicator Bacteria</i></p> <p>Effective Date: April 4, 2011</p> <p>Resolution No. R9-2010-0001</p>			<i>Waste Load Allocations for Municipal MS4</i>																																																							
			<b>Watershed</b>	<b>Fecal Coliform WLA</b>		<b>Enterococcus WLA</b>		<b>Total Coliform WLA</b>																																																		
				(Billion MPN/year) Wet Weather	Dry Weather	(Billion MPN/year) Wet Weather	Dry Weather	(Billion MPN/year) Wet Weather	Dry Weather																																																	
			San Joaquin Hills /	37,167	227	66,417	Laguna Hills HSAs (901.11 and 901.12)	477,069	242	735,490	Aliso HAS (901.13)	152,446	92	219,528	Dana Point HAS ((01.14)	1,156,419	1,665	1,385,094	Lower San Juan HAS (901.27)	192,653	192	295,668	San Clemente HA (901.30)	914,026	1,058	1,300,235	San Luis Rey HU (901.00)	6,558	26	23,771	San Marcos HA (904.50)	798,175	1,293	1,763,603	San Dieguito HU (905.50)	6,703	7	8,109	Miramar Reservoir HA (906.10)	101,253	119	232,035	Scripps HA (906.30)	126,806	234	471,211	Tecolote HA (906.5)	221,117	1,506	890,617	Mission San Diego/Santee HSAs (907.11)							

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res.No.	Municipality	Impaired Water Body	Deliverables/Actions Required/Waste Load Allocations																														
			<p>and 907.12)</p> <p><b>Chollas HAS (908.22)</b>      <b>252,479</b>      <b>398</b>      <b>802,918</b>      <b>66</b>      <b>9,880,784</b>      <b>1,991</b></p> <p>Over a 10+ year compliance period</p> <table border="0"> <tr> <td><u>Years</u></td> <td colspan="3"><u>Exceedance Frequency Reduction (% )*</u></td> </tr> <tr> <td></td> <td><u>P1</u></td> <td><u>P2</u></td> <td><u>P3</u></td> </tr> <tr> <td>5</td> <td>50</td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td>50</td> <td></td> </tr> <tr> <td>7</td> <td></td> <td></td> <td>50</td> </tr> <tr> <td>10+</td> <td>100</td> <td>100</td> <td>100</td> </tr> </table> <p>P1 = Priority 1                      P2 = Priority 2                      P3 = Priority 3</p> <p>*For both dry &amp; wet weathers</p>							<u>Years</u>	<u>Exceedance Frequency Reduction (% )*</u>				<u>P1</u>	<u>P2</u>	<u>P3</u>	5	50			6		50		7			50	10+	100	100	100
<u>Years</u>	<u>Exceedance Frequency Reduction (% )*</u>																																
	<u>P1</u>	<u>P2</u>	<u>P3</u>																														
5	50																																
6		50																															
7			50																														
10+	100	100	100																														

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 4<sup>1</sup>: Los Angeles Regional Board</b>			
<p><b>Santa Monica Bay Beaches Bacteria</b></p> <p>Effective Date: July 15, 2003</p> <p>BPA: Chapter 7-4</p> <p>Resolution Nos.:                      2002-04 (dry weather)                      2002-022 (wet weather)                      R12-007 revision</p>		<p>Santa Monica Bay</p>	
<p><b>Upper Santa Clara River Chloride TMDL</b></p> <p>Effective Date: May 4, 2005</p> <p>BPA Chapter 7-6</p> <p>Resolution Nos.:                      R04-004, R06-016 revision, and                      R08-012 revision</p>		<p>Santa Clara River</p>	
<p><b>Los Angeles River Nitrogen and Related Effects TMDL</b></p> <p>Effective Date: March 23, 2004</p> <p>BPA Chapter 7-8</p> <p>Resolution Nos.:                      R03-009 and R03-016 revision</p>		<p>Los Angeles River</p>	

<sup>1</sup> 'Municipality' and 'Deliverables/Actions Required/Waste Load Allocations' headers deliberately left blank. Los Angeles Regional Board TMDL region specific requirements are currently under development and will be completed one year from the effective date of the permit. Please see Fact Sheet discussion for details.

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 4<sup>1</sup>: Los Angeles Regional Board</b>			
<p><b>Santa Clara River Nitrogen Compounds TMDL</b></p> <p>Effective Date: March 23, 2004</p> <p>BPA Chapter 7-9</p> <p>Resolution No.: R03-11</p>		<p>Santa Clara River</p>	
<p><b>Malibu Creek Bacteria TMDL</b></p> <p>Effective Date: January 24, 2006</p> <p>BPA Chapter 7-10</p> <p>Resolution Nos.: 2004-019R R12-009 revision</p>		<p>Marina del Rey</p>	
<p><b>Los Angeles Harbor Bacteria TMDL (Inner Cabrillo Beach and Main Shop Channel)</b></p> <p>Effective Date: March 10, 2005</p> <p>BPA Chapter 7-11</p> <p>Resolution No.: 2004-011</p>		<p>Dominguez Channel Watershed Management Area</p>	
<p><b>Calleguas Creek Watershed Toxicity TMDL</b></p> <p>Effective Date: March 24, 2006</p> <p>BPA Chapter 7-17</p> <p>Resolution No.: 2005-010</p>		<p>Calleguas Creek Watershed</p>	

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 4<sup>1</sup>: Los Angeles Regional Board</b>			
<b>Calleguas Creek Organochlorine Pesticides, Polychlorinated Biphenyls, and Siltation</b>  Effective Date: March 24, 2006 BPA Chapter 7-16  Resolution No.: 2005-009		Calleguas Creek Watershed	
<b>Calleguas Creek Metals and Selenium TMDL</b>  Effective Date: 3/26/2007 BPA Chapter 7-19  Resolution No.: 2006-012		Calleguas Creek	
<b>Ballona Creek Bacteria TMDL</b>  Effective Date: April 27, 2007 BPA Chapter 7-21  Resolution Nos.: 2006-11 R12-008 revision		Ballona Creek	
<b>Santa Monica Bay Marine Debris TMDL</b>  Effective Date: March 20, 2012 BPA Chapter 7-34  Resolution No.: 2010-010		Santa Monica Bay	

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 4<sup>1</sup>: Los Angeles Regional Board</b>			
<b>Los Angeles and Long Beach Harbors and Toxics and Metals TMDL</b>  Effective Date: March 23, 2012  BPA Chapter 7-40  Resolution No.:2011-008		Los Angeles and Long Beach Harbors	
<b>Los Angeles River Bacteria TMDL</b>  Effective Date: March 23, 2012  BPA Chapter 7-39  Resolution No.: R10-007		Los Angeles River	
<b>Santa Clara River Esturay and Reaches 3, 5, 6 and 7 Bacteria</b>  Effective Date:3/21/2012  BPA Chapter 7-36  Resolution No. R10-006		Santa Clara River	
<b>Santa Clara Reach 3 Chloride TMDL</b>  Effective Date : June 18, 2003  Established by USEPA		Santa Clara River	

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 4<sup>1</sup>: Los Angeles Regional Board</b>			
<p><b>Malibu Creek Nutrients TMDL</b></p> <p>Effective Date : March 21, 2003</p> <p>Established by USEPA</p>		<p>Malibu Creek</p>	
<p><b>Ballona Creek Wetlands TMDL for Sediment and Invasive Exotic Vegetation TMDL</b></p> <p>Effective Date : March 26, 2012</p> <p>Established by USEPA</p>		<p>Ballona Creek</p>	
<p><b>Santa Monica Bay TMDL for DDTs and PCBs</b></p> <p>Effective Date : March 26, 2012</p> <p>Established by USEPA</p>			
<p><b>Avalon Beach Bacteria TMDL</b></p> <p>Effective Date: April 5, 2012</p> <p>Cease and Desist Order No. R4- 2012-0077</p>		<p>Avalon Beach</p>	
<p><b>Los Angeles River and Tributaries Metals TMDL</b></p> <p>Effective Date: November 3, 2011 BPA: Chapter 7-13</p> <p>Resolution No.: R10-003</p>		<p>Los Angeles River</p>	

**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 4<sup>1</sup>: Los Angeles Regional Board</b>			
<b>Ballona Creek Metals TMDL</b>  Effective Date: October 29, 2008  BPA: Chapter 7-12  Resolution No.: 2007-015		Ballona Creek	
<b>San Gabriel River and Impaired Tributaries Metals and Selenium TMDL</b>  Effective Date: March 26, 2007  USEPA Established		San Gabriel River	
<b>Los Cerritos Channel Metals TMDL</b>  Effective Date: March 17, 2010  USEPA Established		Los Cerritos Channel	
<b>Ballona Creek Estuary Toxic Pollutants TMDL</b>  Effective Date: January 11, 2006  BPA: Chapter 7-14  Resolution No.: 2005-008		Ballona Creek and Ballona Creek Estuary	
<b>Ballona Creek Trash</b>  Effective Date: 8/28/2002  BPA: Chapter 7.3  Resolution No.:2001-014 2004-023 (revision)		Ballona Creek	



**ATTACHMENT G – Region Specific Requirements**  
 Regional Water Board Approved TMDLs where urban runoff is listed as a source

TMDL Effective Date/BPA/Res. No.	Municipality	Impaired Water body	Deliverables/Actions Required/Waste Load Allocations
<b>Region 4<sup>1</sup>: Los Angeles Regional Board</b>			
<p><b>Los Angeles River trash</b>                      Effective Date: 9/23/2008                      BPA Chapter 7-2                      Resolution No.:07-012</p>		<p>Los Angeles River</p>	
<p><b>Ventura River Estuary Trash</b>                      Effective Date:3/6/2008                      BPA Chapter 7-25                      Resolution No.:07-008</p>		<p>Ventura River Estuary</p>	
<p><b>Malibu Creek Trash</b>                      Effective Date:7/7/2009                      BPA Chapter 7-30                      Resolution No.:R4-2008-007</p>		<p>Malibu Creek</p>	

### Acronyms & Abbreviations

---

<b>ASBS</b>	Area of Special Biological Significance
<b>BMP</b>	Best Management Practices
<b>CASQA</b>	California Stormwater Quality Association
<b>CEDEN</b>	California Environmental Data Exchange Network
<b>CFR</b>	Code of Federal Regulations
<b>CGP</b>	Construction General Permit
<b>CWA</b>	Clean Water Act
<b>DEM</b>	Digital Elevation Model
<b>DMA</b>	Drainage Management Area
<b>GIS</b>	Geographic Information System
<b>GPS</b>	Global Positioning System
<b>IGP</b>	Industrial General Permit
<b>LID</b>	Low Impact Development
<b>LUP</b>	Linear Utility Project
<b>MEP</b>	Maximum Extent Practicable
<b>MS4</b>	Municipal Separate Storm Sewer System
<b>NOI</b>	Notice of Intent
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>O&amp;M</b>	Operation and Maintenance
<b>PAH</b>	Polycyclic Aromatic Hydrocarbon
<b>SMARTS</b>	Storm Water Multi-Application, Reporting, and Tracking System
<b>SWMP</b>	Storm Water Management Plan
<b>SWPPP</b>	Storm Water Pollution Prevention Plan
<b>TMDL</b>	Total Maximum Daily Load
<b>QAPP</b>	Quality Assurance Project Plan
<b>QSD</b>	Qualified SWPPP Developer
<b>QSP</b>	Qualified SWPPP Preparer
<b>USEPA</b>	United States Environmental Protection Agency

## Glossary

---

**Activism** – is the practice of action or involvement as a means of achieving goals.

**At the Point of Discharge(s)** – Means in the surf zone immediately where runoff from an outfall meets the ocean water (a.k.a., at point zero).

**Beneficial Uses** - The Uses of water of the state protected against degradation, such as domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation and preservation of fish and wildlife, and other aquatic resources or preserves.

**Catch Basin** - A catch basin (a.k.a., storm drain inlet) is an inlet to the storm drain system that typically includes a grate or curb inlet where storm water enters the catch basin and a sump to capture sediment, debris and associated pollutants. Catch basins act as pretreatment for other treatment practices by capturing large sediments. The performance of catch basins at removing sediment and other pollutants depends on the design of the catch basin (e.g., the size of the sump), and routine maintenance to retain the storage available in the sump to capture sediment.

**Common Plan or Development or Sale** – U.S. EPA regulations include the term “common plan of development or sale” to ensure that acreage within a common project does not artificially escape the permit requirements because construction activities are phased, split among smaller parcels, or completed by different owners/developers. In the absence of an exact definition of “common plan of development or sale,” the State Water Board is required to exercise its regulatory discretion in providing a common sense interpretation of the term as it applies to construction projects and permit coverage. The common plan of development is generally a contiguous area where multiple, distinct construction activities may be taking place at different times under one plan. A plan is generally defined as any piece of documentation or physical demarcation that indicates that construction activities may occur on a common plot. Such documentation could consist of a tract map, parcel map, demolition plans, grading plans, or contract documents. Any of these documents could delineate the boundaries of a common plan area. However, broad planning documents, such as land use master plans, conceptual master plans, or broad-based CEQA or NEPA documents that identify potential projects for an agency or facility are not considered common plans of development. An overbroad interpretation of the term would render meaningless the clear “one acre” federal permitting threshold and would potentially trigger permitting of almost any construction activity that occurs within an area that had previously received area-wide utility or road improvements.

**Community Based Social Marketing (CBSM)** - A systematic way to change the behavior of communities to reduce their impact on the environment. Realizing that simply providing information is usually not sufficient to initiate behavior change, CBSM uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.

**Construction Site** - Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, paving, disturbances to ground such as stockpiling, and excavation.

**Design Storm** – For purposes of these Special Protections, a design storm is defined as the volume of runoff produced from one inch of precipitation per day or, if this definition is inconsistent with the discharger's applicable storm water permit, then the design storm shall be the definition included in the discharger's applicable storm water permit.

**Direct Discharge** - A discharge that is routed directly to waters of the United States by means of a pipe, channel, or ditch (including a municipal storm sewer system), or through surface runoff.

**Discharge of a Pollutant** - The addition of any pollutant or combination of pollutants to waters of the United States from any point source, or any addition of any pollutant or combination of pollutants to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term includes additions of pollutants to waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

**Discharger** - Any responsible party or site owner or operator within the Permittees' jurisdiction whose site discharges storm water runoff, or a non-storm water discharge.

**Detached Single-family Home Project** - The building of one single new house or the addition and/or replacement of impervious surface associated with one single existing house, which is not part of a larger plan of development.

**Dry Weather** – Refers to season where prolonged dry periods occur; in California's Mediterranean climate, it usually corresponds to the period between May and September.

**Erosion** - The physical detachment of soil due to wind or water. Often the detached fine soil fraction becomes a pollutant transported storm water runoff. Erosion occurs naturally, but can be accelerated by land disturbance and grading activities such as farming, development, road building, and timber harvesting.

**Erosion Control Measures** – Measures used to minimize soil detachment. These may include:

- Vegetation, either undisturbed or planted (e.g., grasses, wildflowers), and
- other materials, such as
  - straw (applied over bare soil, crimped into soil);
  - protective erosion control blankets;
  - fiber (applied as mulch or hydromulch); and
  - mulch (avoid plastics if possible).

**Sediment Control Measures** – Measures used to trap and/or retain detached soil before discharging to receiving waters. These may include:

- fiber rolls (e.g., keyed-in straw wattles, compost rolls);
- silt fence;
- retention basins; and
- active treatment systems.

**Flood Management Facilities** – Facilities or structures designed for the explicit purpose of controlling flood waters safely in or around populated areas. (e.g., dams, levees, bypass areas). Facilities or structures designed for the explicit purpose of controlling flood waters safely in or around populated areas (e.g., dams, levees, bypass areas). Flood management facilities do not include traditional stormwater conveyance structures (e.g. stormwater sewerage, pump stations, catch basins, etc.)

**Grading** - The cutting and/or filling of the land surface to a desired slope or elevation.

**Healthy Watershed** - Healthy watersheds are watersheds that function well ecologically and are sustainable. They support healthy, diverse aquatic habitat, have healthy riparian areas and corridors with sufficient vegetative buffer area to minimize land pollutant runoff into surface waters, sufficient cover and canopy to maintain healthy habitat, and have near natural levels of sediment transport. Surface waters meet water quality objectives, and sediments are sufficiently low in pollutants to provide for healthy habitat. Groundwaters are near natural levels in quantity and quality, for water supply purposes and for base flow for sustaining creek habitat and migratory fish routes. A Healthy Watershed sustains these characteristics through measures that ensure the dynamics that provide these healthy factors and functions are protected. For example, watersheds must be protected, through low impact development or other forms of protection, from hydromodification that adversely affects recharge areas' function or creeks' bed or bank stability. Creek buffer/riparian areas must be protected from land disturbance activities. Healthy sustainable watersheds use less energy for imported water, have fewer greenhouse gas emissions, and a lesser carbon footprint than unhealthy watersheds.

**Hotspot** - Hotspots are specific operations and areas in a sub watershed that may generate high storm water pollution. Hotspots are high priority sites.

**Hydromodification** - Modification of hydrologic pathways (precipitation, surface runoff, infiltration, groundwater flow, return flow, surface-water storage, groundwater storage, evaporation and transpiration) that results in negative impacts to watershed health and functions.

**HUC 12 Watershed** - The hydrologic unit code (HUC) is the “address” of the watershed. The HUC is the numerical code of the USGS watershed classification system used to identify the watersheds, or drainage basins, at various scales. The HUC organizes watersheds by a nested size hierarchy, so large scale watershed boundaries for an entire region may be assigned a two-digit HUC, while small scale, local watershed boundaries (within the larger regional watershed) may be assigned a 12-digit HUC. A HUC-12 watershed averages 22 square miles in size.

**Illicit Discharge** - Any discharge to a municipal separate storm sewer (storm drain) system (MS4) that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non-storm water discharges not composed entirely of storm water and discharges that are identified under the Discharge Prohibitions section of this General Permit. The term illicit discharge does not include discharges that are regulated by an NPDES permit (other than the NPDES permit for discharges from the MS4).

**Impaired Waterbody** - A waterbody (i.e., stream reaches, lakes, waterbody segments) with chronic or recurring monitored violations of the applicable numeric and/or narrative water quality criteria. An impaired water is a water that has been listed on the California 303(d) list or has not yet been listed but otherwise meets the criteria for listing. A water is a portion of a surface water of the state, including ocean, estuary, lake, river, creek, or wetland. The water currently may not be meeting state water quality standards or may be determined to be threatened and have the potential to not meet standards in the future. The State of California's 303(d) list can be found at <http://www.swrcb.ca.gov/quality.html>.

**Impervious Surface** - A surface covering or pavement of a developed parcel of land that prevents the land's natural ability to absorb and infiltrate rainfall/storm water. Impervious surfaces include, but are not limited to; roof tops, walkways, patios, driveways, parking lots, storage areas, impervious concrete and asphalt, and any other continuous watertight pavement or covering. Landscaped soil and pervious pavement, including pavers with pervious openings and seams, underlain with pervious soil or pervious storage material, such as a gravel layer sufficient to hold the specified volume of rainfall runoff are not impervious surfaces.

**Industrial Development** - Development or redevelopment of property to be used for industrial purposes, such as factories, manufacturing buildings, and research and development parks.

**Infill Site** - A site in an urbanized area where the immediately adjacent parcels are developed with one or more qualified urban uses or at least 75% of the perimeter of the site adjoins parcels that are developed with qualified urban uses and the remaining 25% of the site adjoins parcels that have previously been developed for qualified urban uses and no parcel within the site has been created within the past 10 years.

**Joint Storm Water Treatment Facility** - A storm water treatment facility built to treat the combined runoff from two or more Regulated Projects.

**Linear Underground/Overhead Projects (LUPs)** - Include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio, or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

**Low Impact Development** – A sustainable practice that benefits water supply and contributes to water quality protection. Unlike traditional storm water management, which collects and conveys storm water runoff through storm drains, pipes, or other conveyances to a centralized storm water facility, Low Impact Development (LID) takes a different approach by using site design and storm water management to maintain the site's pre-development runoff rates and volumes. The goal of LID is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to the source of rainfall. LID has been a proven approach in other parts of the country and is seen in California as an alternative to conventional storm water management.

**Marine Operations** – Marinas or mooring fields that contain slips or mooring locations for 10 or more vessels.

**Maximum Extent Practicable (MEP)** - The minimum required performance standard for implementation of municipal storm water management programs to reduce pollutants in storm water. Clean Water Act § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." MEP is the cumulative effect of implementing, evaluating, and making corresponding changes to a variety of technically appropriate and economically feasible BMPs, ensuring that the most appropriate controls are implemented in the most effective manner. This process of implementing, evaluating, revising, or adding new BMPs is commonly referred to as the iterative process.

**Mixed-use Development or Redevelopment** - Development or redevelopment of property to be used for two or more different uses, all intended to be harmonious and complementary. An example is a high-rise building with retail shops on the first 2 floors, office space on floors 3 through 10, apartments on the next 10 floors, and a restaurant on the top floor.

**Municipal Separate Storm Sewer System (MS4)** - The regulatory definition of an MS4 (40 CFR 122.26(b)(8)) is "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created to or pursuant to state law) including special districts under state law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States. (ii) Designed or used for collecting or conveying storm water; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2."

In practical terms, operators of MS4s can include municipalities and local sewer districts, state and federal departments of transportation, public universities, public hospitals, military bases, and correctional facilities. The Storm water Phase II Rule added federal systems, such as military bases and correctional facilities by including them in the definition of small MS4s.

**National Pollutant Discharge Elimination System (NPDES)** - A national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the CWA.

**Natural Ocean Water Quality** - The water quality (based on selected physical, chemical and biological characteristics) that is required to sustain marine ecosystems, and which is without apparent human influence, *i.e.*, an absence of significant amounts of: (a) man-made constituents (*e.g.*, DDT); (b) other chemical (*e.g.*, trace metals), physical (temperature/thermal pollution, sediment burial), and biological (*e.g.*, bacteria) constituents at concentrations that have been elevated due to man's activities above those resulting from the naturally occurring processes that affect the area in question; and (c) non-indigenous biota (*e.g.*, invasive algal bloom species) that have been introduced either deliberately or accidentally by man. Discharges "*shall not alter natural ocean water quality*" as determined by a comparison to the range of constituent concentrations in reference areas agreed upon via the regional monitoring program(s). If monitoring information indicates that *natural ocean water quality* is not maintained, but there is sufficient evidence that a discharge is not contributing to the alteration of natural water quality, then the Regional Water Board may make that determination. In this case, sufficient information must include runoff sample data that has equal or lower concentrations for the range of constituents at the applicable reference area(s).

**New Development** - New Development means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision on an area that has not been previously developed.

**Non-Traditional Small MS4** - Federal and State operated facilities that can include universities, prisons, hospitals, military bases (*e.g.* State Army National Guard barracks, parks and office building complexes.)

**Notice of Intent (NOI)** - The application form by which dischargers seek coverage under General Permits, unless the General Permit requires otherwise.

**Nuisance** - Anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

**Open Channel** - Flow within a distinct natural or modified channel, calculated as flow velocity times channel cross-sectional area.

**Outfall** - A point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States. Specific to Ocean Plan monitoring, outfalls include those measuring 18 inches or more in diameter.



**Parking Lot** - Land area or facility for the parking or storage of motor vehicles used for business, commerce, industry, or personal use.

**Permittee/Permittees** - Municipal agency/agencies and Non-traditional Small MS4s that are named in and subject to the requirements of this General Permit.

**Permit Effective Date** – July 1, 2013. The date at least 100 days after General Permit adoption, provided the Regional Administrator of U.S. EPA Region 9 has no objection.

**Pervious Pavement** - Pavement that stores and infiltrates rainfall at a rate that exceeds conventional pavement.

**Point Source** - Any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff.

**Pollutant** - Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.

**Pollutants of Concern** - Pollutants of concern found in urban runoff include sediments, non-sediment solids, nutrients, pathogens, oxygen-demanding substances, petroleum hydrocarbons, heavy metals, floatables, polycyclic aromatic hydrocarbons (PAHs), trash, and pesticides and herbicides.

**Pollution** - An alteration of the quality of the waters of the state by waste to a degree which unreasonably affects the beneficial uses of the water or facilities which serve those beneficial uses.

**Potable Water** - Water that is safe for domestic use, drinking, and cooking.

**Prioritized BMPs** – BMPs installed and/or implemented to address pollutants of concern. Where pollutant(s) of concern are undocumented or unidentified, prioritized BMPs are defined as BMPs installed and/or implemented to address common pollutants of concern (see pollutants of concern definition).

**Priority Storm Drain Inlets** - Storm drain inlets that drain to sensitive receiving water bodies or water bodies with history of illegal dumping. Storm drain inlets that are located in areas where the maximum number of citizens are exposed (this may include areas of high foot traffic).

**QAPrP** - Quality Assurance Project Plan

**Receiving Water** – Surface water that receives regulated and unregulated discharges from activities on land.

**Redevelopment** - Land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred. Redevelopment does not include trenching, excavation and resurfacing associated with LUPs; pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement such as pothole repair or replacement of short, non-contiguous sections of roadway.

**Regulated Project** – Refers to projects subject to the new and redevelopment standards in Section E.11 in this Order.

**Regulated Small MS4** - A Small MS4 that discharges to a water of the United States (U.S.) or to another MS4 regulated by an NPDES permit and has been designated as regulated by the State Water Board or Regional Water Board under criteria provided in this Order.

**Residential Housing Subdivision** - Any property development of multiple single-family homes or of dwelling units intended for multiple families/households (e.g., apartments, condominiums, and town homes).

**Retrofitting** - Improving pollution and/or flow control at existing developments and facilities to protect or restore beneficial uses and watershed functions.

**Riparian Areas** – Plant communities contiguous to and affected by surface and subsurface hydrologic features of perennial or intermittent waterbodies. Riparian areas have one or both of the following characteristics: 1) distinctively different vegetative species than adjacent areas, and 2) species similar to adjacent areas but exhibiting more vigorous or robust growth forms. Riparian areas are usually transitional between wetland and upland.

**Rural Area** - Encompasses all population, housing, and territory not included within an urban area.

**Sediments** - Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

**Sensitive Waterbody** - Receiving waters which are a priority to protect. They include: 1) Areas of Special Biological Significance (ASBS), 2) areas providing or known to provide habitat for chinook and coho salmon and steelhead, and 3) beaches that serve more than 50,000 people between April 1 and October 31 and are adjacent to flowing storm drains or creeks.

**Separate Implementing Entity (SIE)** – An entity that a permittee may utilize to satisfy one or more of the permit obligations. SIE may include a flood control agency, a Phase I permittee, a storm water consulting firm, etc.

**Small MS4** – An MS4 that is not permitted under the municipal Phase I regulations, and which is “owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity....” (40 CFR §122.26(b)(16)).

**Smart Growth Projects** – Projects that produce multiple-benefits such as economic, social and environmental benefits. Smart growth projects commonly include high density development projects that result in a reduction of runoff volume per capita as a result of reduced impervious surface.

**Solid Waste** - All putrescible and nonputrescible solid, semisolid, and liquid wastes as defined by California Government Code Section 68055.1(h).

**Source Control** - Land use or site planning practices, or structural or nonstructural measures, that aim to prevent runoff pollution by reducing the potential for contact with rainfall runoff at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

**Surface Drainage** - Any above-ground runoff (sheet, shallow concentrated, and open channel) that flows into the storm drain system.

**Standard Industrial Classification (SIC)** - A federal system for classifying establishments by the type of activity, in which they are engaged, using a four-digit code.

**Storm Drain System** - The basic infrastructure in a municipal separate storm sewer system that collects and conveys storm water runoff to a treatment facility or receiving water body.

**Storm Water** – Storm water is generated when precipitation from rain and snowmelt events flows over land or impervious surfaces and does not percolate into the ground. As storm water flows over the land or impervious surfaces, it accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if the storm water is discharged untreated.

**Storm Water Treatment System** - Any engineered system designed to remove pollutants from storm water runoff by settling, filtration, biological degradation, plant uptake, media absorption/adsorption or other physical, biological, or chemical process. This includes landscape-based systems such as grassy swales and bioretention units as well as proprietary systems.

**Structural Controls** - Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution.

**Subwatershed** – An area approximately 10,000 to 40,000 acres in area identified by Hydrologic Unit Code 12 in the federal Watershed Boundary Dataset.

**Surface Water Ambient Monitoring Program (SWAMP)** - The State Water Board's program to monitor surface water quality; coordinate consistent scientific methods; and design strategies for improving water quality monitoring, assessment, and reporting.

**Time of Concentration** – The time it takes the most hydraulically-remote drop of water to travel through the watershed to a specific point of interest.

**Total Maximum Daily Loads (TMDLs)** - The maximum amount of a pollutant that can be discharged into a waterbody from all sources (point and nonpoint) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all waterbodies that do not meet water quality standards even after application of technology-based controls, more stringent effluent limitations required by a state or local authority, and other pollution control requirements such as BMPs.

**Targeted Audience:** Group(s) of people the Permittee has targeted to receive educational message.

**Trash and Debris** - Trash consists of litter and particles of litter. California Government Code Section 68055.1 (g) defines litter as all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.

**Treatment** - Any method, technique, or process designed to remove pollutants and/or solids from polluted storm water runoff, wastewater, or effluent.

**Urban Rural Interface** - The urban/rural interface is identified as the geographical location at which urban land use and rural land use interact.

**Urbanized Area** - A densely settled core of census tracts and/or census blocks that have population of at least 50,000, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. It is a calculation used by the Bureau of the Census to determine the geographic boundaries of the most heavily developed and dense urban areas. From the Phase II final rule (Revised June 2012) <http://www.epa.gov/npdes/pubs/fact2-2.pdf> Data utilized in this Order was derived from 2010 U.S. Census Data.

**Waste** - Includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

**Waste Load Allocation** -The portion of a receiving water's total maximum daily load that is allocated to one of its existing or future point sources of pollution. Waste load allocations constitute a type of water quality-based effluent limitation.

**Water Efficient Landscape Ordinance** - The Model Water Efficient Landscape Ordinance (Title 23, Division 2, Chapter 2.7 of the California Code of Regulations) took effect January 1 2010 and is designed to: (1) promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible; (2) establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects; (3) establish provisions for water management practices and water waste prevention for existing landscapes; (4) use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount; (5) promote the benefits of consistent landscape ordinances with neighboring local and regional agencies; (6) encourage local agencies and water purveyors to use economic incentives that promote the efficient use of water, such as implementing a tiered-rate structure; and (7) encourage local agencies to designate the necessary authority that implements and enforces the provisions of the Model Water Efficient Landscape Ordinance or its local landscape ordinance.

**Water Quality Control Plan (Basin Plan)** –The Regional Water Board’s master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State within each Region, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives and discharge prohibitions. Basin Plans are adopted and approved by the State Water Board, U.S. EPA, and the Office of Administrative Law where required.

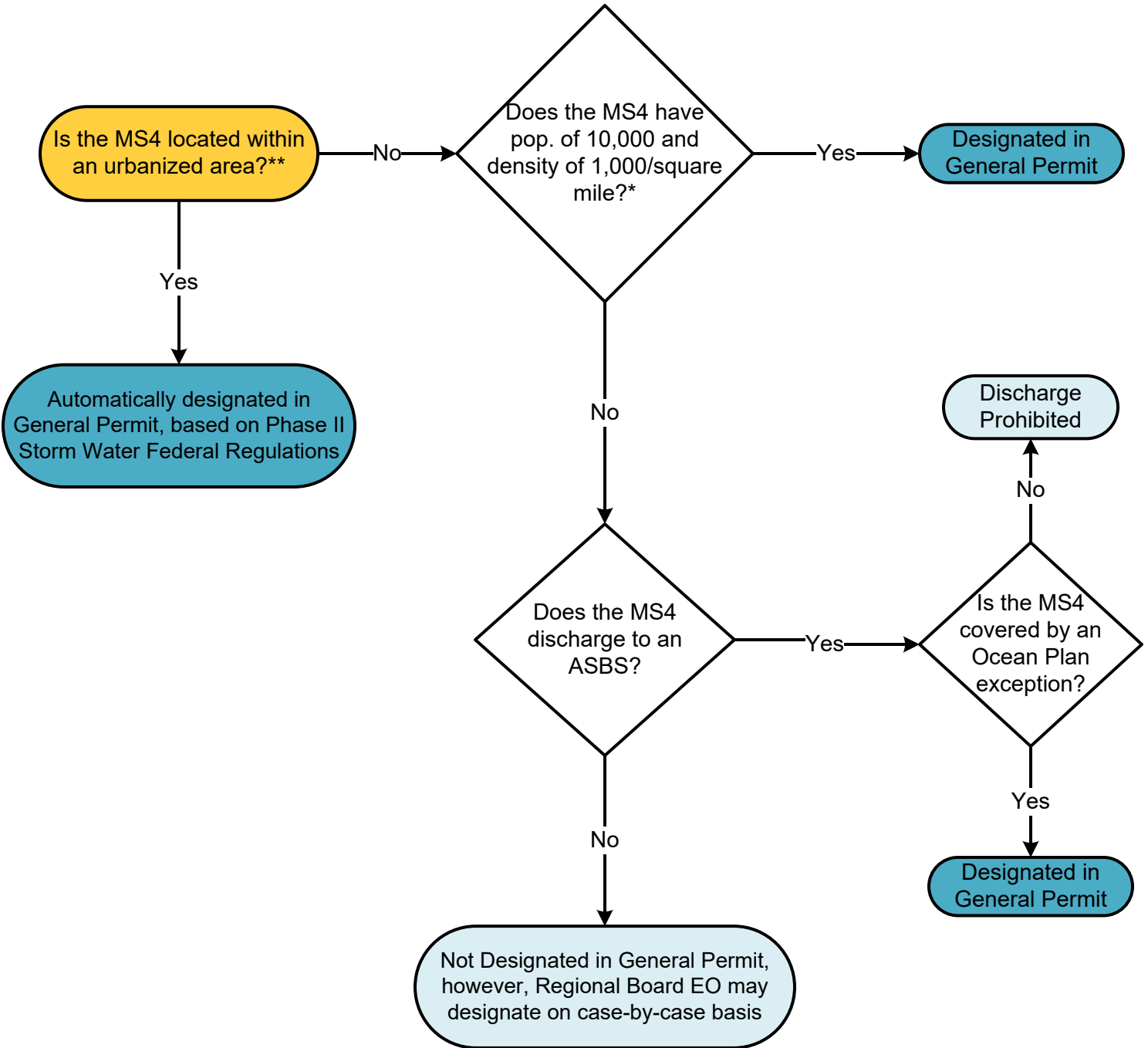
**Water Quality Objectives** - The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to prevent pollution problems within a specific area. Water quality objectives may be numeric or narrative.

**Water Quality Standards** - State-adopted and U.S. EPA-approved water quality standards for waterbodies. The standards prescribe the use of the waterbody and establish the water quality criteria that must be met to protect designated uses. Water quality standards also include the federal and state anti-degradation policy.

**Watershed Management Zone** – Post-construction management zones based on common key watershed processes and receiving water type (creek, marine nearshore waters, lake, etc).

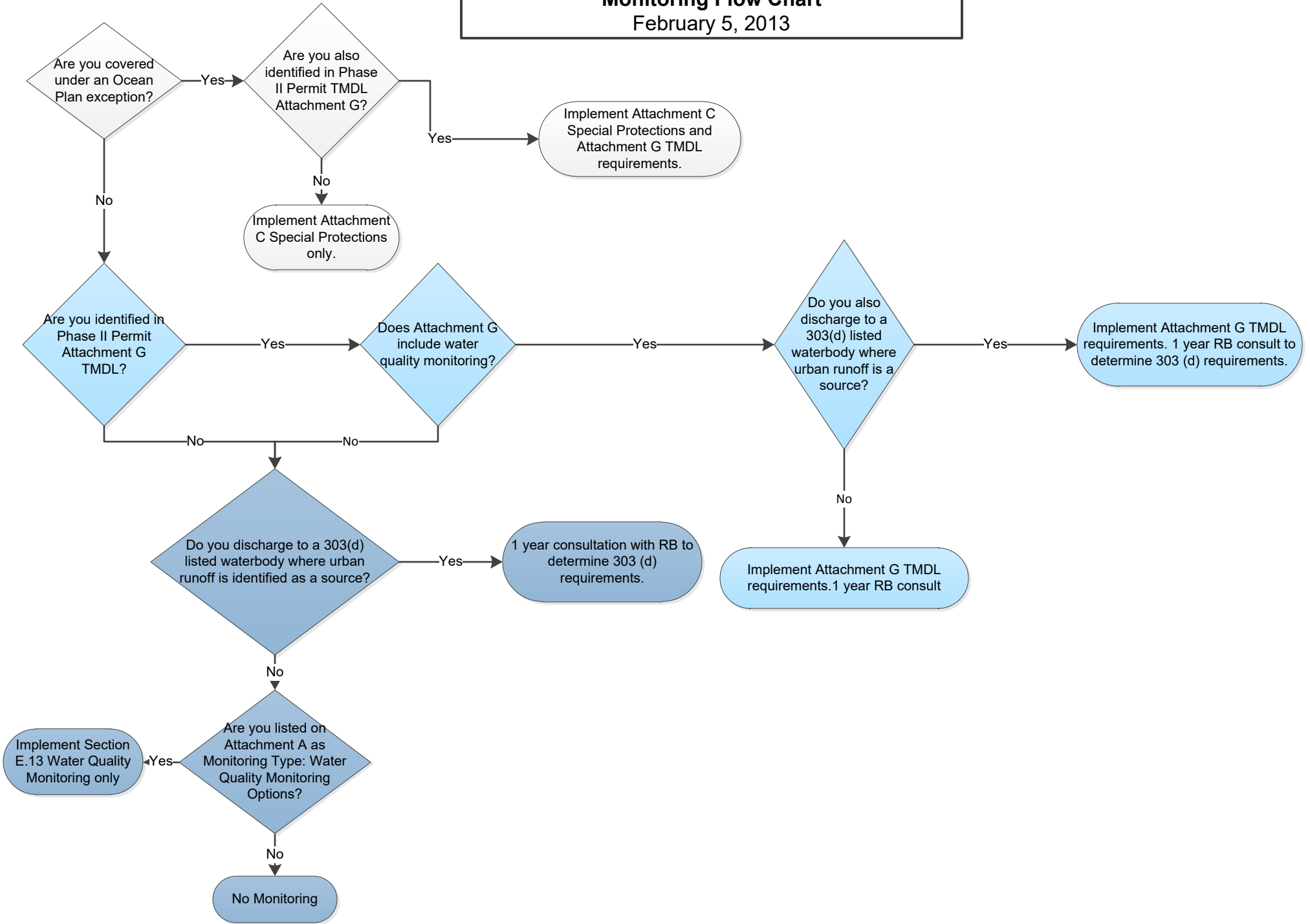
**Watershed Processes** – Functions that are provided by watersheds, including but not limited to, groundwater recharge, sediment supply and delivery, streamflow, and aquatic habitat.

**Draft Phase II Small MS4 General Permit  
Designation Flow Chart**  
February 5, 2013



\*Current designation based on U.S. Decennial Census Date 2010.  
\*\* Assumes MS4 population greater than 5000.

**Phase II Permit Traditional Small MS4  
Monitoring Flow Chart**  
February 5, 2013





**Linda S. Adams**  
*Secretary for  
Environmental Protection*

# State Water Resources Control Board

---

## Division of Water Quality

1001 I Street • Sacramento, California 95814 • (916) 341-5537  
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977  
FAX (916) 341-5543 • Internet Address: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/](http://www.waterboards.ca.gov/water_issues/programs/stormwater/)



**Arnold Schwarzenegger**  
*Governor*

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL PERMIT FOR  
STORM WATER DISCHARGES ASSOCIATED WITH  
CONSTRUCTION ACTIVITY (GENERAL PERMIT)  
WATER QUALITY ORDER 99-08-DWQ

## TABLE OF CONTENTS

Click on the items below to view Section

1. CHECKLIST FOR SUBMITTING A NOTICE OF INTENT
2. FACT SHEET
3. FACT SHEET AMENDMENTS
- APPENDIX A WATER QUALITY OBJECTIVES FOR SUSPENDED MATERIALS, SETTEABLE MATERIALS, SEDIMENT AND TURBIDITY
4. WASTE DISCHARGE REQUIREMENTS (GENERAL PERMIT)
5. ATTACHMENT 1: SWRCB AND RWQCB CONTACT LIST
6. GENERAL INSTRUCTIONS
7. NOTICE OF INTENT-LINE-BY-LINE INSTRUCTIONS
8. ATTACHMENT 2: NOTICE OF INTENT FORM
9. ATTACHMENT 3: 303d LISTED WATER BODIES FOR SEDIMENTATION
10. ATTACHMENT 4: CHANGE OF INFORMATION (COI) FORM







**Linda S Adams**  
Secretary for  
Environmental Protection

# State Water Resources Control Board



**Arnold Schwarzenegger**  
Governor

## Division of Water Quality

1001 I Street • Sacramento, California 95814 • (916) 341-5537  
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977  
FAX (916) 341-5543 • Internet Address: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/](http://www.waterboards.ca.gov/water_issues/programs/stormwater/)

### CHECKLIST FOR SUBMITTING A NOTICE OF INTENT

In order for the State Water Resources Control Board to expeditiously process your Notice of Intent (NOI), the following items must be submitted to either of the addresses indicated below:

1. \_\_\_\_\_ NOI (please keep a copy for your files) with all applicable sections completed and original signature of the landowner or signatory agent;
2. \_\_\_\_\_ Check made out to the “State Water Resources Control Board”  
See reverse for listing of fees by acre. The fee is based on the “Total Acres to be Disturbed” for the life of the project.
3. \_\_\_\_\_ Site Map of the facility (see NOI instructions). **DO NOT SEND BLUEPRINTS**

#### U.S. Postal Service Address

State Water Resources Control Board  
Division of Water Quality  
Attn: Storm Water Section  
P.O. Box 1977  
Sacramento, CA 95812-1977

#### Overnight Mailing Address

State Water Resources Control Board  
Division Of Water Quality  
Attn: Storm Water, 15<sup>th</sup> Floor  
1001 I Street  
Sacramento, CA 95814

NOIs are processed in the order they are received. A NOI receipt letter will be mailed to the landowner within approximately two weeks. Incomplete NOI submittals will be returned to the landowner’s address within the same timeframe and will specify the reason(s) for return. If you need a receipt letter by a specific date (for example, to provide to a local agency), we advise that you submit your NOI thirty (30) days prior to the date the receipt letter is needed.

Please do not call us to verify your NOI status. A copy of your NOI receipt letter will be available on our web page within twenty-four (24) hours of processing. Go to: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/databases.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/databases.shtml) to retrieve an electronic copy of your NOI receipt letter. If you have any questions regarding this matter, please contact us at (916) 341-5537.

## Construction Annual Fees by Acre

Partial Acreage rounded to nearest whole number

<u>Acres</u>	<u>Fee</u>	<u>21% Surcharge</u>	<u>Total Fee</u>	<u>Acres</u>	<u>Fee</u>	<u>21% Surcharge</u>	<u>Total Fee</u>
0	\$238	\$50	\$288	51	\$1,462	\$307	\$1,769
1	\$262	\$55	\$317	52	\$1,486	\$312	\$1,798
2	\$286	\$60	\$346	53	\$1,510	\$317	\$1,827
3	\$310	\$65	\$375	54	\$1,534	\$322	\$1,856
4	\$334	\$70	\$404	55	\$1,558	\$327	\$1,885
5	\$358	\$75	\$433	56	\$1,582	\$332	\$1,914
6	\$382	\$80	\$462	57	\$1,606	\$337	\$1,943
7	\$406	\$85	\$491	58	\$1,630	\$342	\$1,972
8	\$430	\$90	\$520	59	\$1,654	\$347	\$2,001
9	\$454	\$95	\$549	60	\$1,678	\$352	\$2,030
10	\$478	\$100	\$578	61	\$1,702	\$357	\$2,059
11	\$502	\$105	\$607	62	\$1,726	\$362	\$2,088
12	\$526	\$110	\$636	63	\$1,750	\$368	\$2,118
13	\$550	\$116	\$666	64	\$1,774	\$373	\$2,147
14	\$574	\$121	\$695	65	\$1,798	\$378	\$2,176
15	\$598	\$126	\$724	66	\$1,822	\$383	\$2,205
16	\$622	\$131	\$753	67	\$1,846	\$388	\$2,234
17	\$646	\$136	\$782	68	\$1,870	\$393	\$2,263
18	\$670	\$141	\$811	69	\$1,894	\$398	\$2,292
19	\$694	\$146	\$840	70	\$1,918	\$403	\$2,321
20	\$718	\$151	\$869	71	\$1,942	\$408	\$2,350
21	\$742	\$156	\$898	72	\$1,966	\$413	\$2,379
22	\$766	\$161	\$927	73	\$1,990	\$418	\$2,408
23	\$790	\$166	\$956	74	\$2,014	\$423	\$2,437
24	\$814	\$171	\$985	75	\$2,038	\$428	\$2,466
25	\$838	\$176	\$1,014	76	\$2,062	\$433	\$2,495
26	\$862	\$181	\$1,043	77	\$2,086	\$438	\$2,524
27	\$886	\$186	\$1,072	78	\$2,110	\$443	\$2,553
28	\$910	\$191	\$1,101	79	\$2,134	\$448	\$2,582
29	\$934	\$196	\$1,130	80	\$2,158	\$453	\$2,611
30	\$958	\$201	\$1,159	81	\$2,182	\$458	\$2,640
31	\$982	\$206	\$1,188	82	\$2,206	\$463	\$2,669
32	\$1,006	\$211	\$1,217	83	\$2,230	\$468	\$2,698
33	\$1,030	\$216	\$1,246	84	\$2,254	\$473	\$2,727
34	\$1,054	\$221	\$1,275	85	\$2,278	\$478	\$2,756
35	\$1,078	\$226	\$1,304	86	\$2,302	\$483	\$2,785
36	\$1,102	\$231	\$1,333	87	\$2,326	\$488	\$2,814
37	\$1,126	\$236	\$1,362	88	\$2,350	\$494	\$2,844
38	\$1,150	\$242	\$1,392	89	\$2,374	\$499	\$2,873
39	\$1,174	\$247	\$1,421	90	\$2,398	\$504	\$2,902
40	\$1,198	\$252	\$1,450	91	\$2,422	\$509	\$2,931
41	\$1,222	\$257	\$1,479	92	\$2,446	\$514	\$2,960
42	\$1,246	\$262	\$1,508	93	\$2,470	\$519	\$2,989
43	\$1,270	\$267	\$1,537	94	\$2,494	\$524	\$3,018
44	\$1,294	\$272	\$1,566	95	\$2,518	\$529	\$3,047
45	\$1,318	\$277	\$1,595	96	\$2,542	\$534	\$3,076
46	\$1,342	\$282	\$1,624	97	\$2,566	\$539	\$3,105
47	\$1,366	\$287	\$1,653	98	\$2,590	\$544	\$3,134
48	\$1,390	\$292	\$1,682	99	\$2,614	\$549	\$3,163
49	\$1,414	\$297	\$1,711	>100	\$2,618	\$550	\$3,192
50	\$1,438	\$302	\$1,740				

FACT SHEET  
FOR  
WATER QUALITY ORDER 99-08-DWQ

STATE WATER RESOURCES CONTROL BOARD (SWRCB)  
901 P STREET, SACRAMENTO, CALIFORNIA 95814

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL PERMIT FOR  
STORM WATER DISCHARGES ASSOCIATED WITH  
CONSTRUCTION ACTIVITY (GENERAL PERMIT)

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p) which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that establish storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five (5) or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 expand the existing NPDES program to address storm water discharges from construction sites that disturb land equal to or greater than one (1) acre and less than five (5) acres (small construction activity). The regulations require that small construction activity, other than those regulated under an individual or Regional Water Quality Control Board General Permit, must be permitted no later than March 10, 2003.

While federal regulations allow two permitting options for storm water discharges (individual permits and General Permits), the SWRCB has elected to adopt only one statewide General Permit at this time that will apply to all storm water discharges associated with construction activity, except from those on Tribal Lands, in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation (Caltrans). Construction on Tribal Lands is regulated by an USEPA permit, the Lahontan Regional Water Control Board adopted a separate NPDES permit for the Lake Tahoe Hydrologic Unit, and the SWRCB adopted a separate NPDES permit for Caltrans projects. This General Permit requires all dischargers where construction activity disturbs one acre or more, to:

1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters.

2. Eliminate or reduce nonstorm water discharges to storm sewer systems and other waters of the nation.
3. Perform inspections of all BMPs.

This General Permit shall be implemented and enforced by the nine California Regional Water Quality Control Boards (RWQCBs).

The General Permit accompanying this fact sheet regulates storm water runoff from construction sites. Regulating many storm water discharges under one permit will greatly reduce the otherwise overwhelming administrative burden associated with permitting individual storm water discharges. Dischargers shall submit a Notice of Intent (NOI) to obtain coverage under this General Permit. It is expected that as the storm water program develops, the RWQCBs may issue General Permits or individual permits containing more specific permit provisions. When this occurs, those dischargers will no longer be regulated by this General Permit.

On August 19, 1999, the State Water Resources Control Board (SWRCB) reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ referred to as "General Permit"). The San Francisco BayKeeper, Santa Monica BayKeeper, San Diego BayKeeper, and Orange Coast Keeper filed a petition for writ of mandate challenging the General Permit in the Superior Court, County of Sacramento. The Court issued a judgment and writ of mandate on September 15, 2000. The Court directed the SWRCB to modify the provisions of the General Permit to require permittees to implement specific sampling and analytical procedures to determine whether Best Management Practices (BMPs) implemented on a construction site are: (1) preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired for sediment or silt, and (2) preventing other pollutants, that are known or should be known by permittees to occur on construction sites and that are not visually detectable in storm water discharges, from causing or contributing to exceedances of water quality objectives. The monitoring provisions in the General Permit have been modified pursuant to the court order.

#### TYPES OF CONSTRUCTION ACTIVITY COVERED BY THIS GENERAL PERMIT

Construction activity subject to this General Permit includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre of total land area. Construction activity that results in soil disturbances of less than one acre is subject to this General Permit if the construction activity is part of a larger common plan of development that encompasses one or more acres of soil disturbance or if there is significant water quality impairment resulting from the activity. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety. Dischargers should confirm with the local RWQCB whether or not a particular routine maintenance activity is subject to this General Permit.

A construction project which includes a dredge and/or fill discharge to any jurisdictional surface water (e.g., wetland, channel, pond, or marine water) will also need a CWA Section 404 permit

from the U.S. Army Corps of Engineers and a CWA Section 401 Water Quality Certification from the RWQCB/SWRCB. Storm water discharges from dredge spoil placement which occurs outside of Corps jurisdiction (upland sites) and are part of construction activity which disturbs one or more acres of land are covered by this general permit. Proponents of construction projects which disturb one or more acres of land within the jurisdictional boundaries of a CWA Section 404 permit should contact the local RWQCB to determine the applicability of this permit to the project.

### NOTIFICATION REQUIREMENTS

It is the responsibility of the landowner to obtain coverage under this General Permit prior to commencement of construction activities. To obtain coverage, the landowner must file an NOI with a vicinity map and the appropriate fee with the SWRCB. In addition, coverage under this permit shall not occur until the applicant develops an adequate SWPPP for the project. Section A of the General Permit outlines the required contents of a SWPPP. For proposed construction activity on easements or on nearby property by agreement or permission, the entity responsible for the construction activity shall file an NOI and filing fee and shall be responsible for development of the SWPPP, all of which must occur prior to commencement of construction activities.

A separate NOI shall be submitted to the SWRCB for each construction site. Owners of new construction shall file an NOI prior to the commencement of construction. Owners of an ongoing construction site that is covered under the previous General Construction Permit (WQ Order No.92-08-DWQ) (1) shall continue to implement their existing SWPPP and monitoring program and (2) shall implement any necessary revisions to their SWPPP in a timely manner but in no case later than 90-calender days from adoption of this General Permit in accordance with Section A of this General Permit.

The NOI requirements of the General Permit are intended to establish a mechanism which can be used to clearly identify the responsible parties, locations, and scope of operations of dischargers covered by the General Permit and to document the discharger's knowledge of the requirements for a SWPPP.

The NOI must be sent to the following address:

State Water Resources Control Board  
Division of Water Quality  
Storm Water Permit Unit  
P.O. Box 1977  
Sacramento, CA 95812-1977

The Annual fees are established through regulations adopted by the SWRCB. The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI .

When construction is complete or ownership has been transferred, dischargers shall file a Notice of Termination with the RWQCB certifying that all State and local requirements have been met in accordance with Special Provisions for Construction Activity, C.7, of the General Permit.

Dischargers who fail to obtain coverage under this General Permit for storm water discharges to surface waters will be in violation of the CWA and the California Water Code.

### CONSTRUCTION ACTIVITY NOT COVERED BY THIS GENERAL PERMIT

This General Permit does not apply to storm water discharges from (1) those areas on Tribal Lands; (2) the Lake Tahoe Hydrologic Unit; (3) construction under one acre, unless part of a larger common plan of development or sale; (4) projects covered by an individual NPDES Permit for storm water discharges associated with construction activity; and (5) landfill construction that is subject to the general industrial permit.

Storm water discharges in the Lake Tahoe Hydrologic Unit are regulated by a separate permit(s) adopted by the California Regional Water Quality Control Board, Lahontan Region (LRWQCB). USEPA regulates storm water discharges on Tribal Lands. Permit applications for storm water discharges that will be conducted in the Lake Tahoe Hydrologic Unit must be submitted directly to the LRWQCB.

### DESCRIPTION OF GENERAL PERMIT CONDITIONS

The following is a brief description of the major provisions of the General Permit and the basis for the General Permit.

#### Prohibitions

This General Permit authorizes the discharge of storm water to surface waters from construction activities that result in the disturbance of one or more acres of land. It prohibits the discharge of materials other than storm water and authorized non-storm water discharges and all discharges which contain a hazardous substance in excess of reportable quantities established at 40 Code of Federal Regulations (CFR) 117.3 or 40 CFR 302.4 unless a separate NPDES Permit has been issued to regulate those discharges. In addition, this General Permit contains provisions that uphold discharge prohibitions contained in water quality control plans, as implemented through the nine RWQCBs.

#### Effluent Limitations

Permits for storm water discharges associated with construction activity shall meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to reduce pollutants and any more stringent controls necessary to meet water quality standards.

It is not feasible at this time for the SWRCB to establish numeric effluent limitations. The reasons why it is not feasible to establish numeric effluent limitations are discussed in detail in SWRCB Order Nos. WQ 91-03 and WQ 91-04. Therefore, the effluent limitations contained in this General Permit are narrative and include the requirement to implement appropriate BMPs.

The BMPs shall primarily emphasize source controls such as erosion control and pollution prevention methods. The discharger shall also install structural controls, as necessary, such as sediment control which will constitute BAT and BCT and will achieve compliance with water quality standards. The narrative effluent limitations constitute compliance with the requirements of the CWA.

Elimination or reduction of nonstorm water discharges is a major goal of this General Permit. Nonstorm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Nonstorm water discharges may contribute a significant pollutant load to receiving waters. Measures to control spills, leakage, and dumping and to prevent illicit connections during construction shall be addressed through structural as well as non-structural BMPs.

This General Permit prohibits the discharge of materials other than storm water and authorized nonstorm water discharges. It is recognized that certain nonstorm water discharges may be necessary for the completion of construction projects. Such discharges include, but are not limited to irrigation of vegetative erosion control measures, pipe flushing and testing, street cleaning, and dewatering. Such discharges are allowed by this General Permit provided they are not relied upon to clean up failed or inadequate construction or post-construction BMPs designed to keep materials onsite. These authorized nonstorm water discharges shall (1) be infeasible to eliminate, (2) comply with BMPs as described in the SWPPP, and (3) not cause or contribute to a violation of water quality standards. Additionally, these discharges may be required to be permitted by the local RWQCB (e.g., some RWQCBs have adopted General Permits for dewatering discharges). This General Permit is performance-based to the extent that it prohibits the discharge of storm water that causes or threatens to cause pollution, contamination, or nuisance; but it also allows the owner/developer to determine the most economical, effective, and possibly innovative BMPs.

The requirements of this General Permit are intended to be implemented on a year-round basis, not just during the part of the year when there is a high probability of a precipitation event which results in storm water runoff. The permit should be implemented at the appropriate level and in a proactive manner during all seasons while construction is ongoing.

Weather and storm predictions or weather information concerning the 10-year, 6-hour storm event and mean annual rainfall can be obtained by calling the Western Regional Climate Center at 775-674-7010 or via the internet at [www.wrcc.dri.edu/precip.html](http://www.wrcc.dri.edu/precip.html) and/or [www.wrcc.dri.edu/pcpnfreq.html](http://www.wrcc.dri.edu/pcpnfreq.html).

#### Receiving Water Limitations Language

The receiving water limitations language is fundamentally different from the language adopted in the SWRCB General Industrial Activities Storm Water Permit on April 17, 1997. Construction related activities which cause or contribute to an exceedance of water quality standards must be corrected immediately and cannot wait for the RWQCB to approve a plan of action to correct. The dynamic nature of construction activity allows the discharger the ability to more quickly identify and correct the source of the exceedances. Therefore, the owner is



required to take immediate corrective action and to provide a report to the appropriate RWQCB within 14-calendar days of the violation describing the corrective action.

### Storm Water Pollution Prevention Plan (SWPPP)

This General Permit requires development and implementation of a SWPPP. This document emphasizes the use of appropriately selected, correctly installed and maintained pollution reduction BMPs. This approach provides the flexibility necessary to establish BMPs which can effectively address source control of pollutants during changing construction activities.

All dischargers shall prepare and implement a SWPPP prior to disturbing a site. The SWPPP must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. Nonstorm water BMPs must be implemented year round. The SWPPP shall remain on the site while the site is under construction, commencing with the initial mobilization and ending with the termination of coverage under the permit.

The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water as well as nonstorm water discharges. The SWPPP shall include BMPs which address source control and, if necessary, shall also include BMPs which address pollutant control.

Required elements of a SWPPP include: (1) site description addressing the elements and characteristics specific to the site, (2) descriptions of BMPs for erosion and sediment controls, (3) BMPs for construction waste handling and disposal, (4) implementation of approved local plans, (5) proposed post-construction controls, including description of local post-construction erosion and sediment control requirements, and (6) nonstorm water management.

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, individuals responsible for creating, revising, overseeing, and implementing the SWPPP should participate in applicable training programs and document such training in the SWPPP.

SWPPPs are reports that are available to the public under Section 308(b) of the CWA and will be made available by the RWQCB upon request.

### Monitoring Program

Another major feature of the General Permit is the development and implementation of a monitoring program. All dischargers are required to conduct inspections of the construction site prior to anticipated storm events and after actual storm events. During extended storm events, inspections must be made during each 24-hour period. The goals of these inspections are (1) to identify areas contributing to a storm water discharge; (2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly installed and functioning in accordance with the terms of the General Permit; and (3) whether additional control practices or corrective maintenance activities are needed. Equipment, materials, and

workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible, depending upon worker safety.

Each discharger shall certify annually that the construction activities are in compliance with the requirements of this General Permit. Dischargers who cannot certify annual compliance shall notify the appropriate RWQCB. A well-developed monitoring program will provide a good method for checking the effectiveness of the SWPPP.

#### Retention of Records

The discharger is required to retain records of all monitoring information, copies of all reports required by this General Permit, and records of all data used to complete the NOI for all construction activities to be covered by the General Permit for a period of at least three years from the date generated. This period may be extended by request of the SWRCB and/or RWQCB. With the exception of reporting noncompliance to the appropriate RWQCB, dischargers are not required to submit the records, except upon specific request by the RWQCB.



FACT SHEET  
FOR  
WATER QUALITY ORDER 99-08-DWQ

STATE WATER RESOURCES CONTROL BOARD (SWRCB)  
1001 I STREET, SACRAMENTO, CALIFORNIA 95814

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
GENERAL PERMIT FOR  
STORM WATER DISCHARGES ASSOCIATED WITH  
CONSTRUCTION ACTIVITY (GENERAL PERMIT): Sampling and Analysis

**Contents**

**1.0 Introduction**

- 1.1 Organization
- 1.2 Background
  - 1.2.1 Water Quality Standards or Objectives
  - 1.2.2 Non-Visible Pollutant Sampling
  - 1.2.3 Sediment-Impaired Water Bodies
- 1.3 Purpose of Sampling and Analysis

**2.0 Sampling Program for Pollutants Not Visually Detectable in Storm Water**

- 2.1 What the Permit Says About Sampling
- 2.2 Deciding When to Sample
- 2.3 Deciding What Constituents to Sample For: What are Pollutants Which are “Known or Should be Known” to Occur on a Construction Site?
- 2.4 Deciding Where to Sample
- 2.5 Types of Test Methods?
- 2.6 Deciding How Often to Sample
- 2.7 Identification of Pollutant Sources
- 2.8 Examples of When Sampling and Analysis for Non-Visible Pollutants is Not Required
- 2.9 Examples of When Sampling and Analysis is Required
- 2.10 Do I need to Sample Storm Water Flows Diverted Around My Project for Non-Visible Pollutants?
- 2.11 Deciding How to Sample
- 2.12 How to Use Your Sampling Data
  - 2.12.1 How to Analyze your Data
  - 2.12.2 Coordinating Visual Observations With Sampling Results
  - 2.12.3 What to Do If The Data Show a Potential Problem
- 2.13 Retention of Data

**3.0 Sampling Program for Sedimentation/Siltation**

- 3.1 What the Permit Says About Sampling

- 3.2 Deciding When to Sample
  - 3.3 Deciding What Constituent(s) Require Sampling
  - 3.4 Deciding Where to Sample
  - 3.5 What are the Applicable Water Quality Standards
  - 3.6 Deciding How to Sample
  - 3.7 How to Use Your Data
    - 3.7.1 How to Analyze Your Data
    - 3.7.2 Sources of Sediment, Silt and Turbidity In a Construction Discharge
    - 3.7.3 What to Do If Your Data Shows a Statistically Significant Increase Downstream of the Discharge
  - 3.8 Retention of Data
  - 4.0 Sampling Procedures**
  - 5.0 Definitions**
  - 6.0 Sources of Further Assistance**
  - 7.0 Explanation of Sampling and Analysis Requirements**
    - 7.1 Requirement for Compliance with Water Quality Standards
    - 7.2 Background Contamination
    - 7.3 Parameters to Sample for to Determine the Presence of Non-Visible Pollutants in Runoff
    - 7.4 The Watershed Approach to Storm Water Permitting
    - 7.5 References and Record for this Guidance Document
- List of Figures**
- 1.1 Evaluating Your Site for Sediment Sampling
  - 1.2 Evaluating Your Site for Non-Visible Pollutant Sampling
    - 1.2.1 Evaluating Your Site for Historical Pollutants
    - 1.2.2 Evaluating Your Site for Non-Visible Pollutant Run-on
    - 1.2.3 Evaluating Your Site for Construction Non-Visible Pollutants
  - 4-1 Outline for a Typical Storm Water Sampling and Analysis Plan
- Appendices**
- A Water Quality Objectives for Suspended Materials, Settleable Materials, Sediment and Turbidity

## 1.0 Introduction

This document is an amendment to the Fact Sheet to the State Water Resources Control Board's (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated With Construction Activity (CGP). This Permit was modified in 2001 by Resolution No. 2001-046, "*Modification of Water Quality Order 99-08-DWQ State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit For Storm Water Discharges Associated With Construction Activity (CGP)*". The modifications to the CGP require that a sampling and analysis strategy and sampling schedule for certain discharges from construction activity be developed and kept with the project's Storm Water Pollution Prevention Plan (SWPPP). The sampling and analysis requirements are found in Section B, paragraphs 7 and 8, of the CGP. Paragraph 7 concerns monitoring for sedimentation/siltation or turbidity and Paragraph 8 concerns monitoring for pollutants that are not visually detectable in storm water. Where required, a sampling and analysis strategy and sampling schedule must be developed regardless of the time of the year that construction occurs.

This document only addresses the modifications and is intended to facilitate the proper implementation of the sampling and analysis requirements. It provides information on when sampling and analysis is required, how to perform sampling and analysis, what conclusions may be drawn from the sampling and analysis results, and it explains the rationale for the required sampling.

SWRCB staff developed this document with consideration of comments from interested persons, including the California Stormwater Quality Association, the Building Industry Legal Defense Foundation, the California Building Industry Association, the San Francisco BayKeeper, the Santa Monica BayKeeper, the San Diego BayKeeper, and the Orange County CoastKeeper. It is based on the CGP, two orders issued by the Sacramento Superior Court in response to a challenge to the CGP, Clean Water Act provisions, regulations, guidance documents and permits issued by the federal Environmental Protection Agency, and other documents submitted by interested persons. A full record has been compiled and is available for inspection or copying upon request. A draft guidance document was circulated for public comment and a hearing was held prior to issuance of this final guidance document.

Although sampling and analysis will be required at many construction sites, it will not be required at all construction sites. It is the responsibility of dischargers to evaluate the construction project and, where required, to develop a site-specific sampling and analysis strategy in compliance with the CGP requirements. For further guidance please contact your local Regional Water Quality Control Board (RWQCB).

The sampling and analysis requirements supplement, but do not replace, the visual monitoring program required by Section B of the CGP. All construction projects must continue the visual monitoring program including inspections before predicted rain events, during extended rain events, and following rain events that produce runoff.

This document provides guidance on complying with the sampling and analysis requirements of the CGP. It does not in any way change these requirements or guarantee compliance with the CGP. The permit has many other requirements such as development of a SWPPP,

implementation of Best Management Practices (BMP) programs, and visual monitoring that are not addressed in this document.

## **1.1 Organization**

Section 1: general information and background on the sampling and requirements.

Section 2: non-visible pollutant sampling and analysis.

Section 3: sediment, silt and turbidity sampling and analysis.

Section 4: sampling and analysis procedures.

Section 5: definitions.

Section 6: contact list and additional sources of information.

Section 7: general explanation of and rationale for the sampling and analysis requirements; citations to other documents that form the basis for the SWRCB's conclusions.

## **1.2 Background**

The SWRCB adopted the CGP on August 19, 1999. The CGP is an NPDES permit that implements section 402(p)(2)(B) of the federal Clean Water Act. The San Francisco BayKeeper, Santa Monica BayKeeper, San Diego BayKeeper, and Orange County CoastKeeper filed a petition for writ of mandate challenging numerous aspects of the CGP in the Superior Court, County of Sacramento.

On September 15, 2000, the Court issued a judgment and writ of mandate that upheld most provisions of the CGP, but directed the SWRCB to modify the provisions of the CGP to require permittees to implement specific sampling and analytical procedures to determine whether BMPs implemented on a construction site are:

(1) preventing further impairment by sediment in storm waters discharged directly into waters listed as impaired (Clean Water Act Section 303(d) List [303(d) List]) for sediment, silt, or turbidity; and

(2) preventing other pollutants that are known or should be known by permittees to occur on construction sites and that can not be visually observed or detected in storm water discharges, from causing or contributing to exceedances of water quality objectives.

The monitoring, sampling and analysis provisions in the CGP were modified pursuant to the court order and issued as Resolution No. 2001-046, adopted by the SWRCB on April 26, 2001.

On December 27, 2001, the Court issued an Order Enforcing Writ of Mandate. In that order, the Court acknowledged that the permit had been modified, but required further actions by the SWRCB. Issuance of this fact sheet amendment is intended to respond to the Court's further instructions. In general, the Court expressed concern that certain aspects of the modifications might be ambiguous and might result in misinterpretation by dischargers. This amendment is

intended to avoid such potential ambiguities and misinterpretations and to help explain the requirements and provide suggestions for compliance.

### **1.2.1 Water Quality Standards or Objectives**

The Receiving Water Limitations in the CGP require the SWPPP be designed and implemented so that storm water discharges and authorized non-storm water discharges do not cause or contribute to an exceedance of any applicable water quality standard. (CGP, Receiving Water Limitation B.2.) The modifications to the monitoring program require sampling and analysis procedures to help determine whether BMPs installed and maintained in accordance with the SWPPP are preventing pollutants in discharges from the construction site from causing or contributing to exceedance of water quality standards. In making these determinations, it is necessary to understand what are the applicable water quality standards.

Water quality standards consist of the designation of beneficial uses of surface waters and the adoption of ambient criteria necessary to protect those uses. (40 CFR §131.3(i)) When adopted by the SWRCB or a RWQCB, the criteria are termed “water quality objectives.” (Water Code §13241; the terms are used interchangeably here.) If storm water runoff from construction sites contains pollutants, there is a risk that those pollutants could enter surface waters and cause or contribute to exceedance of water quality standards. For that reason, dischargers should be aware of the applicable water quality standards in their receiving waters. (The best method to ensure compliance with receiving water limitations is to implement BMPs that prevent pollutants from contact with storm water or from leaving the construction site in runoff).

In California, water quality standards are published in the Basin Plans adopted by each RWQCB, the California Toxics Rule (CTR), the National Toxics Rule (NTR), and the Ocean Plan. One way to determine the applicable standards for the receiving water for your runoff is to contact staff from the appropriate RWQCB. (See the contact list in Section 6 of this guidance.)

The SWRCB intends in the future to augment its internet site to further facilitate access to water quality standards. In the interim, dischargers can determine the applicable water quality standards by contacting RWQCB staff or from one of the following sources. The actual plans that contain the water quality standards can be viewed at the site of the appropriate RWQCB for Basin Plans (<http://www.waterboards.ca.gov/regions.html>), the SWRCB site for statewide plans (<http://www.waterboards.ca.gov/plnspols/index.html>), or the US Environmental Protection Agency (USEPA) regulations for the NTR and CTR (40 CFR Title 131). Basin Plans and statewide plans are also available by mail from the appropriate RWQCB or the SWRCB. The USEPA regulations are available at <http://www.epa.gov/>. Additional information concerning Water Quality Standards can be accessed through [http://www.waterboards.ca.gov/stormwtr/gen\\_const.html](http://www.waterboards.ca.gov/stormwtr/gen_const.html)

### **1.2.2 Non-Visible Pollutant Sampling**

The monitoring requirements in the CGP require sampling and analysis for pollutants that are not visually detectable in storm water discharges, which are or should be known to occur on the construction site, and which could cause or contribute to an exceedance of water quality objectives. As is explained below, the situations where non-visible pollutants may occur in runoff from a construction site are limited. Where such non-visible pollutants are known or



should be known to be present and have the potential to contact runoff and to contribute to an exceedance of a water quality objective, sampling and analysis is required.

A variety of materials are used in construction or are present on construction sites. Examples of such materials include soil stabilizers, paint, and fluids from vehicles. Any of these materials can end up in the storm water runoff and contain pollutants that pose a threat to water quality. Some of these potential pollutants will leave a visible trace. For example, sediment turns water brown and oil and grease leave a sheen. Other pollutants will discolor the runoff or leave a residue or film. For pollutants that are visible in runoff, the CGP requires the discharger to perform visual monitoring of the site and does not require sampling and analysis. The sampling and analysis requirements only apply to pollutants that do not leave a visible trace or are not associated with a visible tracer. Examples of such potential non-visible pollutants include increased pH, pesticides, and nutrients such as nitrogen or phosphorus.

The presence or use of a material on the construction site does not always mean that dischargers must sample for it in runoff. The CGP requires sampling and analysis when non-visible pollutants could "cause or contribute to an exceedance of water quality objectives in the receiving water." The most effective way to avoid the sampling and analysis requirements, and to ensure permit compliance, is to avoid the exposure of construction materials to precipitation and storm water runoff. Materials that are not exposed do not have the potential to enter storm water runoff, and therefore do not need to be sampled for in runoff. Preventing contact between storm water and construction materials is one of the most important BMPs at any construction site. Manage any potential pollutants on the site in such a way that the exposure of the pollutant to rainfall or storm water is minimized or eliminated.

Elimination of exposure of pollutants at construction sites is not always possible. Some materials, such as soil amendments, are designed to be used in a manner that will result in exposure to storm water. In these cases, it is important to make sure that these materials are applied according to the manufacturer's instructions at a time when they are unlikely to be washed away. Other materials can be exposed when storage, waste disposal or application are not done in a manner protective of water quality or through accidental spillage. For these situations, sampling is required unless there is capture and containment of all storm water that has been exposed to pollutants. In cases where construction materials may be exposed to storm water but the storm water is contained, and is not allowed to run off the site, then sampling only needs to occur when inspections show the containment failed or is breached and there is potential for exposure or discharge.

Many common good housekeeping BMPs already limit exposure to most materials. Improving these practices to prevent exposure is a better approach to preventing pollution of runoff and will limit the amount of sampling and analysis. Improved BMPs may be less costly than an ongoing sampling and analysis program.

The first step in managing potential pollutants at a construction site is the implementation of well thought out BMP programs that are designed to minimize the mobilization of pollutants such as sediment and to minimize the exposure of storm water to pollutants. The next important step is an aggressive program of inspections both on a regular basis and before and after storms. The inspection program must also be accompanied by an equally aggressive BMP maintenance

program. The receiving water is protected when appropriate BMPs are implemented, inspected and maintained. The role of sampling is to support the visual inspection of the site when necessary.

### **1.2.3 Sediment-Impaired Water Bodies**

Certain lakes, streams, rivers, creeks and other bodies of water in California have been determined by the SWRCB to be impaired by one or more pollutants. (This listing is required by Clean Water Act section 303(d).) One of the pollutants that can trigger a listing is sediment, termed variously as sedimentation, siltation, sediment, or turbidity. The water bodies listed for sediment in California are included in Attachment 3 to the CGP. Additional discharges of sediment to a sediment-impaired water body could contribute to the exceedance of a water quality standard for that pollutant. Following listing of impaired waters, RWQCBs adopt total maximum daily loads (TMDLs) that may include waste load allocations for the impairing pollutant. Effluent limitations in NPDES permits must be consistent with the assumptions and requirements of waste load allocations (40 CFR section 122.44(d)(1)(vii)(B)), and adoption of TMDLs could result in specific requirements in the CGP or an individual or watershed-wide construction permit. Pending completion of TMDLs for sediment-impaired waters, it is necessary to ensure that sediment discharges from construction sites do not cause or contribute to exceedances of water quality. To that end, the modifications require sampling and analysis of discharges from construction activity that directly enters a water body listed in Attachment 3 to the CGP as impaired for sediment. This requirement is generally only applicable to a handful of construction projects each year.

To obtain the latest list of 303(d) water bodies, visit the SWRCB's Web site at <http://www.waterboards.ca.gov/>.

## **1.3 Purpose of Sampling and Analysis**

The primary method of determining compliance with the CGP is visual inspections. The permit requires regular inspections as well as pre-storm and post-storm inspections to determine if there are areas where storm water can be or has been exposed to pollutants. It is possible to see if there is erosion and movement of soil, or if construction materials, chemicals and waste are exposed. This is the best way to determine if the site is in compliance. In some cases, verification of this compliance through sampling and analysis is appropriate. The purpose of the sampling and analysis requirements is to support the visual observation program and to provide information that can be used to help determine whether the BMPs employed on a construction site are effective in preventing construction site pollutants from causing or contributing to exceedances of water quality objectives in the receiving waters. The modifications to the CGP contain two categories of sampling and analysis requirements, which are illustrated in Figures 1-1 and 1.2.1-4:

Monitoring for non-visible pollutants at any site where the relevant triggering conditions occur. This monitoring is required at any site where there is exposure and where a discharge can cause or contribute to exceedance of a water quality objective, not just those that discharge to water bodies that are listed for a particular pollutant; and

Monitoring for sediment in storm water discharged directly to water bodies listed as impaired for sediment/siltation, sediment, or turbidity on the SWRCB's 303(d) list of water bodies.

The sampling and analysis results are not conclusive proof of compliance or non compliance with the permit. Specifically, Receiving Water Limitations in the CGP provide that the SWPPP must be designed and implemented so that storm water discharges shall not cause or contribute to exceedance of any applicable water quality standards. These provisions also require implementation of corrective measures, and revision of the SWPPP and monitoring requirements if storm water discharges do cause or contribute to an exceedance of an applicable water quality standard. USEPA has pointed out the difficulties and limitations of using sampling in storm water permits as a measure of compliance. (57 Fed. Reg. 11394, 11402) While sampling and analysis, as required by the CGP, may be a useful tool in pointing to areas of concern, it is of limited use in the storm water context and must be used as a diagnostic tool rather than as conclusive evidence of compliance or non-compliance with the CGP.

## Determine if You Must Perform Sampling and Analysis for Sediment, Silt, or Turbidity

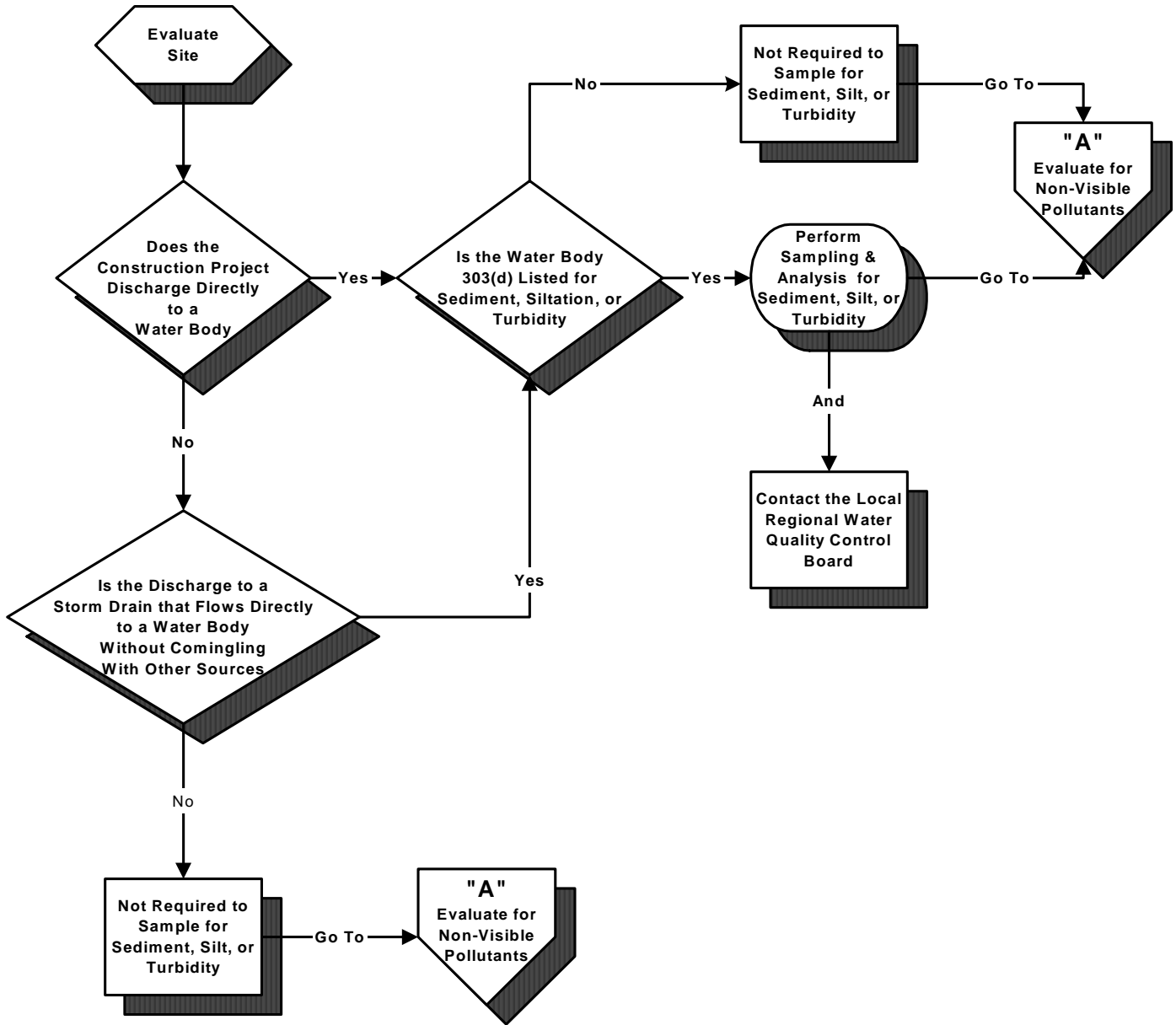


Figure 1.1

**Evaluate Site for Non-Visible Pollutants  
and Determine if You Must Perform  
Sampling & Analysis for Non-Visible Pollutants**

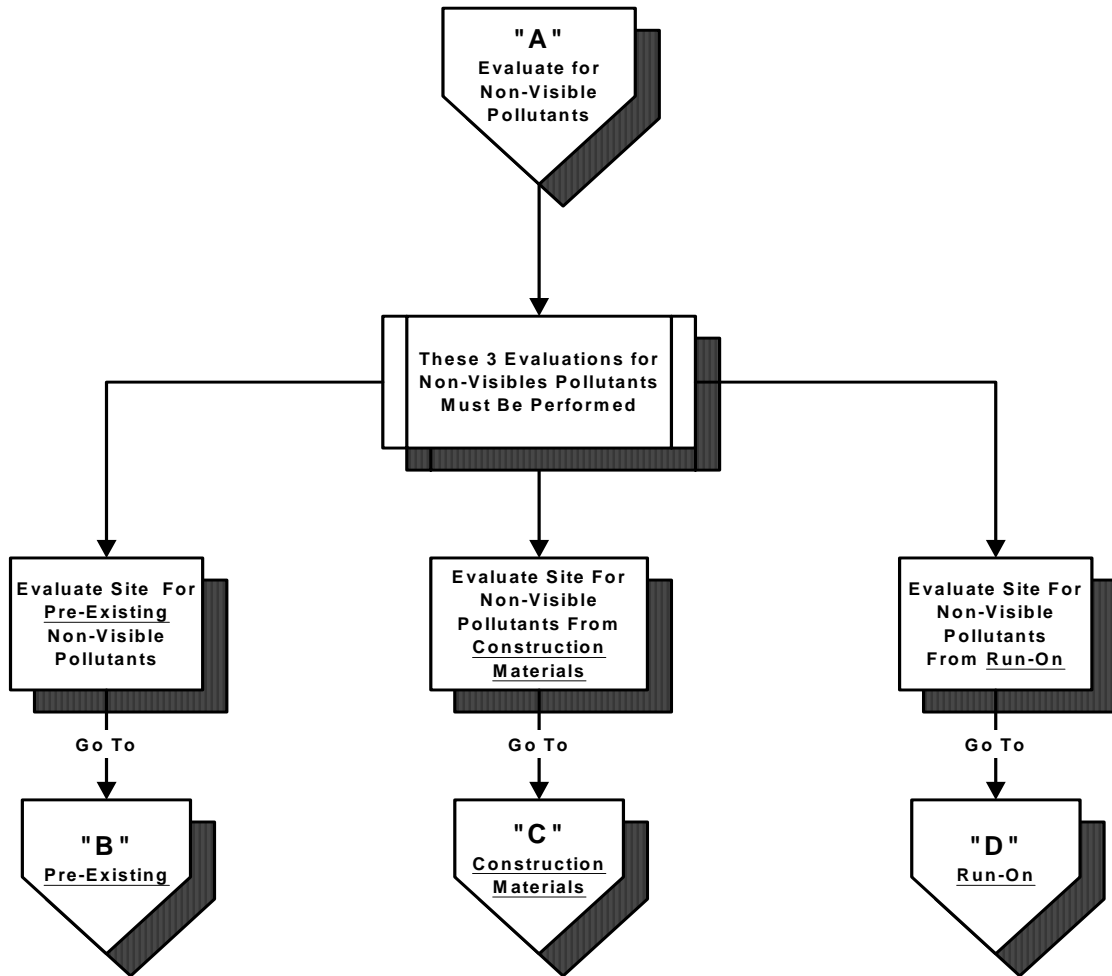


Figure 1.2

**Determine If You Must Perform Sampling and Analysis (S&A) for  
Pre-Existing Non-Visible Pollutants**

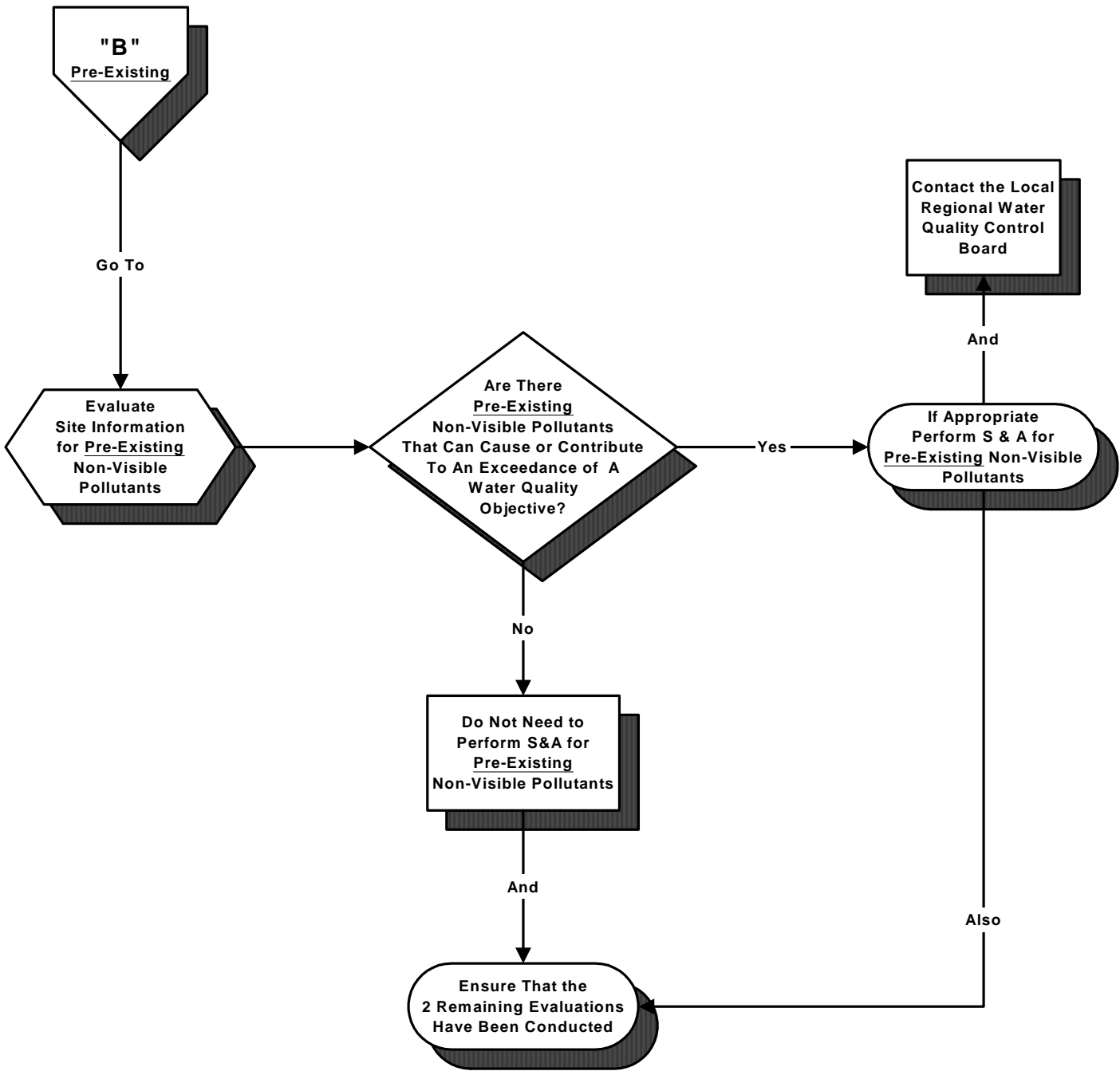


Figure 1.2.1

**Determine If You Must Perform Sampling and Analysis (S&A)  
for Non-Visible Pollutants  
From Construction Material**

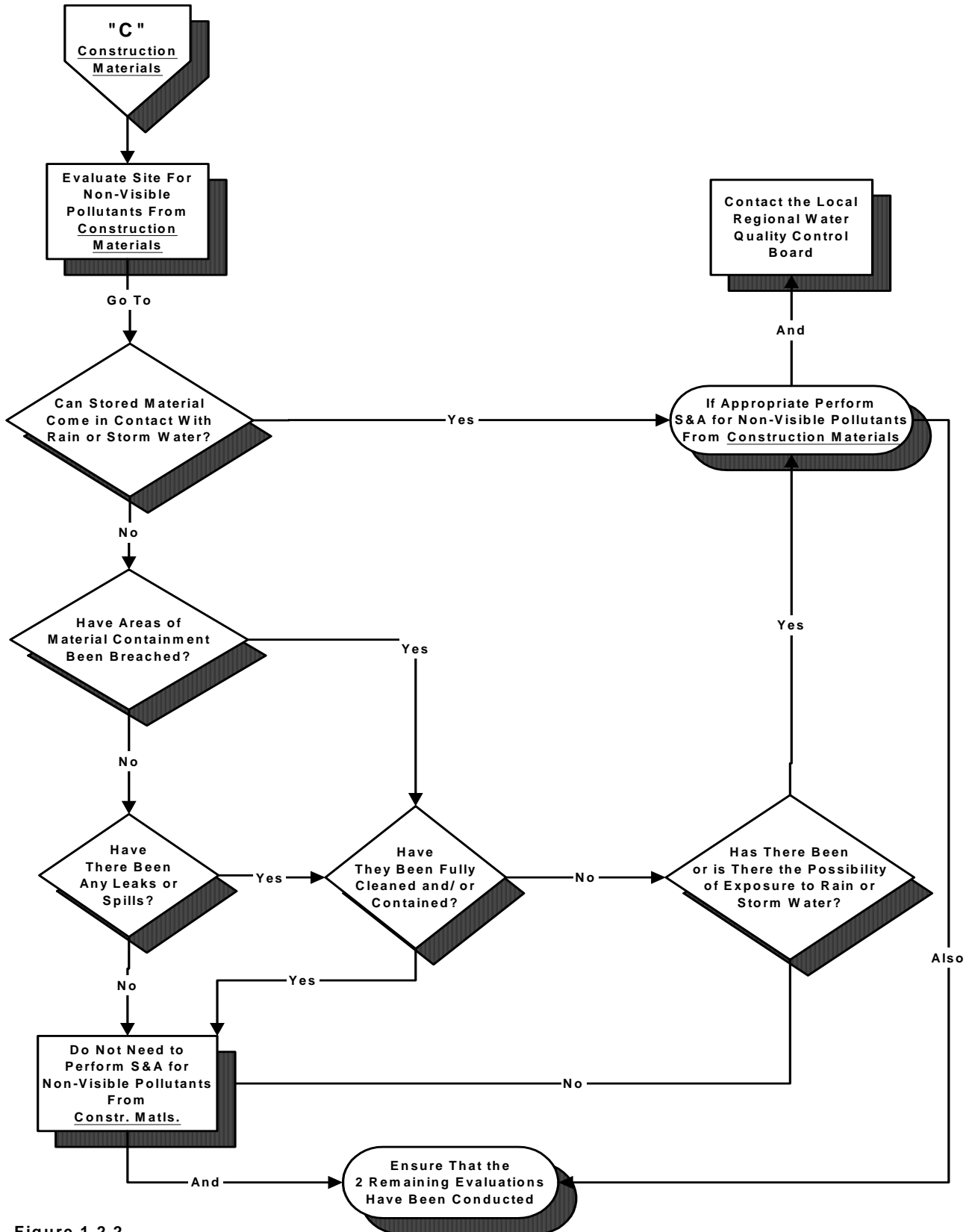


Figure 1.2.2

**Determine If You Must Perform Sampling and Analysis (S&A)  
for Non-Visible Pollutants  
From Run-On**

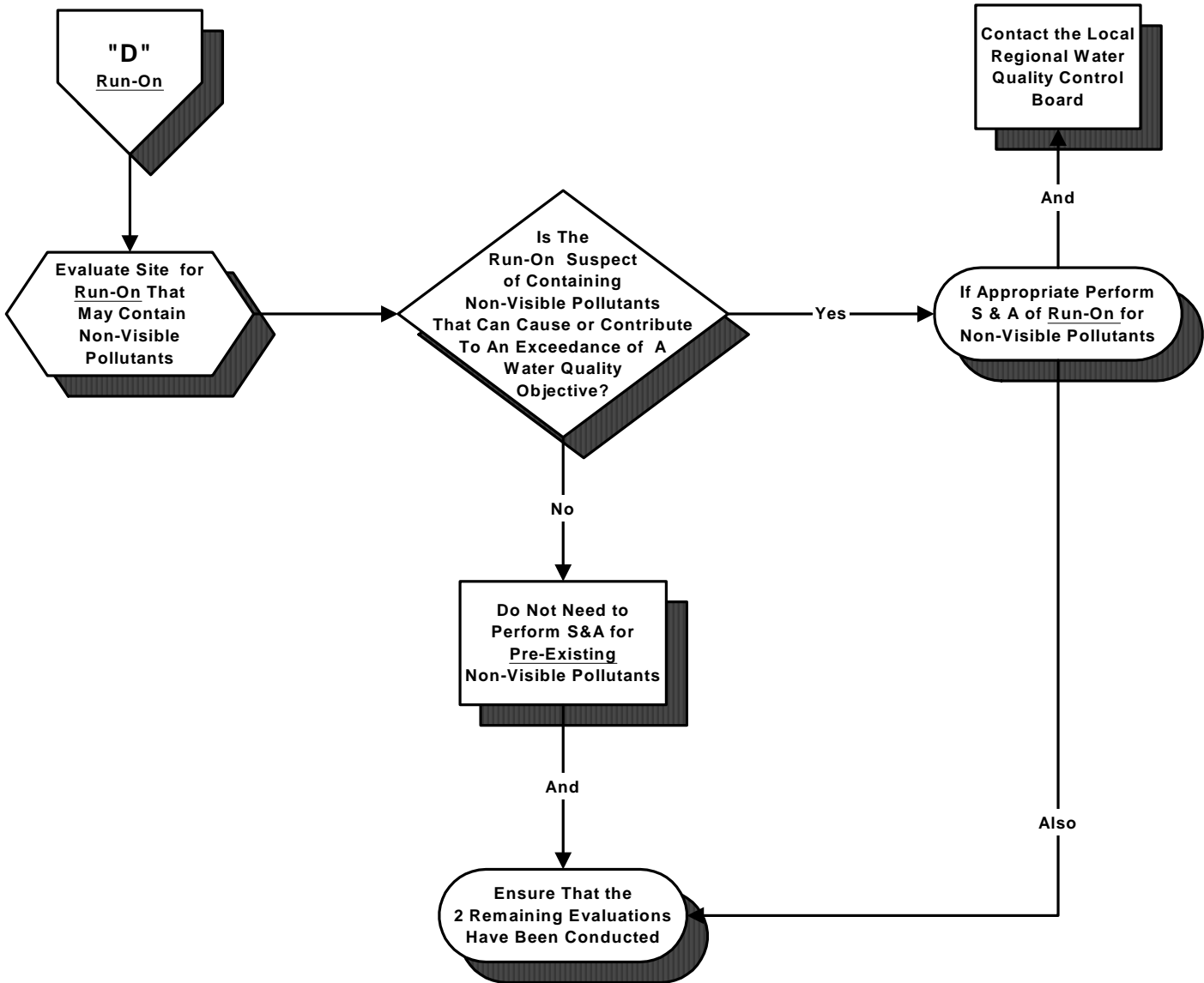


Figure 1.2.3



## **2.0 Sampling Program for Pollutants Not Visually Detectable in Storm Water**

The CGP requires sampling and analysis for pollutants not visually detectable in runoff, but which could cause or contribute to an exceedance of water quality objectives in the receiving water. Sample for a constituent if there is reason to expect that it may be in the discharge, regardless of whether or not it is causing or contributing to an exceedance of a water quality objective. First attempt to eliminate the exposure of construction materials to prevent pollution of storm water and thus to limit the requirement for sampling and analysis. Many construction materials, including soil amendments, fertilizers, pesticides, and even things like fencing and wood products, are intended for use outdoors. For such materials, minimize pollutant discharge through implementation of appropriate BMPs. If exposure to these products can contribute pollutants to the runoff at levels that could cause or contribute to exceedance of a water quality objective, then sampling is still required, even if they are used correctly.

### **2.1 What the Permit Says about Sampling**

The CGP requires that a sampling and analysis program be developed and conducted for pollutants which:

- Are not visually detectable in storm water discharges,
- Are known or should be known to occur on the construction site, and
- Could cause or contribute to an exceedance of water quality objectives in the receiving water.

Include all pollutants identified in this way in this sampling and analysis strategy and identify them in the SWPPP (as required by Sections A. 5. b. and A. 5. c. of the CGP). The CGP states that the SWPPP must identify a strategy for conducting the sampling and analysis, including the frequency and location(s) at which sampling will be conducted.

Sample for pollutants that would not be visible in runoff if:

- Visual inspections (required before, during and after storm events) indicate that there has been a breach, malfunction, leakage or spill from a BMP that could result in the discharge of pollutants in storm water and the pollutants would not be visually detectable; or
- Storm water comes into contact with soil amendments, other exposed materials, or other on site sources of pollution.

### **2.2 Deciding When to Sample**

Conduct proper inspections throughout the duration of the project to make sure that appropriately selected BMPs have been implemented, are being maintained, and are effective. Sample if non-visible pollutants that are known or should be known to occur on the construction site “could cause or contribute to an exceedance of water quality objectives in the receiving water.” As discussed in this document, there are numerous receiving water standards found in different documents, including narrative water quality objectives in basin plans. For that reason,

and because of the difficulties associated with linking a discharge from a construction site to exceedance of water quality standards in the receiving waters, conduct sampling and analysis whenever the above conditions are met.

If a determination is made that sampling is needed, collect storm water runoff samples regardless of the time of year, status of the construction site, or day of the week. Collect samples during the first two hours of runoff (during daylight hours). Storm water inspections and sample collections are required even during non-working days (including weekends and holidays).

### **2.3 Deciding What Constituents to Sample for: What are Pollutants Which are “Known or Should be Known ” to Occur on a Construction Site?**

Pollutants can be considered to be known or should be known to occur on the construction site if they are currently in use or are present as a result of previous land uses. This includes materials that:

- are being used in the construction activities
- are stored on the construction site
- were spilled during construction operations and not cleaned up
- were stored (or used) in a manner that presented the potential for a release of the materials during past land use activities
- were spilled during previous land use activities and not cleaned up
- were applied to the soil as part of past land use activities.

Construction material inventories and the project SWPPP should provide adequate information on materials currently in use or proposed for use on the construction site.

Develop a list of potential pollutants based on a review of potential sources identified in your SWPPP (required by CGP sections A.5.b. and A.5.c.), which will include construction related materials, soil amendments, soil treatments, and historic contamination. Review existing environmental and real estate documentation to determine the potential for pollutants to be present on the construction site as a result of past land use activities. Good sources of information on previously existing pollution and past land uses include Environmental Assessments, Initial Studies, Environmental Impact Reports or Environmental Impact Statements prepared under the requirements of the National Environmental Policy Act or the California Environmental Quality Act, and Phase 1 Assessments prepared for property transfers. In some instances, the results of soil chemical analyses may be available and can provide additional information on potential contamination.

Identify from this list those pollutants that would not be visible in storm water discharges. These are the constituents that you will likely have to sample for in runoff if the materials are

exposed to storm water. Consult with your analytical laboratory or water quality chemist to determine if there are field tests or indicator parameters that can be used.

## 2.4 Deciding Where to Sample

Sample at all discharge locations that drain the areas from which the pollutants may have entered the runoff and at locations that have not come in contact with the pollutants (reference sampling). This allows a comparison of reference samples with the sample(s) collected from storm water suspected of containing construction-related pollutants. The collection of this sample is important in the interpretation of the potentially contaminated sample because it provides information on the characteristics of the storm water without the exposure. For example, if storm water were to come in contact with hydrated lime products, the indicator parameter for pollution would be an elevated pH. The storm water could also be polluted with other materials or minerals, but the elevated pH will provide information necessary for the discharger to make further determinations as to the cause. In this case, a sample of storm water from the same storm event that did *not* come in contact with the hydrated lime would provide an understanding of what the pH of the uncontaminated storm water was in relation to the polluted storm water.

A more accurate background sample would have also contacted the soil and vegetation of the area, further isolating the lime as the source of the elevated pH. This gives the discharger the necessary information to take immediate steps to detain the polluted storm water or to

minimize or eliminate the exposure. Describe the sampling procedure, location and rationale for obtaining the reference sample of storm water in the SWPPP.

Identify sampling locations that provide information on both the runoff quality that is affected by material storage, historic contamination or other exposed potential pollutants, and the background runoff quality (i.e., reference sample). Material storage may be confined to a small area of the project while historic contamination or exposed materials, such as soil amendments, may be widespread throughout the construction site. For this reason, the sampling locations identified for these two types of potential pollutants may be different.

- Collect samples at locations identified in your SWPPP and in areas identified by visual observations/inspections where there has been a BMP failure or breach and which can be safely accessed.
- Collect samples from a location that is not affected by material storage activities or by runoff as a background or reference location.
- For a widespread potential pollutant, select sampling locations at the perimeter of your site, where storm water is unaffected by your activities and compare this to areas that are affected by your activities on the site. Describe the sampling procedure, the location, and the rationale for selecting these locations in the SWPPP.

If the “reference sample” is taken from on-site and it turns out to be carrying a high level of pollutants this should trigger an evaluation of this drainage area. Are there previously

undetected sources of pollutants? It may turn out that additional BMPs may be necessary on this portion of the site or that the discharge must be managed or contained.

If the “reference sample” is taken from off site and it turns out to be carrying a high level of pollutants take a sample on site to determine if the same pollutants are on site and must be managed.

## **2.5 Types of Test Methods?**

The CGP requires sampling of non-visible pollutants that “could cause or contribute to an exceedance of water quality objectives in the receiving waters”. Unlike sediment, for which there are a limited number of applicable water quality objectives, the applicable water quality standards for “non-visible” pollutants will depend on the material and its chemical makeup. This guidance document contains information on what pollutants may occur on construction sites and which water quality standards may be associated with those pollutants. The best assurance of complying with the receiving water limitations is to prevent or reduce runoff of all polluting substances from construction sites through implementation of effective BMPs.

The sampling and analysis language recognizes that sampling and laboratory analysis, in and of itself, does not protect water quality. Rather, field identification and detection of the source of pollution, followed by timely action is ultimately what will protect the receiving waters. Because of the short-term nature of construction, and the use of different materials during the construction period, laboratory sampling will not generally provide the information needed in an adequate time frame. It is preferable to use field-sampling techniques that can provide immediate information and allow a timely solution.

For this reason, the sampling and analysis language for non-visible pollutants contemplates field sampling using indicator parameters. The correct indicator parameter can provide a quick and immediate indication of contamination of storm water to known materials stored or used on a construction site. Field test kits and devices have been commercially available for decades and widely used for water quality applications. As an example, test strips to evaluate for ammonia, phosphate, chlorine, copper, iron, nitrate, nitrite, and low and high range pH are readily commercially available. Manufacturers and distributors provide technical support as well as training to their customers.

## **2.6 Deciding How Often to Sample**

Determine the frequency of sampling for non-visible pollutants based on the exposure of pollutant sources. Sample runoff when BMPs do not effectively prevent or reduce exposure of a non-visible pollutant source to storm water. Sample runoff when inspections identify a BMP failure, which exposed pollutants to storm water. If spills are thoroughly cleaned up and the contaminated material is isolated, eliminating exposure to storm water runoff, sampling is not required. For instances when the potential for previously existing pollution is identified, perform laboratory screening analysis during the first one or two storm events of the season to determine if the potential pollutant is running off the construction site. If construction activity will disturb or mobilize such potential pollutant sources, take samples to determine if the pollutants are being mobilized by the construction activity.

## 2.7 Identification of Pollutant Sources

Information about various construction pollutant sources can be viewed by following the instructions posted on the [swrcb.ca.gov](http://swrcb.ca.gov) web site. In addition, various discharger groups have also produced information that may be useful for determining pollutant sources and sampling parameters for runoff from construction activity. These include a “Pollutant Testing Guidance Table” that lists construction materials, describes whether they would be visible in runoff, and lists pollutant indicators, which will be available on the [swrcb.ca.gov/stormwtr/gen\\_const.html](http://swrcb.ca.gov/stormwtr/gen_const.html) web site

## 2.8 Examples of When Sampling and Analysis for Non-Visible Pollutants Is Not Required

Sampling and analysis is not required under the following conditions. However, a contingency sampling strategy should be prepared in the event of an accidental discharge.

- Where construction takes place entirely during a period of time when there are no rainfall events. Timing construction to occur outside of the rainy season is the most effective BMP.
- Where a construction project is “self-contained”, meaning that the project generates no runoff or any potential discharges containing pollutants, including no potential for tracking sediment off-site from vehicle tires, and no potential for discharging products of wind erosion.
- Where construction materials and compounds are kept or used so that they are not in contact with storm water (e.g., in water-tight containers, under a water-tight roof, inside a building, etc.).
- Where for specific pollutants, the BMPs implemented at the construction site fully contain the exposed pollutants (e.g., bermed concrete washout area).
- For building, landscaping and BMP materials that are in their final constructed or in-place form or are designed for exposure (e.g., fence materials, support structures and equipment that will remain exposed at the completion of the project, etc.).
- Where pollutants may have been spilled or released on site, but have been properly cleaned-up and storm water exposure has been eliminated prior to a storm event.
- For stockpiles of construction materials for which both cover and/or containment BMPs have been properly implemented to protect them from run-on and from contributing pollutants to storm water .

## 2.9 Examples of When Sampling and Analysis Is Required

Sampling and analysis is required when non-visible pollutants have the potential to contact storm water and run off the construction site into a storm drainage system or water body at levels that may cause or contribute to exceedance of water quality standards. Some examples of this situation are:

- Where construction materials and compounds are stored or applied such that they may come in contact with storm water runoff.
- For construction projects that utilize soil amendments or soil treatments that can come in contact with storm water runoff. (If you have independent test data available that demonstrates that the soil amendments cannot result in concentration levels in storm water discharges that will cause or contribute to exceedance of applicable water quality standards, sampling and analysis may not be required. Contact the appropriate RWQCB to determine acceptable concentration(s) of the material(s) in question.)
- When a leak or spill occurs that is not fully contained and cleaned prior to a storm event.
- When a leak or spill occurs, during a storm event, and it cannot immediately be isolated and/or cleaned-up, and the possibility of an off-site discharge exists.
- When, during regular inspections, it is discovered that cover and containment BMPs have been compromised and storm water comes in contact with materials resulting in runoff discharging into a storm drain system or water body.
- When material storage BMPs have been compromised, breached, or have failed.

## **2.10 Do I Sample Storm Water Flows Diverted Around My Project for Non-Visible Pollutants?**

Dischargers may be faced with a situation where the disturbed area of their construction site is adjacent to a large area that historically has drained across their site. This happens most frequently in foothill situations where schools or commercial development is undertaken alongside an existing roadway, adjacent to a large undisturbed area. In such a situation, calculate the anticipated volume of the flow in order to size a diversion structure to divert the (usually) clean storm water around or through the site. (CGP section A.5.b.1.) It is unwise to allow a large volume of water to wash across a disturbed area. Not only would the run-on cause erosion and remove the soil from the project, but also the discharge would be turbid and violate the Permit requirements. To the extent that the discharger does allow run-on of polluted water to flow across the site, and contaminants in the run-on are not visible, the sampling and analysis requirements apply. Additionally, the CGP (section A. 5. b.) requires that the RWQCB be contacted in the above situation.

The requirement to divert run-on does not authorize the creation of a new point source of pollutants, however. If the run-on contains pollutants from pre-existing pollution in the watershed, the discharger is responsible to determine this before planning the diversion. Should a discharger divert contaminated water around the site and allow it to enter surface waters, this permit does not authorize such discharge and the discharger should be aware that a separate NPDES permit may be required. (See, *Committee to Save Mokelumne River v. East Bay Municipal Utility District* (9th Cir. 1993) 13 F.3d 305, 309.) If you are planning on diverting flows from entering your site and you suspect that they contain pollutants, contact your local RWQCB for advice.

## **2.11 Deciding How to Sample**

- Only personnel trained in water quality sampling procedures should collect storm water samples.
- Determine sampling methods and locations in advance of the runoff event in order to provide sufficient time to gather the supplies and equipment necessary to sample and plan for safe access by the sampling personnel.
- General guidance for sampling procedures is provided in Section 4 of this document.

## **2.12 How to Use Your Sampling Data**

### **2.12.1 How to Analyze Your Data**

Initiate corrective action where non-visible pollutant sample test results indicate presence of pollutants in the construction site storm water runoff. This can be determined by comparing your construction site's storm water test results with the background sample. BMPs must be used to control offsite discharge of any pollutant (e.g., pesticides) that is not naturally occurring, regardless of background levels of that pollutant.

Where your site's storm water test concentrations for naturally occurring substances are considerably above (or, in the case of pH, considerably above or below) the background concentrations, or where other pollutants are found, evaluate the BMPs to determine the cause. Initiate corrective action by repairing, replacing or supplementing the BMPs on your site. Conduct additional sampling during the next runoff event after corrective actions are implemented to demonstrate and document that the problems have been corrected.

This permit does not contain benchmarks. However, method of data analysis for naturally occurring substances employs a similar concept: determining whether the results are "considerably above" the background levels. The term "considerably above" is based upon guidance contained in USEPA's Multi-Sector General Permit, which does use benchmarks. These benchmarks are not numeric storm water effluent limits, are not related or necessarily protective of any specific receiving water, and exceedances of these benchmarks are not automatically considered permit violations. When sample results exceed one or more of the benchmarks, the USEPA recommends dischargers reevaluate the effectiveness of their BMPs and develop, when appropriate, additional BMPs. The use of such benchmark values is a scientifically valid indicator of the presence of pollutants associated with construction activity in the runoff. Since the non-visual pollutants that may occur on construction sites may be similar in type and cause to those on industrial sites, it is valid to use USEPA's approach here. Where a parameter in a sample is being evaluated, and a benchmark is available, the benchmark may be used for comparison purposes. (USEPA does not require any sampling and analysis in its construction permits, and therefore does not have benchmarks for construction activities.)

### **2.12.2 Coordinating Visual Observations with Sampling Results**

If visual inspection of storm water BMPs used to contain or otherwise manage (i.e., filter or treat) non-visible pollutants at a construction site indicates that a BMP has failed or been compromised, then field monitoring of any impacted storm water from the site for non-visible pollutants is required. Of course, immediately repair or replace any BMP that has been visually inspected and found breached or compromised. If feasible, contain the polluted discharge and prevent it from being discharged off site. After taking steps to correct the failed BMP, conduct field monitoring in the vicinity of the BMP to verify that pollutants are no longer in the storm water.

The intent of conducting field monitoring for non-visible pollutants is to obtain an immediate indication if storm water that is discharging from a site has been polluted. An immediate indication of a polluted discharge requires an immediate response in the form of backtracking from the point of discharge to find the source and take appropriate measures to prevent a recurrence of a polluted discharge.

### **2.12.3 What To Do If The Data Show a Potential Problem**

If your data shows a problem, follow the reporting requirements as shown in the CGP Receiving Water Limitations. In addition, take the following steps as soon as possible:

- Identify the source
- Repair or replace any BMP that has failed
- Maintain any BMP that is not functioning properly due to lack of maintenance
- Evaluate whether additional or alternative BMPs should be implemented

If sampling and analysis during subsequent storm events shows that there is still a problem, then repeat the steps above until the analytical results of “upstream” and “downstream” samples are relatively comparable.

Where your site’s storm water results show test concentrations considerably above (or below) background concentrations, evaluate the BMPs to determine what is causing the difference. Possible solutions may include repairing the existing BMPs, evaluating alternative BMPs that could be implemented, and/or implementing additional BMPs (cover and/or containment) which further limit or eliminate contact between storm water and non-visible pollutant sources at your site. Where contact cannot be reduced or eliminated, retain storm water that has come in contact with the non-visible pollutant source on-site and do not allow it to discharge to the storm drainage system or to a water body. Contact your RWQCB to determine whether it is permissible to discharge the retained storm water. Conduct additional sampling during the next runoff event after corrective actions are implemented to demonstrate and document that the problems have been corrected.

### **2.13 Retention of Data**

Keep results of field measurements and laboratory analyses with the SWPPP, which is required to be kept on the project site until the Notice of Termination (NOT) is filed and approved by the



appropriate RWQCB. Keep field training logs, Chain-Of-Custody (COC) forms and other documentation relating to sampling and analysis with the project's SWPPP. Records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years from the date generated or after project completion.

## **3.0 Sampling Program for Sedimentation/Siltation**

### **3.1 What the Permit Says About Sampling**

Soils, sediments, and fine (suspended) particles that result from grading and earthwork activities and soil erosion from disturbed, un-stabilized land areas are potentially significant sources of storm water pollution at construction sites. The CGP requires construction sites to develop, implement and maintain an effective combination of erosion control and sediment control BMPs to prevent soils, sediments, debris and solids fine enough to remain suspended from leaving the construction site and moving into receiving waters at levels above preconstruction levels.

The CGP requires that a visual survey of the site be done before, during and after a storm. If the visual survey indicates either the potential for a discharge of sediment laden water or that sediment is being discharged, steps must be taken to repair or augment the BMPs to prevent the discharge as soon as possible. Discharge of sediment above predevelopment levels is not allowed.

The CGP requires sampling and analysis for sediment/silt or turbidity when the construction site runoff discharges directly into a water body that is impaired by sedimentation/siltation, sediment, or turbidity (that is, the water body is on the 303(d) list for one or more of these pollutants.) A key point is that the discharge of storm water runoff must directly enter the impaired water body or impaired segment of a water body. Construction site runoff that flows through a tributary or storm drainage system and is commingled with other sources of flow, is not considered a direct discharge even if the flow eventually enters an impaired water body. (See the definition of direct discharge in Section 5 for further details.)

The CGP requires that the SWPPP identify a strategy for conducting the sampling and analysis, including the frequency at which sampling will be conducted. The SWPPP must also describe:

- the location(s) of direct discharges from construction activities to a water body listed on the SWRCB's 303(d) list for sedimentation/siltation, sediment and/or turbidity;
- the designated sampling location(s) in the listed water body representing the prevailing conditions up-stream of the discharge; and
- the designated sampling location(s) in the listed water body representing the prevailing conditions down-stream of the discharge.
- the sampling design which describes the sampling devices used; the sample size; the number of samples to be taken at each location, the laboratory protocol employed; and, if applicable, the statistical test used to determine if the upstream/downstream samples differ to a statistically significant degree.

## 3.2 Deciding When to Sample

- Dischargers must perform sampling if the storm water runoff directly discharges from the construction site to a 303(d) listed water body.
- Dischargers must collect samples during the first two hours of discharge (runoff) from storm events which result in a direct discharge to any 303(d) listed water body. But samples need only be collected during daylight hours (sunrise to sunset).
- Dischargers must collect samples regardless of the time of year, status of the construction site, or day of the week. Samples should be taken during the first two hours of a storm event. Storm water inspections and sample collections are required even during non-working days (including weekends and holidays). Samples must be taken from the same storm event for comparison, concentrations are not comparable across storm events.
- Dischargers do not need to perform upstream/downstream sample collection for more than four (4) rain events per month.

## 3.3. Deciding What Constituent(s) Require Sampling

- If the water body is listed as impaired for sedimentation or siltation, analyze samples for Setteable Solids (mL/L) and Total Suspended Solids (mg/L) according to USEPA 160.2 and USEPA 160.5, respectively. Samples may be analyzed for suspended sediment concentration (SSC) according to ASTM D3977-97 instead of or in addition to Total Suspended Solids and Setteable Solids.
- If the water body is listed as impaired for turbidity, analyze samples for turbidity per USEPA 180.1 or analyze in the field using a correctly calibrated turbidity meter.
- It is very important that consistent sampling and analysis methods are used for all sampling locations.

Table 3-1 shows general sample handling and laboratory requirements for sediment sampling.

Table 3-1

LABORATORY REQUIREMENTS<sup>1</sup> FOR STORM WATER MONITORING OF SEDIMENT, SILTATION AND/OR TURBIDITY

Parameters	Analytical Method	Target Method Detection Limit	Minimum Sample Volume <sup>2</sup>	Container	Preservative	Holding Time
Total Suspended Solids (TSS) <sup>2</sup>	EPA 160.2	1 mg/L	100 mL	500 mL polypropylene	Store in ice or refrigerator at 4°C (39.2°F)	7 days
Settleable Solids (SS)	EPA 160.5	0.1 mL/L/hour	1 liter	1 liter mL polypropylene	Store in ice or refrigerator at 4°C (39.2°F)	48 hours
Suspended Sediment Concentration (SSC) <sup>3</sup>	ASTM D 3977-97	Contact Laboratory	200 mL	Contact Laboratory	Store in ice or refrigerator at 4°C (39.2°F)	7 days
Turbidity	EPA 180.1	1 NTU	100 mL	500 mL polypropylene or glass	Store in ice or refrigerator at 4°C (39.2°F), Dark	48 hours

<sup>1</sup> The data in this table is a summary of recommended laboratory requirements. For specific USEPA regulatory requirements, consult the sampling and analysis requirements found in 40 CFR 136.

<sup>2</sup> Minimum sample volume recommended. Specific volume requirements will vary by laboratory; please check with your laboratory when setting up bottle orders.

<sup>3</sup> Use either TSS or SSC, or both, for suspended solids analysis. Upstream and downstream samples should be analyzed by the same method.

### **3.4 Deciding Where to Sample**

In-stream sampling is required, both upstream and downstream of the discharge. The CGP does not require that the effluent be sampled. However, effluent sampling is recommended. Take both upstream and downstream samples within the actual flow of the waterbody. Collect samples at the following locations:

- Sample the 303(d) listed water body upstream of the construction site discharge in a location representative of the sediment load present in the water body before it is impacted by discharge from the construction site.
- Sample the 303(d) listed water body at a point immediately downstream of the last point of discharge from the construction site.

Additionally, for the purpose of interpreting the results of the samples collected from the 303(d) listed water body, collect and analyze samples of the actual discharge from the construction site (effluent sample) prior to it being commingled in the receiving water. This sample can be used to verify whether the source of the sediment in-stream is emanating from the construction discharge. Remember that samples should only be collected from safely accessible locations.

In general, sample away from the bank in or near the main current. Avoid collecting samples directly from ponded, sluggish, or stagnant water. Be careful when collecting water upstream or downstream of confluences or point sources to minimize problems caused by backwater effects or poorly mixed flows. Note that samples collected directly downstream from a bridge can be contaminated from the bridge structure or runoff from the road surface.

Choose the upstream location in water that appears to represent the nature of the flow in the stream.

Downstream samples should represent the receiving water mixed with flow from the construction site. For instance if the flow from the site can be observed by either a color or a flow difference, collect the downstream sample from within the affected water.

### **3.5 What Are the Applicable Water Quality Standards**

The CGP requires sampling of runoff from construction sites that discharge directly to 303(d) listed water bodies to demonstrate that discharges do not contribute to the impairment of the receiving water. Each of the listed waters is subject to water quality objectives in a RWQCB Basin Plan for sediments and solids or for turbidity. The applicable water quality objectives for each RWQCB are listed in Appendix A to this guidance document.

### **3.6 Deciding How to Sample**

- Only personnel trained in water quality sampling procedures should collect storm water samples.

- Determine sampling methods and locations in advance of the runoff event in order to provide sufficient time to gather the supplies and equipment necessary to sample and plan for safe access by the sampling crew(s) and document them in the SWPPP.
- General guidance for sampling procedures is provided in Section 4 of this document.

## 3.7 How to Use Your Data

### 3.7.1 How to Analyze Your Data

While it is desirable for sediment concentrations from a site to be as low as possible, the amount that a site can contribute is determined by a TMDL analysis and in the absence of an implemented TMDL, the instream concentrations below the point of discharge cannot be significantly different from the upstream concentrations.

In order to allow for meaningful analysis of the data, it is necessary to establish a statistical framework for it. When sampling a body of water, it is unlikely that two samples, even taken next to each other, will have the same concentration of a pollutant. This is referred to as variability. Concentrations will vary from sample to sample, but the difference between them may not be meaningful. In order to obtain a statistically meaningful set of samples, it is necessary to determine how many samples will be necessary, the greater the variability between samples, the larger the number of samples (N) will be required. This may require that the water body be sampled before the start of construction to determine the variability. Collect sufficient numbers of samples (N) during each storm event monitored to represent the prevailing conditions of both locations (upstream and downstream). Depending upon which statistical test is used, and the variability between the samples, N will usually be more than a single sample. When comparing samples from a single storm event, a range of readings will be obtained. Almost all samples from that source will fall into that range. The likely range of readings can be expressed through the use of a statistical confidence interval for the parameter being sampled. Confidence intervals are expressed as probabilities, such as 95% confidence or 97% confidence. The size of a confidence interval will be determined by the variability in the samples from the single source and the number of samples collected.

Once the sampling is completed and results returned from the laboratory, compare the concentration of the appropriate parameter (see Section 2.3 Deciding What Constituents to Sample for)) derived from the upstream samples to the concentration of the same parameter from the downstream samples (from the same storm event). It is expected that every sample will be different. (This would be true even if there were not construction activities, in light of the variability of stream conditions, explained above.) Rather, compare the samples to see if there is a statistically significant difference between the central tendency (arithmetic mean, geometric mean, median, etc.) of the upstream samples and the downstream samples.

Estimate the magnitude of the difference in the central tendency between the upstream and downstream concentration values. The null hypothesis to be tested is: The difference between the downstream central tendency and the upstream central tendency is less than or equal to zero. The minimum acceptable confidence interval shall be 90%. Using the data, calculate a one-sided lower confidence limit (LCL) on the difference in central tendencies. If the numeric value of zero

is contained within the confidence interval (LCL), then you cannot reject the null hypothesis, and you would conclude that no impairment has occurred. If, however, the data indicates that the downstream central tendencies are significantly higher than the upstream, you cannot accept the null hypothesis. In this case there is the presumption that the discharges are contributing to the existing impairment.

If you did take samples of the effluent, and those samples are not consistent with the conclusion that the discharge is contributing to the existing impairment, take steps to determine what other source(s) is causing the increase in the downstream sampling. If you can show that there is a different source than your discharge, you should contact the appropriate RWQCB.

The hypothesis, sampling methodology, confidence interval, and statistical tests and assumptions must be defensible to the RWQCB. Since construction sites that discharge *directly* into impaired water bodies are not common in California, the local RWQCB will likely ask to review the SWPPP and the sampling and analysis strategy prior to construction activity.

### **3.7.2 Sources of sediment, silt and turbidity in a construction discharge**

Conditions or areas on a site that may be causing sediment, silt, and/or turbidity in your storm water runoff may include:

- Exposed soil areas with inadequate erosion control measures
- Active grading areas
- Poorly stabilized slopes
- Lack of perimeter sediment controls
- Areas of concentrated flow on unprotected soils
- Poorly maintained erosion and sediment control measures
- Unprotected soil stockpiles
- Failure of an erosion or sediment control measure
- Unprotected Clayey soils

### **3.7.3 What To Do If Your Data Shows a Statistically Significant Increase Downstream of the Discharge**

The CGP requires that BMPs be implemented on the construction site to prevent a net increase of sediment load in storm water discharges relative to pre-construction levels. Although the upstream reference (background) sample may not be representative of pre-construction levels at your site, it will provide a basis for comparison with the sample taken downstream of the construction site.

If the statistical tests of the upstream and downstream samples indicate an increase in silt, sediment and/or turbidity, follow the reporting requirements as shown in the Receiving Water Limitations of the CGP. If you have collected samples of the discharge from your site, use these results to help identify if it is your project that is discharging sediment into the receiving water. It is recommended that the following steps be taken as soon as possible.

- Identify the source of the silt, sediment or turbidity
- Review effectiveness of existing erosion control BMPs. The sediment may be coming from locations at the construction site where existing erosion control BMPs have been reduced in effectiveness. These BMPs should be evaluated to determine whether they are in need of maintenance.
- Review effectiveness of existing sediment control BMPs. The sediment may be coming from locations at the construction site where existing sediment control BMPs have been reduced in effectiveness. These BMPs should be evaluated to determine whether they are in need of maintenance.
- Look for evidence that there are too few sediment and erosion control BMPs. In inspecting the site, sources of sediment that either do not have BMPs or for which the BMPs appear to be insufficient in number or type may be identified.
- Repair or replace any BMP that has failed or is in need of maintenance
- Evaluate whether additional or alternative BMPs should be implemented to provide an effective combination of erosion and sediment control measures on the site. Do not rely solely on perimeter sediment controls, particularly where there are fine-grained soils (such as silts or clays) on the site. Implement erosion controls (source controls) that keep the soil in place, even on temporary slopes and rough graded areas, wherever possible and as necessary to prevent sediment from leaving the site.

If sampling and analysis during subsequent storm events shows that there is still a statistically significant difference, then repeat the steps above until the analytical results of the upstream concentration samples are within the confidence interval.

### **3.8 Retention of Data**

Keep results of field measurements and laboratory analyses with the SWPPP, which is required to be kept on the project site until the NOT is filed and approved by the appropriate RWQCB. Keep training logs, Chain-Of-Custody (COC) forms and other documentation relating to sampling and analysis with the project's SWPPP. All records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years from the date generated or after project completion.

### **4.0 Sampling Procedures**

The collection and handling of storm water runoff samples requires care to ensure the integrity and validity of the samples. A Chain of Custody (COC) form, must follow the sample from the

collection through the analysis process. Additional documentation to track other information of interest, e.g. field conditions, or required field measurements may also be used. This type of information is recorded on a field tracking form.

Collect all samples with care to ensure that the sample is representative of the runoff being tested, use the correct type of container, preserve samples in accordance with the test method's specifications, and store at the appropriate temperature until delivered to an analytical laboratory. Some types of samples have very short holding times and must be analyzed before this holding time is exceeded. Sample handling requirements and documentation form the basis of your sampling quality assurance program.

Before starting any sampling program, contact the analytical laboratory that you plan to use to analyze your samples. Make sure to select a laboratory that will provide you with the support that you need, such as, properly cleaned and preserved sampling containers and COC forms. Some laboratories can assist in identifying courier services available to transport samples to the laboratory, or may be able to provide sampling service for you. Work out all of these details in advance of sample collection. Consult the analytical laboratory on what additional samples will be required for quality assurance and quality control purposes.

Both field and/or analytical analysis methods can be used to meet the Permit requirements. Field techniques have the advantage of providing immediate results, however, there are only a limited number of analyses that can be done in the field. Analytical laboratories can analyze for a wide range of parameters, but the data may take several weeks or longer to get back.

Some constituents (e.g. pH) can be evaluated in the field with special equipment. Field samples must be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Field equipment must be used by trained staff and the equipment must be calibrated and maintained according to the manufacturer's specifications.

Laboratory analyses should be conducted by a laboratory that is currently accredited by the California Department of Health Services Environmental Laboratory Accreditation Program (ELAP). Analyses must be conducted in accordance with 40 CFR Part 136.

You may refer to the California Department of Transportation (Caltrans) *Guidance Manual: Stormwater Monitoring Protocols (Second Edition), July 2000* to assist you in developing a sampling and analysis program. This document may be downloaded from the Caltrans Website, at

<http://www.dot.ca.gov/hq/construc/stormwater/SamplingGuidanceManual.pdf>

Figure 4-1 is an outline for a typical comprehensive storm water sampling and analysis plan. As some laboratories may have specific requirements for sample collection and handling, specific information or requirements on your samples should be checked with your laboratory.



- 1 PROJECT OVERVIEW/DESCRIPTION
    - 1.1 Description of why the project is being conducted
    - 1.2 Description of who is conducting the project
    - 1.3 General scope of monitoring activities
    - 1.4 Project organization/roles and responsibilities
  - 2 MONITORING SITES
    - 2.1 Site location (map)
    - 2.2 Written driving directions
    - 2.3 Site access instructions (gates, locks, keys, combinations)
    - 2.4 Notification procedures
  - 3 ANALYTICAL CONSTITUENTS
    - 3.1 List of constituents for sampling and analysis (including sample collection methods, container type, volume required, preservation and laboratory performing analysis)
  - 4 DATA QUALITY OBJECTIVES (DQOs)
    - 4.1 Analytical reporting limits
    - 4.2 Analytical precision, accuracy and completeness
  - 5 FIELD EQUIPMENT MAINTENANCE
    - 5.1 Equipment calibration
    - 5.2 Equipment maintenance
    - 5.3 Equipment cleaning (bottles/lids/tubing)
  - 6 MONITORING PREPARATION AND LOGISTICS
    - 6.1 Weather tracking
    - 6.2 Storm selection criteria
    - 6.3 Storm action levels
    - 6.4 Communications/notification procedures
    - 6.5 Sample bottle order
    - 6.6 Sample bottle labeling
    - 6.7 Field equipment preparation
  - 7 SAMPLE COLLECTION, PRESERVATION AND DELIVERY
    - 7.1 Sample collection methods
    - 7.2 Field measurement methods
    - 7.3 Field equipment list
    - 7.4 Sample containers, preservation and handling
    - 7.5 QA/QC sample collection methods
    - 7.6 Sample labeling (site names, codes, etc.)
    - 7.7 Composite sample splitting
    - 7.8 Forms and procedures for documenting sample collection and field measurements
    - 7.9 Laboratory communication procedures
    - 7.10 Sample shipping/delivery, chain-of-custody
  - 8 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)
    - 8.1 Field procedures for QA/QC sample collection
  - 9 LABORATORY SAMPLE PREPARATION AND ANALYTICAL METHODS
    - 9.1 Laboratory sample preparation procedures
    - 9.2 Analytical constituent table (including analytical methods, holding times and reporting limits)
  - 10 DATA MANAGEMENT AND REPORTING PROCEDURES
    - 10.1 Analytical data validation
    - 10.2 Electronic data transfer
    - 10.3 Filing of electronic and hard copy data
    - 10.4 Reports
- APPENDICES
- A Clean Sampling Techniques
  - B Health and Safety Plan

Figure 4-1 Outline for a Typical Storm Water Sampling and Analysis Plan

## 5.0 Definitions

### Chain of Custody (COC) Form

The COC Form is a form used to track sample handling as samples progress from sample collection to the analytical laboratory. The COC is then used to track the resulting analytical data from the laboratory to the client. COC forms can be obtained from an analytical laboratory upon request.

### Direct Discharge

Direct discharge means storm water runoff that flows from a construction site directly into a 303(d) water body listed for sedimentation, siltation, or turbidity. Storm water runoff from the construction site is considered a direct discharge to a 303(d) listed water body unless it first flows through:

- 1) A municipal separate storm sewer system (MS4) that has been formally accepted by and is under control and operation of a municipal entity;
- 2) A separate storm water conveyance system where there is co-mingling of site storm water with off-site sources; or
- 3) A tributary or segment of a water body that is not listed on the 303d list before reaching the 303d listed water body or segment.

### Discharger

The discharger is the person or entity subject to the CGP.

### Electrical Conductivity (EC)

EC is a measure of the ability of water to carry an electric current. This ability depends on the presence of ions, their concentration, valence, mobility and temperature. EC measurements can give an estimate of the variations in the dissolved mineral content of storm water in relation to receiving waters.

### Field Measurements

Field measurements refers to water quality testing performed in the field with portable field-testing kits or meters.

### Field Tracking Form (FTF)

The FTF is a form that serves as a guide to sampling crews to obtain sampling information and to prescribe and document sample collection information in the field. The FTF usually contains sample identifiers, sampling locations, requested analyses, Quality Control (QC) sample identifiers, special instructions, and field notes.

### Holding Time

Holding time is specified by the analytical method and is the elapsed time between the time the sample is collected and the time the analysis must be initiated.

### pH

The pH is universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

### **Reference Sample**

A sample taken from an undisturbed part of the construction site or from an undisturbed site immediately upstream from a construction site. The reference sample is used for comparison with samples taken from the active construction site. It is the same set of samples that is referred to as an uncontaminated sample in the Permit.

### **Sampling and Analysis Plan**

A document that describes how the samples will be collected and under what conditions, where and when the samples will be collected, what the sample will be tested for, what test methods and detection limits will be used, and what methods/procedures will be maintained to ensure the integrity of the sample during collection, storage, shipping and testing (i.e., quality assurance/quality control protocols).

### **Sediment**

Sediment is solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

### **Sedimentation/Siltation**

Sedimentation/siltation is the process of sediment/silt deposition.

### **Settleable Solids**

The settleable solids (SS) test measures the solid material that can be settled within a water column during a specified time frame. This typically is tested by placing a water sample into an Imhoff settling cone and allowing the solids to settle by gravity. Results are reported either as a volume (mL/L) or a weight (mg/L).

### **Silt**

Silt are soil particles between 0.05mm and 0.002mm in size. (For the purposes of its use here, it also includes clay, which is categorized by a particle size less than 0.002mm.)

### **Soil Amendment**

Any material that is added to the soil to change its chemical properties, engineering properties, or erosion resistance that could become mobilized by storm water. Certain soil amendments may not be visible in site runoff. Soil amendments likely to fall in this category include lime, cementitious binders, chlorides, emulsions, polymers, soil stabilizers, and tackifiers applied as a stand-alone treatment (i.e., without mulch). Even some of these products may bind with the soil, and thus be visible. In contrast, plant fibers (such as straw or hay), wood and recycled paper fibers (such as mulches and matrices), bark or wood chips, green waste or composted organic materials, and biodegradable or synthetic blanket fibers are soil amendments that are likely to be visible in storm water runoff.

### **Suspended Sediment Concentration (SSC)**

The suspended sediment concentration (SSC) test measures the concentration of suspended solid material in a water sample by measuring the dry weight of all of the solid material from a known volume of a collected water sample. Results are reported in mg/L.

### **Total Suspended Solids (TSS)**

Suspended solids in a water sample include inorganic substances, such as soil particles and organic substances, such as algae, aquatic plant/ animal waste, particles related to industrial/sewage waste, etc. The total suspended solids test (TSS) test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

### **Turbidity**

Cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The scattering of light increases with a greater suspended load. Turbidity is commonly measured in Nephelometric Turbidity Units (NTU).

## 6.0 Sources of Further Assistance

### Regional Water Quality Control Boards

Regional Water Quality Control Board	Address	Contact Name E-mail	Telephone/Fax
NORTH COAST REGION	5550 Skylane Blvd., Suite A Santa Rosa, CA 95403	John Short <a href="mailto:shorj@rb1.swrcb.ca.gov">shorj@rb1.swrcb.ca.gov</a>	(707) 576-2065 FAX: (707) 523-0135
SAN FRANCISCO BAY REGION	1515 Clay St., Suite 1400 Oakland, CA 94612	Mark Johnson <a href="mailto:stu36@rb2.swrcb.ca.gov">stu36@rb2.swrcb.ca.gov</a>	(510) 622-2493 FAX: (510) 622-2460
CENTRAL COAST REGION	895 Aerovista Place., Suite 101 San Luis Obispo, CA 93401	Jennifer Bitting <a href="mailto:jbitting@rb3.swrcb.ca.gov">jbitting@rb3.swrcb.ca.gov</a>	(805) 549-3334 FAX: (805) 543-0397
LOS ANGELES REGION	320 W. 4th St., Suite 200 Los Angeles, CA 90013	Ejigu Soloman (Ventura County) <a href="mailto:esoloman@rb4.swrcb.ca.gov">esoloman@rb4.swrcb.ca.gov</a>	213) 576-6727 FAX: (213) 576-6686
CENTRAL VALLEY REGION Sacramento Office	11020 Sun Center Drive, #200 Rancho Cordova, CA 95670	Sue McConnell <a href="mailto:mconnns@rb5s.swrcb.ca.gov">mconnns@rb5s.swrcb.ca.gov</a>  George Day <a href="mailto:DayG@rb5s.swrcb.ca.gov">DayG@rb5s.swrcb.ca.gov</a>  Dannas Berchtold <a href="mailto:BerchtD@rb5s.swrcb.ca.gov">BerchtD@rb5s.swrcb.ca.gov</a>  Rich Muhl <a href="mailto:MuhlR@rb5s.swrcb.ca.gov">MuhlR@rb5s.swrcb.ca.gov</a>	(916) 464-4798 FAX: (916) 464-4681  (916) 464-6404 FAX: (916) 464-4681  (916) 464-4683 FAX: (916) 464-4681  (916) 464-4749 FAX: (916) 464-4681
CENTRAL VALLEY REGION Fresno Branch Office	E. Street Fresno, CA 93706	Brian Erlandsen <a href="mailto:ErlandsenB@rb5f.swrcb.ca.gov">ErlandsenB@rb5f.swrcb.ca.gov</a>	(559) 445-6046 FAX: (559) 445-5910
CENTRAL VALLEY REGION Redding Branch Office	415 Knollcrest Dr. Redding, CA 96002	Carole Crowe <a href="mailto:crowec@rb5r.swrcb.ca.gov">crowec@rb5r.swrcb.ca.gov</a>	(530) 224-4849 FAX: (530) 224-4857
LAHONTAN REGION South Lake Tahoe Office	2501 Lake Tahoe Blvd. South Lake Tahoe, CA 96150	Jason Churchill <a href="mailto:jchurchill@rb6s.swrcb.ca.gov">jchurchill@rb6s.swrcb.ca.gov</a>	(530) 542-5571 FAX: (530) 544-2271
LAHONTAN REGION Victorville Office	15428 Civic Dr., Suite 100 Victorville, CA 92392	Doug Feay <a href="mailto:Dfeay@rb6v.swrcb.ca.gov">Dfeay@rb6v.swrcb.ca.gov</a>  Ted Saari <a href="mailto:Tsaari@rb6v.swrcb.ca.gov">Tsaari@rb6v.swrcb.ca.gov</a>	(760) 241-7353 FAX: (760) 241-7308  (760) 241-7407

Regional Water Quality Control Board	Address	Contact Name E-mail	Telephone/Fax
COLORADO RIVER BASIN REGION	73-720 Fred Waring Dr., Suite 100 Palm Desert, CA 92260	Abdi Haile <a href="mailto:haila@rb7.swrcb.ca.gov">haila@rb7.swrcb.ca.gov</a>	(760) 776-8939 FAX: (760) 341-6820
		Rosalyn Fleming <a href="mailto:flemr@rb7.swrcb.ca.gov">flemr@rb7.swrcb.ca.gov</a>	(760) 776-8939 FAX: (760) 341-6820
SANTA ANA REGION	3737 Main St., Suite 500 Riverside, CA 92501-3339	Michael Roth (Riverside County) <a href="mailto:mroth@rb8.swrcb.ca.gov">mroth@rb8.swrcb.ca.gov</a>	(909) 320-2027 FAX: (909) 781-6288
		Aaron Buck (Orange County) <a href="mailto:abuck@rb8.swrcb.ca.gov">abuck@rb8.swrcb.ca.gov</a>	(909) 782-4469 FAX: (909) 781-6288
		Muhammad Bashir (San Bernardino County) <a href="mailto:mbashir@rb8.swrcb.ca.gov">mbashir@rb8.swrcb.ca.gov</a>	(909) 320-6396 FAX: (909) 781-6288
SAN DIEGO REGION	9174 SkyPark Court, Suite 100 San Diego, CA 92123	Benjamin Tobler <a href="mailto:Toblb@rb9.swrcb.ca.gov">Toblb@rb9.swrcb.ca.gov</a>	(858) 467-3272
		Eric Becker <a href="mailto:Becke@rb9.swrcb.ca.gov">Becke@rb9.swrcb.ca.gov</a>	(858) 492-1785
		Ben Neill <a href="mailto:Neilb@rb9.swrcb.ca.gov">Neilb@rb9.swrcb.ca.gov</a>	(858) 467-2983 FAX: (858) 571-6972

State Water Resources Control Board  
Division of Water Quality  
Storm Water Permit Section  
P.O. Box 1977  
Sacramento, CA 95812-1977  
Construction Inquiry Line: (916) 341-5537  
Web Site: <http://www.waterboards.ca.gov/>  
e-mail: [stormwater@waterboards.ca.gov](mailto:stormwater@waterboards.ca.gov)

**How to Obtain a List of State Certified Laboratories**

[http://www.dhs.ca.gov/ps/ls/elap/html/lablist\\_county.htm](http://www.dhs.ca.gov/ps/ls/elap/html/lablist_county.htm)

**Other Useful Web Sites**

California Stormwater Quality Association <http://www.casqa.org/>

California Department of Transportation

Environmental Program <http://www.dot.ca.gov/hq/env/index.htm>

Storm Water Management Program <http://www.dot.ca.gov/hq/env/stormwater/>

## 7.0 Explanation of Sampling and Analysis Requirements

The sampling and analysis provisions were added to the CGP in response to the writ of mandate issued in *San Francisco BayKeeper v. California State Water Resources Control Board* (Sacramento County Superior Court, No. 99CS01929). The SWRCB has now been directed to provide explanation and direction for dischargers subject to the sampling and analysis requirements. One issue that is at the heart of this direction is that the SWRCB must explain how dischargers should interpret the results of the required sampling and analysis in deciding whether they are in compliance with the permit's receiving water limitations requirements. In essence, can the sampling and analysis results be used to provide a reliable answer to the question whether the discharge is causing or contributing to exceedance of water quality standards? As is explained below, the answer is a qualified "yes," in that the results must be used in concert with other information and in accordance with a logical process exercising best professional judgment. The results from the sampling and analysis will provide information regarding whether or not the BMPs are effective, and may provide some evidence of causing or contributing to exceedance of water quality standards. But the sampling and analysis requirements in a storm water permit are ultimately a diagnostic tool, and are not a guaranteed method of determining compliance with the receiving water limitations.

### 7.1 Requirement for Compliance With Water Quality Standards

The SWRCB is well aware of the requirement that it must issue industrial storm water permits, including the CGP, with requirements that require "strict compliance" with water quality standards. (CWA §402(p)(3)(A).) It is also aware that USEPA has concluded that in general it is not appropriate or legally required to include numeric, water quality-based effluent limitations in storm water permits. (40 CFR 122.44(k)(2).) In addition, we note that USEPA does not require sampling and analysis in industrial storm water permits (40 CFR §122.44(i)(4)) and it has elected not to include any sampling or analysis requirements in its own recently issued general construction permit. (See, <http://cfpub.epa.gov/npdes/stormwater/cgp.cfm>.) USEPA has explained the limitations of sampling and analysis in industrial storm water permits. (See, 57 Fed. Reg. 11394 et seq. (1992).)

USEPA has addressed the relationship between BMPs and water quality standards, and has determined that almost all storm water discharges can be adequately controlled to meet water quality standards through BMPs. (NPDES Storm Water Program Questions and Answers, 1/21/04.) USEPA states that to evaluate effectiveness, NPDES permits may at the discretion of the permitting authority require visual inspections, evaluation of environmental indicators or measurable goals, effluent monitoring, or in-stream monitoring. (*Id.*) USEPA has made clear, both in its regulations and its guidance documents, that monitoring requirements are not necessary to enforce compliance with water quality standards. (In fact, neither EPA nor any state we are aware of has chosen to include monitoring requirements equivalent to, or more robust than, those already in place in the CGP.) Certainly, there is no legal requirement that the permitting authority must "prove" that a specific monitoring result is conclusive evidence of exceedance of a water quality standard. USEPA has conducted studies and modeling showing that existing permit programs as of 2003 were already capable of controlling approximately 80-90% of sediment runoff from construction sites, and that more stringent rules would remove

only 1% more. (USEPA Withdrawal of Proposed Effluent Limitation Guideline for Construction Industry, Volume 69, Federal Register 22472 et seq., April 26, 2004.) In conducting its state equivalency analysis, USEPA evaluated all states' programs, including California's, and determined that these were adequate and that further requirements were not mandated for compliance with federal law.

In USEPA's analysis of monitoring for construction (EPA-821-R-02-007), it concludes that planning monitoring for storm water is not possible because the flows are highly variable and temporarily stochastic. USEPA also notes that several of the criteria that could be used have special measurement problems because they are based on trapping efficiency, which is very difficult to measure. The most commonly used measurements, such as TSS, also have problems because to measure average or peak TSS it is necessary to measure TSS in the effluent over the duration of the outflow hydrograph as well as the flow rate. This requires that multiple samples be taken and that the samples be centered around the peak discharge. This is time consuming and difficult since the timing of an event and the timing of the peak discharge are not known beforehand. The average concentration is a weighted concentration, using flow rate as a weighting function.

USEPA also conducted an extensive evaluation of the literature to identify pollutants present in storm water discharges from construction sites. They found that while the literature contains extensive information on pollutants present in storm water discharges from urban areas, there were little data available on pollutants present in storm water discharges from construction sites during the active construction phase, other than for sediment, TSS and turbidity. USEPA was not able to identify sufficient data in the literature to warrant development of controls specific to pollutants other than sediment, TSS and turbidity in storm water discharges from construction sites. Some literature suggests that pollutants adhere to sediment, so that regulating TSS should also act as a control for other pollutants.

USEPA also evaluated the inclusion of organics, pesticides, and bacteria as potential pollutants of concern, but the literature indicated that control of these pollutants through conventional storm water management strategies is potentially much more difficult, and that there are little data linking their presence in storm water discharges directly with new land development activities. Source control (implementation of BMPs) may factor greatly into controlling these pollutant sources.

Permit compliance is based on the degree of control that can be achieved using various levels of pollution control technology (BMPs), a visual inspection requirement, coupled with parameter sampling in the instances where exposure has been determined. A storm water sample for non-visible pollutants indicating contamination is not conclusive proof of either a receiving water violation or of compliance with the Permit. But, it should give the discharger enough information to eliminate the source, detain the discharge, improve the BMPs, or take whatever action is necessary to abate the problem.

In the case of a direct discharge of sediment to a water body listed as impaired by sediment, sampling downstream of the discharge that shows a statistically significant increase in sediment over the upstream monitoring is strong evidence that the discharge from the construction site is causing or contributing to the impairment. We have suggested, however, that dischargers who



conduct such sampling should also sample the effluent. They may use the results of such sampling to overcome this presumption should the effluent sampling not be consistent with the downstream results. The case of a direct discharge of sediment to a water body impaired by sediment is a far simpler case than discharges that are indirect, that contain pollutants for which there may be assimilative capacity, or that contain pollutants that may be diluted in the receiving water. In those cases there is no simple way to conclude from sampling and analysis whether an applicable water quality standard is impacted by the storm water discharge. Instead, the data are most useful in alerting the discharger to the need to review BMPs and source control and should trigger a visual inspection.

The final determination as to whether discharges are in compliance with water quality standards will be made by RWQCBs through enforcement and other compliance activities. The sampling and analysis results are relevant, as is visual inspection and evaluation of BMPs. This method of assessment is known as “best professional judgment” and is consistent with USEPA’s approach to regulating storm water discharges. This is the appropriate and lawful method of regulation pending adoption of effluent limitation guidelines by USEPA. (CWA §301.) USEPA proposed such guidelines for construction sites, but decided against adopting effluent limitation guidelines for storm water discharges associated with construction activity. (Effluent Guidelines Construction and Development Fact Sheet: Final Action – Selection of Non-Regulatory Option; EPA 821-F-04-001; March 2004; final action is at Volume 69, Federal Register 22472 et seq., April 26, 2004.) In taking this Final Action, USEPA concluded that the current system that allows states to develop their own programs is adequate and will result in “significant improvements in water quality and in the control of discharges of construction site stormwater runoff.” In conducting its investigation of existing programs, USEPA found that every state already has regulations and programs in place that incorporate most of the provisions that USEPA considered in its most stringent proposal. USEPA further states that the following components of a construction program are: (1) Require preparation of a SWPPP; (2) Require site inspections by dischargers on a regular basis; (3) Require a combination of erosion and sediment controls; and (3) Require stabilization of soils after construction. USEPA decided that the existing programs (which do not require monitoring) are adequate and that any further regulatory requirements imposed by USEPA would be too costly and “would provide only marginal environmental improvements over regulations already in place.” USEPA further concluded that additional controls would make housing unaffordable. Even when USEPA initially proposed adopting an effluent limitation guideline, it rejected even considering any monitoring requirements. In discussing the option of requiring monitoring in construction permits, USEPA listed several concerns, including that a national monitoring requirement would be impractical and that monitoring receiving waters at most construction sites is infeasible. (Effluent Limitation Guidelines and New Source Performance Standards for the Construction and Development Category: Proposed Rule, 67 Federal Register 42644, 42658-9 (6/24/02).) USEPA concluded that: “All of these factors would add significant expense to the construction process, with little or no added assurance in the effectiveness of control measures or expected environmental benefits.” (*Id.*)

## 7.2 Background Contamination

The Court asked the SWRCB to explain the need for background (reference ) sampling for non-visual pollutants. In essence, the Court question is why is it relevant whether the construction activity “increased” the level of pollutants in the runoff if pre-existing pollutants in runoff could also be of concern. There are several responses to this question. First, the CGP is intended to be a permit for storm water discharges associated with construction activity. (CWA §402(p); construction that disturbs greater than one acre is considered an industrial activity (40 CFR §122.26(b)(14)(x) and (15).) At this time, Congress has determined that it is not appropriate to regulate storm water runoff in general, and that only specified types of storm water discharges are subject to permitting. In fact, even at industrial sites, only the portions of the site that are used for industrial activities are subject to permitting. (40 CFR §122.26(b)(14).) Second, the focus of the CGP is on BMPs, and assuring that they are effective in preventing pollutants associated with construction activity from entering receiving waters. Where there are pollutants entering receiving waters, the required action is, through the iterative process in the Receiving Water Limitations, to evaluate and improve BMPs. Eliminating the source of contamination is the most direct and desirable approach to regulating construction runoff.

Regardless of whether a construction site owner *could* be held liable for historical contaminants running off the site, the purpose of the “reference” sample is clear: the permit does not contain numeric effluent limitations and is based on the BMP approach.<sup>1</sup> The two samples compare whether the BMPs that have been installed to prevent the non-visible pollutants associated with construction activity from entering receiving waters are effective. If “control samples” were not taken, the use of sampling to help determine permit compliance would be thwarted. If BMPs, including good housekeeping (source control) BMPs, are properly installed and maintained, they will effectively control the transportation of most pollutants. The background sampling will verify this fact. It is noted that the permit does require identification of historical pollutants, including pollutants that are the result of past usage. (CGP section A.5.b.3.) Sampling for these pollutants is required if the construction activity (e.g., disturbance of soil impacted by prior use) result in the mobilization and runoff of these pollutants.

The Court stated that USEPA documents indicate that reference sample collection and comparison may be unsuitable for persistent bio-accumulative pollutants. (The court cited USEPA’s Water Quality Guidance for the Great Lakes System: Supplementary Information Document (GLSID), at p. 63.) A California Court of Appeal recently had occasion to discuss the appropriate regulation of persistent bio-accumulative pollutants in NPDES permits. In *Communities for a Better Environment v. SWRCB* (2003) 109 Cal. App. 4th 1089 (hrg. denied), the court upheld a permit for a refinery that did not include final numeric effluent limitations for dioxins, which are bio-accumulative pollutants. The court upheld an approach relying on BMPs and a watershed approach to dealing with persistent bio-accumulative pollutants through other methods, such as a TMDL. The GLSID adopted by USEPA describes a watershed approach to controlling and eliminating persistent pollutants, which will include adoption of TMDLs. (See, GLSID at p. 247) It is not limited to adoption of NPDES permits, and does not even address

---

<sup>1</sup> The Court has upheld this approach. See, Ruling on Submitted Matter, *San Francisco BayKeeper v. California SWRCB*, p. 5-6.

construction storm water permits in the region. The reference on page 63 concerns the appropriate approaches for TMDLs, not for construction storm water permits. USEPA concludes in the GLSID that the TMDL process is the appropriate means of effectively addressing persistent bio-accumulative pollutants.

Pollutants such as the Persistent Bio-accumulative and Toxic chemicals (PBT) currently being addressed under USEPA's PBT initiative <sup>2</sup> are not closely associated with modern day construction activity. The listed pesticides could possibly be found, however, as historic pollutants in the soil if the construction site had been used for agriculture prior to the 1970s (the 1990s in the case of toxaphene). Information about PBTs can be found through [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml) Persistent bio-accumulative pollutants are strongly associated with soils and soil particles, so an aggressive erosion and sediment control program combined with visual inspections is the most understandable and cost-effective approach to controlling the discharge of such pollutants from construction activity.

If the area that the construction site is located in has prior contamination from PBTs, such issues should be dealt with on a watershed-based approach, such as a TMDL for the particular pollutant. The Construction CGP is not intended to address such issues. On the other hand, the permit does require all dischargers to control soil erosion and the movement of products of erosion off the site via the storm water discharge. Mobilization of pesticide residue by construction activity may trigger sampling and analysis requirements.

### **7.3 Parameters to Sample for to Determine the Presence of Non-Visible Pollutants in Runoff**

It has been suggested that construction dischargers should consult the CTR, and then design a sampling strategy to sample their discharge for all non-visible CTR pollutants based on the numerical values provided. The CTR pollutants and numerical limits, however, have limited relevance to construction activity or storm water pollution from construction sites. The CTR pollutants currently known to be used and commonly found on construction sites can be found through [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml)

Of greater concern for construction discharges are the pollutants found in materials used in large quantities throughout California and exposed throughout the rainy season such as cement, fly-ash, and other recycled materials or by-products of combustion. (But many of these materials may be visible in runoff, affecting color for example.) The water quality standards for these materials will depend on their composition. Some of the more common storm water pollutants from construction activity such as glyphosate (herbicides), diazinon and chlopyrifos (pesticides), nutrients (fertilizers), and molybdenum (lubricants) are not CTR pollutants. The use of diazinon and chlopyrifos is a common practice among landscaping professionals and may trigger sampling and analysis requirements if applications come into contact with storm water.

Other more common storm water contamination problems resulting from construction activity such as high pH values from cement and gypsum, high pH and TSS from wash waters and

---

<sup>2</sup> <http://www.epa.gov/opptintr/pbt/aboutpbt.htm>

chemical and fecal contamination from portable toilets are also not CTR pollutants. Some of these constituents do have numeric water quality objectives in individual Basin Plans, but many do not and are subject to narrative water quality standards such as not causing toxicity. This Fact Sheet provides direction on how to ascertain the applicable water quality standards for the receiving water. Of more use will be information the SWRCB will distribute upon completion of a contract with the University of California, which will list the most common pollutants, describe which construction materials they are associated with, and suggest parameters for sampling. At this time, dischargers are encouraged to discuss these issues with RWQCB staff and their own knowledgeable representative or Storm Water Quality Professionals..

## **7.4 The Watershed Approach to Storm Water Permitting**

USEPA has endorsed a watershed approach to storm water permitting that focuses on BMPs in lieu of numeric effluent limitations and visual inspection and indicator monitoring in lieu of sampling for individual pollutant parameters. (Questions and Answers Regarding Implementation of an Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits, 61 Fed. Reg. 57424 (11/6/96)). In a memorandum dated November 22, 2002, USEPA issued guidance on the interaction between storm water permits and TMDLs. The memorandum explains that, even in the case where a TMDL has been finalized and a wasteload allocation established for storm water discharges, the inclusion of numeric effluent limitations will be “rare.” The memorandum therefore discusses monitoring requirements in BMP-based permits. It states that the monitoring should assess the effectiveness of the BMPs (i.e., appropriate monitoring is visual inspection) and *if monitoring for storm water is required*, it should be consistent with the state’s watershed approach.

## **7.5 References and Record for this Guidance Document**

In preparing this guidance document, the SWRCB has relied upon numerous background materials including federal statutes, regulations and guidance materials. These materials include Clean Water Act sections 303(d) and 402(p) and federal regulations implementing section 402(p) including 40 CFR sections 122.26, 122.44, 122.48, and Part 131. The SWRCB has also relied several guidance documents from USEPA. These include the preambles to the various storm water regulatory actions: 55 Fed. Reg. 47990 et seq. (11/16/90), 57 Fed. Reg. 11394 et seq. (4/2/92), and 64 Fed. Reg. 68722 et seq. The SWRCB has relied on the Porter-Cologne Water Quality Control Act (Water Code section 13000 et seq.), and implementing state regulations at Title 23, California Code of Regulations. The SWRCB has also relied on relevant court decisions, including: *Communities for a Better Environment v. SWRCB* (2003) 109 Cal. App. 4th 1089 (hrg. denied) (Water Boards have broad discretion in adopting effluent limitations for impaired waters). The SWRCB has also reviewed the recently-adopted USEPA general construction permit, published at <http://cfpub.epa.gov/npdes/stormwater/cgp.cfm>. and USEPA’s decision not to adopt effluent limitations guidelines for storm water discharges from construction activities (Volume 69, Federal Register 22472 et seq., April 26, 2004) The SWRCB has also reviewed the USEPA multi-sector general permit for industrial activities (65 Fed. Reg. 64746 et seq. (10/30/00) and a general construction permit issued by USEPA Region IV (65 Fed. Reg. 25122 et seq. (4/28/00)). The record also contains submittals received by the SWRCB from

interested persons including the Keepers organizations, the Building Industry Legal Defense Foundation and the California Building Industry Association.

# **APPENDIX A**

## **WATER QUALITY OBJECTIVES FOR SUSPENDED MATERIALS, SETTEABLE MATERIALS, SEDIMENT AND TURBIDITY**

Below is a compilation of the water quality objectives for suspended materials, settleable material, sediment and turbidity as of August 2003 for each of the Regional Water Quality Control Boards. The water quality objectives are found in chapter 3 (unless otherwise noted) of the RWQCB's Basin Water Quality Control Plan (Basin Plan). Some of the weblinks go directly to Chapter 3 and others will go to the Basin Plan.

### **North Coast Regional Water Quality Control Board - Region 1**

[http://www.waterboards.ca.gov/northcoast/water\\_issues/programs/basin\\_plan/](http://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/)

#### **Suspended Material**

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

#### **Settleable Material**

Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.

#### **Sediment**

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

#### **Turbidity**

Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

### **San Francisco Bay Regional Water Quality Control Board - Region 2**

[http://www.waterboards.ca.gov/sanfranciscobay/basin\\_planning.shtml#2004basinplan](http://www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml#2004basinplan)

#### **Sediment**

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Controllable water quality factors shall not cause a detrimental increase in the concentrations of toxic pollutants in sediments or aquatic life.

#### **Settleable Material**

Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses.

#### Suspended Material

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

#### Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases from normal background light penetration or turbidity relatable to waste discharge shall not be greater than 10 percent in areas where natural turbidity is greater than 50 NTU.

### **Central Coast Regional Water Quality Control Board - Region 3**

[http://www.waterboards.ca.gov/centralcoast/publications\\_forms/publications/basin\\_plan/index.shtml](http://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/index.shtml)

#### Suspended Material

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

#### Setteable Material

Waters shall not contain setteable material in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses.

#### Sediment

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

#### Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Increase in Turbidity attributable to controllable factors shall not exceed the following limits:

1. Where natural turbidity is between 0 and 50 Jackson Turbidity Units (JTU), increases shall not exceed 20 percent.
2. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU
3. Where natural turbidity is greater than 100 JTU, increases shall not exceed 10 percent.

Allowable zones of dilution within which higher concentrations will be tolerated will be defined for each discharge in discharge permits.

### **Los Angeles Regional Water Quality Control Board - Region 4**

[http://www.waterboards.ca.gov/losangeles/water\\_issues/programs/basin\\_plan/](http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/)

#### Solid, Suspended, or Setteable Materials

Waters shall not contain suspended or setteable material in concentrations that cause nuisance or adversely affect beneficial uses.

### Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in natural turbidity attributable to controllable factors shall not exceed the following limits:

Where natural turbidity is between 0 and 50 NTU, increases shall not exceed 20%.

Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

Allowable zones of initial dilution within which higher concentrations will be tolerated may be defined for each discharge in specific Waste Discharge Requirements.

### **Central Valley Regional Water Quality Control Board – Region 5**

Sacramento River and San Joaquin River Basins

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml)

### Sediment

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

### Settleable Material

Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

### Suspended Material

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

### Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

In determining compliance with the above limits, appropriate averaging periods may be applied provided that beneficial uses will be fully protected.

Exceptions to the above limits will be considered when a dredging operation can cause an increase in turbidity. In those cases, an allowable zone of dilution within which turbidity in excess of the limits may be tolerated will be defined for the operation and prescribed in a discharge permit.



For Folsom Lake (50) and American River (Folsom Dam to Sacramento River) (51), except for periods of storm runoff, the turbidity shall be less than or equal 10 NTUs. To the extent of any conflict with the general turbidity objective, the more stringent applies.

For Delta waters, the general objectives for turbidity apply subject to the following: except for periods of storm runoff, the turbidity of Delta waters shall not exceed 50 NTUs in the waters of the Central Delta and 150 NTUs in other Delta waters. Exceptions to the Delta specific objectives will be considered when a dredging operation can cause an increase in turbidity. In this case, an allowable zone of dilution within which turbidity in excess of limits can be tolerated will be defined for the operation and prescribed in a discharge permit.

### **Tulare Lake Basin**

[http://www.waterboards.ca.gov/centralvalley/water\\_issues/basin\\_plans/index.shtml](http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/index.shtml)

#### **Sediment**

The suspended sediment load and suspended sediment discharge rate of waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

#### **Settleable Material**

Waters shall not contain substances in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

#### **Suspended Material**

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

#### **Turbidity**

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is equal to or between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.

### **Lahontan Regional Water Quality Control Board - Region 6**

[http://www.waterboards.ca.gov/lahontan/water\\_issues/programs/basin\\_plan/index.shtml](http://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/index.shtml)

#### Sediment

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect the water for beneficial uses.

#### Setteable Materials

Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of setteable materials shall not be raised by more than 0.1 milliliter per liter.

#### Suspended Materials

Waters shall not contain suspended materials in concentrations that cause nuisance or that adversely affects the water for beneficial uses. For natural high quality waters, the concentration of total suspended materials shall not be altered to the extent that such alterations are discernible at the 10 percent significance level.

#### Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect the water for beneficial uses. Increases in turbidity shall not exceed natural levels by more than 10 percent.

### **Colorado River Basin Regional Water Quality Control Board - Region 7**

[http://www.waterboards.ca.gov/coloradoriver/water\\_issues/programs/basin\\_planning/](http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/)

#### Suspended Solids and Setteable Solids

Discharges of wastes or wastewater shall not contain suspended or setteable solids in concentrations which increase the turbidity of receiving waters, unless it can be demonstrated to the satisfaction of the RWQCB that such alteration in turbidity does not adversely affect beneficial uses.

#### Sediment

The suspended sediment load and suspended sediment discharge rate to surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

#### Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

### **Santa Ana River Regional Water Quality Control Board - Region 8**

[http://www.waterboards.ca.gov/santaana/water\\_issues/programs/basin\\_plan/index.shtml](http://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/index.shtml)

(See Chapter 4)

#### Solids, Suspended and Setteable

Enclosed bays and estuaries shall not contain suspended or setteable solids in amounts which cause a nuisance or adversely affect beneficial uses as a result of controllable water quality factors.

Turbidity

Increases in turbidity which result from controllable water quality factors shall comply with the following:

<u>Natural Turbidity</u>	<u>Maximum Increase</u>
0-50 NTU	20%
50-100 NTU	10 NTU
Greater than 100 NTU	10%

All enclosed bay and estuaries of the region shall be free of changes in turbidity which adversely affect beneficial uses

**San Diego Regional Water Quality Control Board - Region 9**

[http://www.waterboards.ca.gov/coloradoriver/water\\_issues/programs/basin\\_planning/](http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/)

Sediment

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Suspended and Settleable Solids

Water shall not contain suspended and settleable solids in concentrations of solids that cause nuisance or adversely affect beneficial uses.

Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Inland surface water shall not contain turbidity in excess of the numerical objectives described in Table 3-2. (This is reference to the Basin Plan; this table can be found via the weblink to the Region 9 Basin Plan).

Ground waters shall not contain turbidity in excess of the numerical objectives described in Table 3-3. (This is reference to the Basin Plan; this table can be found via the weblink to the Region 9 Basin Plan.)

The transparency of waters in lagoons and estuaries shall not be less than 50% of the depth at locations where measurement is made by means of a standard Secchi disk, except where lesser transparency is caused by rainfall runoff from undisturbed areas and dredging projects conducted in conformance with waste discharge requirements of the RWQCB. With these two exceptions, increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

<u>Natural Turbidity</u>	<u>Maximum Increase</u>
0- 50 NTU	20% over natural turbidity level
50 - 100 NTU	10 NTU
Greater than 100 NTU	10% over natural turbidity level

In addition, within San Diego Bay, the transparency of bay waters, insofar as it may be influenced by any controllable factor, either directly or through induced conditions, shall not be less than 8 feet in more than

20 percent of the readings in any zone, as measured by standard Secchi disk. Wherever the water is less than 10 feet deep, the Secchi disk reading shall not be less than 80 percent of the depth in more than 20 percent of the readings in any zone.

**STATE WATER RESOURCES CONTROL BOARD (SWRCB)**  
**ORDER NO. 99 - 08 - DWQ**  
**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**  
**GENERAL PERMIT NO. CAS000002**

**WASTE DISCHARGE REQUIREMENTS (WDRS)**  
**FOR**  
**DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH**  
**CONSTRUCTION ACTIVITY**

The State Water Resources Control Board finds that:

1. Federal regulations for controlling pollutants in storm water runoff discharges were promulgated by the U.S. Environmental Protection Agency (USEPA) on November 16, 1990 (40 Code of Federal Regulations (CFR) Parts 122, 123, and 124). The regulations require discharges of storm water to surface waters associated with construction activity including clearing, grading, and excavation activities (except operations that result in disturbance of less than five acres of total land area and which are not part of a larger common plan of development or sale) to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate storm water pollution.

On December 8, 1999 federal regulations promulgated by USEPA (40CFR Parts 9, 122, 123, and 124) expanded the NPDES storm water program to include storm water discharges from municipal separate storm sewer systems (MS4s) and construction sites that were smaller than those previously included in the program. Federal regulation 40 CFR § 122.26(b)(15) defines small construction activity as including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre or less than five acres or is part of a larger common plan of development or sale. Permit applications for small construction activities are due by March 10, 2003.

2. This General Permit regulates pollutants in discharges of storm water associated with construction activity (storm water discharges) to surface waters, except from those areas on Tribal Lands; Lake Tahoe Hydrologic Unit; construction projects which disturb less than one acre, unless part of a larger common plan of development or sale; and storm water discharges which are determined ineligible for coverage under this General Permit by the California Regional Water Quality Control Boards (RWQCBs). Attachment 1 contains addresses and telephone numbers of each RWQCB office.
3. This General Permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to separate storm sewer systems or other watercourses within their jurisdiction, as allowed by State and Federal law.

4. To obtain authorization for proposed storm water discharges to surface waters, pursuant to this General Permit, the landowner (discharger) must submit a Notice of Intent (NOI) with a vicinity map and the appropriate fee to the SWRCB prior to commencement of construction activities. In addition, coverage under this General Permit shall not occur until the applicant develops a Storm Water Pollution Prevention Plan (SWPPP) in accordance with the requirements of Section A of this permit for the project. For proposed construction activity conducted on easements or on nearby property by agreement or permission, or by an owner or lessee of a mineral estate (oil, gas, geothermal, aggregate, precious metals, and/or industrial minerals) entitled to conduct the activities, the entity responsible for the construction activity must submit the NOI and filing fee and shall be responsible for development of the SWPPP.
5. If an individual NPDES Permit is issued to a discharger otherwise subject to this General Permit or if an alternative General Permit is subsequently adopted which covers storm water discharges regulated by this General Permit, the applicability of this General Permit to such discharges is automatically terminated on the effective date of the individual permit or the date of approval for coverage under the subsequent General Permit.
6. This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with section 13389 of the California Water Code.
7. The SWRCB adopted the California Ocean Plan, and the RWQCBs have adopted and the SWRCB has approved Water Quality Control Plans (Basin Plans). Dischargers regulated by this General Permit must comply with the water quality standards in these Basin Plans and subsequent amendments thereto.
8. The SWRCB finds storm water discharges associated with construction activity to be a potential significant sources of pollutants. Furthermore, the SWRCB finds that storm water discharges associated with construction activities have the reasonable potential to cause or contribute to an excursion above water quality standards for sediment in the water bodies listed in Attachment 3 to this permit.
9. It is not feasible at this time to establish numeric effluent limitations for pollutants in storm water discharges from construction activities. Instead, the provisions of this General Permit require implementation of Best Management Practices (BMPs) to control and abate the discharge of pollutants in storm water discharges.
10. Discharges of non-storm water may be necessary for the completion of certain construction projects. Such discharges include, but are not limited to: irrigation of vegetative erosion control measures, pipe flushing and testing, street cleaning, and dewatering. Such discharges are authorized by this General Permit as long as they (a) do comply with Section A.9 of this General Permit, (b) do not cause or contribute to violation of any water quality standard, (c) do not violate any other provision of this

General Permit, (d) do not require a non-storm water permit as issued by some RWQCBs, and (e) are not prohibited by a Basin Plan. If a non-storm water discharge is subject to a separate permit adopted by a RWQCB, the discharge must additionally be authorized by the RWQCB permit.

11. Following adoption of this General Permit, the RWQCBs shall enforce the provisions herein including the monitoring and reporting requirements.
12. Following public notice in accordance with State and Federal laws and regulations, the SWRCB in a public meeting on June 8, 1998, heard and considered all comments. The SWRCB has prepared written responses to all significant comments.
13. This Order is an NPDES permit in compliance with section 402 of the Clean Water Act (CWA) and shall take effect upon adoption by the SWRCB provided the Regional Administrator of the USEPA has no objection. If the USEPA Regional Administrator objects to its issuance, the General Permit shall not become effective until such objection is withdrawn.
14. This General Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA section 404 and does not constitute a waiver of water quality certification under CWA section 401.
15. The Monitoring Program and Reporting Requirements are modified in compliance with a judgment in the case of San Francisco BayKeeper, et al. v. State Water Resources Control Board. The modifications include sampling and analysis requirements for direct discharges of sediment to waters impaired due to sediment and for pollutants that are not visually detectable in runoff that may cause or contribute to an exceedance of water quality objectives.
16. Storm water discharges associated with industrial activity that are owned or operated by municipalities serving populations less than 100,000 people are no longer exempt from the need to apply for or obtain a storm water discharge permit. A temporary exemption, which was later extended by USEPA, was provided under section 1068(c) of the Intermodal Surface Transportation and Efficiency Act (ISTEA) of 1991. Federal regulation 40 CFR § 122.26(e)(1)(ii) requires the above municipalities to submit permit application by March 10, 2003.
17. This permit may be reopened and modified to include different monitoring requirements for small construction activity than for construction activity over five (5) acres.

IT IS HEREBY ORDERED that all dischargers who file an NOI indicating their intention to be regulated under the provisions of this General Permit shall comply with the following:

A. DISCHARGE PROHIBITIONS:

1. Authorization pursuant to this General Permit does not constitute an exemption to applicable discharge prohibitions prescribed in Basin Plans, as implemented by the nine RWQCBs.
2. Discharges of material other than storm water which are not otherwise authorized by an NPDES permit to a separate storm sewer system (MS4) or waters of the nation are prohibited, except as allowed in Special Provisions for Construction Activity, C.3.
3. Storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.
4. Storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

B. RECEIVING WATER LIMITATIONS:

1. Storm water discharges and authorized nonstorm water discharges to any surface or ground water shall not adversely impact human health or the environment.
2. The SWPPP developed for the construction activity covered by this General Permit shall be designed and implemented such that storm water discharges and authorized nonstorm water discharges shall not cause or contribute to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan and/or the applicable RWQCB's Basin Plan.
3. Should it be determined by the discharger, SWRCB, or RWQCB that storm water discharges and/or authorized nonstorm water discharges are causing or contributing to an exceedance of an applicable water quality standard, the discharger shall:
  - a. Implement corrective measures immediately following discovery that water quality standards were exceeded, followed by notification to the RWQCB by telephone as soon as possible but no later than 48 hours after the discharge has been discovered. This notification shall be followed by a report within 14-calendar days to the appropriate RWQCB, unless otherwise directed by the RWQCB, describing (1) the nature and cause of the water quality standard exceedance; (2) the BMPs currently being implemented; (3) any additional BMPs which will be implemented to



prevent or reduce pollutants that are causing or contributing to the exceedance of water quality standards; and (4) any maintenance or repair of BMPs. This report shall include an implementation schedule for corrective actions and shall describe the actions taken to reduce the pollutants causing or contributing to the exceedance.

- b. The discharger shall revise its SWPPP and monitoring program immediately after the report to the RWQCB to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring needed.
- c. Nothing in this section shall prevent the appropriate RWQCB from enforcing any provisions of this General Permit while the discharger prepares and implements the above report.

C. SPECIAL PROVISIONS FOR CONSTRUCTION ACTIVITY:

1. All dischargers shall file an NOI and pay the appropriate fee for construction activities conducted at each site as required by Attachment 2: Notice of Intent--General Instructions.
2. All dischargers shall develop and implement a SWPPP in accordance with Section A: Storm Water Pollution Prevention Plan. The discharger shall implement controls to reduce pollutants in storm water discharges from their construction sites to the BAT/BCT performance standard.
3. Discharges of non-storm water are authorized only where they do not cause or contribute to a violation of any water quality standard and are controlled through implementation of appropriate BMPs for elimination or reduction of pollutants. Implementation of appropriate BMPs is a condition for authorization of non-storm water discharges. Non-storm water discharges and the BMPs appropriate for their control must be described in the SWPPP. Wherever feasible, alternatives which do not result in discharge of nonstorm water shall be implemented in accordance with Section A.9. of the SWPPP requirements.
4. All dischargers shall develop and implement a monitoring program and reporting plan in accordance with Section B: Monitoring Program and Reporting Requirements.
5. All dischargers shall comply with the lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to separate storm sewer systems or other watercourses under their jurisdiction, including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the RWQCBs to local agencies.

6. All dischargers shall comply with the standard provisions and reporting requirements contained in Section C: Standard Provisions.
7. The discharger may terminate coverage for a portion of the project under this General Permit when ownership of a portion of this project has been transferred or when a phase within this multi-phase project has been completed. When ownership has transferred, the discharger must submit to its RWQCB a Change of Information Form (COI) Attachment 4 with revised site map and the name, address and telephone number of the new owner(s). Upon transfer of title, the discharger should notify the new owner(s) of the need to obtain coverage under this General Permit. The new owner must comply with provisions of Sections A. 2. (c) and B. 2. (b) of this General Permit. To terminate coverage for a portion of the project when a phase has been completed, the discharger must submit to its RWQCB a COI with a revised map that identifies the newly delineated site.
8. The discharger may terminate coverage under this General Permit for a complete project by submitting to its RWQCB a Notice of Termination Form (NOT), and the post-construction BMPs plan according to Section A.10 of this General Permit. Note that a construction project is considered complete only when all portions of the site have been transferred to a new owner; or the following conditions have been met:
  - a. There is no potential for construction related storm water pollution,
  - b. All elements of the SWPPP have been completed,
  - c. Construction materials and waste have been disposed of properly,
  - d. The site is in compliance with all local storm water management requirements, and
  - e. A post-construction storm water management plan is in place as described in the site's SWPPP.
9. This General Permit expires five years from the date of adoption.

D. REGIONAL WATER QUALITY CONTROL BOARD (RWQCB) AUTHORITIES:

1. RWQCBs shall:
  - a. Implement the provisions of this General Permit. Implementation of this General Permit may include, but is not limited to requesting the submittal of SWPPPS, reviewing SWPPPs, reviewing monitoring reports, conducting compliance inspections, and taking enforcement actions.
  - b. Issue permits as they deem appropriate to individual dischargers, categories of dischargers, or dischargers in a geographic area. Upon issuance of such permits by a RWQCB, the affected dischargers shall no longer be regulated by this General Permit.
2. RWQCBs may require, on a case-by-case basis, the inclusion of an analysis of potential downstream impacts on receiving waterways due to the permitted construction.
3. RWQCBs may provide information to dischargers on the development and implementation of SWPPPs and monitoring programs and may require revisions to SWPPPs and monitoring programs.
4. RWQCBs may require dischargers to retain records for more than three years.
5. RWQCBs may require additional monitoring and reporting program requirements including sampling and analysis of discharges to water bodies listed in Attachment 3 to this permit. Additional requirements imposed by the RWQCB should be consistent with the overall monitoring effort in the receiving waters.
6. RWQCBs may issue individual NPDES permits for those construction activities found to be ineligible for coverage under this permit.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 19, 1999.

AYE: James M. Stubchaer  
Mary Jane Forster  
John W. Brown  
Arthur G. Baggett, Jr.

NO: None

ABSENT: None

ABSTAIN: None

\_\_\_\_\_  
/s/  
Maureen Marché  
Administrative Assistant to the Board

## SECTION A: STORM WATER POLLUTION PREVENTION PLAN

### 1. Objectives

A Storm Water Pollution Prevention Plan (SWPPP) shall be developed and implemented to address the specific circumstances for each construction site covered by this General Permit. The SWPPP shall be certified in accordance with the signatory requirements of section C, Standard Provision for Construction Activities (9). The SWPPP shall be developed and amended or revised, when necessary, to meet the following objectives:

- a. Identify all pollutant sources including sources of sediment that may affect the quality of storm water discharges associated with construction activity (storm water discharges) from the construction site, and
- b. Identify non-storm water discharges, and
- c. Identify, construct, implement in accordance with a time schedule, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants in storm water discharges and authorized nonstorm water discharges from the construction site during construction, and
- d. Develop a maintenance schedule for BMPs installed during construction designed to reduce or eliminate pollutants after construction is completed (post-construction BMPs).
- e. Identify a sampling and analysis strategy and sampling schedule for discharges from construction activity which discharge directly into water bodies listed on Attachment 3. (Clean Water Act Section 303(d) [303(d)] Water Bodies listed for Sedimentation).
- f. For all construction activity, identify a sampling and analysis strategy and sampling schedule for discharges that have been discovered through visual monitoring to be potentially contaminated by pollutants not visually detectable in the runoff.

### 2. Implementation Schedule

- a. For construction activity commencing on or after adoption of this General Permit, the SWPPP shall be developed prior to the start of soil-disturbing activity in accordance with this Section and shall be implemented concurrently with commencement of soil-disturbing activities.
- b. Existing permittees engaging in construction activities covered under the terms of the previous General Construction Permit SWPPP (WQ Order No.92-08-DWQ) shall continue to implement their existing SWPPP and shall implement any

necessary revisions to their SWPPP in accordance with this Section of the General Permit in a timely manner, but in no case more than 90-calender days from the date of adoption of this General Permit.

- c. For ongoing construction activity involving a change of ownership of property, the new owner shall review the existing SWPPP and amend if necessary, or develop a new SWPPP within 45-calender days.
- d. Existing permittees shall revise their SWPPP in accordance with the sampling and analysis modifications prior to August 1, 2001. For ongoing construction activity involving a change of ownership the new owner shall review the existing SWPPP and amend the sampling and analysis strategy, if required, within 45 days. For construction activity commencing after the date of adoption, the SWPPP shall be developed in accordance with the modification language adopted.

3. Availability

The SWPPP shall remain on the construction site while the site is under construction during working hours, commencing with the initial construction activity and ending with termination of coverage under the General Permit.

4. Required Changes

- a. The discharger shall amend the SWPPP whenever there is a change in construction or operations which may affect the discharge of pollutants to surface waters, ground waters, or a municipal separate storm sewer system (MS4). The SWPPP shall also be amended if the discharger violates any condition of this General Permit or has not achieved the general objective of reducing or eliminating pollutants in storm water discharges. If the RWQCB determines that the discharger is in violation of this General Permit, the SWPPP shall be amended and implemented in a timely manner, but in no case more than 14-calendar days after notification by the RWQCB. All amendments should be dated and directly attached to the SWPPP.
- b. The RWQCB or local agency with the concurrence of the RWQCB may require the discharger to amend the SWPPP.

5. Source Identification

The SWPPP shall include: (a) project information and (b) pollutant source identification combined with an itemization of those BMPs specifically chosen to control the pollutants listed.

- a. Project Information

- (1) The SWPPP shall include a vicinity map locating the project site with respect to easily identifiable major roadways, geographic features, or landmarks. At a minimum, the map must show the construction site perimeter, the geographic features surrounding the site, and the general topography.
- (2) The SWPPP shall include a site map(s) which shows the construction project in detail, including the existing and planned paved areas and buildings.
  - (a) At a minimum, the map must show the construction site perimeter; existing and proposed buildings, lots, roadways, storm water collection and discharge points; general topography both before and after construction; and the anticipated discharge location(s) where the storm water from the construction site discharges to a municipal storm sewer system or other water body.
  - (b) The drainage patterns across the project area must clearly be shown on the map, and the map must extend as far outside the site perimeter as necessary to illustrate the relevant drainage areas. Where relevant drainage areas are too large to depict on the map, map notes or inserts illustrating the upstream drainage areas are sufficient.
  - (c) Temporary on-site drainages to carry concentrated flow shall be selected to comply with local ordinances, to control erosion, to return flows to their natural drainage courses, and to prevent damage to downstream properties.
3. Information presented in the SWPPP may be represented either by narrative or by graphics. Where possible, narrative descriptions should be plan notes. Narrative descriptions which do not lend themselves to plan notes can be contained in a separate document which must be referenced on the plan.

b. Pollutant Source and BMP Identification

The SWPPP shall include a description of potential sources which are likely to add pollutants to storm water discharges or which may result in nonstorm water discharges from the construction site. Discharges originating from off-site which flow across or through areas disturbed by construction that may contain pollutants should be reported to the RWQCB.

The SWPPP shall:

- (1) Show drainage patterns and slopes anticipated after major grading activities are completed. Runoff from off-site areas should be prevented from flowing through areas that have been disturbed by construction unless appropriate conveyance systems are in place. The amount of anticipated storm water run-on must be considered to determine the appropriateness of the BMPs chosen. Show all calculations for anticipated storm water run-on, and describe all BMPs implemented to divert off-site drainage described in section A. 5 a. (2) (c) around or through the construction project.
- (2) Show the drainage patterns into each on-site storm water inlet point or receiving water. Show or describe the BMPs that will protect operational storm water inlets or receiving waters from contaminated discharges other than sediment discharges, such as, but not limited to: storm water with elevated pH levels from contact with soil amendments such as lime or gypsum; slurry from sawcutting of concrete or asphalt ;washing of exposed aggregate concrete; concrete rinse water; building washing operations; equipment washing operations; minor street washing associated with street delineation; and/or sealing and paving activities occurring during rains.
- (3) Show existing site features that, as a result of known past usage, may contribute pollutants to storm water, (e.g., toxic materials that are known to have been treated, stored, disposed, spilled, or leaked onto the construction site). Show or describe the BMPs implemented to minimize the exposure of storm water to contaminated soil or toxic materials.
- (4) Show areas designated for the (a) storage of soil or waste, (b) vehicle storage and service areas, (c) construction material loading, unloading, and access areas, (d) equipment storage, cleaning, and maintenance areas.
- (5) Describe the BMPs for control of discharges from waste handling and disposal areas and methods of on-site storage and disposal of construction materials and construction waste. Describe the BMPs designed to minimize or eliminate the exposure of storm water to construction materials, equipment, vehicles, waste storage areas, or service areas. The BMPs described shall be in compliance with Federal, State, and local laws, regulations, and ordinances.
- (6) Describe all post-construction BMPs for the project, and show the location of each BMP on the map. (Post-construction BMPs consist of permanent features designed to minimize pollutant discharges, including sediment, from the site after construction has been completed.) Also, describe the agency or parties to be the responsible party for long-term maintenance of these BMPs.



- (7) Show the locations of direct discharge from the construction site into a Section 303(d) list water body. Show the designated sampling locations in the receiving waters, which represent the prevailing conditions of the water bodies upstream of the construction site discharge and immediately downstream from the last point of discharge.
- (8) Show the locations designated for sampling the discharge from areas identified in Section A. 5. b. (2), (3), and (4) and Section A. 5. c. (1) and (2). Samples shall be taken should visual monitoring indicate that there has been a breach, malfunction, leakage, or spill from a BMP which could result in the discharge in storm water of pollutants that would not be visually detectable, or if storm water comes into contact with soil amendments or other exposed materials or contamination and is allowed to be discharged. Describe the sampling procedure, location, and rationale for obtaining the uncontaminated sample of storm water.

c. Additional Information

- (1) The SWPPP shall include a narrative description of pollutant sources and BMPs that cannot be adequately communicated or identified on the site map. In addition, a narrative description of preconstruction control practices (if any) to reduce sediment and other pollutants in storm water discharges shall be included.
- (2) The SWPPP shall include an inventory of all materials used and activities performed during construction that have the potential to contribute to the discharge of pollutants other than sediment in storm water. Describe the BMPs selected and the basis for their selection to eliminate or reduce these pollutants in the storm water discharges.
- (3) The SWPPP shall include the following information regarding the construction site surface area: the size (in acres or square feet), the runoff coefficient before and after construction, and the percentage that is impervious (e.g., paved, roofed, etc.) before and after construction.
- (4) The SWPPP shall include a copy of the NOI, and the Waste Discharge Identification (WDID) number. Should a WDID number not be received from the SWRCB at the time construction commences, the discharger shall include proof of mailing of the NOI, e.g., certified mail receipt, copy of check, express mail receipt, etc.
- (5) The SWPPP shall include a construction activity schedule which describes all major activities such as mass grading, paving, lot or parcel

improvements at the site and the proposed time frame to conduct those activities.

- (6) The SWPPP shall list the name and telephone number of the qualified person(s) who have been assigned responsibility for prestorm, poststorm, and storm event BMP inspections; and the qualified person(s) assigned responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

## 6. Erosion Control

Erosion control, also referred to as “soil stabilization” is the most effective way to retain soil and sediment on the construction site. The most efficient way to address erosion control is to preserve existing vegetation where feasible, to limit disturbance, and to stabilize and revegetate disturbed areas as soon as possible after grading or construction. Particular attention must be paid to large mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great. Mass graded construction sites may be exposed for several years while the project is being built out. Thus, there is potential for significant sediment discharge from the site to surface waters.

At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season. These disturbed areas include rough graded roadways, slopes, and building pads. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single-most important factor in reducing erosion at construction sites. The discharger shall consider measures such as: covering with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, permanent seeding, and a variety of other measures.

The SWPPP shall include a description of the erosion control practices, including a time schedule, to be implemented during construction to minimize erosion on disturbed areas of a construction site. The discharger must consider the full range of erosion control BMPs. The discharger must consider any additional site-specific and seasonal conditions when selecting and implementing appropriate BMPs. The above listed erosion control measures are examples of what should be considered and are not exclusive of new or innovative approaches currently available or being developed.

- a. The SWPPP shall include:

- (1) An outline of the areas of vegetative soil cover or native vegetation onsite which will remain undisturbed during the construction project.
  - (2) An outline of all areas of soil disturbance including cut or fill areas which will be stabilized during the rainy season by temporary or permanent erosion control measures, such as seeding, mulch, or blankets, etc.
  - (3) An outline of the areas of soil disturbance, cut, or fill which will be left exposed during any part of the rainy season, representing areas of potential soil erosion where sediment control BMPs are required to be used during construction.
  - (4) A proposed schedule for the implementation of erosion control measures.
- b. The SWPPP shall include a description of the BMPs and control practices to be used for both temporary and permanent erosion control measures.
  - c. The SWPPP shall include a description of the BMPs to reduce wind erosion at all times, with particular attention paid to stock-piled materials.

## 7. Stabilization

- (1) All disturbed areas of the construction site must be stabilized. Final stabilization for the purposes of submitting a NOT is satisfied when:
  - All soil disturbing activities are completed AND EITHER OF THE TWO FOLLOWING CRITERIA ARE MET:
  - A uniform vegetative cover with 70 percent coverage has been established OR:
  - equivalent stabilization measures have been employed. These measures include the use of such BMPs as blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments.
- (2) Where background native vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: If the native vegetation covers 50 percent of the ground surface, 70 percent of 50 percent ( $.70 \times .50 = .35$ ) would require 35 percent total uniform surface coverage.

## 8. Sediment Control

The SWPPP shall include a description or illustration of BMPs which will be implemented to prevent a net increase of sediment load in storm water discharge relative to preconstruction levels. Sediment control BMPs are required at appropriate locations along the site perimeter and at all operational internal inlets to the storm drain system at all times during the rainy season. Sediment control practices may include filtration devices and barriers (such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters) and/or settling devices (such as sediment traps or basins). Effective filtration devices, barriers, and settling devices shall be selected, installed and maintained properly. A proposed schedule for deployment of sediment control BMPs shall be included in the SWPPP. These are the most basic measures to prevent sediment from leaving the project site and moving into receiving waters. Limited exemptions may be authorized by the RWQCB when work on active areas precludes the use of sediment control BMPs temporarily. Under these conditions, the SWPPP must describe a plan to establish perimeter controls prior to the onset of rain.

During the nonrainy season, the discharger is responsible for ensuring that adequate sediment control materials are available to control sediment discharges at the downgrade perimeter and operational inlets in the event of a predicted storm. The discharger shall consider a full range of sediment controls, in addition to the controls listed above, such as straw bale dikes, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, sandbag dikes, fiber rolls, or other controls. At a minimum, the discharger/operator must implement an effective combination of erosion and sediment control on all disturbed areas during the rainy season.

If the discharger chooses to rely on sediment basins for treatment purposes, sediment basins shall, at a minimum, be designed and maintained as follows:

Option 1: Pursuant to local ordinance for sediment basin design and maintenance, provided that the design efficiency is as protective or more protective of water quality than Option 3.

OR

Option 2: Sediment basin(s), as measured from the bottom of the basin to the principal outlet, shall have at least a capacity equivalent to 3,600 cubic feet of storage per acre draining into the sediment basin. The length of the basin shall be more than twice the width of the basin. The length is determined by measuring the distance between the inlet and the outlet; and the depth must not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency.

OR

Option 3: Sediment basin(s) shall be designed using the standard equation:

$$A_s = 1.2Q/V_s$$

Where:  $A_s$  is the minimum surface area for trapping soil particles of a certain size;  $V_s$  is the settling velocity of the design particle size chosen; and  $Q = C \times I \times A$  where  $Q$  is the discharge rate measured in cubic feet per second;  $C$  is the runoff coefficient;  $I$  is the precipitation intensity for the 10-year, 6-hour rain event and  $A$  is the area draining into the sediment basin in acres. The design particle size shall be the smallest soil grain size determined by wet sieve analysis, or the fine silt sized (0.01mm) particle, and the  $V_s$  used shall be 100 percent of the calculated settling velocity.

The length is determined by measuring the distance between the inlet and the outlet; the length shall be more than twice the dimension as the width; the depth shall not be less than three feet nor greater than five feet for safety reasons and for maximum efficiency (two feet of storage, two feet of capacity). The basin(s) shall be located on the site where it can be maintained on a year-round basis and shall be maintained on a schedule to retain the two feet of capacity;

OR

- Option 4: The use of an equivalent surface area design or equation, provided that the design efficiency is as protective or more protective of water quality than Option 3.

A sediment basin shall have a means for dewatering within 7-calendar days following a storm event. Sediment basins may be fenced if safety (worker or public) is a concern.

The outflow from a sediment basin that discharges into a natural drainage shall be provided with outlet protection to prevent erosion and scour of the embankment and channel.

The discharger must consider any additional site-specific and seasonal conditions when selecting and designing sediment control BMPs. The above listed sediment control measures are examples of what should be considered and are not exclusive of new or innovative approaches currently available or being developed.

The SWPPP shall include a description of the BMPs to reduce the tracking of sediment onto public or private roads at all times. These public and private roads shall be inspected and cleaned as necessary. Road cleaning BMPs shall be discussed in the SWPPP and will not rely on the washing of accumulated sediment or silt into the storm drain system.

## 9. Non-Storm Water Management

Describe all non-storm water discharges to receiving waters that are proposed for the construction project. Non-storm water discharges should be eliminated or reduced to the extent feasible. Include the locations of such discharges and descriptions of all BMPs designed for the control of pollutants in such discharges. Onetime discharges shall be monitored during the time that such discharges are occurring. A qualified person should be assigned the responsibility for ensuring that no materials other than storm water are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems (consistent with BAT/BCT), and the name and contact number of that person should be included in the SWPPP document.

Discharging sediment-laden water which will cause or contribute to an exceedance of the applicable RWQCB's Basin Plan from a dewatering site or sediment basin into any receiving water or storm drain without filtration or equivalent treatment is prohibited.

10. Post-Construction Storm Water Management

The SWPPP shall include descriptions of the BMPs to reduce pollutants in storm water discharges after all construction phases have been completed at the site (Post-Construction BMPs). Post-Construction BMPs include the minimization of land disturbance, the minimization of impervious surfaces, treatment of storm water runoff using infiltration, detention/retention, biofilter BMPs, use of efficient irrigation systems, ensuring that interior drains are not connected to a storm sewer system, and appropriately designed and constructed energy dissipation devices. These must be consistent with all local post-construction storm water management requirements, policies, and guidelines. The discharger must consider site-specific and seasonal conditions when designing the control practices. Operation and maintenance of control practices after construction is completed shall be addressed, including short-and long-term funding sources and the responsible party.

11. Maintenance, Inspection, and Repair

The SWPPP shall include a discussion of the program to inspect and maintain all BMPs as identified in the site plan or other narrative documents throughout the entire duration of the project. A qualified person will be assigned the responsibility to conduct inspections. The name and telephone number of that person shall be listed in the SWPPP document. Inspections will be performed before and after storm events and once each 24-hour period during extended storm events to identify BMP effectiveness and implement repairs or design changes as soon as feasible depending upon field conditions. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible after the conclusion of each storm depending upon worker safety.

For each inspection required above, the discharger shall complete an inspection checklist. At a minimum, an inspection checklist shall include:

- a. Inspection date.

- b. Weather information: best estimate of beginning of storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall (inches).
- c. A description of any inadequate BMPs.
- d. If it is possible to safely access during inclement weather, list observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list result of visual inspection at relevant outfall, discharge point, or downstream location and projected required maintenance activities.
- e. Corrective actions required, including any changes to SWPPP necessary and implementation dates.
- f. Inspectors name, title, and signature.

The dischargers shall prepare their inspection checklists using the inspection checklist form provided by the SWRCB or RWQCB or on forms that contain the equivalent information.

12. Training

Individuals responsible for SWPPP preparation, implementation, and permit compliance shall be appropriately trained, and the SWPPP shall document all training. This includes those personnel responsible for installation, inspection, maintenance, and repair of BMPs. Those responsible for overseeing, revising, and amending the SWPPP shall also document their training. Training should be both formal and informal, occur on an ongoing basis when it is appropriate and convenient, and should include training/workshops offered by the SWRCB, RWQCB, or other locally recognized agencies or professional organizations.

13. List of Contractors/Subcontractors

The SWPPP shall include a list of names of all contractors, (or subcontractors) and individuals responsible for implementation of the SWPPP. This list should include telephone numbers and addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers should also be included.

14. Other Plans

This SWPPP may incorporate by reference the appropriate elements of other plans required by local, State, or Federal agencies. A copy of any requirements incorporated by reference shall be kept at the construction site.

15. Public Access

The SWPPP shall be provided, upon request, to the RWQCB. The SWPPP is considered a report that shall be available to the public by the RWQCB under section 308(b) of the Clean Water Act.

16. Preparer Certification

The SWPPP and each amendment shall be signed by the landowner (discharger) or his representative and include the date of initial preparation and the date of each amendment.

SECTION B: MONITORING PROGRAM AND REPORTING REQUIREMENTS

1. Required Changes

The RWQCB may require the discharger to conduct additional site inspections, to submit reports and certifications, or perform sampling and analysis.

2. Implementation

- a. The requirements of this Section shall be implemented at the time of commencement of construction activity (see also Section A. 2. Implementation Schedule). The discharger is responsible for implementing these requirements until construction activity is complete and the site is stabilized.
- b. For ongoing construction activity involving a change in ownership of property covered by this General Permit, the new owner must complete a NOI and implement the requirements of this Section concurrent with the change of ownership. For changes of information, the owner must follow instructions in C. 7. Special Provisions for Construction Activity of the General Permit.

3. Site Inspections

Qualified personnel shall conduct inspections of the construction site prior to anticipated storm events, during extended storm events, and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity. The name(s) and contact number(s) of the assigned inspection personnel shall be listed in the SWPPP. Pre-storm inspections are to ensure that BMPs are properly installed and maintained; post-storm inspections are to assure that the BMPs have functioned adequately. During extended storm events, inspections shall be required each 24-hour period. Best Management Practices (BMPs) shall be evaluated for adequacy and proper implementation and whether additional BMPs are required in accordance with the terms of the General Permit (see language in Section A. 11. Maintenance, Inspection, and Repair). Implementation of nonstorm water discharge BMPs shall be verified and their



effectiveness evaluated. One time discharges of non-storm water shall be inspected when such discharges occur.

4. Compliance Certification

Each discharger or qualified assigned personnel listed by name and contact number in the SWPPP must certify annually that construction activities are in compliance with the requirements of this General Permit and the SWPPP. This Certification shall be based upon the site inspections required in Item 3 of this Section. The certification must be completed by July 1 of each year.

5. Noncompliance Reporting

Dischargers who cannot certify compliance, in accordance with Item 4 of this Section and/or who have had other instances of noncompliance excluding exceedances of water quality standards as defined in section B. 3. Receiving Water Limitations Language, shall notify the appropriate RWQCB within 30 days. Corrective measures should be implemented immediately following discovery that water quality standards were exceeded. The notifications shall identify the noncompliance event, including an initial assessment of any impact caused by the event; describe the actions necessary to achieve compliance; and include a time schedule subject to the modifications by the RWQCB indicating when compliance will be achieved. Noncompliance notifications must be submitted within 30-calendar days of identification of noncompliance.

6. Monitoring Records

Records of all inspections, compliance certifications, and noncompliance reporting must be retained for a period of at least three years from the date generated. With the exception of noncompliance reporting, dischargers are not required to submit these records.

7. Monitoring Program for Sedimentation/Siltation

Dischargers of storm water associated with construction activity that directly enters a water body listed in Attachment 3 shall conduct a sampling and analysis program for the pollutants (sedimentation/siltation or turbidity) causing the impairment. The discharger shall monitor for the applicable parameter. If the water body is listed for sedimentation or siltation, samples should be analyzed for Settleable Solids (ml/l) and Total Suspended Solids (mg/l). Alternatively or in addition, samples may be analyzed for suspended sediment concentration according to ASTM D3977-97. If the water body is listed for turbidity, samples should be analyzed for turbidity (NTU). Discharges that flow through tributaries that are not listed in Attachment 3 or that flow into Municipal Separate Storm Sewer Systems (MS4) are not subject to these sampling and analysis requirements. The sampling and analysis parameters and procedures must be designed to determine whether the BMPs installed and maintained prevent discharges of sediment from contributing to impairment in receiving waters.

Samples shall be collected during the first two hours of discharge from rain events which result in a direct discharge to any water body listed in Attachment 3. Samples shall be collected during daylight hours (sunrise to sunset). Dischargers need not collect more than four (4) samples per month. All samples shall be taken in the receiving waters and shall be representative of the prevailing conditions of the water bodies. Samples shall be collected from safely accessible locations upstream of the construction site discharge and immediately downstream from the last point of discharge.

For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification. All field and/or laboratory analytical data shall be kept in the SWPPP document, which is to remain at the construction site at all times until a Notice of Termination has been submitted and approved.

8. Monitoring Program for Pollutants Not Visually Detectable in Storm Water

A sampling and analysis program shall be developed and conducted for pollutants which are not visually detectable in storm water discharges, which are or should be known to occur on the construction site, and which could cause or contribute to an exceedance of water quality objectives in the receiving water. Pollutants that should be considered for inclusion in this sampling and analysis program are those identified in Sections A.5.b. and A.5.c.

Construction materials and compounds that are not stored in water-tight containers under a water-tight roof or inside a building are examples of materials for which the discharger may have to implement sampling and analysis procedures. The goal of the sampling and analysis is to determine whether the BMPs employed and maintained on site are effective in preventing the potential pollutants from coming in contact with storm water and causing or contributing to an exceedance of water quality objectives in the receiving waters. Examples of construction sites that may require sampling and analysis include: sites that are known to have contaminants spilled or spread on the ground; sites where construction practices include the application of soil amendments, such as gypsum, which can increase the pH of the runoff; or sites having uncovered stockpiles of material exposed to storm water. Visual observations before, during, and after storm events may trigger the requirement to collect samples. Any breach, malfunction, leakage, or spill observed which could result in the discharge of pollutants to surface waters that *would* not be visually detectable in storm water shall trigger the collection of a sample of discharge. Samples shall be collected at all discharge locations which drain the areas identified by the visual observations and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples. A sufficiently large sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site

(uncontaminated sample) shall be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

The uncontaminated sample shall be compared to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and TDS.

For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification. All field and/or analytical data shall be kept in the SWPPP document, which is to remain at the construction site at all times until a *Notice of Termination* has been submitted and approved.

## SECTION C: STANDARD PROVISIONS FOR CONSTRUCTION ACTIVITY

### 1. Duty to Comply

The discharger must comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

### 2. General Permit Actions

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit and with the requirements of Storm Water Pollution Prevention Plans (SWPPP). Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

7. Duty to Provide Information

The discharger shall furnish the RWQCB, State Water Resources Control Board, or USEPA, within a reasonable time, any requested information to determine compliance with this General Permit. The discharger shall also furnish, upon request, copies of records required to be kept by this General Permit.

8. Inspection and Entry

The discharger shall allow the RWQCB, SWRCB, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

- a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;
- b. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;
- c. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and
- d. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

9. Signatory Requirements

- a. All Notice of Intent (NOIs), Notice of Terminations (NOTs), SWPPPs, certifications, and reports prepared in accordance with this Order submitted to the SWRCB shall be signed as follows:
  - (1) For a corporation: by a responsible corporate officer. For the purpose of this Section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;
  - (2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
  - (3) For a municipality, State, Federal, or other public agency: by either a principal executive officer, ranking elected official, or duly authorized representative. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator of USEPA).
- b. All SWPPPs, reports, certifications, or other information required by the General Permit and/or requested by the RWQCB, SWRCB, USEPA, or the local storm water management agency shall be signed by a person described above or by a duly authorized representative. A person is a duly authorized representative if:
  - (1) The authorization is made in writing by a person described above and retained as part of the SWPPP; or

- (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the construction activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position).
- c. If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the construction activity, a new authorization must be attached to the SWPPP prior to submittal of any reports, information, or certifications to be signed by the authorized representative.

10. Certification

Any person signing documents under Section C, Provision 9 above, shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly 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 there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. Anticipated Noncompliance

The discharger will give advance notice to the RWQCB and local storm water management agency of any planned changes in the construction activity which may result in noncompliance with General Permit requirements.

12. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than \$10,000 or by imprisonment for not more than two years or by both.

13. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

14. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

15. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

16. Penalties for Violations of Permit Conditions

- a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed \$27,500 per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.
- b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties which in some cases are greater than those under the CWA.

17. Availability

A copy of this General Permit shall be maintained at the construction site during construction activity and be available to operating personnel.

18. Transfers

This General Permit is not transferable. A new owner of an ongoing construction activity must submit a NOI in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit. An owner who sells property covered

by this General Permit shall inform the new owner of the duty to file a NOI and shall provide the new owner with a copy of this General Permit.

19. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.



**SWRCB AND RWQCB CONTACT LIST**

Division of Water Quality

P.O. Box 1977

Sacramento, CA 95812-1977

(916) 341-5537 FAX: (916) 341-5543

Web Page: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/](http://www.waterboards.ca.gov/water_issues/programs/stormwater/)Email: [stormwater@waterboards.ca.gov](mailto:stormwater@waterboards.ca.gov)**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS****NORTH COAST REGION (1)**

5550 Skylane Blvd, Ste. A

Santa Rose, CA 95403

(707) 576-2220 FAX: (707)523-0135

<http://www.waterboards.ca.gov/rwqcb1>**SAN FRANCISCO BAY REGION (2)**

1515 Clay Street, Ste. 1400

Oakland, CA 94612

(510) 622-2300 FAX: (510) 622-2640

<http://www.waterboards.ca.gov/rwqcb2>**CENTRAL COAST REGION (3)**

895 Aerovista Place, Ste 101

San Luis Obispo, CA 93401

(805) 549-3147 FAX: (805) 543-0397

<http://www.waterboards.ca.gov/rwqcb3>**LOS ANGELES REGION (4)**320 W. 4<sup>th</sup> Street, Ste. 200

Los Angeles, CA 90013

(213) 576-6600 FAX: (213) 576-6640

<http://www.waterboards.ca.gov/rwqcb4>**LAHONTAN REGION (6 SLT)**

2501 Lake Tahoe Blvd.

South Lake Tahoe, CA 96150

(530) 542-5400 FAX: (530) 544-2271

<http://www.waterboards.ca.gov/rwqcb6>**VICTORVILLE OFFICE (6V)**

15428 Civic Drive, Ste. 100

Victorville, CA 92392-2383

(760) 241-6583 FAX: (760) 241-7308

<http://www.waterboards.ca.gov/rwqcb6>**CENTRAL VALLEY REGION (5S)**

11020 Sun Center Dr., #200

Rancho Cordova, CA 95670-6114

(916) 464-3291 FAX: (916) 464-4645

<http://www.waterboards.ca.gov/rwqcb5>**FRESNO BRANCH OFFICE (5F)**

1685 E St.

Fresno, CA 93706

(559) 445-5116 FAX: (559) 445-5910

<http://www.waterboards.ca.gov/rwqcb5>**REDDING BRANCH OFFICE (5R)**

415 Knollcrest Drive, Ste. 100

Redding, CA 96002

(530) 224-4845 FAX: (530) 224-4857

<http://www.waterboards.ca.gov/rwqcb5>**COLORADO RIVER BASIN REGION (7)**

73-720 Fred Waring Dr., Ste. 100

Palm Desert, CA 92260

(760) 346-7491 FAX: (760) 341-6820

<http://www.waterboards.ca.gov/rwqcb7>**SANTA ANA REGION (8)**

California Tower

3737 Main Street, Ste. 500

Riverside, CA 92501-3339

<http://www.waterboards.ca.gov/rwqcb8>**SAN DIEGO REGION (9)**

9174 Sky Park Court, Ste. 100

San Diego, CA 92123-4340

(858) 467-2952 FAX: (858) 571-6972

<http://www.waterboards.ca.gov/rwqcb9>**STATE OF CALIFORNIA**

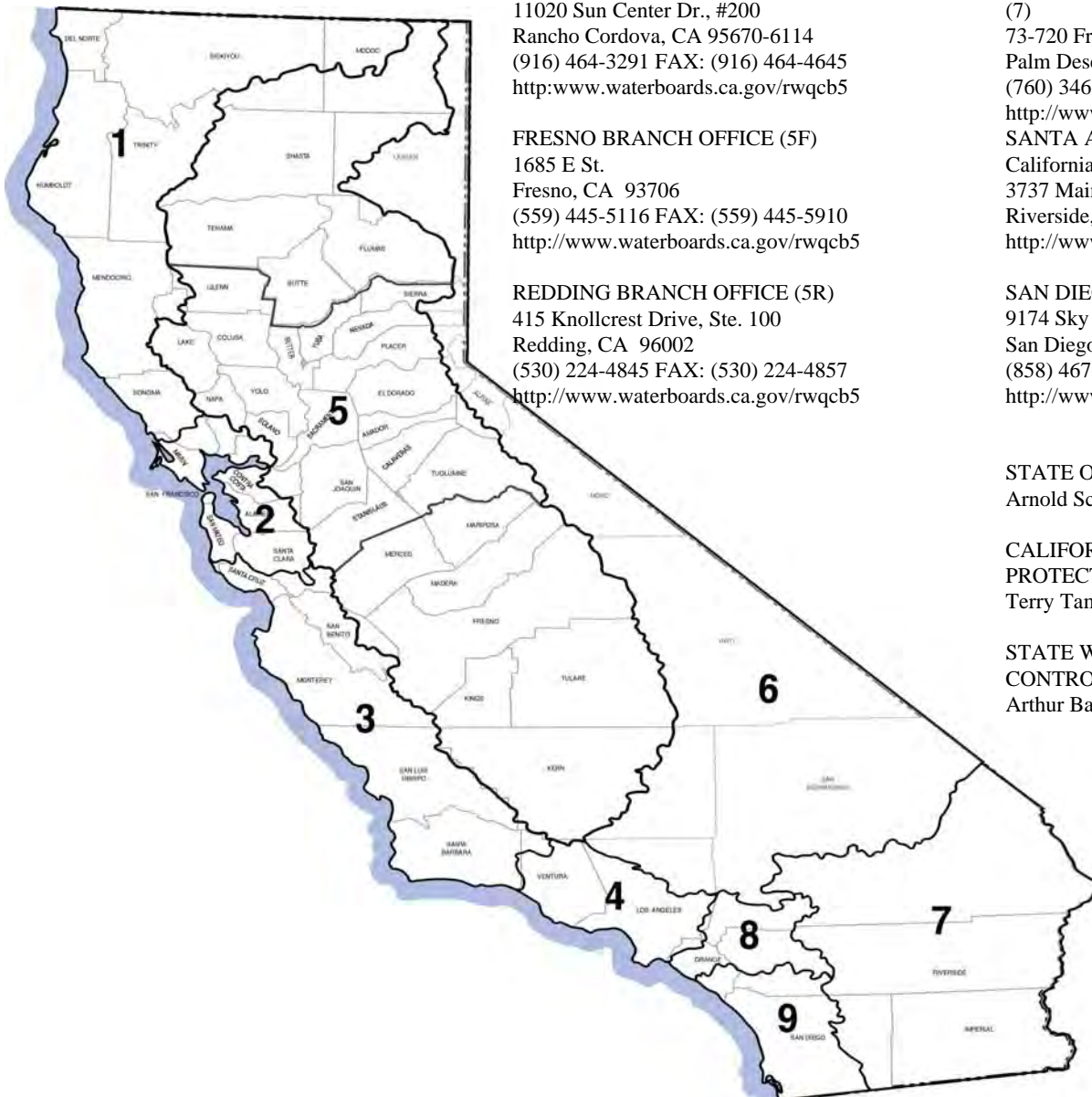
Arnold Schwarzenegger, Governor

**CALIFORNIA ENVIRONMENTAL****PROTECTION AGENCY**

Terry Tamminen, Secretary

**STATE WATER RESOURCES****CONTROL BOARD**

Arthur Baggett Jr., Chairman





NOTICE OF INTENT (NOI) TO COMPLY WITH THE TERMS  
OF THE GENERAL PERMIT TO DISCHARGE STORM WATER  
ASSOCIATED WITH CONSTRUCTION ACTIVITY

GENERAL INSTRUCTIONS

---

Who Must Submit

Discharges of storm water associated with construction that results in the disturbance of one acre or more of land must apply for coverage under the General Construction Activities Storm Water Permit (General Permit). Construction activity which is a part of a larger common area of development or sale must also be permitted. (For example, if 4 acres of a 20-acre subdivision is disturbed by construction activities, and the remaining 16 acres is to be developed at a future date, the property owner must obtain a General Storm Water Permit for the 4-acre project). Construction activity includes, but is not limited to: clearing, grading, demolition, excavation, construction of new structures, and reconstruction of existing facilities involving removal and replacement that results in soil disturbance. This includes construction access roads, staging areas, storage areas, stockpiles, and any off-site areas which receive run-off from the construction project such as discharge points into a receiving water. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

The owner of the land where the construction activity is occurring is responsible for obtaining a permit. Owners may obtain coverage under the General Permit by filing a NOI in accordance with the following instructions. Coverage for construction activity conducted on easements (e.g., pipeline construction) or on nearby properties by agreement or permission, or by an owner or lessee of a mineral estate (oil, gas, geothermal, aggregate, precious metals, and/or industrial minerals) entitled to conduct the activities, shall be obtained by the entity responsible for the construction activity. Linear construction projects which will have construction activity occurring in one or more than one Region should contact the State Water Resources Control Board at the number listed below prior to submitting an NOI application for specific information related to the use of the NOI form.

Construction Activity Not Covered By This General Permit

Storm water discharges in the Lake Tahoe Hydrologic Unit will be regulated by a separate permit(s) adopted by the California Regional Water Quality Control Board, Lahontan Region, and will not be covered under the State Water Resources Control Board's (SWRCB) General Permit. Storm water discharges on Indian Lands will be regulated by the U.S. Environmental Protection Agency.

### Where to Apply

The NOI form, vicinity map, and appropriate fee must be mailed to the SWRCB at the following address:

State Water Resources Control Board  
Division of Water Quality  
Attn: Storm Water Permit Unit  
P.O. Box 1977  
Sacramento, CA 95812-1977

### When to Apply

Property owners proposing to conduct construction activities subject to this General Permit must file a Notice of Intent prior to the commencement of construction activity.

### Fees

The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI. Checks should be made payable to: SWRCB.

### Completing the Notice of Intent (NOI)

The submittal to obtain coverage under the General Permit must include a completed NOI Form (Notice of Intent, attached), a vicinity map, and the appropriate annual fee. The NOI must be completely and accurately filled out; the vicinity map and annual fee must be included with the NOI or the submittal is considered incomplete and will be rejected. A construction site is considered to be covered by the General Permit upon filing a complete NOI submittal, and implementation of a defensible Storm Water Pollution Prevention Plan (SWPPP). Upon receipt of a complete NOI submittal, each discharger will be sent a receipt letter containing the waste discharger's identification (WDID) number.

### Questions?

If you have any questions on completing the NOI please call the SWRCB at (916) 341-5537.

## NOI-LINE-BY-LINE INSTRUCTIONS

Please type or print when completing the NOI Form and vicinity map.

### SECTION I--NOI STATUS

Mark one of the two boxes at the top portion of the NOI. Check box 1 if the NOI is being completed for new construction. Check box 2 if the NOI is being submitted to report changes for a construction site already covered by the General Permit. An example of a change that warrants a resubmittal of the NOI is a change of total area of the construction site. The permit is non-transferable, a change of ownership requires a Notice of Termination (NOT) submittal and a new NOI. Complete only those portions of the NOI that apply to the changes (the NOI must always be signed). If box 2 is checked, the WDID number must be included.

### SECTION II--PROPERTY OWNER

Enter the construction site owner's official or legal name and address; contact person (if other than owner), title, and telephone number.

### SECTION III--DEVELOPER / CONTRACTOR INFORMATION

Enter the name of the developer's (or general contractor's) official or legal name, address, contact person, title, and telephone number. The contact person should be someone who is familiar with the construction site and is responsible for compliance and oversight of the general permit.

### SECTION IV--CONSTRUCTION PROJECT INFORMATION

Enter the project name, site address, county, city, (or nearest city if construction is occurring in an unincorporated area), zip code, and telephone number (if any) of the construction site. Include an emergency contact telephone or pager number. Construction site information should include latitude and longitude designations, tract numbers, and/or mile post markers, if applicable. The site contact person should be someone who is familiar with the project, site plans, SWPPP, and monitoring program. All NOIs must be accompanied by a vicinity map.

Part A: Enter the total size in acres of all areas associated with construction activity, including all access roads.

Part B: Enter the total size in acres of the area to be disturbed by construction activity and the percentage of the area listed in Part A above that this represents.

Part C: Enter the percentage of the site that is impervious (areas where water cannot soak into the ground, such as concrete, asphalt, rooftops, etc.) before and after construction.

Part D: Include tract numbers, if available.

- Part E: Enter the mile post marker number at the project site location.
- Part F: Indicate whether the construction site is part of a larger common plan of development or sale. For example, if the construction activity is occurring on a two-acre site which is within a development that is one acre or greater, answer yes.
- Part G: Enter the name of the development (e.g. "Quail Ridge Subdivision", "Orange Valley Estates", etc.).
- Part H: Indicate when construction will begin (month, day, year). When a NOI is being submitted due to a change in ownership, the commencement date should be the date the new ownership took effect.
- Part I: Indicate the percentage of the total project area to be mass graded.
- Part J: Enter the estimated completion dates for the mass grading activities and for the project completion.
- Part K: Indicate the type(s) of construction taking place. For example, "Transportation" should be checked for the construction of roads; "Utility" should be checked for installation of sewer, electric, or telephone systems. Include a description of the major construction activities, (e.g., 20 single family homes, a supermarket, an office building, a factory, etc.)

#### SECTION V--BILLING ADDRESS

To continue coverage under the General Permit, the annual fee must be paid. Indicate where the annual fee invoice should be mailed by checking one of the following boxes:

Owner: sent to the owners address as it appears in Section II.

Developer/Contractor: sent to the developer's address as it appears in Section III.

Other: sent to a different address and enter that address in the spaces provided.

#### SECTION VI--REGULATORY STATUS

Indicate whether or not the site is subject to local erosion/sediment control ordinances. Indicate whether the erosion/sediment control plan designed to comply with the ordinance addresses the construction of infrastructure and structures in addition to grading. Identify the name and telephone number of the local agency, if applicable.

## SECTION VII--RECEIVING WATER INFORMATION

Part A: Indicate whether the storm water runoff from the construction site discharges indirectly to waters of the United States, directly to waters of the United States, or to a separate storm drain system.

Indirect discharges include discharges that may flow overland across adjacent properties or rights-of-way prior to discharging into waters of the United States.

Enter the name of the owner/operator of the relevant storm drain system, if applicable. Storm water discharges directly to waters of the United States will typically have an outfall structure directly from the facility to a river, lake, creek, stream, bay, ocean, etc. Discharges to separate storm sewer systems are those that discharge to a collection system operated by municipalities, flood control districts, utilities, or similar entities.

Part B: Enter the name of the receiving water. Regardless of point of discharge, the owner must determine the receiving water for the construction site's storm water discharge. Enter the name of the receiving water.

## SECTION VIII--IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS

Part A: Indicate the status of the SWPPP, date prepared, or availability for review. Also indicate if a tentative construction schedule has been included in the SWPPP (the inclusion of a construction activity schedule is a mandatory SWPPP requirement).

Part B: Provide information concerning the status of the development of a monitoring program, a component of the SWPPP which outlines an inspection and maintenance schedule for the proposed Best Management Practices (BMPs). Provide name and phone number of program preparer.

Part C: Provide the name and phone numbers of the responsible party or parties designated to insure compliance with all elements of the General Permit and SWPPP.

## SECTION IX--VICINITY MAP AND FEE

Provide a "to scale" or "to approximate scale" drawing of the construction site and the immediate surrounding area. Whenever possible, limit the map to an 8.5" x 11' or 11" x 17" sheet of paper. At a minimum, the map must show the site perimeter, the geographic features surrounding the site, and general topography, and a north arrow. The map must also include the location of the construction project in relation to named streets, roads, intersections, or landmarks. A NOI containing a map which does not clearly indicate the location of the construction project will be rejected. Do not submit blueprints unless they meet the above referenced size limits.

## SECTION X--CERTIFICATIONS

This section must be completed by the owner or signatory agent of the construction site\*. The certification provides assurances that the NOI and vicinity map were completed in an accurate and complete fashion and with the knowledge that penalties exist for providing false information. Certification also requires the owner to comply with the provisions in the General Permit.

\* For a corporation: a responsible corporate officer (or authorized individual). For a partnership or sole proprietorship: a general partner or the proprietor, respectively. For a municipality, State, Federal, or other public agency: either a principal executive officer, ranking elected official, or duly authorized representative.





State Water Resources Control Board

### NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE  
GENERAL PERMIT TO DISCHARGE STORM WATER  
ASSOCIATED WITH CONSTRUCTION ACTIVITY (WQ ORDER No. 99-08-DWQ)



#### I. NOI STATUS (SEE INSTRUCTIONS)

MARK ONLY ONE ITEM	1. <input type="checkbox"/> New Construction	2. <input type="checkbox"/> Change of Information for WDID#	<input type="text"/>
--------------------	--	---	----------------------

#### II. PROPERTY OWNER

Name		Contact Person		
Mailing Address		Title		
City	State	Zip	Phone	
Owner Type (check one) 1. <input type="checkbox"/> Private Individual    2. <input type="checkbox"/> Business    3. <input type="checkbox"/> Municipal    4. <input type="checkbox"/> State    5. <input type="checkbox"/> Federal    6. <input type="checkbox"/> Other				

#### III. DEVELOPER/CONTRACTOR INFORMATION

Developer/Contractor		Contact Person		
Mailing Address		Title		
City	State	Zip	Phone	

#### IV. CONSTRUCTION PROJECT INFORMATION

Site/Project Name		Site Contact Person		
Physical Address/Location		Latitude _____°	Longitude _____°	County
City (or nearest City)		Zip	Site Phone Number	Emergency Phone Number
A. Total size of construction site area: _____ Acres	C. Percent of site imperviousness (including rooftops): Before Construction: _____%		D. Tract Number(s): _____, _____	
B. Total area to be disturbed: _____ Acres (% of total _____)	After Construction: _____%		E. Mile Post Marker: _____	
F. Is the construction site part of a larger common plan of development or sale? <input type="checkbox"/> YES <input type="checkbox"/> NO		G. Name of plan or development:		
H. Construction commencement date: ____/____/____		J. Projected construction dates: Complete grading: ____/____/____    Complete project: ____/____/____		
I. % of site to be mass graded: _____				
K. Type of Construction (Check all that apply): 1. <input type="checkbox"/> Residential    2. <input type="checkbox"/> Commercial    3. <input type="checkbox"/> Industrial    4. <input type="checkbox"/> Reconstruction    5. <input type="checkbox"/> Transportation 6. <input type="checkbox"/> Utility    Description: _____    7. <input type="checkbox"/> Other (Please List): _____				

#### V. BILLING INFORMATION

SEND BILL TO: <input type="checkbox"/> OWNER (as in II. above)	Name	Contact Person	
<input type="checkbox"/> DEVELOPER (as in III. above)	Mailing Address	Phone/Fax	
<input type="checkbox"/> OTHER (enter information at right)	City	State	Zip

**VI. REGULATORY STATUS**

A. Has a local agency approved a required erosion/sediment control plan?.....  YES  NO  
Does the erosion/sediment control plan address construction activities such as infrastructure and structures?.....  YES  NO  
Name of local agency: \_\_\_\_\_ Phone: \_\_\_\_\_

B. Is this project or any part thereof, subject to conditions imposed under a CWA Section 404 permit of 401 Water Quality Certification?.....  YES  No  
If yes, provide details: \_\_\_\_\_

**VII. RECEIVING WATER INFORMATION**

A. Does the storm water runoff from the construction site discharge to (Check all that apply):  
1.  Indirectly to waters of the U.S.  
2.  Storm drain system - Enter owner's name: \_\_\_\_\_  
3.  Directly to waters of U.S. (e.g. , river, lake, creek, stream, bay, ocean, etc.)

B. Name of receiving water: (river, lake, creek, stream, bay, ocean): \_\_\_\_\_

**VIII. IMPLEMENTATION OF NPDES PERMIT REQUIREMENTS**

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (check one)  
 A SWPPP has been prepared for this facility and is available for review: Date Prepared: \_\_\_\_/\_\_\_\_/\_\_\_\_ Date Amended: \_\_\_\_/\_\_\_\_/\_\_\_\_  
 A SWPPP will be prepared and ready for review by (enter date): \_\_\_\_/\_\_\_\_/\_\_\_\_  
 A tentative schedule has been included in the SWPPP for activities such as grading, street construction, home construction, etc.

B. MONITORING PROGRAM  
 A monitoring and maintenance schedule has been developed that includes inspection of the construction BMPs before anticipated storm events and after actual storm events and is available for review.  
If checked above: A qualified person has been assigned responsibility for pre-storm and post-storm BMP inspections to identify effectiveness and necessary repairs or design changes.....  YES  NO  
Name: \_\_\_\_\_ Phone: \_\_\_\_\_

C. PERMIT COMPLIANCE RESPONSIBILITY  
A qualified person has been assigned responsibility to ensure full compliance with the Permit, and to implement all elements of the Storm Water Pollution Prevention Plan including:  
1. Preparing an annual compliance evaluation.....  YES  NO  
Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
2. Eliminating all unauthorized discharges.....  YES  NO

**IX. VICINITY MAP AND FEE (must show site location in relation to nearest named streets, intersections, etc.)**

Have you included a vicinity map with this submittal? .....  YES  NO  
Have you included payment of the annual fee with this submittal?.....  YES  NO

**X. CERTIFICATIONS**

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to assure 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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. In addition, I certify that I have read the entire General Permit, including all attachments, and agree to comply with and be bound by all of the provisions, requirements, and prohibitions of the permit, including the development and implementation of a Storm Water Pollution Prevention Plan and a Monitoring Program Plan will be complied with."

Printed Name: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Title: \_\_\_\_\_

## 303d Listed Water Bodies for Sedimentation

REGION	WATER BODY NAME	CODE	POLLUTANT
1	MATTOLE RIVER	1100	Sedimentation/Siltation
1	TRINITY RIVER, SOUTH FORK	1100	Sedimentation/Siltation
1	REDWOOD CREEK	1100	Sedimentation/Siltation
1	MAD RIVER	1100	Sedimentation/Siltation
1	ELK RIVER	1100	Sedimentation/Siltation
1	EEL RIVER, SOUTH FORK	1100	Sedimentation/Siltation
1	EEL RIVER, NORTH FORK	1100	Sedimentation/Siltation
1	TRINITY RIVER	1100	Sedimentation/Siltation
1	EEL RIVER, MIDDLE FORK	1100	Sedimentation/Siltation
1	MAD RIVER	2500	Turbidity
1	TEN MILE RIVER	1100	Sedimentation/Siltation
1	NOYO RIVER	1100	Sedimentation/Siltation
1	BIG RIVER	1100	Sedimentation/Siltation
1	ALBION RIVER	1100	Sedimentation/Siltation
1	NAVARRO RIVER	1100	Sedimentation/Siltation
1	GARCIA RIVER	1100	Sedimentation/Siltation
1	GUALALA RIVER	1100	Sedimentation/Siltation
1	RUSSIAN RIVER	1100	Sedimentation/Siltation
1	TOMKI CREEK	1100	Sedimentation/Siltation
1	VAN DUZEN RIVER	1100	Sedimentation/Siltation
1	EEL RIVER DELTA	1100	Sedimentation/Siltation
1	EEL RIVER, MIDDLE MAIN FORK	1100	Sedimentation/Siltation
1	ESTERO AMERICANO	1100	Sedimentation/Siltation
1	NAVARRO RIVER DELTA	1100	Sedimentation/Siltation
1	EEL RIVER, UPPER MAIN FORK	1100	Sedimentation/Siltation
1	FRESHWATER CREEK	1100	Sedimentation/Siltation
1	SCOTT RIVER	1100	Sedimentation/Siltation
2	TOMALES BAY	1100	Sedimentation/Siltation
2	NAPA RIVER	1100	Sedimentation/Siltation
2	SONOMA CREEK	1100	Sedimentation/Siltation
2	PETALUMA RIVER	1100	Sedimentation/Siltation
2	LAGUNITAS CREEK	1100	Sedimentation/Siltation
2	WALKER CREEK	1100	Sedimentation/Siltation
2	SAN GREGORIO CREEK	1100	Sedimentation/Siltation

2	SAN FRANCISQUITO CREEK	1100	Sedimentation/Siltation
2	PESCADERO CREEK (REG 2)	1100	Sedimentation/Siltation
2	BUTANO CREEK	1100	Sedimentation/Siltation
3	MORRO BAY	1100	Sedimentation/Siltation
3	SAN LORENZO RIVER ESTUARY	1100	Sedimentation/Siltation
3	SHINGLE MILL CREEK	1100	Sedimentation/Siltation
3	MOSS LANDING HARBOR	1100	Sedimentation/Siltation
3	WATSONVILLE SLOUGH	1100	Sedimentation/Siltation
3	SAN LORENZO RIVER	1100	Sedimentation/Siltation
3	ELKHORN SLOUGH	1100	Sedimentation/Siltation
3	SALINAS RIVER LAGOON (NORTH)	1100	Sedimentation/Siltation
3	GOLETA SLOUGH/ESTUARY	1100	Sedimentation/Siltation
3	CARPINTERIA MARSH (EL ESTERO MARSH)	1100	Sedimentation/Siltation
3	LOMPICO CREEK	1100	Sedimentation/Siltation
3	MORO COJO SLOUGH	1100	Sedimentation/Siltation
3	VALENCIA CREEK	1100	Sedimentation/Siltation
3	PAJARO RIVER	1100	Sedimentation/Siltation
3	RIDER GULCH CREEK	1100	Sedimentation/Siltation
3	LLAGAS CREEK	1100	Sedimentation/Siltation
3	SAN BENITO RIVER	1100	Sedimentation/Siltation
3	SALINAS RIVER	1100	Sedimentation/Siltation
3	CHORRO CREEK	1100	Sedimentation/Siltation
3	LOS OSOS CREEK	1100	Sedimentation/Siltation
3	SANTA YNEZ RIVER	1100	Sedimentation/Siltation
3	SAN ANTONIO CREEK (SANTA BARBARA COUNTY)	1100	Sedimentation/Siltation
3	CARBONERA CREEK	1100	Sedimentation/Siltation
3	SOQUEL LAGOON	1100	Sedimentation/Siltation
3	APTOS CREEK	1100	Sedimentation/Siltation
4	MUGU LAGOON	1100	Sedimentation/Siltation
5	HUMBUG CREEK	1100	Sedimentation/Siltation
5	PANOCHÉ CREEK	1100	Sedimentation/Siltation
5	FALL RIVER (PIT)	1100	Sedimentation/Siltation
6	BEAR CREEK (R6)	1100	Sedimentation/Siltation
6	MILL CREEK (3)	1100	Sedimentation/Siltation
6	HORSESHOE LAKE (2)	1100	Sedimentation/Siltation
6	BRIDGEPORT RES	1100	Sedimentation/Siltation
6	TOPAZ LAKE	1100	Sedimentation/Siltation
6	LAKE TAHOE	1100	Sedimentation/Siltation

6	PINE CREEK (2)	1100	Sedimentation/Siltation
6	TRUCKEE RIVER	1100	Sedimentation/Siltation
6	CLEARWATER CREEK	1100	Sedimentation/Siltation
6	GRAY CREEK (R6)	1100	Sedimentation/Siltation
6	WARD CREEK	1100	Sedimentation/Siltation
6	BLACKWOOD CREEK	1100	Sedimentation/Siltation
6	GOODALE CREEK	1100	Sedimentation/Siltation
6	EAST WALKER RIVER	1100	Sedimentation/Siltation
6	HEAVENLY VALLEY CREEK	1100	Sedimentation/Siltation
6	WOLF CREEK (1)	1100	Sedimentation/Siltation
6	WEST WALKER RIVER	1100	Sedimentation/Siltation
6	HOT SPRINGS CANYON CREEK	1100	Sedimentation/Siltation
6	BRONCO CREEK	1100	Sedimentation/Siltation
6	SQUAW CREEK	1100	Sedimentation/Siltation
7	IMPERIAL VALLEY DRAINS	1100	Sedimentation/Siltation
7	NEW RIVER (R7)	1100	Sedimentation/Siltation
7	ALAMO RIVER	1100	Sedimentation/Siltation
8	SAN DIEGO CREEK, REACH 1	1100	Sedimentation/Siltation
8	RATHBONE (RATHBUN) CREEK	1100	Sedimentation/Siltation
8	SAN DIEGO CREEK, REACH 2	1100	Sedimentation/Siltation
8	UPPER NEWPORT BAY ECOLOGICAL RESERVE	1100	Sedimentation/Siltation
8	BIG BEAR LAKE	1100	Sedimentation/Siltation
8	ELSINORE, LAKE	1100	Sedimentation/Siltation
9	SAN ELIJO LAGOON	1100	Sedimentation/Siltation
9	LOS PENASQUITOS LAGOON	1100	Sedimentation/Siltation
9	AGUA HEDIONDA LAGOON	1100	Sedimentation/Siltation
9	BUENA VISTA LAGOON	1100	Sedimentation/Siltation



**NEW OWNER INFORMATION AND  
CHANGE OF INFORMATION (COI) FORM FOR THE  
GENERAL CONSTRUCTION PERMIT NO. CAS000002**

Owners Name: \_\_\_\_\_

Date: \_\_\_\_\_

WDID No.: \_\_\_\_\_

Date of Last NOI Change: \_\_\_\_\_

Prepared By: \_\_\_\_\_

Signature of Preparer: \_\_\_\_\_

	<b>Area Transferred (acres)<sup>1</sup></b>	<b>Area Remaining (acres)<sup>2</sup></b>	<b>Lot/Tract Numbers Transferred</b>	<b>Contact Person and Company Name of NewOwner(s)</b>	<b>Address(es) of the New Owner(s)</b>	<b>Phone # of New Owner</b>	<b>Is Const/Post Construction Complete? Yes/No</b>	<b>Date of Ownership Transfer</b>
	<b>column 1</b>	<b>column 2</b>						
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

<sup>1</sup>Use approximate area (in acres) if no exact figure is available.

<sup>2</sup>Calculate running total in this column as follows:

Enter in column 2, line 1, the area from NOI minus the area in column 1.

Enter in column 2, line 2, the area in column 2, line 1, minus the area in line 2, column 1.

Enter in column 2, line 3, the area in column 2, line 2, minus the area in line 3, column 1, and so forth.

**Notice!** As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews. ✕

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



[Home](#) | [Water Issues](#) | [Programs](#) | [Stormwater](#) | [Phase II Municipal](#)

# Phase II Small Municipal Separate Storm Sewer System (MS4) Program

## Phase II Small MS4 Permit

On February 5, 2013, the proposed final draft of the Phase II Small MS4 General Permit was adopted and became effective on July 1, 2013.

- [Phase II Small MS4 Permit \(Unofficial Draft\)](#)
  - [Provisions for all Small MS4 Permittees](#)
    - [Section E - Provision for Traditional Small MS4 Permittees](#)
    - [Section F - Provision for Non-Traditional Small MS4 Permittees](#)
  - [Fact Sheet](#)
  - [Attachments and Flow charts](#)
    - [Attachment A - Traditional Small MS4 List](#)
    - [Attachment B - Non-Traditional Small MS4 List](#)
    - [Attachment C - Special Conditions for ASBS Discharges](#)
    - [Attachment D - ASBS dischargers List](#)
    - [Attachment E - Education and Outreach Requirements](#)
    - [Attachment F - Standard Provisions](#)
    - [Attachment G - Total Maximum Daily Load Requirements](#)
    - [Attachment H - Acronyms & Abbreviations](#)






**Notice!** As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews. ✕

[About Us](#) [Contact Us](#) [Subscribe](#)  [Settings](#)




- [Post-Construction Water Balance Calculator \(Excel\)](#)

(Updated 05/11/2020)

 **Subscribe to our Email Lists**

- [Subscribe to our "Storm Water Municipal Permitting Issues" list under the "Water Quality" section.](#)

**Questions or Comments**

- [Paul Levy](#)  
 [Paul.Levy@waterboards.ca.gov](mailto:Paul.Levy@waterboards.ca.gov)  
 (916) 323-5598

**Announcement**

- [Revised Save-the-Date! Phase II Permit Reissuance Virtual Stakeholder Workshop](#)

## Storm Water Resources



- [Stormwater Home](#)
- [Caltrans](#)
- [Construction](#)
- [Contacts](#)
- [Databases](#)
- [Historical](#)
- [Industrial](#)

**Notice!** As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews. ✕

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



*the health of the public and the environment.*

### Statewide Campaigns

- EPA Water Sense
- Report an Environmental Concern
- Save Our Water
- Flex Alert
- Register to Vote



### Quick Links

- Board Agendas
- Fees
- Make a Payment
- Grievance Procedure
- Help / Business Help
- Uniform Grants Guidance



### Resources

- OIMA
- CEDEN
- Data & Databases
- Drought Information
- FAAST
- Language Access Complaint

**Notice!** As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews. ✕

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)





- [Abbreviations and Acronyms](#)
- [Board Priorities](#)
- [Decisions Pending &](#)
- [Opportunities for Public Participation](#)
- [Employment](#)
- [Frequently Asked Questions](#)
- [Grants & Loans](#)
- [Laws / Regulations](#)
- [Plans / Policies](#)
- [Public Records Center](#)
- [Publications / Forms](#)

[Back to Top](#) [Conditions of Use](#)

[Privacy Policy](#) [Accessibility](#)

[Contact Us](#)

### Website Accessibility Certification

Copyright © 2022 State of California

The California Water Boards include the [State Water Resources Control Board](#) and nine [Regional Boards](#)



The State Water Board is one of six environmental entities operating under the authority of the California Environmental Protection Agency

[Cal/EPA](#) | [ARB](#) | [CalRecycle](#) | [DPR](#) | [DTSC](#) | [OEHHA](#) | **[SWRCB](#)**