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June 27, 2014

Mr. Samuel Unger, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street, Suite 200
Los Angeles, CA 90013

Dear Mr. Unger:

SUBMITTAL OF COORDINATED INTEGRATED MONITORING PROGRAM FOR JURISDICTIONAL GROUPS 2 AND 3 OF THE SANTA MONICA BAY WATERSHED

Please find attached the Coordinated Integrated Monitoring Program (CIMP) for Jurisdictional Groups 2 and 3 of the Santa Monica Bay watershed. The City of Los Angeles, as lead agency for Jurisdictional Groups 2 and 3, has prepared this CIMP on behalf of itself, the County of Los Angeles, Los Angeles County Flood Control District, and the Cities of Santa Monica and El Segundo. All agencies have reviewed the draft CIMP prior to submission to the Regional Water Board, and we appreciate the collaboration by all agencies in the preparation of the document.

The CIMP for Jurisdictions 2 and 3satisfies the requirements provided by Attachment E, the Monitoring and Reporting Program (MRP), of the new MS4 Permit (Order No. R4-2012-0175) The CIMP provides a discussion of the monitoring locations, constituents, and monitoring frequencies, details of analytical and monitoring procedures, and an approach for implementation of the CIMP. Concurrently with this CIMP, we are submitting Geographic Information System (GIS) database to satisfy the requirements of Part VII.A of the MRP.

We appreciate the discussions with and the input received from Regional Water Board staff during the development of this CIMP. The agencies of Jurisdictional Groups 2 and 3 look forward to the comments on the CIMP by your staff and finalizing this document.

Should you have any questions about this submittal, please contact me at Shahram.Kharaghani@lacity.org or phone (213) 485-0587, or your staff may contact Ms. Donna Chen at Donna.Chen@lacity.org or phone (213) 485-3928.

Sincerely,

Robert Vega for

SHAHRAM KHARAGHANI, Ph.D., P.E., BCEE
Program Manager

SK: HC
WPDCR9131

Attachment

cc: Renee Purdy, California Regional Water Quality Board, Los Angeles Region
Ivar Ridgeway, California Regional Water Quality Board, Los Angeles Region
Adel Hagekhalil, City of Los Angeles, Bureau of Sanitation
Hubertus Cox, City of Los Angeles, Bureau of Sanitation
Gary Hildebrand, County of Los Angeles, Department of Public Works
Rick Valte, City of Santa Monica
Stephanie Katsouleas, City of El Segundo

June 2014

SANTA MONICA BAY JURISDICTIONAL GROUP 2 AND 3
ENHANCED WATERSHED MANAGEMENT PLAN GROUP

Coordinated Integrated Monitoring Program (CIMP)

Prepared by

City of Los Angeles, Los Angeles County Flood Control District, City of Santa Monica and City of El Segundo

The MWH Team

MWH. Geosyntec consultants CWE M2 Resource Consulting, Inc.

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LIST OF ACRONYMS

Acronym	Definition
40 CFR	Code of Federal Regulations
Basin Plan	Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties
BMPs	Best Management Practices
Caltrans	California Department of Transportation
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIMP	Coordinated Integrated Monitoring Program
County	Los Angeles County
CSMP	Coordinated Shoreline Monitoring Plan
CWA	Clean Water Act
CWC	California Water Code
DDT	Dichlorodiphenyltrichloroethane
EIA	Effective Impervious Area
EWMP	Enhanced Watershed Management Program
GIS	Geographic Information System
HUC-12	Hydrologic Unit Codes
IC/ID	Illicit Connection/Illicit Discharge
IMCR	Integrated Monitoring Compliance Report
IMP	Integrated Monitoring Program
JG2/3	Jurisdictional Group 2 and 3
LACDPW	County of Los Angeles Department of Public Works
LACFCD	Los Angeles County Flood Control District
LFD	Low Flow Diversion
LID	Low Impact Development
MAL	Municipal Action Limts
MCM	Minimum Control Measure
MES	Mass Emission Stations
MRP	Monitoring and Report Program
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
PCB	Polychlorinated biphenyl
PCIS	Plan Check and Inspection System
Permit	Permit No. R4-2012-0175
PMRP	Pellets Monitoring and Reporting Plan
RAA	Reasonable Assurance Analysis
Regional Board	Los Angeles Regional Water Quality Control Board
RWL	Receiving Water Limitations
SCCWRP	Southern California Coastal Water Research Project

Acronym	Definition
SDTF	Standardized Data Transfer Format
SIC	Standard Industrial Classification System
SMB	Santa Monica Bay
SMB EWMP Group	Santa Monica Bay Enhanced Watershed Management Program Group
SMBBB	Santa Monica Bay Beaches Bacteria
SMC	Southern California Stormwater Monitoring Coalition
SMURRF	Santa Monica Urban Runoff Recycling Facility
SOP	Standard Operating Procedure
SWAMP	Surface Water Ambient Monitoring Program
TIE	Toxicity Identification Evaluation
TMDL	Total Maximum Daily Load
TMRP	Trash Monitoring and Reporting Plan
USEPA	U.S. Environmental Protection Agency
WBPCs	Water Body-Pollutant Combinations
WDID	State Waste Discharge Identification
WLA	Waste Load Allocations
WMA	Watershed Management Area
WQBEL	Water Quality-Based Effluent Limits

Section 1
Introduction

In June 2013, the Cities of El Segundo, Los Angeles, and Santa Monica, together with the County of Los Angeles (County) and the Los Angeles County Flood Control District (LACFCD), collectively referred to as the Santa Monica Bay EWMP Group (SMB EWMP Group), submitted a notice of intent to develop an Enhanced Watershed Management Program (EWMP) and Coordinated Integrated Monitoring Program (CIMP) to fulfill the requirements of the National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit No. R4-2012-0175 (Permit) for Los Angeles County issued by the Los Angeles Regional Water Quality Control Board (Regional Board). The Permit was adopted on November 8, 2012, by the Regional Board and became effective December 28, 2012. This Permit replaced the previous MS4 permit (Order No. 01-182). The purpose of the Permit is to ensure the MS4s in Los Angeles County are not causing or contributing to exceedances of water quality objectives set to protect the beneficial uses in the receiving waters in the Los Angeles region. The Permit allows the Permittees to customize their stormwater programs to achieve compliance with certain Receiving Water Limitations (RWL) and Water Quality-Based Effluent Limits (WQBELs).

The SMB EWMP Group's CIMP establishes the requirements presented in the Monitoring and Reporting Program (MRP) portion of the Permit, which are specified in Attachment E of the Permit. The primary objectives for the MRP are listed in Part II.A of the MRP, as follows:

- Assess the chemical, physical, and biological impacts of discharges from the MS4 on receiving waters;
- Assess compliance with RWLs and WQBELs established to implement Total Maximum Daily Load (TMDL) wet-weather and dry-weather waste load allocations (WLAs);
- Characterize pollutant loads in MS4 discharges;
- Identify sources of pollutants in MS4 discharges; and
- Measure and improve the effectiveness of pollutant controls implemented under the Permit.

As an option in the MRP, the SMB EWMP Group's CIMP proposes alternative approaches, with sufficient justification, to meet the primary objectives. Additionally, the CIMP includes TMDL monitoring requirements to unify monitoring efforts and to provide consistent observations of watershed conditions.

1.1 LACFD BACKGROUND INFORMATION

In 1915, the Los Angeles County Flood Control Act was adopted by the California State Legislature after a disastrous regional flood took a heavy toll on lives and property. The act established the LACFCD and empowered it to manage flood risk and conserve stormwater for groundwater recharge. In coordination with the United States Army Corps of Engineers the LACFCD developed and constructed a comprehensive system that provides for the regulation and control of flood waters through the use of reservoirs and flood channels. The system also controls debris, protects existing vegetal covers, collects surface storm water from streets, and replenishes groundwater with storm water and imported and recycled waters. The LACFCD covers the 2,753 square-mile portion of Los Angeles County south of the east-west projection of Avenue S, excluding Catalina Island. It is a special district governed by the County of Los Angeles Board of Supervisors, and its functions are carried out by the Los Angeles County Department of Public Works. The LACFCD service area is shown in **Figure 1**.

By statute, the LACFCD has limited powers and purposes, which places constraints on the types of projects and activities which the LACFCD may fund. Unlike cities and counties, the LACFCD does not own or operate any municipal sanitary sewer systems, public streets, roads, or highways. The LACFCD operates and maintains storm drains and other appurtenant drainage infrastructure within its service area. The LACFCD has no planning, zoning, development permitting, or other land use authority within its service area. The permittees that have such land use authority are responsible under the Permit for inspecting and controlling pollutants from industrial and commercial facilities, development projects, and development construction sites. (Permit, Part II.E, p. 17.)

The MS4 Permit language clarifies the unique role of the LACFCD in storm water management programs: "[g]iven the LACFCD's limited land use authority, it is appropriate for the LACFCD to have a separate and uniquely-tailored storm water management program. Accordingly, the storm water management program minimum control measures imposed on the LACFCD in Part VI.D of this Order differ in some ways from the minimum control measures imposed on other Permittees. Namely, aside from its own properties and facilities, the LACFCD is not subject to the Industrial/Commercial Facilities Program, the Planning and Land Development Program, and the Development Construction Program. However, as a discharger of storm and non-storm water, the LACFCD remains subject to the Public Information and Participation Program and the Illicit Connections and Illicit Discharges Elimination Program. Further, as the owner and operator of certain properties, facilities and infrastructure, the LACFCD remains subject to requirements of a Public Agency Activities Program." (Permit, Part II.F, p. 18.)

Consistent with the role and responsibilities of the LACFCD under the Permit, the [E]WMPs and CIMPs reflect the opportunities that are available for the LACFCD to collaborate with permittees having land use authority over the subject watershed area. In some instances, the opportunities are minimal, however the LACFCD remains responsible for compliance with certain aspects of the MS4 permit as discussed above.

1.2 SANTA MONICA BAY JURISDICTIONAL GROUP 2 AND 3 WATERSHED MANAGEMENT PLAN AREA

Located in the South Santa Monica Bay Watershed, **Figure 1**, SMB EWMP Group is comprised of the five participating agencies: the Cities of El Segundo, Los Angeles, and Santa Monica, the County, and LACFCD, as shown in **Figure 2**. The total area of Jurisdictional Group 2 and 3 (JG2/3) is approximately 33,967 acres. The SMB EWMP Group area encompasses approximately 25,238 acres within JG2/3. The remaining JG2/3 area encompasses approximately 8,729 acres and includes land owned by U.S. Government, State of California, California Department of Transportation (Caltrans), Chevron, and El Segundo Generation Station. Also excluded from the geographical scope are the beaches. These agencies/organizations are not participants of the SMB EWMP Group. Approximate land area and land use summaries for the JG2/3 area are presented in **Figure 3** and listed in **Table 1**. The most prevalent land uses are open space and residential. Commercial, industrial, educational facilities, and transportation land uses constitute minor portions of the jurisdictions within SMB EWMP Group area.

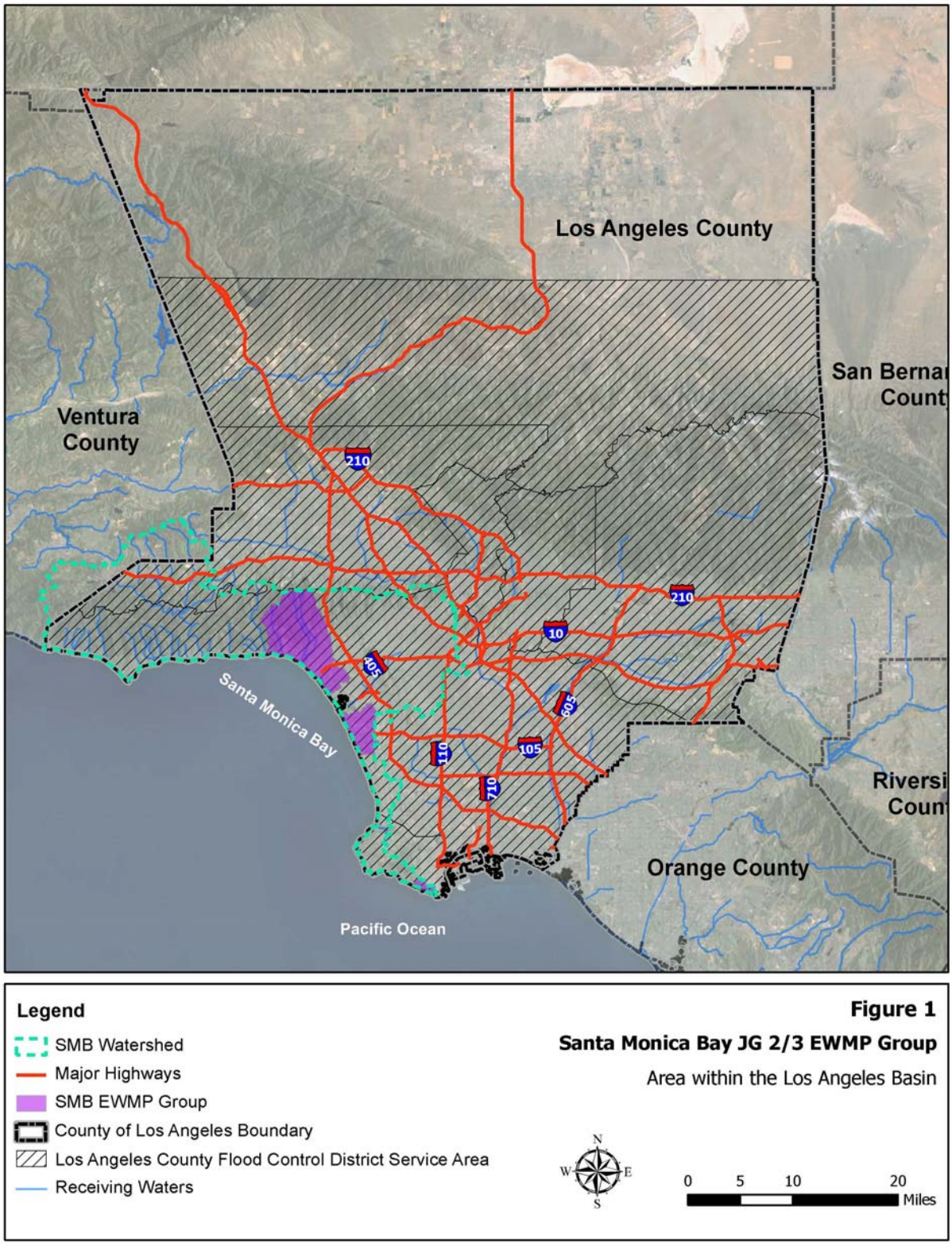

Figure 1
Area within Santa Monica Bay Watershed and the Los Angeles Basin

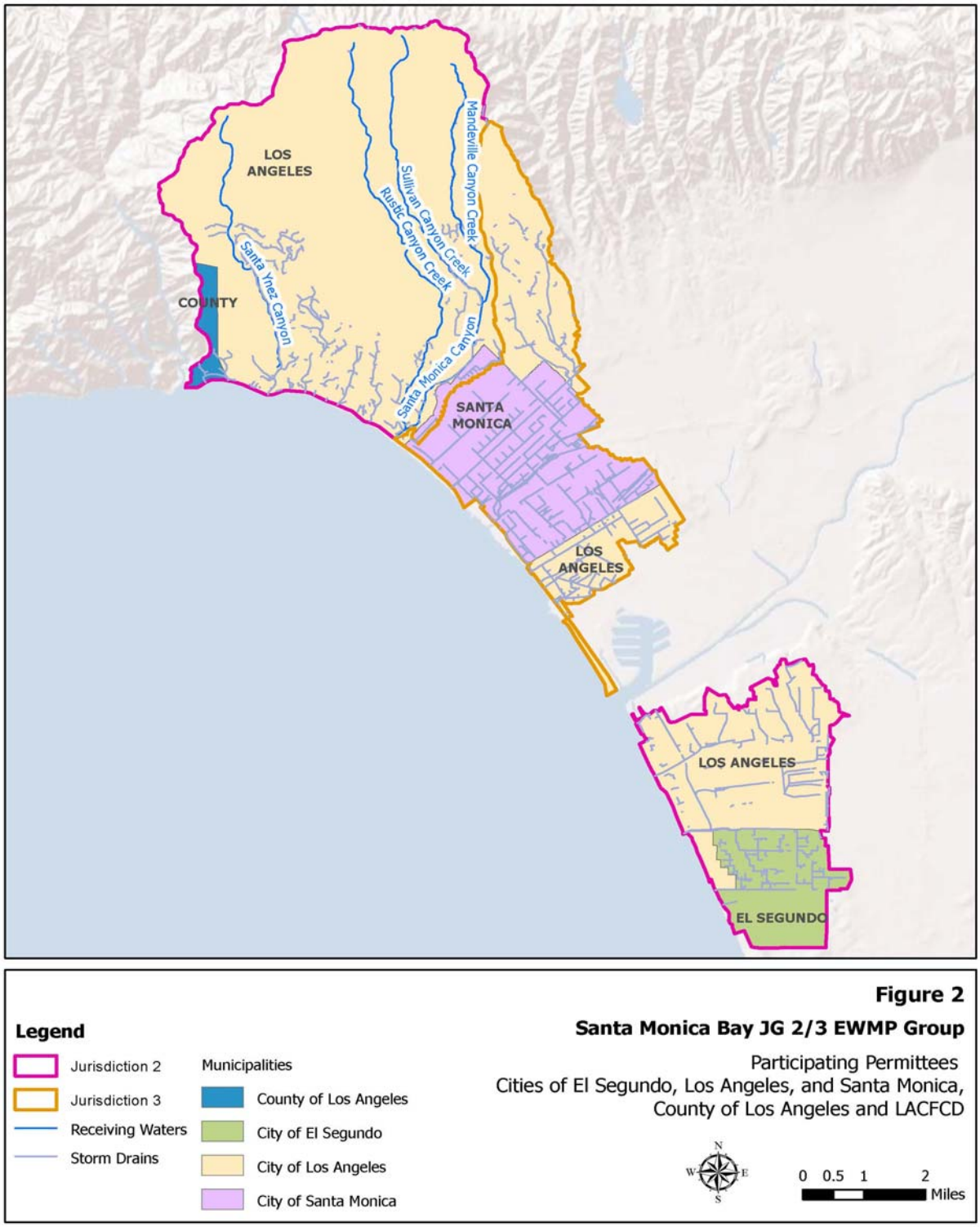

Figure 2
Santa Monica Bay Participating Permittees*

Lands owned by U.S. Government, State of California, California Department of Transportation (Caltrans), Chevron, beaches and El Segundo Generation Station are excluded from the geographical scope.

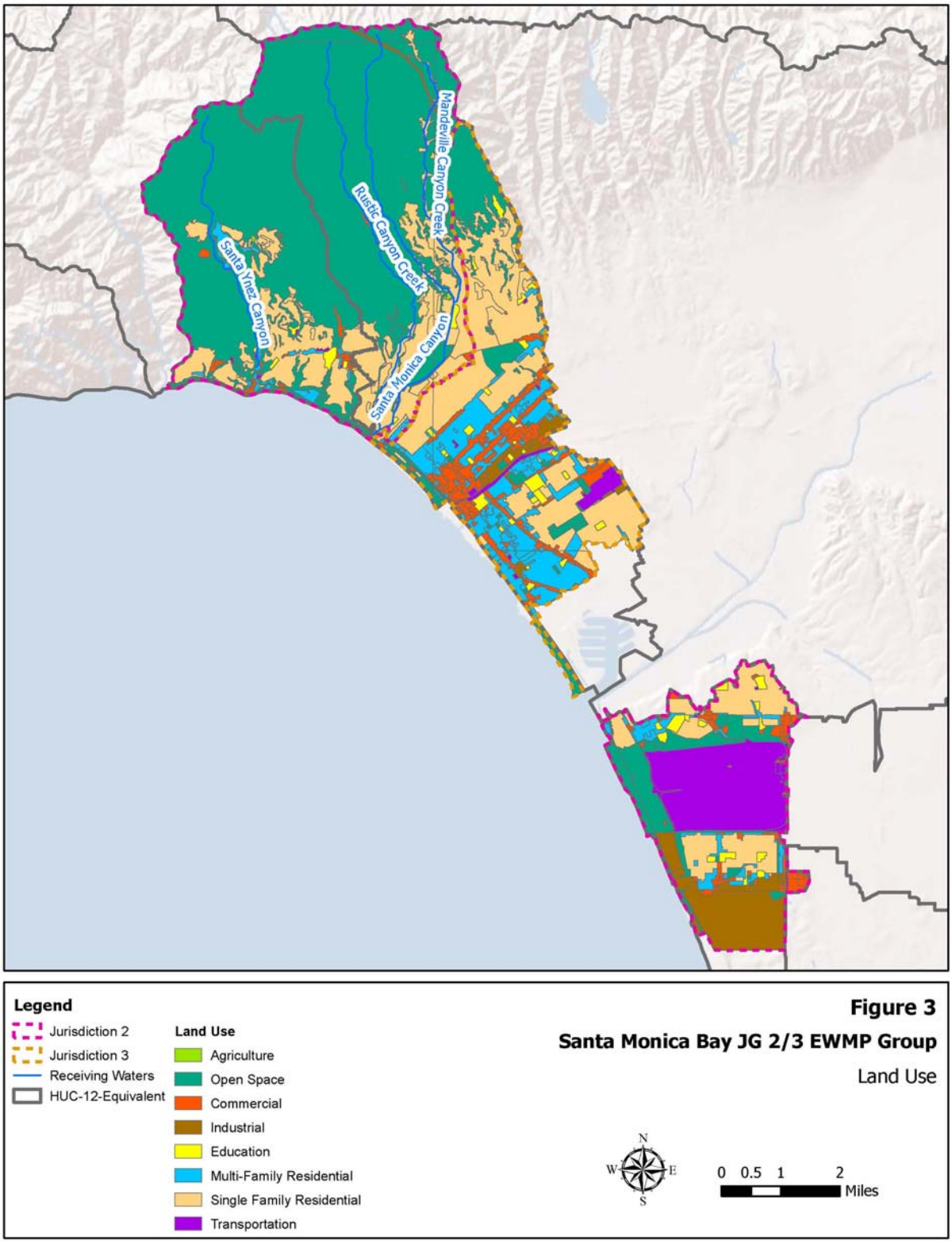

Figure 3
Land Use

Table 1
Land Use Summaries

Land Use	Los Angeles County		Los Angeles		Santa Monica		El Segundo		Total*	
	Acres	% of Total	Acres	% of Total	Acres	% of Total	Acres	% of Total	Acres	% of Total
Agriculture	0	0%	16.37	0.06%	0%	0%	0%	0%	16.37	0.05%
Commercial	1.7	0.44%	537.83	2.04%	929.33	18.64%	183.65	8.42%	1,652.51	4.87%
Industrial	0	0%	270.88	1.03%	230.74	4.63%	1,065.28	48.87%	1566.9	4.61%
Education	0	0%	323.56	1.23%	185.77	3.73%	58.97	2.71%	568.3	1.67%
Multi-Family Residential	7.19	1.85%	1,062.18	4.02%	1,536.01	30.80%	164.33	7.54%	2,769.71	8.15%
Single Family Residential	108.36	27.87%	6,387.27	24.18%	1,595.21	31.99%	556.86	25.54%	8647.7	25.46%
Open Space	271.6	69.85%	15,741.17	59.60%	271.75	5.45%	138.88	6.37%	1,6423.4	48.35%
Transportation	0	0%	2,072.33	7.85%	237.92	4.77%	12.04	0.55%	2,322.29	6.84%
Total	388.85	100%	26,411.59	100%	4,986.73	100%	2,180.01	100%	33,967.18	100%

*Total area for J2/3 – the area for the EWMP group is 25,238 acres

JG2 encompasses Castle Rock, Dockweiler, Pulga Canyon, Santa Monica Canyon, Santa Ynez, and Venice Beach watersheds as defined by the Regional Board. JG3 covers a small section from Santa Monica Canyon and north of the Santa Monica Freeway at the ocean to north of Marina del Rey/Venice area. The receiving waters defined by the Water Quality Control Plan, Los Angeles Region (Basin Plan) (Regional Board, 1995, Updated 2011) within the SMB EWMP Group area include:

- Santa Monica Bay
- Santa Monica Canyon Channel
    - Rustic Canyon Creek
    - Mandeville Canyon Creek
    - Sullivan Canyon Creek
- Santa Ynez Canyon

Attachment B of the MS4 Permit, mapped United States Geological Survey Hydrologic Units, and other features, based on Hydrologic Unit Codes (HUC-12) watershed boundaries. In-lieu of these specified boundaries, the March 26, 2014 Regional Board Reasonable Assurance Analysis (RAA) Guidelines allows the EWMP group to use HUC-12 equivalent watersheds, prepared by the LACFCD. Using the LACFCD HUC-12 layer and numbering conventions, the LACFCD HUC-12 boundaries, relevant to the SMB EWMP Group, are shown in **Figure 4** and identified as follows:

- Santa Monica Beach – Frontal Santa Monica Bay (180701040403)
- Santa Monica Canyon (180701040402)
- Manhattan Beach – Frontal Santa Monica Bay (180701040500)

The five-agency jurisdictional boundaries, HUC-12, MS4 drainage system, and outfall locations within JG2/3 are shown in **Figure 5**. Attachment A provides additional watershed background, including TMDL monitoring requirements and existing monitoring programs.

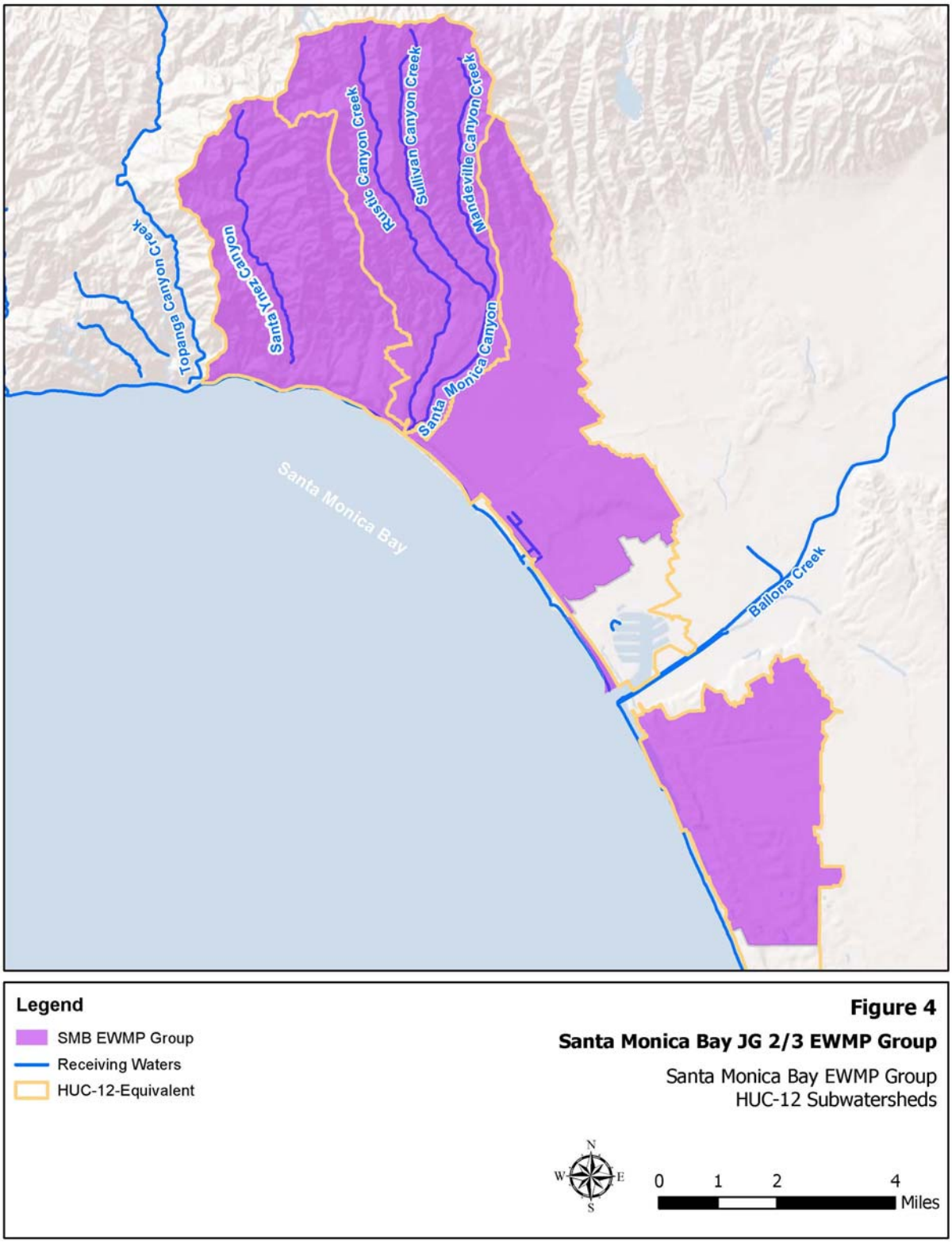

Figure 4
Santa Monica Bay JG 2/3 HUC-12 Subwatersheds

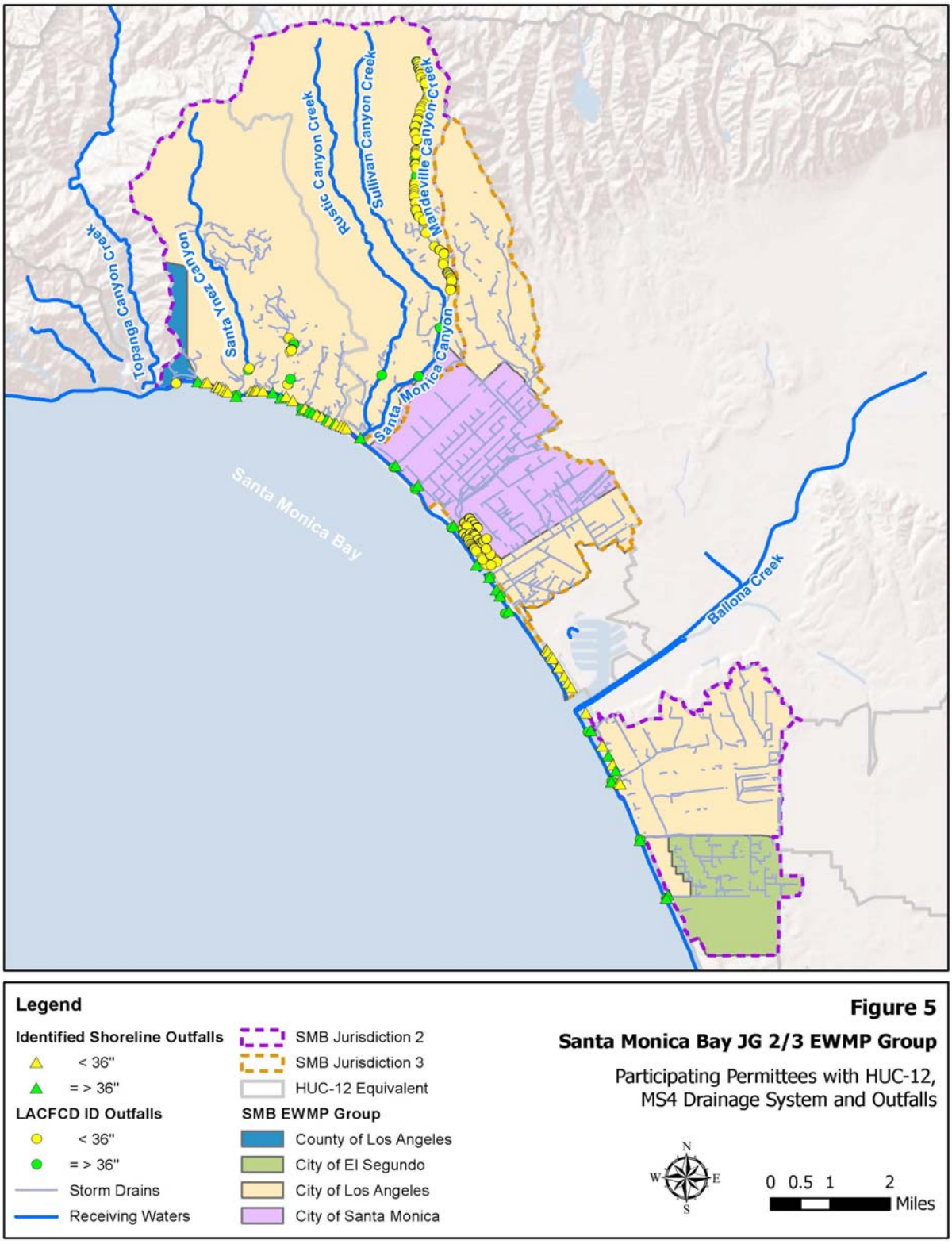

Figure 5
Participating Permitees with HUC-12, MS4 Drainage System and Outfalls

1.3 WATER QUALITY PRIORITIES

Based on the water quality characterization, the water body–pollutant combinations (WBPCs) have been classified into one of three categories, in accordance with Section IV.C.5(a)ii of the Permit. The three categories, as defined by the Permit, are as follows:

- **Category 1**: Water body-pollutant combinations under Category 1 (highest priority) are defined in the Permit as "water body-pollutant combinations for which water quality-based effluent limitations and/or receiving water limitations are established in Part VI.E and Attachments L through R *[*of *the Permit]*."
- **Category 2**: (high priority) water body-pollutant combinations are defined as "*p*ollutants for which data indicate water quality impairment in the receiving water according to the State's Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (State Listing Policy) and for which MS4 discharges may be causing or contributing to the impairment.*"*
- **Category 3**: (Medium Priority) designations are to be applied to water body-pollutant combinations that are not 303(d)-listed, but which exceed applicable receiving water limitations contained in the Permit and for which MS4 discharges may be causing or contributing to the exceedance.

Water quality priorities are then identified based on the WBPC categories compliance deadlines for the SMB EWMP. This categorization is intended to prioritize WBPCs in order to guide the implementation of structural and institutional best management practices (BMPs) and monitoring activities in the CIMP. Through this process, the Priority 1 WBPC has been identified as summer and winter dry-weather bacteria and wet-weather bacteria. **Table 2** presents the identified water quality priorities and the WBPC categories.

As part of the adaptive management process, categorization of WBPCs may be adjusted based on data obtained from monitoring, source evaluations, and BMP implementation. Data collected as part of the approved CIMP may result in future Category 3 designations in instances when receiving water limits are exceeded and MS4 discharges are identified as contributing to such exceedances. Under these conditions, the appropriate agencies will adhere to Section VI.C.2.a.iii of the Permit.

Additional details and supporting information for monitoring to address priorities can be found in **Attachment A**.

Table 2
Water Body Pollutant Prioritization

Category	Water Body	Pollutant	Compliance Deadline
1	SMB Beaches	Summer dry weather bacteria	7/15/2006 (Final: Single sample summer AEDs met)
	SMB Beaches	Wet weather bacteria	7/15/2009 (Interim: 10% single sample ED reduction)
			7/15/2013 (interim: 25% single sample ED reduction)
			7/15/2018 (Interim: 50% single sample ED reduction)
			7/15/2021 (Final: Single sample AED)
			7/15/2021 (Final: Geometric Mean [GM])
	SMB Beaches	Winter dry weather bacteria	7/15/2009 (Final: Single sample winter AEDs)[1]
	SMB Offshore/ Nearshore	Debris	3/20/2016 (20% load reduction)
			3/20/2017 (40% load reduction)
			3/20/2018 (60% load reduction)
			3/20/2019 (80% load reduction)
			3/20/2020 (100% load reduction)
	SMB	DDTs	[Compliance schedule to be developed through the EWMP][2]
	SMB	PCBs	[Compliance schedule to be developed through the EWMP][2]
2	Santa Monica Canyon Channel	Lead	NA
	Santa Monica Canyon Channel	Indicator bacteria	NA
3	None	None	None

[1] Compliance date per 2013 reopened TMDL, which is not yet effective (i.e., USEPA and Office of Administrative Law approval is pending).

[2] Although the TMDL lacks a formal compliance schedule for the WQBEL, the TMDL Executive Summary does state, "The time frame for attainment of the TMDL targets for the rest of Santa Monica Bay (other than the Palos Verdes shelf) is 11 years for DDT and 22 years for PCBs."

1.4 CIMP OVERVIEW

The CIMP is designed to provide the information necessary to guide management decisions in addition to providing a means to measure compliance with the Permit. The SMB EWMP Group's CIMP is composed of six elements:

1. Receiving Water Monitoring
2. Stormwater Outfall Monitoring
3. Non-Stormwater Outfall Monitoring
4. New Development and Redevelopment Effectiveness Tracking
5. Regional Studies
6. Special Studies

Each of the six CIMP elements is discussed below.

1.4.1 Receiving Water Monitoring

Receiving water monitoring is intended to assess whether water quality objectives are being achieved, to determine if beneficial uses are being supported, and to track trends in constituent concentrations over time. Three receiving water monitoring sites were selected. **Section 2** discusses SMB EWMP Group's receiving water monitoring program.

1.4.2 Stormwater Outfall Monitoring

Stormwater outfall monitoring assesses compliance with municipal action limits (MALs), WQBELs derived from TMDL WLAs, as well as the potential to have caused or contributed exceedances of RWLs derived from TMDL WLAs or receiving water quality objectives.

The majority of storm drains within the SMB EWMP Group generally drain towards Santa Monica Bay. Four stormwater outfall monitoring sites were selected. The four monitoring sites comprise about 45.7% of the drainages area of the SMB EWMP Group. The selected sites are representative of a combination of the HUC-12s, jurisdictions, and/or land uses within each drainage area that they have been chosen to represent. A synopsis of each potential outfall drainage area, along with an analysis of its land use/zoning characteristics is summarized in **Section 4**.

1.4.3 Non-Stormwater Outfall Program

The SMB EWMP Group has been addressing non-stormwater flow to Santa Monica Bay since the late 1990s and has installed 23 low flow diversions (LFDs) along the Santa Monica Bay shoreline within the J2/J3 EWMP geographical scope. To further fulfill the Permit requirements, the MRP requires Permittees to implement a non-stormwater outfall based screening and monitoring program. The Non-Stormwater Outfall Screening and Monitoring Program (Non-Stormwater Program) is focused on Non-Stormwater discharges to receiving waters from MS4 outfalls.

The Non-Stormwater Program will collect information necessary to identify significant Non-Stormwater discharges and conduct the screening process and prioritization prior to Non-Stormwater outfall monitoring. Additional details of the Non-Stormwater Program are presented in **Section 5**.

1.4.4 New Development and Redevelopment Effectiveness Tracking

The New Development/Re-Development Effectiveness Tracking is required to identify the information necessary for data management and annual compliance reporting. Each jurisdiction will be individually responsible for tracking Permit requirements, based on their specific operational procedures and internal processes. The SMB EWMP Group will maintain an informational database record for each new development/re-development project subject to the minimum control measure (MCM) and their adopted Low Impact Development (LID) Ordinance. In addition, to the SMB EWMP Group will implement a tracking system for new development/re-development projects that have been conditioned for post-construction BMPs. **Section 6** presents the new development and redevelopment effectiveness tracking system for the SMB EWMP Group.

1.4.5 Regional Studies

Only one regional study is identified in the MRP: Southern California Stormwater Monitoring Coalition (SMC), which is overseen by the Southern California Coastal Water Research Project (SCCWRP). The SMB EWMP Group is continuing to participate and support several SMC research studies, including the most recent SMC study, Bioassessment Monitoring Program. The SMB EWMP will continue to coordinate with SCCWRP and participate in regional studies. **Section 7** presents the regional studies approach for the SMB EWMP Group.

1.4.6 Special Studies

The MRP requires each Permittee to be responsible for conducting special studies required in an effective TMDL or an approved TMDL Monitoring Plan. Special studies options are further discussed in **Section 8**.

Section 2
Receiving Water Monitoring Program

Receiving water monitoring will be conducted in Santa Monica Bay and Santa Monica Canyon Channel.

As outlined in the MRP, receiving water monitoring is intended to assess whether water quality objectives are being achieved and beneficial uses are being supported, as well as to track trends in constituent concentrations over time. The requirements in the MRP for selecting receiving water monitoring sites include utilizing receiving water monitoring sites at previously designated Los Angeles County Department of Public Works (LACDPW) mass emission stations (MES), TMDL receiving water compliance points, and additional receiving water locations representative of the impacts from MS4 discharges. Through the evaluation of previously-utilized and existing receiving water monitoring sites, as summarized in **Attachment A**, no existing MES were located. Additionally, other existing receiving water monitoring sites located in relation to the SMB EWMP Group's jurisdictional area were not considered. These existing receiving water monitoring sites locations were acknowledged to be located in an area that will achieve monitoring objectives for the represented existing monitoring programs. However, these monitoring sites may not accurately assess the overall impact of the MS4 onto Santa Monica Bay due to the varying proximity of the monitoring sites to the MS4 outfalls. For other listed receiving water bodies within the SMB EWMP Group, there are no existing monitoring locations. New receiving water monitoring locations were selected and are summarized in the following sections.

2.1 RECEIVING WATER MONITORING OBJECTIVES

The objectives of the receiving water monitoring include the following (Part II.E.1 of the MRP):

- Determine whether the receiving water limitations are being achieved;
- Assess trends in pollutant concentrations over time, or during specified conditions; and
- Determine whether the designated beneficial uses are fully supported as determined by water chemistry, as well as aquatic toxicity and bioassessment monitoring.

2.2 RECEIVING WATER MONITORING SITES

The primary objective of receiving water monitoring is to assess trends in pollutant concentrations over time, or during specified conditions. For that reason, the primary characteristics of an ideal receiving water monitoring site is that it has a large dataset from previously-collected monitoring events so that trends in pollutant concentration over time, or during specified conditions, can be assessed.

As previously indicated, existing receiving water monitoring sites within the SMB EWMP Group were not considered. For other listed receiving water bodies within the SMB EWMP Group, there are no existing monitoring locations. Through these findings, new receiving water monitoring sites were chosen to assess whether water quality objectives are being achieved and beneficial uses are being supported, as well as to track trends in constituent concentrations over time.

Three receiving water monitoring sites were chosen, two within Santa Monica Bay (RW-SMB-1 and RW-SMB-3) and one within Santa Monica Canyon Channel (RW-SMB-2). **Figure 6** presents the approximate locations of the receiving water monitoring sites for SMB EWMP Group including TMDL monitoring sites. Fact sheet summary for each receiving water monitoring site is presented in **Attachment B**.

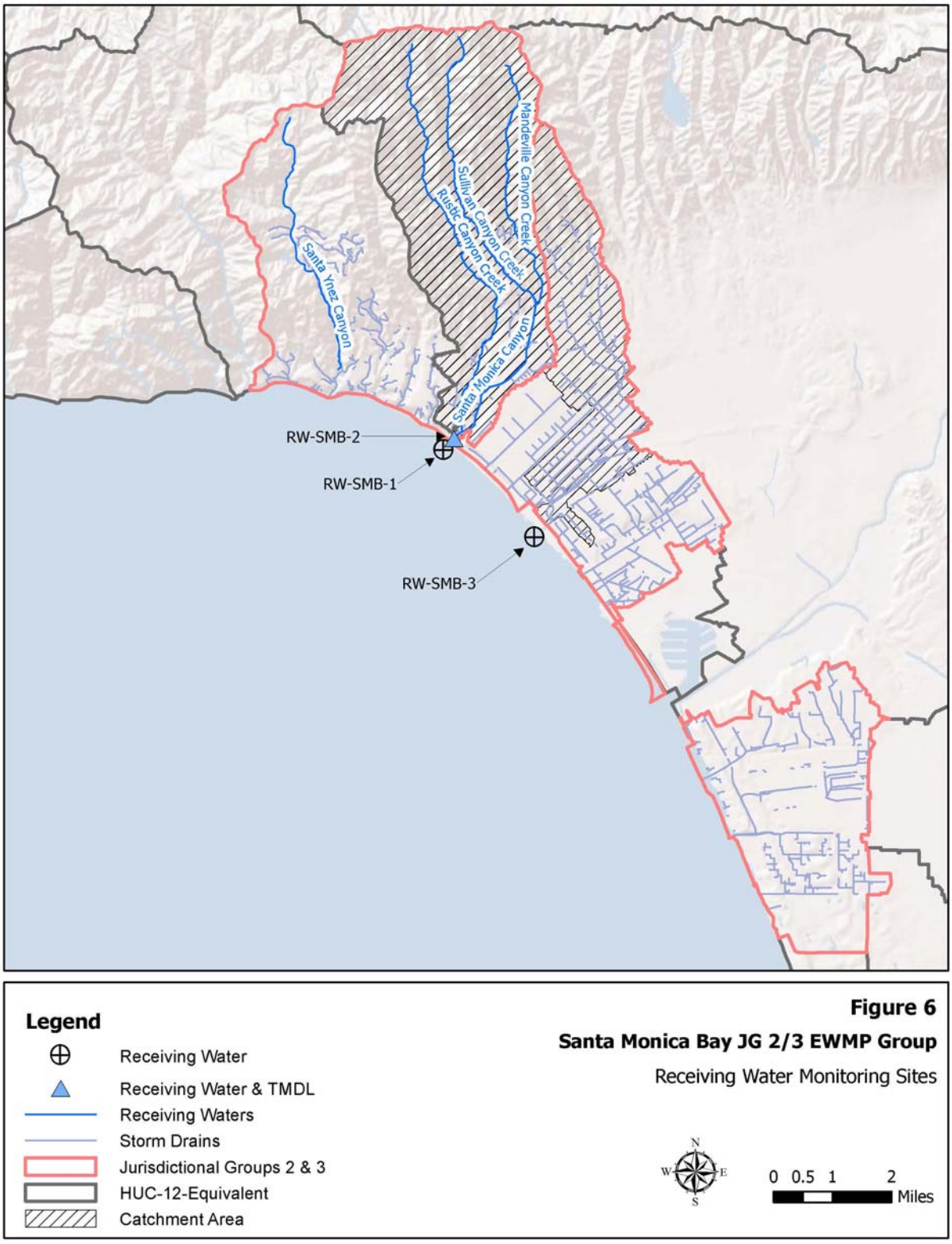

Figure 6
Receiving Water Monitoring Sites

2.2.1 Santa Monica Bay (RW-SMB-1)

Located within Santa Monica Bay, RW-SMB-1 will be monitored at the point of initial mixing and will be dependent on the intensity of a qualifying storm event. Samples will be collected within plumes, in the ocean, generated during a qualifying storm event, in the vicinity and across from Santa Monica Canyon Channel (SMBBB TMDL monitoring location SMB 2-7). Grab samples will be collected, via boat in accordance with the Los Angeles County ordinance, when it has been deemed safe for collection by the Captain of the boat.

Receiving water monitoring site RW-SMB-1 will represent the drainage characteristics of JG2. As the point of initial mixing will be a mixing of waters from Santa Monica Bay and Santa Monica Canyon Channel, the represented catchment area within SMB EWMP Group and the approximate location of RW-SMB-1 is presented in **Figure 7**. Catchment area from RW-SMB-1 represents approximately 40.36% of the total JG2 area.

The Cities of El Segundo, Los Angeles, and Santa Monica and the County of Los Angeles are all represented in the JG2 area. Drainage from the catchment area is primarily from the City of Los Angeles and a small portion from the City of Santa Monica. Primary land uses in the JG2 area and the catchment area of RW-SMB-1 are open space and single family residential. Given that the land uses of JG2 and the catchment area are comparable, monitoring at RW-SMB-1 will be representative in order assess the impact of JG2 MS4 to Santa Monica Bay. **Table 3** presents the land use composition of JG2 and the catchment area of RW-SMB-1.

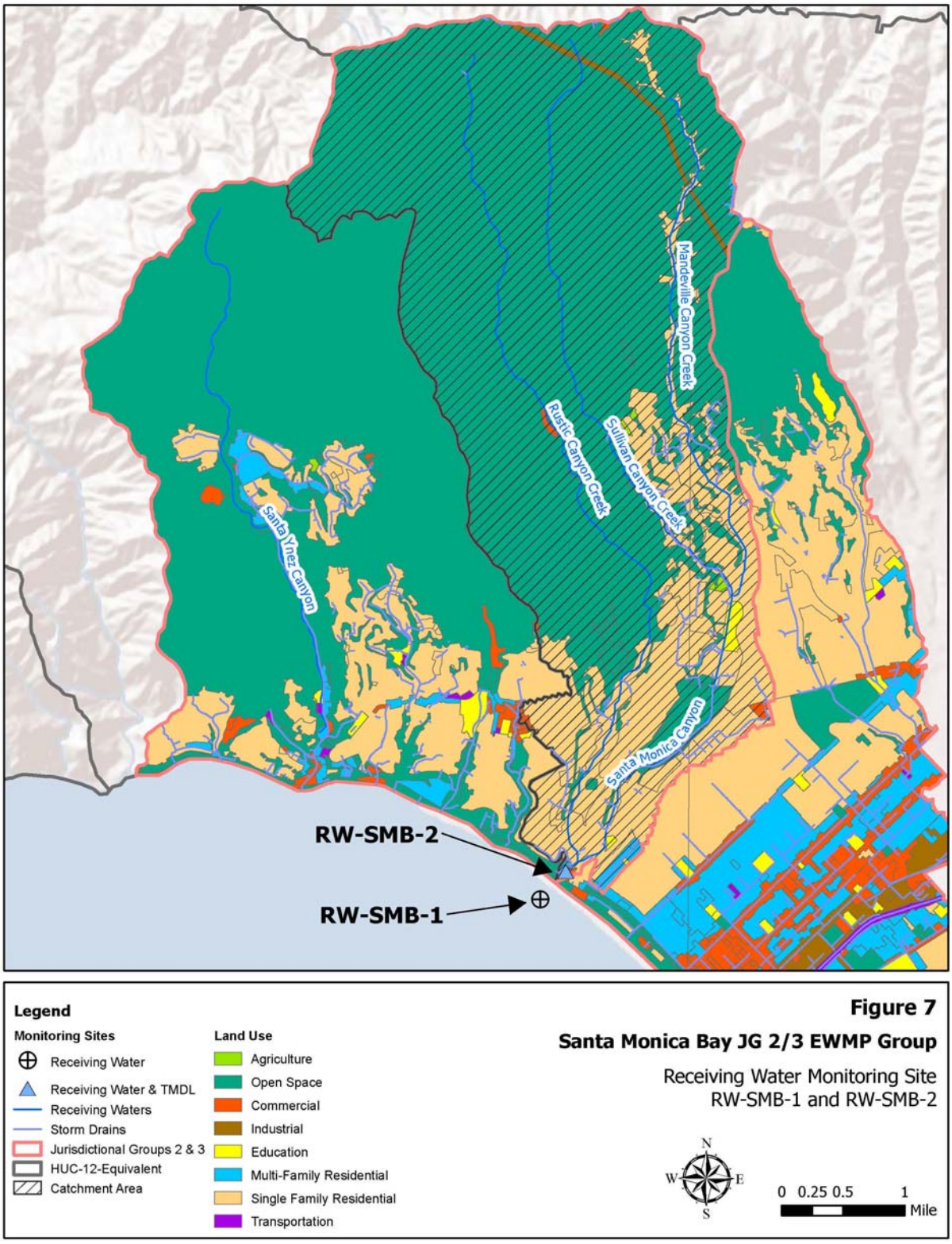

Figure 7
Receiving Water Monitoring Site RW-SMB-1 and RW-SMB-2

Table 3
RW-SMB-1 Receiving Water Monitoring Site Overview

	Catchment Area		JG2	
	Acres	% of Total	Acres	% of Total
Land Use				
Agricultural	12.82	0.13%	16.37	0.07%
Commercial	35.01	0.35%	529.39	2.12%
Industrial	60.92	0.61%	1,304.25	5.23%
Education	35.14	0.35%	294.1	1.18%
Single Family Residential	2,089.65	20.81%	5,160.31	20.71%
Multi-Family Residential	46.1	0.46%	597.68	2.40%
Open Space	7,764.02	77.30%	14,945.23	59.97%
Transportation	0%	0%	2,074.91	8.33%
Total	10,043.66	100%	24,922.24	100%
Jurisdictions				
City of Los Angeles	9,778	97.35%	22,087	88.62%
City of Santa Monica	266	2.65%	266	1.07%
City of El Segundo	0%	0%	2,180	8.75%
County of Los Angeles	0%	0%	389	1.56%

2.2.2 Santa Monica Canyon Channel (RW-SMB-2)

Monitoring site RW-SMB-2 will be used for receiving water monitoring in Santa Monica Canyon Channel. Santa Monica Canyon Channel is a receiving water body that flows into Santa Monica Bay. The outlet structure is a 40-feet by 12-feet channel. Monitoring site RW-SMB-2 will be located upstream of the LFD weir in Santa Monica Canyon Channel. RW-SMB-2 will be used to represent monitoring of runoff from Santa Monica Canyon Channel, Rustic Canyon, Mandeville Canyon, and Sullivan Canyon Creeks. Collection of samples will be done utilizing a fixed continuous autosampler. The catchment area of RW-SMB-2 will encompass 100% of the Santa Monica Canyon (180701040402) HUC-12 jurisdictional area of SMB EWMP Group.

Catchment areas for RW-SMB-1 and RW-SMB-2 are identical, but the representative samples will differ as RW-SMB-1 will characterize the mixing of Santa Monica Canyon Channel with Santa Monica Bay, and RW-SMB-2 will characterize the runoff from Santa Monica Canyon Channel and all upstream creeks.

As summarized in **Section 2.2.1**, the drainage from the catchment area is primarily from the City of Los Angeles and a small portion is from the City of Santa Monica. Primary land uses from the catchment area of RW-SMB-2, shown in Figure 7, are open space and single family residential. **Table 4** shows the land use composition within the RW-SMB-2 catchment area, HUC-12, and SMB EWMP Group area.

Table 4
RW-SMB-2 Receiving Water Monitoring Site Overview

	Catchment Area		HUC	
	Acres	% of Total	Acres	% of Total
Land Use				
Agriculture	12.82	0.13%	12.82	0.13%
Commercial	35.01	0.35%	35.01	0.35%
Industrial	60.92	0.61%	60.92	0.61%
Education	35.14	0.35%	35.14	0.35%
Single Family Residential	2,089.65	20.81%	2,089.65	20.81%
Multi-Family Residential	46.1	0.46%	46.1	0.46%
Open Space	7,764.02	77.30%	7,764.02	77.30%
Transportation	0	0%	0	0%
Total	10,043.66	100%	10,043.66	100%
Jurisdictions				
City of Los Angeles	9,778	97.35%	9,778	97.35%
City of Santa Monica	266	2.65%	266	2.65%
City of El Segundo	0	0%	0	0%
County of Los Angeles	0	0%	0	0%

2.2.3 Santa Monica Bay (RW-SMB-3)

Similar to RW-SMB-1, RW-SMB-3 will be located at the point of initial mixing and will be dependent on the intensity of a qualifying storm event. Samples will be collected within plumes generated during a qualifying storm event, in the vicinity and across from Pico Kenter storm drain (SMBBB TMDL monitoring location SMB 3-4). The samples will be collected via a boat and grab samples will be collected, when it has been deemed safe for collection by the Captain of the boat.

RW-SMB-3 will be monitored to represent the characteristic of the drainage from the JG3 area. The catchment area within SMB EWMP Group area and approximate location for receiving water monitoring site RW-SMB-3 are shown in **Figure 8**. RW-SMB-3 catchment area captures approximately 51.63% of JG3 and drains into Santa Monica Bay.

The represented agencies and discharge from the catchment area within the JG3 area are the Cities of Los Angeles and Santa Monica. Each of the eight land use categories, as shown on **Table 5**, is represented in the catchment area within SMB EWMP Group area and JG3. For both the catchment area and JG3, the primary land uses are single- and multi-family residential, open space, and commercial. Based on these similarities, RW-SMB-3 is an ideal receiving water monitoring site and is critical to the SMB EWMP Group for demonstrating compliance. Water quality data collected by the SMB EWMP Group will be valuable for assessing the impact of JG3's discharges on the receiving water.

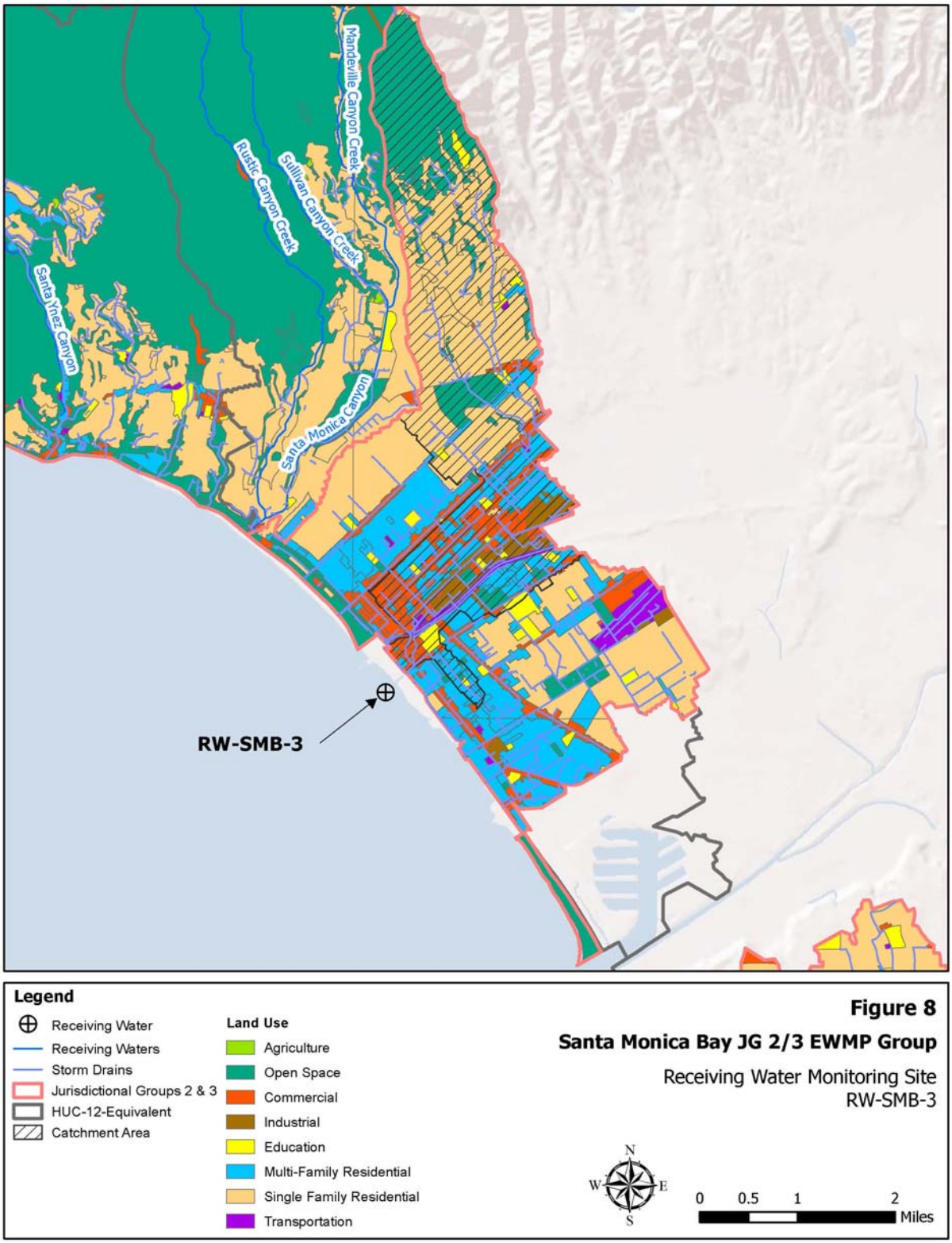

Figure 8
Receiving Water Monitoring Site RW-SMB-3

Table 5
RW-SMB-3 Receiving Water Monitoring Site Overview

	Catchment Area		JG3	
	Acres	% of Total	Acres	% of Total
Land Use				
Agricultural	0	0%	0	0%
Commercial	602.74	13.02%	1123.12	12.40%
Industrial	219.94	4.75%	262.64	2.90%
Education	137.38	2.97%	274.21	3.03%
Single Family Residential	1,786.79	38.60%	3,487.38	38.50%
Multi-Family Residential	696.42	15.04%	2,172.03	23.98%
Open Space	1,106.71	23.91%	1,490.23	16.45%
Transportation	79.02	1.71%	247.38	2.73%
Total	4,629	100%	9,056.99	100%
Jurisdictions				
City of Los Angeles	2,760	59.62%	4,242	47.33%
City of Santa Monica	1,869	40.38%	4,721	52.67%
City of El Segundo	0	0%	0	0%
County of Los Angeles	0	0%	0	0%

2.2.4 TMDL Monitoring Site

Receiving water TMDL monitoring sites within the SMB EWMP Group area are required only in Santa Monica Bay. **Attachment A** presents the TMDL monitoring requirements for the SMB EWMP Group, and TMDLs are as follows:

- Santa Monica Bay Beaches Bacteria TMDL (Wet and Dry), July 15, 2003 (SMBBB TMDL);
- Santa Monica Bay TMDL for Total Dichlorodiphenyltrichloroethane (DDTs) and Polychlorinated biphenyls (PCBs), March 26, 2012 (SMB DDT and PCB TMDL); and
- Santa Monica Bay Nearshore and Offshore Debris TMDL, March 20, 2012 (SMB Debris TMDL).

To satisfy the receiving water monitoring requirements for the SMBBB TMDL, 24 existing monitoring sites, presented in **Figure 9,** will continue to be monitored in accordance to the coordinated shoreline monitoring plan (CSMP).

SMB DDT and PCB TMDL receiving water monitoring requirements will be fulfilled at the receiving water monitoring site RW-SMB-2.

SMB Debris TMDL does not require receiving water monitoring, and the SMB EWMP Group is not required to conduct any type of monitoring if it is complying with the WLAs through the implementation of BMPs, such as full capture systems.

Permittees are to report compliance strategy through the development of a Trash Monitoring and Reporting Plan (TMRP) and Plastic Pellets Monitoring and Reporting Plan (PMRP), or demonstrate that a PMRP is not required, to be approved by the Regional Board. Once the TMRP and PMRP are approved and adopted, a progress report based on installation of structural BMPs, such as full capture or partial capture systems, institutional controls, or any BMPs, is to be reported in order to calculate the reduction in the amount of trash and plastic pellets, if applicable, being discharged into Santa Monica Bay.

Each of the jurisdictions within SMB EWMP Group will submit or have submitted a TMRP and PMRP. Each jurisdiction has conducted the following:

- **City of El Segundo**: In the process of developing the TMRP and PMRP. Submittal of these reports will be separate from the CIMP.
- **City of Los Angeles**: The *Trash TMDL Compliance Method: Structural Measures* was submitted in September 2011 and was adopted as the TMRP for the City of Los Angeles. A preliminary investigation of industries with standard industrial classification system (SIC) codes associated with manufacturing or use of plastic pellets within the City of Los Angeles was conducted, and it was found that no facilities were located within the City of Los Angeles for the SMB EWMP Group area. The City of Los Angeles is preparing to modify the emergency/spill response plan for hazardous material to include the actions required for a spill or release of plastic pellets within its jurisdictional area.
- **City of Santa Monica**: Both TMRP and PMRP were submitted on June 15, 2013 for review and approval. The City of Santa Monica has adopted the requisite bans on plastic bags, public smoking, and food container materials. The final compliance has been extended by three years.
- **County of Los Angeles**: A TMRP was submitted in September 2012. The PMRP was submitted on September 19, 2013 for all County of Los Angeles jurisdictions within Santa Monica Bay watershed management area (WMA). As stated in the PMRP, there is no plastic pellet usage by any County facility.
- **LACFCD**: A PMRP was submitted on September 19, 2013 for all LACFCD within the Santa Monica Bay WMA. A TMRP was not submitted as the LACFCD does not have any land jurisdiction that generates trash.

All submitted TMRP and PMRP for each jurisdiction will be implemented by the corresponding jurisdiction, once approved by the Regional Board. TMDL monitoring sites are presented in **Figure 9**. Additional TMDL requirements and existing TMDL monitoring programs are further detailed in **Attachment A**.

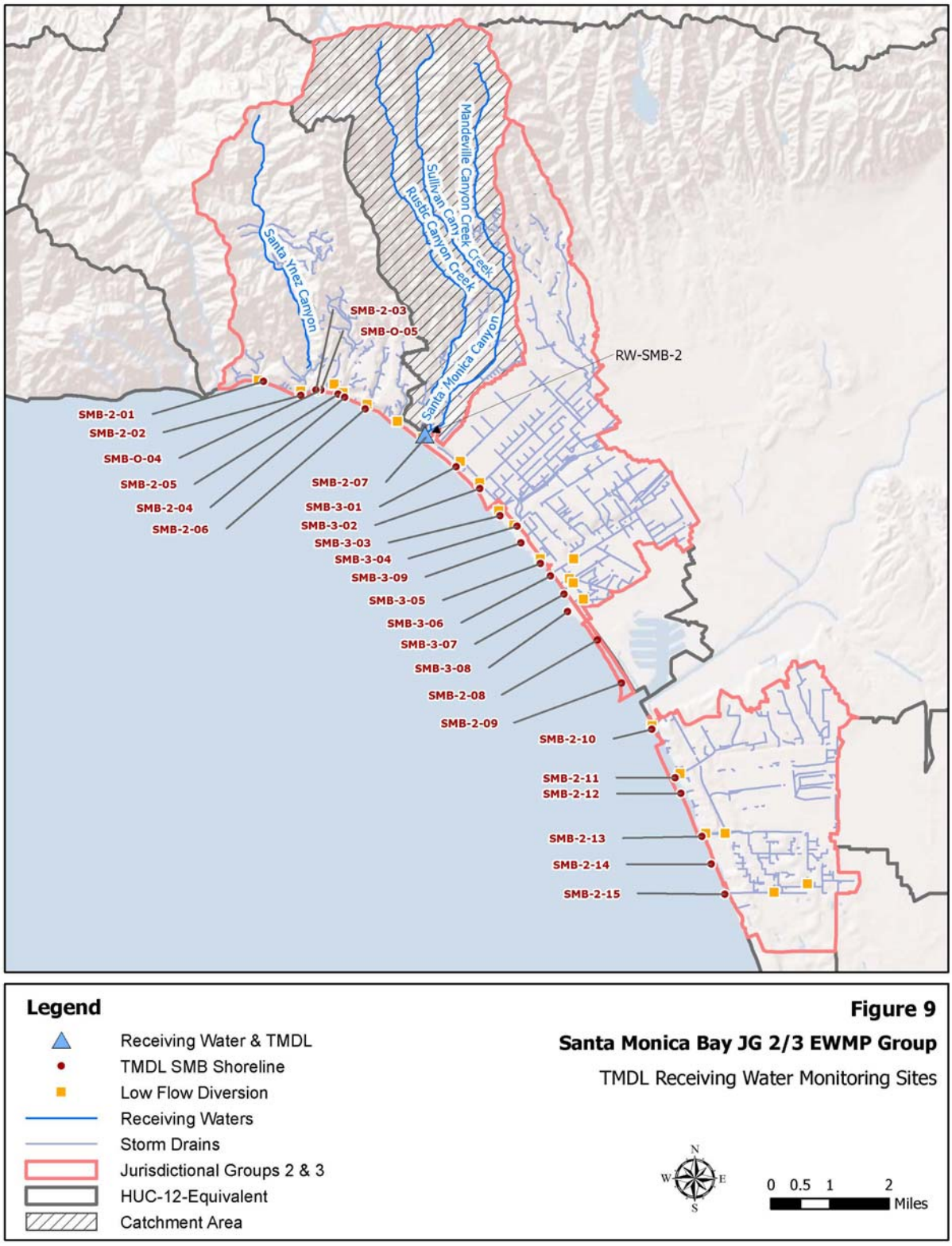

Figure 9
TMDL Receiving Water Monitoring Sites

2.3 MONITORED FREQUENCY, PARAMETERS, AND DURATION OF MONITORING

The MRP section of the MS4 Permit identifies specific requirements for fresh (Santa Monica Canyon Channel) and salt water (Santa Monica Bay). However, the CIMP will use consistent requirements for the fresh and salt water receiving sites. Wet- and dry-weather monitoring frequency, parameters, and duration will be addressed in the following sections. Parameters for monitoring were based on the water quality priorities, as discussed in **Section 1.2** and **Attachment A**. Additional analytical and monitoring procedures are discussed in **Attachment C**.

2.3.1 Wet-Weather

For all receiving water monitoring sites within SMB EWMP Group, wet-weather conditions will be defined as a storm event of greater than or equal to 0.1 inch of precipitation, as measured from at least 50 percent of the Los Angeles County controlled rain gauges within the watershed. Permittees shall target the first storm event of the storm year with a predicted rainfall of at least 0.25 inch at a seventy percent probability of rainfall at least 24 hours prior to the event start time. Wet-weather monitoring will be conducted three times a year for all parameters except for aquatic toxicity, which will be performed twice a year, per Part VI.C.1.a of the MRP. Wet-weather monitoring will target the first significant rain event of the storm year following the criteria outline in Part VI.C.b.iii of the MRP, and at least two additional wet-weather events within the same wet-weather season. Wet-weather receiving water monitoring will be performed in close coordination with stormwater outfall monitoring to be reflective of potential impacts from MS4 discharges. Parameters to be collected and sampling frequency to meet to the receiving water monitoring requirements of the MRP are summarized in **Table 6**. Wet-weather receiving water monitoring will be conducted for the duration of the MS4 permit.

Table 6
Receiving Water Monitoring Summary of Constituents to be Monitored and Annual Frequency (wet/dry)[1]

Constituents	Site ID		
	RW-SMB-1	RW-SMB-2	RW-SMB-3
Flow and field parameters[2]	3/0	3/1	3/0
Pollutants identified in Table E-2 of the MRP	1[3]/0	1[3]/1[3]	1[3]/0
Aquatic Toxicity and Toxicity Identification Evaluation (TIE)	2/0	2/1	2/0
Total Coliform[4]			
Fecal Coliform/(*E. coli*)[4]			
Enterococcus[4]			
Suspended Sediment: DDT[5], PCBs[6]		3/0[7]	
Lead		3/1	
E. coli (Indicator Bacteria)		3/1	

1. Annual frequency listed as number of wet-weather/dry-weather events per year, respectively (e.g., 3/2 signifies three wet weather and two dry weather events per year).
2. Field parameters are defined as DO, hardness, pH, temperature, and specific conductivity; ocean parameters will be DO, pH, temperature, and salinity
3. Monitoring frequency only applies during the first year of monitoring. For pollutants identified in Table E-2 of the MRP that are not detected at the Method Detection Limit (MDL) or the result is below the lowest applicable water quality objective, additional monitoring will not be conducted (i.e., the monitoring frequency will become 0/0). For pollutants detected above the lowest applicable water quality objective, future monitoring will be conducted at the frequency specified in the MRP (i.e., the monitoring frequency will become 3/2).
4. Will be monitored at the existing CSMP monitoring locations and CSMP sampling schedule.
5. DDT is defined as the sum of 2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT.
6. PCBs are defined as the sum of aroclors when analyzed in water and the sum of the 40 PCB congeners when analyzed in sediment or suspended solids.
7. Annually, utilizing High Resolution Mass Spectrometry (HRMS) from three storm events.

2.3.2 Dry-Weather

Part VI.D.1.a of the MRP states dry-weather receiving water monitoring shall be conducted two times per year. As detailed in **Attachment A, Section 2.1.1** and presented in **Table 7**, the SMB EWMP Group has installed 23 LFDs at all outfalls along the Santa Monica shoreline within the JG2 and 3 to address dry-weather flows. The LFDs are operational year round and divert dry-weather flows from the storm drains to the sanitary sewer system, keeping dry-weather flows from reaching Santa Monica Bay. Given that the LFDs divert all dry-weather flow from reaching Santa Monica Bay, the SMB EWMP Group will not conduct dry-weather receiving water monitoring for the Santa Monica Bay. All LFDs will be closely monitored and maintained to ensure that no dry-weather flow will reach Santa Monica Bay shoreline.

In Santa Monica Canyon Channel, receiving water monitoring site RW-SMB-2 is located upstream of the LFD, which diverts dry-weather flow, within Santa Monica Canyon Channel, from reaching Santa Monica Bay. Although dry-weather flow from Santa Monica Canyon Channel is captured by the LFD and diverted from entering Santa Monica Bay, dry-weather flow into Santa Monica Canyon Channel is not captured by any LFD, MCMs, or BMPs. Dry-weather monitoring for RW-SMB-2 will be conducted once per year for all parameters including aquatic toxicity, as dry-weather flow is diverted from reaching Santa Monica Bay. Parameters and sampling frequency are further detailed in **Table 6**. Dry-weather receiving water monitoring will be conducted for the duration of the MS4 permit.

Table 7
Santa Monica Bay Enhanced Watershed Management Program Group Low Flow Diversions

Name	Owner	Latitude	Longitude	Project Title
Bay Club Drive	City of Los Angeles	34.040784	-118.545169	Bay Club Drive Low Flow Diversion Project
Thronton Avenue	City of Los Angeles	33.993324	-118.475411	Thornton Avenue Low Flow Diversion Project
Palisades Park	City of Los Angeles	34.031694	-118.526400	Palisades Park Low Flow Diversion Project
Santa Monica	City of Los Angeles	34.027704	-118.518952	Santa Monica Low Flow Diversion Project
Venice Pavilion	City of Los Angeles	33.988239	-118.471236	Venice Pavilion Low Flow Diversion Project
Imperial Highways	City of Los Angeles	33.930915	-118.429173	Imperial Highway Low Flow Diversion Project
Temescal Canyon	City of Los Angeles	34.035875	-118.535386	Temescal Canyon Low Flow Diversion
Pulga Canyon	LACFCD	34.038724	-118.542464	Pulga Canyon Low Flow Diversion Project
Marques Avenue	City of Los Angeles	34.039604	-118.549626	Marquez Avenue Low Flow Diversion
Santa Ynez	LACFCD	34.039079	-118.555013	Santa Ynez Low Flow Diversion
Castlerock/Parker Canyon	LACFCD	34.041694	-118.567516	Castlerock/Parker Canyon Low Flow Diversion
Rose Avenue	LACFCD	33.998155	-118.474197	Rose Ave. Low Flow Diversion
Ashland Avenue	LACFCD	33.998087	-118.484046	Ashland Ave. Low Flow Diversion
Brooks Avenue	LACFCD	33.992216	-118.474245	Brooks Ave. Low Flow Diversion
Playa del Rey	LACFCD	33.957210	-118.450879	Playa del Rey Low Flow Diversion
North Westchester	LACFCD	33.945531	-118.442492	North Westchester Low Flow Diversion
Santa Monica	City of Santa Monica	34.009925	-118.496375	Santa Monica Pier (SMURRF) Low Flow Diversion
Wilshire Boulevard	City of Santa Monica	34.016712	-118.502077	Wilshire Blvd Low Flow Diversion
Montana Avenue	City of Santa Monica	34.021984	-118.507841	Montana Ave. Low Flow Diversion
Pico-Kenter (SMURFF)	City of Santa Monica	34.006439	-118.491889	Pico-Kenter (SMURRF)
Imperial Highway	LACFCD	33.930892	-118.434895	Imperial Highway Low Flow Diversion Project
Arena Pump Plant	LACFCD	33.916390	-118.414636	Arena Pump Plant
El Segundo Pump Plant	LACFCD	33.918549	-118.404877	El Segundo Pump Plant

2.3.3 SMB TMDLs

Bacteria TMDL – Shoreline Monitoring

The SMB EWMP Group's shoreline monitoring schedule currently has twenty (20) monitoring sites sampled on a weekly basis and four (4) sampled five (5) times per week in accordance with the bacteria TMDL CSMP which was approved by the Los Angeles Regional Board in April 2004 and implemented since November 2004. MRP section VI.B.2.c of the MS4 Permit requires all SMBBB TMDL shoreline monitoring sites to be monitored on a five (5) times per week schedule in place of the current SMBBB

TMDL sampling schedule. The SMB EWMP Group is proposing to keep the current sampling schedule. To justify keeping the current sampling schedule, an evaluation for each shoreline monitoring site within the SMB EWMP Group was conducted. Each shoreline monitoring site has one or more of the following characteristics:

- The site is subject to the anti-degradation criterion;
- The site is located at an open beach with no MS4 discharge; and/or
- An LFD, which diverts all dry-weather flow, is located upstream of the site.

Table 8 indicated which of the three characteristics listed above apply to each shoreline monitoring site, and includes additional location information for each site.

Table 8
Santa Monica Bay Beaches Bacterial TMDL Sampling Frequency

Site ID	JG	Type	LFD	Description	Sampling Frequency in Accordance with the 2004 CSMP
SMB-2-1	2	Point Zero	Yes	Castlerock (Parker Mesa)storm drain	Weekly
SMB-2-2	2	Point Zero	Yes	Santa Ynez storm drain	Weekly
SMB-2-3	2	Open Beach	No	Will Rogers State Beach, ¼ mile east of Gladstone's restaurant (DHS101)	Weekly
SMB-2-4	2	Point Zero	Yes	Pulga storm drain (S3)	Weekly
SMB-2-5	2	Point Zero	Yes	Bay Club Storm drain in front of the Bel Air Bay Club (DHS102)	Weekly
SMB-2-6	2	Point Zero	Yes	Temescal Canyon storm drain(DHS103)	Weekly
SMB-2-7	2	Point Zero	Yes	Santa Monica Canyon	Daily
SMB-2-8	2	Open Beach	No	Venice Beach, 50 yards south of the pier (DHS108)	Weekly
SMB-2-9	2	Open Beach	No	Venice Beach at Topsail Street(DHS109)	Weekly
SMB-2-10	2	Point Zero	Yes	Culver storm drain (S11)	Weekly
SMB-2-11	2	Point Zero	Yes	North Westchester storm drain	Weekly
SMB-2-12	2	Open Beach	No	Dockweiler Beach at WorldWay (DHS110)	Weekly
SMB-2-13	2	Point Zero	Yes	Imperial storm drain (S12)	Weekly
SMB-2-14	2	Open Beach	No	Dockweiler Beach opposite the Hyperion Treatment Plant (DHS111)	Weekly
SMB-2-15	2	Point Zero	Yes	Dockweiler Beach, at the wavewash of Grand Avenue stormdrain outlet (DHS112)	Weekly
SMB-3-1	3	Point Zero	Yes	Montana storm drain (DHS104)	Weekly
SMB-3-2	3	Point Zero	Yes	Wilshire storm drain (DHS105)	Weekly
SMB-3-3	3	Point Zero	Yes	Santa Monica Pier storm drain(S5)	Daily
SMB-3-4	3	Point Zero	Yes	Pico-Kenter storm drain (S6)	Daily
SMB-3-5	3	Point Zero	Yes	Ashland storm drain (S7)	Daily
SMB-3-6	3	Point Zero	Yes	Rose storm drain	Weekly
SMB-3-7	3	Point Zero	Yes	Brooks storm drain (DHS107)	Weekly
SMB-3-8*	3	Point Zero	Yes	Windward storm drain (S8)	Weekly
SMB-3-9	3	Open Beach	No	Santa Monica Beach at Strand Street (DHS106)	Weekly

* Beach monitoring locations subject to the anti-degradation implementation provision in the TMDL.

In the event an exceedance has occurred at a SMBBB TMDL monitoring site, procedures following Elevated Bacteria Levels (Exceedances), per the CSMP, will be executed. SMB EWMP Group will conduct accelerated testing 48 hours after the initial bacteria exceedances, and if necessary, SMB EWMP Group will conduct accelerated testing 96 hours for those sites still exceeding bacterial indicators after 48 hours. The purpose of the increased monitoring is to identify the persistence of an exceedance, especially during dry-weather when source identification will be a priority. This accelerated monitoring may not be as critical during wet-weather at every location when the source of the exceedance is known to be storm water runoff.

Toxic TMDL – Storm Sediment Monitoring

Receiving water monitoring site RW-SMB-2 has been selected as the monitoring site for the SMB Toxics TMDL, as mentioned in **Section 2.2.2** and **4.2.2**. It is proposed that three wet-weather sampling events be conducted to evaluate the annual WLA of DDT and PCB for SMB EWMP Group based on the three (3) year average loading.

A summary of constituents and monitoring frequency for each of the receiving water monitoring sites is presented in **Table 6**.

2.4 RECEIVING WATER MONITORING SUMMARY

Three receiving water monitoring sites, which include monitoring for SMB Toxics, and 24 existing SMBBB TMDL sites have been selected to meet the MRP objects for receiving water monitoring. **Table 9** provides a summary of receiving water monitoring sites. Approximate locations of the monitoring sites are presented in **Figure 6** through **Figure 9**. A summary of constituents and monitoring frequency for each of the receiving water monitoring sites is presented in **Table 6**.

Attachment B provides summary sheets for each receiving water monitoring site, which include photos and additional information. Sampling and analytical methods for receiving water monitoring is provided in **Attachment C**.

Table 9
Summary of Receiving Water Monitoring Sites

Site ID	Water Body/Location	JG	LFD	Coordinates		Monitoring Type	
				Latitude	Longitude	RW	TMDL
New Monitoring Sites							
RW-SMB-1	SMB/ Santa Monica Canyon (SMC) Channel (In Ocean outward transect)	2	Yes	34.02519	-118.52362	X	
RW-SMB-2	Santa Monica Canyon (SMC) Channel/ Upstream of Low Flow Diversion (LFD)	2	Yes	34.02879	-118.51784	X	X(1)
RW-SMB-3	SMB/ Pico-Kenter (In Ocean outward transect)	3	Yes	34.00326	-118.49643	X	
Existing Monitoring Sites							
SMB-2-1	Santa Monica Bay/Shoreline	2	Yes	34.04135	-118.56600		X(2)
SMB-2-2	Santa Monica Bay/Shoreline	2	Yes	34.03801	-118.55500		X(2)
SMB-2-3	Santa Monica Bay/Shoreline	2	No	34.03934	-118.55052		X(2)
SMB-2-4	Santa Monica Bay/Shoreline	2	Yes	34.03757	-118.54200		X(2)
SMB-2-5	Santa Monica Bay/Shoreline	2	Yes	34.03837	-118.54400		X(2)
SMB-2-6	Santa Monica Bay/Shoreline	2	Yes	34.03473	-118.53600		X(2)
SMB-2-7	Santa Monica Bay/Shoreline	2	Yes	34.02784	-118.51800		X(2)
SMB-2-8	Santa Monica Bay/Shoreline	2	No	33.97826	-118.46714		X(2)
SMB-2-9	Santa Monica Bay/Shoreline	2	No	33.96768	-118.45994		X(2)
SMB-2-10	Santa Monica Bay/Shoreline	2	Yes	33.95641	-118.45100		X(2)
SMB-2-11	Santa Monica Bay/Shoreline	2	Yes	33.94447	-118.44400		X(2)
SMB-2-12	Santa Monica Bay/Shoreline	2	No	33.94064	-118.44226		X(2)
SMB-2-13	Santa Monica Bay/Shoreline	2	Yes	33.93005	-118.43600		X(2)
SMB-2-14	Santa Monica Bay/Shoreline	2	No	33.92331	-118.43326		X(2)
SMB-2-15	Santa Monica Bay/Shoreline	2	Yes	33.91592	-118.42926		X(2)
SMB-3-1	Santa Monica Bay/Shoreline	3	Yes	34.02061	-118.50900		X(2)
SMB-3-2	Santa Monica Bay/Shoreline	3	Yes	34.01535	-118.50200		X(2)
SMB-3-3	Santa Monica Bay/Shoreline	3	Yes	34.0087	-118.49600		X(2)
SMB-3-4	Santa Monica Bay/Shoreline	3	Yes	34.00615	-118.49100		X(2)
SMB-3-5	Santa Monica Bay/Shoreline	3	Yes	33.99702	-118.48400		X(2)
SMB-3-6	Santa Monica Bay/Shoreline	3	Yes	33.99398	-118.48100		X(2)
SMB-3-7	Santa Monica Bay/Shoreline	3	Yes	33.98946	-118.47700		X(2)
SMB-3-8	Santa Monica Bay/Shoreline	3	Yes	33.9852	-118.47600		X(2)
SMB-3-9	Santa Monica Bay/Shoreline	3	No	34.00199	-118.48979		X(2)

1. SMB Total DDT and PCB TMDL
2. SMBBB TMDL

Section 3
MS4 Infrastructure Database

To meet the requirements of Part VII of the MRP, a map(s) and/or database of the MS4 storm drains, channels, and outfalls must be submitted with the CIMP and include the following information (Part VII.A of the MRP):

1. Surface water bodies within the Permittee(s) jurisdiction
2. Sub-watershed (HUC-12) boundaries
3. Land use overlay
4. Effective Impervious Area (EIA) overlay (if available)
5. Jurisdictional boundaries
6. The location and length of all open channel and underground pipes 18 inches in diameter or greater (with the exception of catch basin connector pipes)
7. The location of all dry-weather diversions
8. The location of all major MS4 outfalls within the Permittee's jurisdictional boundary. Each major outfall shall be assigned an alphanumeric identifier, which must be noted on the map
9. Notation of outfalls with significant non-stormwater discharges (to be updated annually)
10. Storm drain outfall catchment areas for each major outfall within the Permittee(s) jurisdiction
11. Each mapped MS4 outfall shall be linked to a database containing descriptive and monitoring data associated with the outfall. The data shall include:

    a. Ownership
    b. Coordinates
    c. Physical description
    d. Photographs of the outfall, where possible, to provide baseline information to track operation and maintenance needs over time
    e. Determination of whether the outfall conveys significant non-stormwater discharges
    f. Stormwater and non-stormwater monitoring data

Attachment A of the MS4 Permit defines a major MS4 outfall (or ''major outfall'') as a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive stormwater from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more) (40 CFR § 122.26(b)(5)).

Available Geographic Information System (GIS) data were reviewed to determine whether components 1 through 11.f from the list specified in the MRP were available for submittal. Based on the review of the GIS data, components 1 through 11.f from the list specified in the MRP were divided into available information or pending information and the associated schedule for completion, **Section 3.2** and **3.3**, respectively.

3.1 PROGRAM OBJECTIVES

Each year, a storm drain, channel, outfall map as well as an associated database for the SMB EWMP Group are required to be updated to incorporate the most recent characterization data for outfalls with significant non-stormwater discharge.

3.2 AVAILABLE INFORMATION

The SMB EWMP Group reviewed Part VII.A of the MRP and gathered the available information for the group. The following data are readily available for submittal as a map and/or in a database (Note: the numbering below corresponds to the item number in the Permit list):

1. **Surface water bodies within the Permittee(s) jurisdiction**
   Two surface water body layers were obtained from the City of Los Angeles and clipped to the JG2/JG3 boundaries. These layers include a *Streams* layer and an *Impaired Rivers* layer in the geodatabase.

2. **Sub-watershed (HUC-12) boundaries**
   HUC-12 boundaries were obtained from the National Resources Conservation Service and are included as a layer named *HUC12bndys* in the geodatabase.

3. **Land use overlay**
   The Southern California Association of Governments 2008 Existing Land Use Database has been clipped to the JG2/JG3 boundaries to create a layer named *LU_2008SCAG* in the geodatabase.

4. **Effective Impervious Area (EIA) overlay**
   The Hydrologic Response Unit (HRU) Impervious Area Shapefile was obtained from the LACDPW and has been clipped to the JG2/JG3 boundaries to create a layer named *Effective Impervious Area* in the geodatabase.

5. **Jurisdictional boundaries**
   The *J237Watersheds* layer in the geodatabase identifies the boundaries of Jurisdiction 2 and Jurisdiction 3 of the SMB EWMP Group.

6. **The location and length of all open channel and underground pipes 18 inches in diameter or greater (with the exception of catch basin connector pipes)**
   Three layers obtained from the LACFCD identify the locations of all open channel and underground pipes 18 inches in diameter or greater. These layers have been clipped to the JG2/JG3 boundaries and have been named *ForceMainGT18in*, *GravityMainGT18in*, and *OpenChannelGT18in* in the geodatabase.

7. **The location of all dry-weather diversions**
   The location of dry-weather Low Flow Diversions are mapped on the *Low Flow Diversion Points* layer that was obtained from the City of Los Angeles and clipped to the JG2/JG3 boundaries.

8. **The location of all major MS4 outfalls within the Permittee's jurisdictional boundary**
   MS4 outfalls are inventoried on the *MS4Outfalls* layer that was obtained from LACDPW and clipped to the JG2/JG3 boundaries.

11. Storm drain outfall catchment areas for each major outfall within the Permittee(s) jurisdiction

The *Subwatershed* layer of the geodatabase was obtained from the Los Angeles County Hydraulic Water Conservation & Environmental Programs Division and clipped to the JG2/JG3 boundaries. The *MS4 Outfalls* layer contains a column that indicates the subwatershed the outfall is located in. Detailed analyses of storm drain catchment areas will be conducted as needed at outfall monitoring locations, locations that may have significant NSW discharges, and outfalls that will host structural BMPs.

12. Each mapped MS4 outfall shall be linked to a database containing descriptive and monitoring data associated with the outfall. The data shall include:

b. Coordinates

c. Physical description

The attribute tables for the *MS4Outfalls* layer include the coordinates and a physical description of each major MS4 outfall in the geodatabase.

Figure 2 through **5** and **10** presents the available database information, listed above, for the SMB EWMP Group.

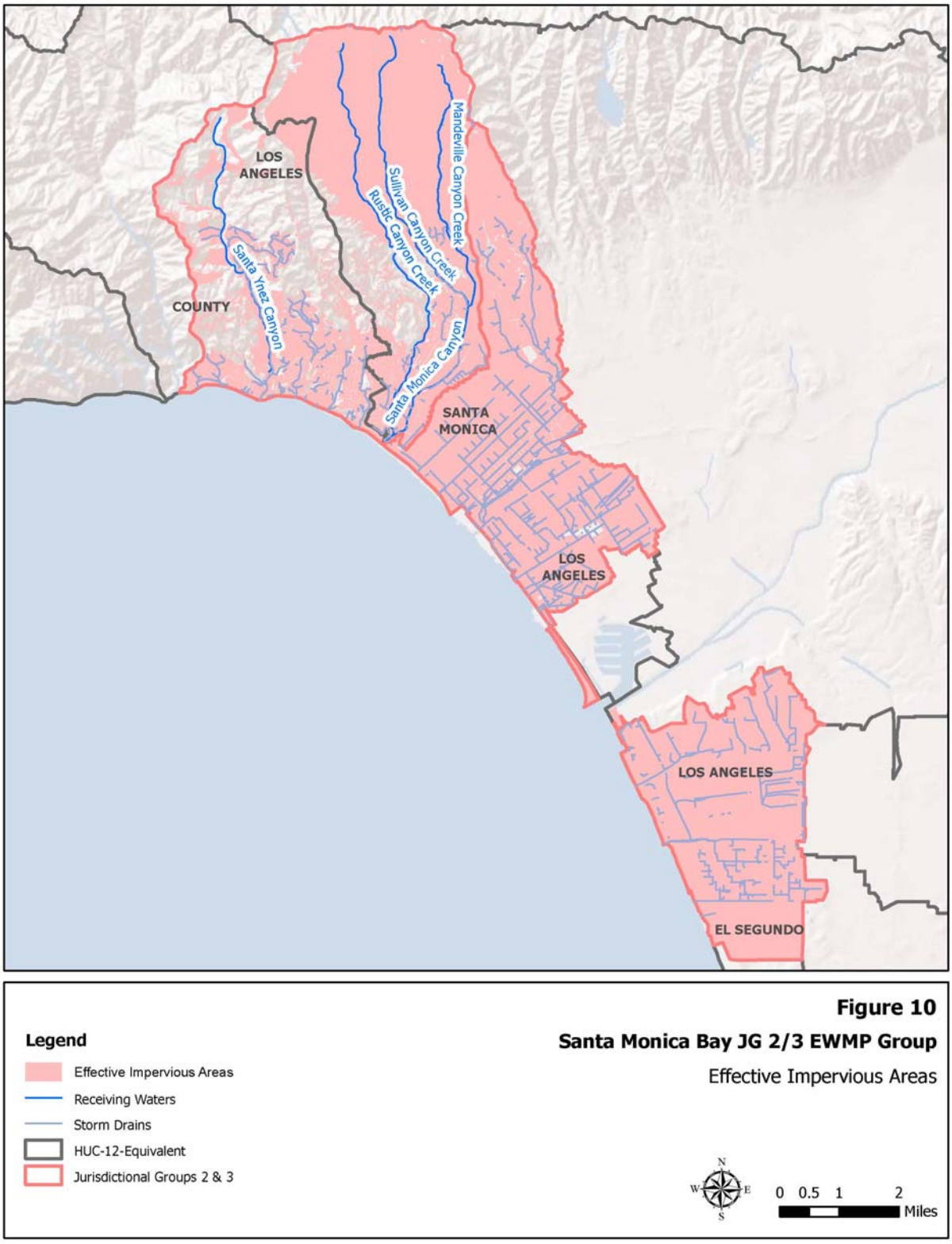

Figure 10
Effective Impervious Areas

3.3 PENDING INFORMATION AND SCHEDULE FOR COMPLETION

From the review, the following data are not currently available for submittal with the CIMP:

9. **Notation of outfalls with significant non-stormwater discharges (to be updated annually)**

11. **Each mapped MS4 outfall shall be linked to a database containing descriptive and monitoring data associated with the outfall. The data shall include:**
    a. **Ownership**
    d. **Photographs of the outfall, where possible, to provide baseline information to track operation and maintenance needs over time**
    e. **Determination of whether the outfall conveys significant non-stormwater discharges**
    f. **Stormwater and non-stormwater monitoring data**

The Los Angeles County Storm Drain System geometric network model has the goal of integrating countywide drainage infrastructure, regardless of ownership or jurisdiction. Therefore, ownership data has not been indicated in the *MS4Outfalls* layer. Photographs, and stormwater and non-stormwater monitoring data information have been collected and will be added as needed during the MS4 outfall screening process. Based on preliminary investigations, outfalls with significant non-stormwater discharges were not found. As further investigations are conducted and additional data is collected, updates to the maps and/or database will be conducted over time. Updates to the maps and/or database will be submitted through the Annual Report. Completion of the pending data will be collected through the implementation of the Non-Stormwater Outfall Screening and Monitoring Program, summarized in **Section 5**.

Section 4
Stormwater Outfall Monitoring

Stormwater outfall monitoring assesses compliance with municipal action limits (MALs), WQBELs derived from TMDL WLAs, as well as the potential to cause or contribute exceedances of RWLs derived from TMDL WLAs or receiving water quality objectives. The majority of SMB EWMP Group storm drains generally drain towards Santa Monica Bay through multiple jurisdictions. An analysis of land use per HUC-12, drainage area and SMB EWMP Group area was conducted for each monitoring site.

4.1 STORMWATER OUTFALL MONITORING OBJECTIVES

As outlined in the Part VIII.A of the MRP, stormwater discharges from the MS4 shall be monitored at outfalls and/or alternative access points such as manholes, or in channels representative of the land uses within the Permittee's jurisdiction to support meeting the three objectives of the stormwater outfall based monitoring program:

1. Determine the quality of a Permittee's discharge relative to MALs;
2. Determine whether a Permittee's discharge is in compliance with applicable stormwater WQBELs derived from TMDL WLAs; and
3. Determine whether a Permittee's discharge causes or contributes to an exceedance of receiving water limitations.

Each stormwater outfall monitoring site was evaluated and assessed on how representative it is of the surrounding land use of the SMB EWMP Group area, jurisdictions, and the HUC-12. Each zoning category provided by the RAA guidance manual was fit into one of the following eight land use categories:

- Agricultural
- Industrial
- Single Family Residential
- Open Space
- Commercial
- Education
- Multi-Family Residential
- Transportation

4.2 STORMWATER OUTFALL MONITORING SITES

Four stormwater outfall monitoring sites, as shown in **Figure 11**, were selected (designated as OF-SMB-01 to -04). The selected sites are representative of a combination of the HUC-12s, jurisdictions, and/or land uses within each catchment area, which they have been chosen to represent. A synopsis of each potential outfall catchment area, along with an analysis of its land use/zoning characteristics is summarized in the following sections.

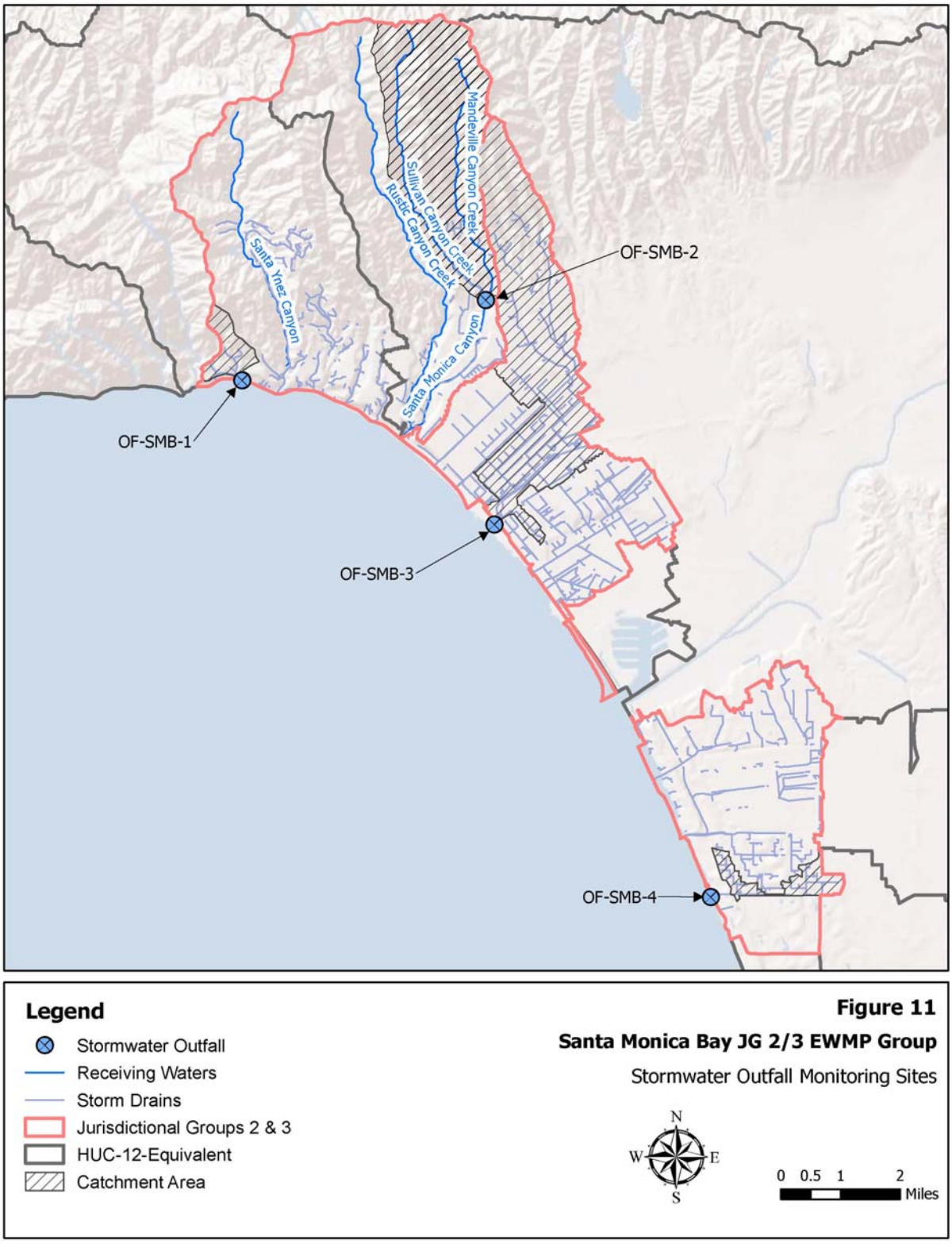

Figure 11
Stormwater Outfall Monitoring Sites

4.2.1 OF-SMB-1

OF-SMB-1 is located upstream of SMBBB TMDL monitoring location SMB 2-1, as shown on **Figure 12**. This stormwater outfall monitoring site is the Castlerock (Parker Mesa) storm drain, which discharges into Santa Monica Bay. The outfall is a 5-feet by 8-feet reinforced concrete box structure. OF-SMB-1 currently has a LFD upgradient of the discharge point, which diverts all dry weather flows. The outfall is located near the intersection of Coastline Drive and Pacific Coast Highway. Samples will be collected via a fixed autosampler installed at the outfall location, preferably at the discharge point, where it has been evaluated to be safe.

Stormwater outfall monitoring site OF-SMB-1 was selected to represent of the Santa Monica Beach – Frontal Santa Monica Bay (180701040403) HUC-12 JG2 area. The City of Los Angeles and a small portion from the County of Los Angeles are the represented agencies in the Santa Monica Beach – Frontal Santa Monica Bay (180701040403) HUC-12 JG2 area. The catchment area from OF-SMB-1 encompasses approximately 4.55% of the Santa Monica Beach – Frontal Santa Monica Bay (180701040403) HUC-12 JG2 area.

Runoff from OF-SMB-1 is primarily from the County of Los Angeles and the City of Los Angeles, 57.75% and 42.25%, respectively. As shown on **Table 10**, the represented land uses for the OF-SMB-1 catchment area, HUC-12, and the SMB EWMP Group area are open space and single family residential. Accordingly, OF-SMB-1 is an ideal outfall monitoring site to assess MS4 discharge for open space and single family residential land uses, and the County of Los Angeles.

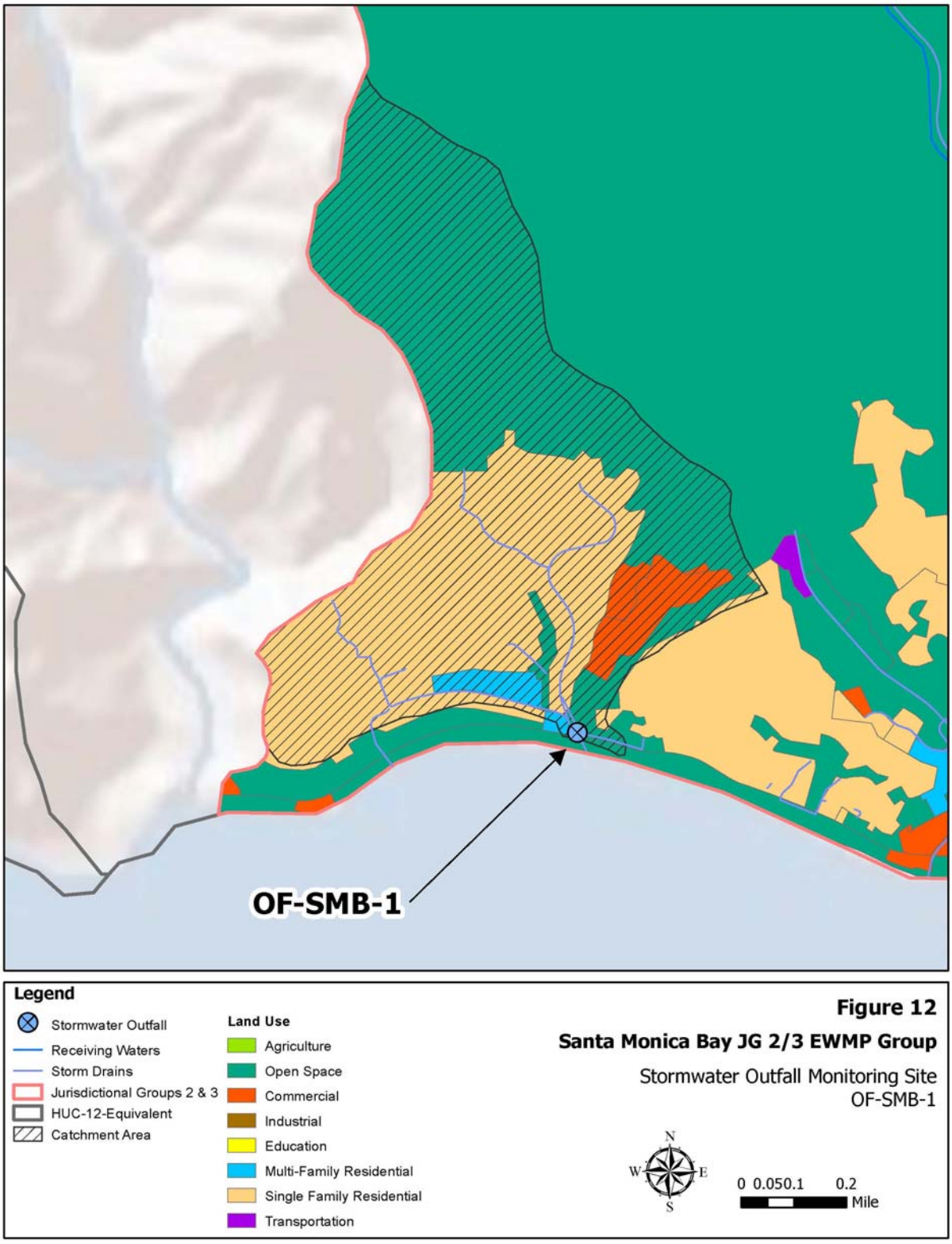

Figure 12
Stormwater Outfall Monitoring Site OF-SMB-1

Table 10
Stormwater Outfall Monitoring Site OF-SMB-1 Tributary Area
(Castlerock – Parker Mesa Storm Drain)

	Catchment Area	HUC	SWB EWMP Area
	% of Total	% of Total	% of Total
Land Use			
Agricultural	0%	0.04%	0.05%
Commercial	4.67%	1.49%	4.86%
Industrial	0%	0%	4.61%
Education	0%	0.82%	1.67%
Single Family Residential	42.63%	20.36%	25.45%
Multi-Family Residential	1.82%	2.37%	8.15%
Open Space	50.88%	74.67%	48.37%
Transportation	0%	0.25%	6.83%
Total	100%	100%	100%
Jurisdictions			
City of Los Angeles	42.25%	95.26%	77.70%
City of Santa Monica	0%	0%	14.72%
City of El Segundo	0%	0%	6.43%
County of Los Angeles	57.75%	4.74%	1.15%

4.2.2 OF-SMB-2

Stormwater outfall monitoring site OF-SMB-2 receives runoff from the Sullivan Canyon storm drain and Mandeville Canyon storm drain, as shown in **Figure 13**, which discharges into Santa Monica Canyon Channel. Sullivan Canyon storm drain is a 108 inch by 192 inch reinforced concrete box located near the North Old Ranch Road, and Mandeville Canyon storm drain is a 144 inch by 192 inch reinforced concrete box located near Mandeville Canyon Road. Samples will be collected via a fixed autosampler installed at the confluence point, preferably where the discharge points meet and where it has been evaluated to be safe.

OF-SMB-2 was selected to represent the Santa Monica Canyon (180701040402) HUC-12 area. The City of Los Angeles and a small portion of the City of Santa Monica are the represented agencies within the Santa Monica Canyon (180701040402) HUC-12 area. The catchment area from OF-SMB-2 encompasses approximately 41.42% of the Santa Monica Canyon (180701040402) HUC-12 area.

Runoff from OF-SMB-2 is entirely from the City of Los Angeles. **Table 11** compares the land use composition within the OF-SMB-2 catchment area, HUC-12, and SMB EWMP Group area. As shown on **Table 11**, the represented land uses of the OF-SMB-2 catchment area are open space and single family residential land use, and will characterize the upstream portion of Santa Monica Canyon Channel. Based on this comparison, OF-SMB-2 would be an ideal outfall monitoring site to represent the water quality assessment for open space and single family residential land use.

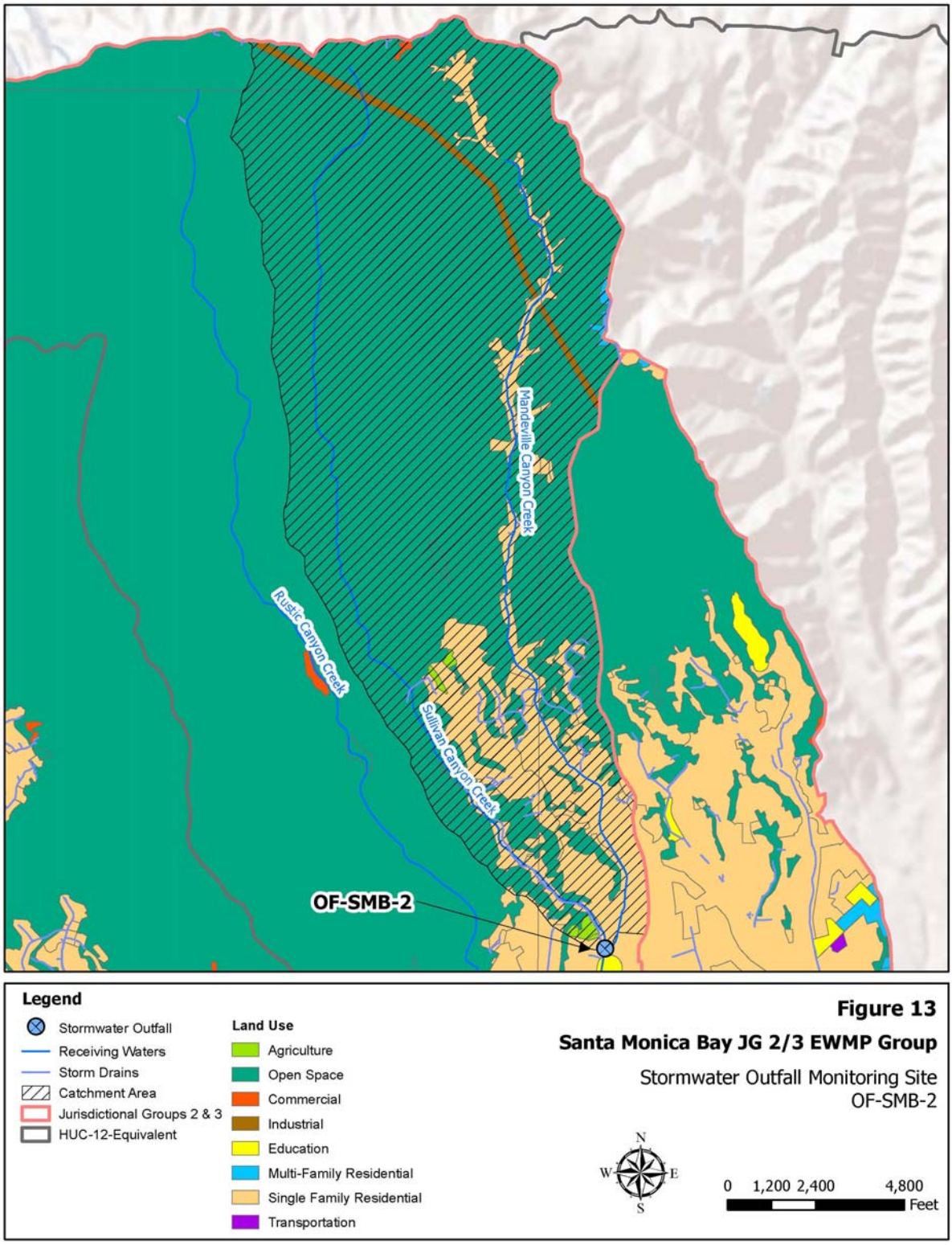

Figure 13
Stormwater Outfall Monitoring Site OF-SMB-2

Table 11
Stormwater Outfall Monitoring Site OF-SMB-2 Tributary Area
(Sullivan Canyon and Mandeville Canyon Storm Drains)

	Catchment Area	HUC	SMB EWMP Area
	% of Total	% of Total	% of Total
Land Use			
Agricultural	0.31%	0.13%	0.05%
Commercial	0.07%	0.35%	4.86%
Industrial	1.46%	0.61%	4.61%
Education	0%	0.35%	1.67%
Single Family Residential	15.40%	20.81%	25.45%
Multi-Family Residential	0.21%	0.46%	8.15%
Open Space	82.55%	77.30%	48.37%
Transportation	0%	0%	6.83%
Total	100%	100%	100%
Jurisdictions			
City of Los Angeles	100%	97.35%	77.70%
City of Santa Monica	0%	2.65%	14.72%
City of El Segundo	0%	0%	6.43%
County of Los Angeles	0%	0%	1.15%

4.2.3 OF-SMB-3

Stormwater outfall monitoring site OF-SMB-3 is the Pico-Kenter storm drain located upstream of SMBBB TMDL monitoring location SMB3-4, as shown in **Figure 14**. The Pico-Kenter storm drain is generally blocked by sand from June to the first large storm event in winter. All flow during dry-weather is diverted to the Santa Monica Urban Runoff Recycling Facility (SMURRF). The outfall is located south of the Santa Monica Pier and can be found right at the end of Pico Boulevard. Samples will be collected via a fixed autosampler installed at the outfall location, preferably at the discharge point, where it has been evaluated to be safe.

OF-SMB-3 was selected to represent the Santa Monica Beach – Frontal Santa Monica Bay (180701040403) HUC-12 JG3 area. The Cities of Los Angeles and Santa Monica are the represented agencies in the Santa Monica Beach – Frontal Santa Monica Bay (180701040403) HUC-12 JG3 area. The catchment area of OF-SMB-3 will encompass approximately 51.11% of the Santa Monica Beach – Frontal Santa Monica Bay (180701040403) HUC-12 JG3 area.

Runoff from OF-SMB-3 is primarily from the City of Santa Monica and the City of Los Angeles, 40.38% and 59.62% respectively. As shown on **Table 12**, the represented land uses of OF-SMB-3 are commercial, mixed residential, and open space. Stormwater outfall monitoring site OF-SMB-3 was selected to represent the MS4 discharge characteristics of the City of Santa Monica and commercial, mixed residential and open space land uses. Accordingly, OF-SMB-3 is an ideal outfall monitoring site.

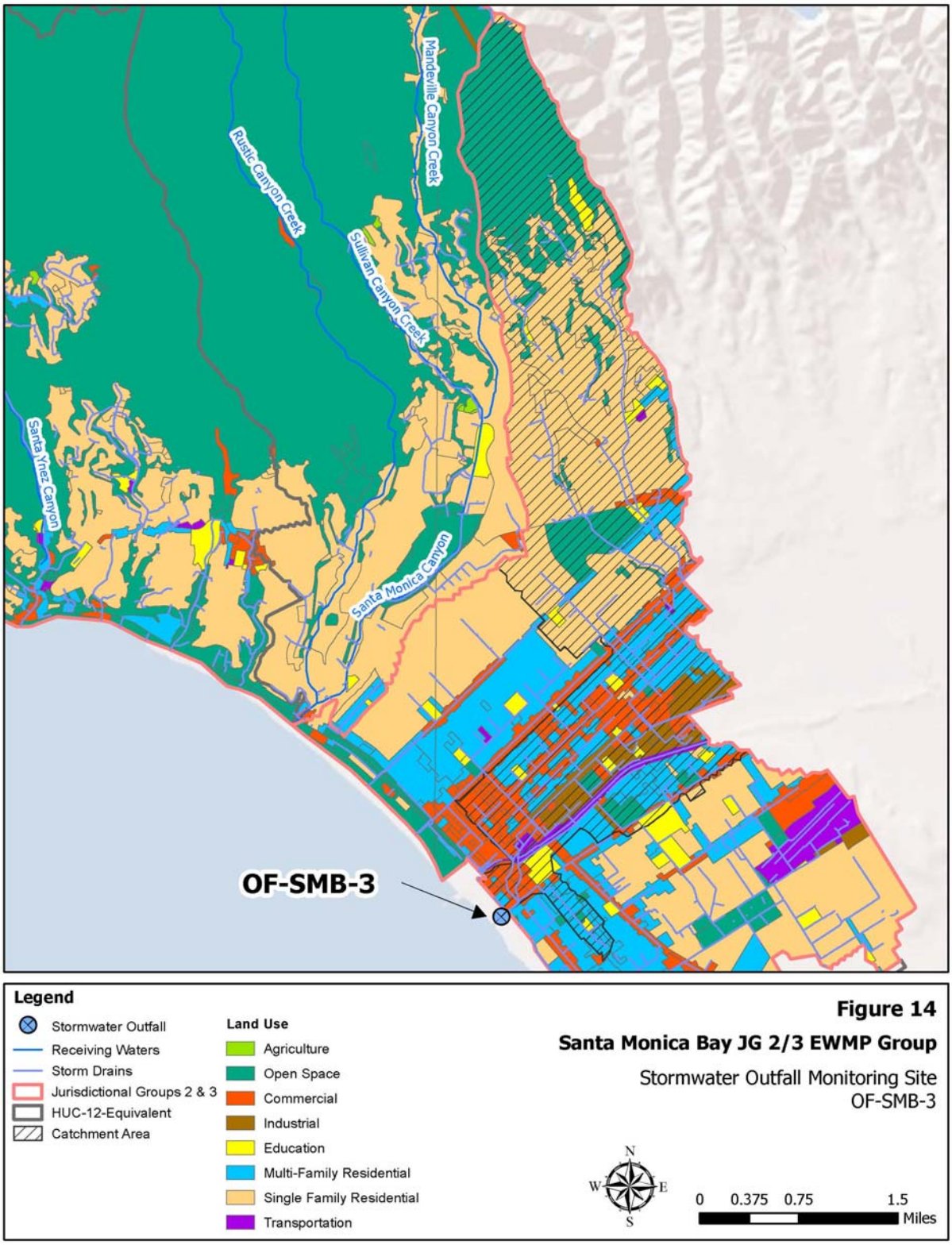

Figure 14
Stormwater Outfall Monitoring Site OF-SMB-3

Table 12
Stormwater Outfall Monitoring Site OF-SMB-3 Tributary Area
(Pico-Kenter Storm Drain)

	Catchment Area	HUC	SWB EWMP Area
	% of Total	% of Total	% of Total
Land Use			
Agricultural	0%	0%	0.05%
Commercial	13.02%	12.40%	4.86%
Industrial	4.75%	2.90%	4.61%
Education	2.97%	3.03%	1.67%
Single Family Residential	38.60%	38.50%	25.45%
Multi-Family Residential	15.04%	23.98%	8.15%
Open Space	23.91%	16.45%	48.37%
Transportation	1.71%	2.73%	6.83%
Total	100%	100%	100%
Jurisdictions			
City of Los Angeles	59.62%	47.33%	77.70%
City of Santa Monica	40.38%	52.67%	14.72%
City of El Segundo	0%	0%	6.43%
County of Los Angeles	0%	0%	1.15%

4.2.4 OF-SMB-4

Stormwater outfall monitoring site OF-SMB-4 is the Grand Avenue storm drain, as shown in **Figure 15**, located upstream of SMBBB TMDL monitoring location SMB 2-15. The Grand Avenue storm drain is a 34-inch diameter reinforced concrete pipe located in the parking lot of Dockweiler State Beach near the intersection of W Grand Avenue and Vista Del Mar Boulevard. Grand Avenue storm drain has a LFD up gradient, which diverts all dry-weather flow. The LFD is approximately 0.75 mile up gradient of stormwater outfall monitoring site OF-SMB-4. Samples will be collected via a fixed autosampler installed at the outfall location, preferably at the discharge point, where it has been evaluated to be safe.

OF-SMB-4 was selected to represent the Manhattan Beach – Frontal Santa Monica Bay (180701040500) HUC-12 area. The Cities of Los Angeles and El Segundo are the represented agencies within the Manhattan Beach – Frontal Santa Monica Bay (180701040500) HUC-12 area. The catchment area from OF-SMB-4 will encompass approximately 6.58% of the Manhattan Beach – Frontal Santa Monica Bay (180701040500) HUC-12 area.

Runoff from OF-SMB-4 is primarily from the Cities of El Segundo and Los Angeles, 97.49% and 2.51% respectively. **Table 13** compares the land use composition within the OF-SMB-4 catchment area, HUC-12, and SMB EWMP Group area. The represented land uses of the OF-SMB-4 catchment area are commercial, industrial, mixed residential. Accordingly, OF-SMB-4 has been selected to assess the MS4 discharge characteristic for commercial, industrial, and mixed residential land uses and the City of El Segundo.

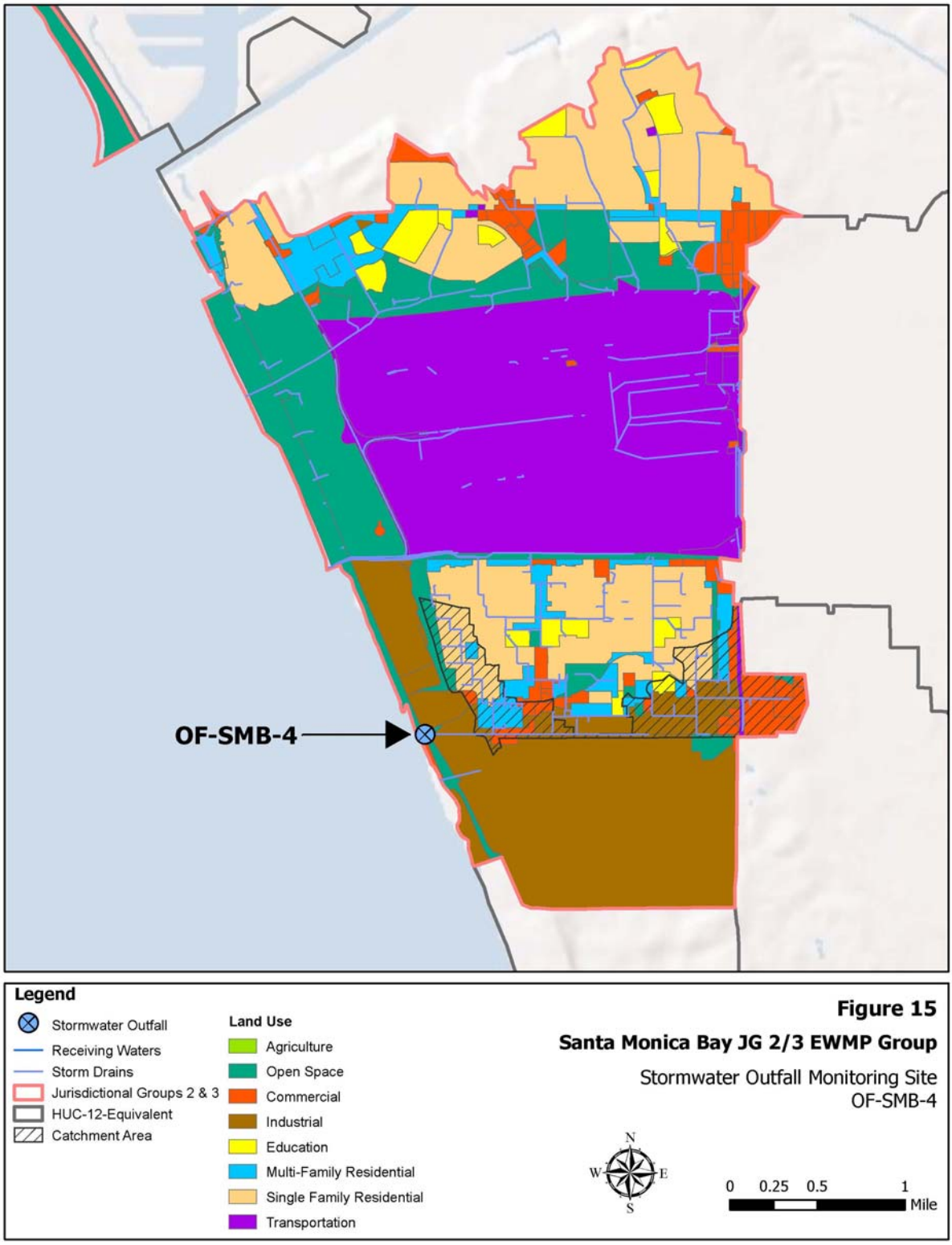

Figure 15
Stormwater Outfall Monitoring Site OF-SMB-4

Table 13
Stormwater Outfall Monitoring Site OF-SMB-4 Tributary Area
(Grand Avenue Storm Drain)

	Catchment Area	HUC	SWB EWMP Area
	% of Total	% of Total	% of Total
Land Use			
Agricultural	0%	0%	0.05%
Commercial	27.71%	5.58%	4.86%
Industrial	27.57%	18.64%	4.61%
Education	1.50%	2.87%	1.67%
Single Family Residential	21.93%	20.97%	25.45%
Multi-Family Residential	11.77%	5.35%	8.15%
Open Space	6.81%	15.79%	48.37%
Transportation	2.71%	30.80%	6.83%
Total	100%	100%	100%
Jurisdictions			
City of Los Angeles	2.51%	67.36%	77.70%
City of Santa Monica	0%	0%	14.72%
City of El Segundo	97.49%	32.64%	6.43%
County of Los Angeles	0%	0%	1.15%

4.3 MONITORED FREQUENCY, PARAMETERS, AND DURATION

Stormwater outfall monitoring sites will be monitored for three (3) storm events per year, prior to receiving water monitoring, for all required constituents except aquatic toxicity. Aquatic toxicity will be monitored when triggered by recent receiving water toxicity monitoring, where a toxicity identification evaluation (TIE) on the observed receiving water toxicity test was inconclusive. The requirements for monitored constituents at each outfall are outlined in the MRP Section VIII.B.1.c and presented in **Table 14**. Parameters in Table E-2 of the MRP, as listed in **Attachment C**, will not be identified as exceeding applicable water quality objectives until after the first year of receiving water monitoring. Monitoring for the selected sites would occur for at least the duration of the Permit term, unless an alternative site is warranted, per the adaptive management process, as presented in **Section 10**. Additional analytical and monitoring procedures are discussed in **Attachment C**.

Table 14
List of Constituents for Stormwater Outfall Monitoring[1]

Constituent	Site ID			
	OF-SMB-1	OF-SMB-2	OF-SMB-3	OF-SMB-4
Flow, hardness, pH, dissolved oxygen, temperature, specific conductivity, and TSS	X	X	X	X
Table E-2 pollutants detected above relevant objectives	X	X	X	X
Aquatic Toxicity and Toxicity Identification Evaluation (TIE)[2]				
Total Coliform	X		X	X
Fecal Coliform/(*E. coli)*	X		X	X
Enterococcus	X		X	X
Lead		X		
E. coli (Indicator Bacteria)		X		

1. Annual frequency for stormwater outfall monitoring would be 3 times per storm year.
2. Toxicity is only monitored from outfalls when triggered by recent receiving water toxicity monitoring where a TIE on the observed receiving water toxicity test identifies pollutants or where the results were inconclusive. If toxicity is observed at the outfall a TIE must be conducted.

4.4 SUMMARY OF STORMWATER OUTFALL MONITORING

Four stormwater outfall monitoring sites, as presented in **Figure 11**, were selected to represent a combination of the HUC-12, jurisdictions, and the land uses within each drainage area of the SMB EWMP Group (OF-SMB-1 through -4). A summary of outfall characteristics are presented in **Table 15** and **Attachment B**.

Table 15
Summary of Stormwater Outfall Monitoring Sites

Outfall ID	Latitude	Longitude	LFD	Tributary HUC-12 Area	Drainage System
OF-SMB-1	34.041362	118.567045	Yes	Santa Monica Beach – Frontal Santa Monica Bay (180701040403) (Upper JG2)	Castle Rock (Parker Mesa)
OF-SMB-2	34.060808	-118.495170	No	Santa Monica Canyon (180701040402)	Sullivan Canyon and Mandeville Canyon
OF-SMB-3	34.006370	118.49184	Yes	Santa Monica Beach – Frontal Santa Monica Bay (180701040403) (JG3)	Pico Kenter
OF-SMB-4	33.917430	118.42858	Yes	Manhattan Beach – Frontal Santa Monica Bay (180701040500) (Lower JG2)	Grand Avenue

Section 5
Non-Stormwater Outfall Monitoring Program

The MRP requires Permittees to implement a non-stormwater outfall based screening and monitoring program. The non-stormwater outfall screening and monitoring program (non-stormwater program) is focused on non-stormwater discharges to receiving waters from major outfalls.

Since the late 1990s, the SMB EWMP Group has been addressing non-stormwater flow to Santa Monica Bay with the installation of LFDs, as summarized in **Attachment A** and in **Section 2**. The SMB EMWP Group has installed 23 LFDs throughout the SMB EWMP shoreline. The LFDs are operational year round and divert non-stormwater flow from the storm drains to the sanitary sewer system, keeping non-stormwater flows from reaching Santa Monica Bay. Non-stormwater flows at beach outfalls within Santa Monica Bay are non-existent due to the installation of the LFD. As non-stormwater flow at beach outfalls are non-existent, and have been reviewed for over 10 years, outfall screening of these outfalls will not be conducted.

Non-stormwater flows at outfalls within Santa Monica Canyon Channel are not diverted and will require an inventory. However, an LFD near the end of Santa Monica Canyon Channel exists and diverts all non-stormwater flow from reaching Santa Monica Bay.

5.1 NON-STORMWATER OUTFALL MONITORING OBJECTIVES

The objectives of the non-stormwater outfall program include the following (Part II.E.3 of the MRP):

a. Determine whether a Permittee's discharge is in compliance with applicable non-stormwater WQBELs derived from TMDL WLAs;
b. Determine whether a Permittee's discharge exceeds non-stormwater action levels, as described in Attachment G of the MS4 Permit;
c. Determine whether a Permittee's discharge contributes to or causes an exceedance of receiving water limitations; and
d. Assist a Permittee in identifying illicit discharges as described in Part VI.D.10 of the MS4 Permit.

Additionally, the outfall screening and monitoring process is intended to meet the following objectives (Part IX.A of the MRP):

1. Develop criteria or other means to ensure that all outfalls with significant non-stormwater discharges are identified and assessed during the term of this MS4 Permit.
2. For outfalls determined to have significant non-stormwater flow, determine whether flows are the result of illicit connection/illicit discharge (IC/IDs), authorized or conditionally exempt non-stormwater flows, natural flows, or from unknown sources.
3. Refer information related to identified IC/IDs to the IC/ID Elimination Program (Part VI.D.10 of the MS4 Permit) for appropriate action.
4. Based on existing screening or monitoring data or other institutional knowledge, assess the impact of non-stormwater discharges (other than identified IC/IDs) on the receiving water.
5. Prioritize monitoring of outfalls, considering the potential threat to the receiving water and applicable TMDL compliance schedules.

6. Conduct monitoring or assess existing monitoring data to determine the impact of non-stormwater discharges on the receiving water.
7. Conduct monitoring or other investigations to identify the source of pollutants in non-stormwater discharges.
8. Use results of the screening process to evaluate the conditionally exempt non-stormwater discharges identified in Parts III.A.2 and III.A.3 of the MS4 Permit and take appropriate actions pursuant to Part III.A.4.d of the MS4 Permit for those discharges that have been found to be a source of pollutants. Any future reclassification shall occur per the conditions in Parts III.A.2 or III.A.6 of the MS4 Permit.
9. Maximize the use of Permittee resources by integrating the screening and monitoring process into existing or planned Integrated Monitoring Program (IMP) and/or CIMP efforts.

The outfall screening and investigations must be completed prior to initiating monitoring at an individual outfall. Detailed discussion of each element is provided in the following subsections.

5.2 NON-STORMWATER OUTFALL SCREENING AND MONITORING PROGRAM

The Non-Stormwater Outfall Screening and Monitoring Program are focused on dry-weather discharges to receiving waters from major outfalls that are (1) not served by an LFD, and (2) flows that reach the receiving water. The program fills two roles: (1) to provide assessment of whether the non-stormwater discharges are potentially impacting the receiving water, and (2) to determine whether significant non-stormwater discharges are allowable. The non-stormwater outfall program is complimentary to the IC/ID minimum control measure. Non-stormwater outfall monitoring sites will be determined after the screening events are completed and an inventory of outfalls is created. Parameters monitored at each non-stormwater outfall site will depend upon the receiving water on which it is located.

To determine the number of outfalls that are required to be monitored for the non-stormwater outfall monitoring, SMB EWMP Group has developed an outfall screening and monitoring program. The section starting with **Section 5.3** are part of the monitoring program. Within 90 days of the approval of this CIMP, the SMB EWMP Group will initiate steps to identify, inventory, prioritize, and monitor the non-stormwater discharges. The non-stormwater outfall program will involve following steps:

1. **Outfall Screening**: Because data required to implement the non-stormwater program is not available, the SMB EWMP Group will implement a screening process to determine which outfalls exhibit non-stormwater discharges and those that do not require further investigation.
2. **Identification of Outfalls with Significant Non-Stormwater Discharge** (Part IX.C of the MRP): Based on data collected during the outfall screening process the SMB EWMP Group will identify MS4 outfalls with significant non-stormwater discharges.
3. **Inventory of Outfalls with Non-Stormwater discharges** (Part IX.D of the MRP): Develop an inventory of major MS4 outfalls with known significant non-stormwater discharges and those requiring no further assessment.
4. **Prioritized Source Identification** (Part IX.E of the MRP): The data collected during the screening process will be used to prioritize outfalls for source identification investigations.
5. **Significant Non-stormwater Discharge Source Identification** (Part IX.F of the MRP): For outfalls exhibiting significant non-stormwater discharges, the SMB EWMP Group will perform source identification per the prioritization completed in the previous element.
6. **Monitoring Non-Stormwater Discharges Exceeding Criteria** (Part IX.G of the MRP): Using the information collected during screening and source identification efforts, the SMB EWMP Group will monitor outfalls that have been determined to convey significant non-stormwater discharges comprised of either unknown or non-essential conditionally exempt non-stormwater discharges, or continuing discharges attributed to illicit discharges must be monitored.

5.3 IDENTIFICATION OF OUTFALLS WITH SIGNIFICANT NON-STORMWATER DISCHARGES

An initial field survey allowed for the identification of outfalls, the majority of which were observed along the beaches, Santa Monica Canyon Channel, and Rustic Canyon Creek. Santa Ynez Canyon Creek and parts of Sullivan Canyon Creek were found to be natural creeks with no outfalls. Mandeville Canyon Creek was observed to be an underground storm drain. The upstream parts of Mandeville Canyon creek include a natural ditch that runs parallel to the storm drain with a catch basin connection. Natural flows from Sullivan Canyon Creek drain to an underground storm drain that daylights at the confluence of Mandeville Canyon Creek and Sullivan Canyon Creek. Rustic Canyon Creek has a concrete bottom from the confluence of Santa Monica Canyon Channel to the end of W. Rustic Road. After W. Rustic Road, Rustic Canyon Creek is a soft bottom creek. **Attachment D** presents the photos from this field survey.

Based on a review of the available information, identification of significant non-stormwater discharges is not available at this time. Under this task, the SMB EWMP Group will undertake a field reconnaissance to evaluate the major outfalls within Santa Monica Canyon Channel. The major outfalls for the SMB EWMP Group are defined as follows:

- 36-inch or larger pipes, and
- 12-inch or larger pipes from industrial zoned areas.

Table 16 and **Figure 16** present a listing of all known outfalls that match the major outfall criteria along the receiving waters within Santa Monica Canyon Channel.

Table 16
Known Major Outfalls in Santa Monica Channel

Station ID	Type of Outlet	Outlet Size	Storm Drain
SULLC-054	Reinforced Concrete Pipe (RCP)	51"	BI 0246 - Georgina Av
SULLC-085	Reinforced Concrete Pipe (RCP)	60"	Carpri Drain - U1

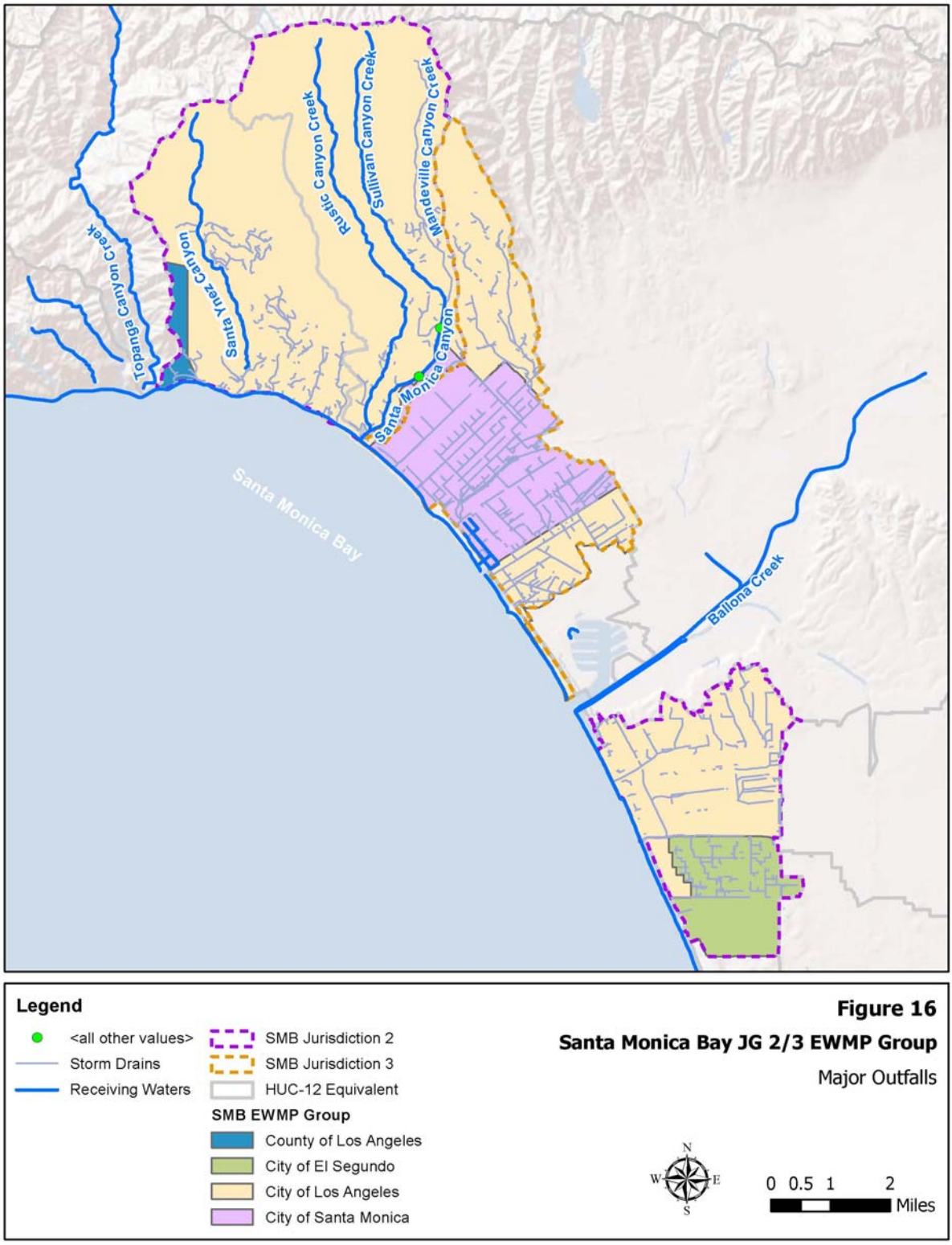

Figure 16
Major Outfalls

E. coli is listed on the CWA 303(d) list for Santa Monica Canyon Channel and is assumed to be a reasonable evaluation characteristic. Flow reach the receiving water and *E. coli* are proposed as the primary characteristic along with flow for determining significant non-stormwater discharge for the SMB EWMP group. To determine *E. coli* presence, the SMB EWMP Group will perform three outfall screenings at Santa Monica Canyon Channel for the first year after CIMP approval. All flow and *E. coli* data gather during the three initial screenings will be processed and evaluated. As all data are gathered and processed, major outfalls with dry-weather flows reaching the receiving water body and presence of *E. coli* at all three screening events will be deemed as exhibiting significant non-stormwater discharge. **Table 17** outlines the SMB EWMP Group's screening and ranking process.

The initial screenings will serve the dual purpose of data collection for completing the MS4 infrastructure database, addressed in **Section 3**, and the initial evaluation of outfalls for significant non-stormwater discharge. Each outfall along Santa Monica Canyon Channel will be visited during the first screening and major outfalls identified as having flows reaching the receiving water body will be visited during subsequent screenings. A standard field data collection form will be used, consisting of:

- Channel bottom, and flow rate
- Whether discharge ponds, or reaches the receiving water
- Clarity
- Presence of odors and foam
- *E. coli* sampling

Additionally, outstanding information for the MS4 inventory database will be collected, including, at a minimum, geographically referenced photographs. Outfall screening is necessary to collect the information to identify outfalls exhibiting significant non-stormwater discharges and to develop the information needed for the inventory of outfalls with significant non-stormwater discharges.

Table 17

Non-Stormwater Outfall Screening Process Utilizing *E.coli* for Determining Significant Non-Stormwater Discharge

Component	Description
Characteristics for Defining Significant Non-Stormwater Discharges	Outfalls will be determined to be significant non-stormwater discharges through the following criteria:
	1. Does the non-stormwater discharge reach the receiving water during dry-weather? If yes, continue through the ranking criteria.
	2. Was *E. coli* detected at all three screening events?
Data Collection	Data that would need to be collected include accurate flow measurements AND *E. coli.* Additionally, information needed to complete the inventory would be collected.
Frequency	Three times as part of the initial screening process.
Timeline	Initiation of the screening process will occur within 90 day of approval of the CIMP.
Timeline	The screening process will occur within 90 day of approval of the CIMP.

5.4 INVENTORY OF MS4 OUTFALLS WITH NON-STORMWATER DISCHARGES

An inventory of MS4 outfalls identified during outfall screening will be developed by the SMB EWMP Group to classify outfalls with known significant non-stormwater discharges and those requiring no further assessment (Part IX.D of the MRP). If the MS4 outfall requires no further assessment, then the inventory will include the rationale for the determination of no further action required based on the following:

- The outfall is not within the geographical scope of the EWMP Group;
- The outfall does not have flow;
- The outfall does not have a known significant non-stormwater discharge; or
- Discharges observed were determined to be exempt during the source identification (**Section 5.6**).

The inventory will be recorded in the database as required in Part VII.A of the MRP. Each year, the inventory will be updated to incorporate the most recent characterization data for outfalls with significant non-stormwater discharges. The following physical attributes of outfalls with significant non-stormwater discharges will be included in the inventory and should be collected as part of the screening process:

a. Date and time of last visual observation or inspection;
b. Outfall alpha-numeric identifier;
c. Description of outfall structure including size (e.g., diameter and shape);
d. Description of receiving water at the point of discharge (e.g., natural, soft-bottom with armored sides, trapezoidal, concrete channel);
e. Latitude/longitude coordinates;
f. Nearest street address;
g. Parking, access, and safety considerations;
h. Photographs of outfall condition;
i. Photographs of significant non-stormwater discharge (or indicators of discharge) unless safety considerations preclude obtaining photographs;
j. Estimation of discharge rate;
k. All diversions either upstream or downstream of the outfall; and
l. Observations regarding discharge characteristics such as turbidity, odor, color, presence of debris, floatables, or characteristics that could aid in pollutant source identification.

5.5 PRIORITIZED SOURCE IDENTIFICATION

Once significant non-stormwater outfalls have been identified through the screening process and incorporated into the inventory, Part IX.E of the MRP requires Permittees to prioritize outfalls for further source investigations. The SMB EWMP Group proposes the following alternative prioritization criteria to be utilized:

1. Outfalls that have the highest ranking score, and
2. Outfalls for which monitoring data exist and indicate recurring exceedances of one or more of the Action Levels identified in Attachment G of the Permit.

Once the prioritization is completed, a source identification of identified significant non-stormwater outfall will be achieved. The SMB EWMP Group proposes the following schedule:

- 25 percent by December 28, 2015
- 100 percent by December 28, 2017

5.6 SIGNIFICANT NON-STORMWATER DISCHARGE SOURCE IDENTIFICATION

Based on the prioritized list of major outfalls with significant non-stormwater discharge, source identification will be conducted to identify the source(s) or potential source(s) of non-stormwater discharge.

Part IX.A.2 of the MRP requires Permittees to classify the source identification results into the following types as summarized in **Table 17**:

A. **IC/ID**: If the source is determined to be an illicit discharge, then the Permittee must implement procedures to eliminate the discharge consistent with IC/ID requirements (Permit Part VI.D.10) and document actions.
B. **Authorized or Conditionally-Exempt Non-Stormwater Discharges**: If the source is determined to be an NPDES permitted discharge, a discharge subject to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or a conditionally exempt essential discharge, then the Permittee must document the source. For non-essential conditionally exempt discharges, the Permittee must conduct monitoring consistent with Part IX.G of the MRP for the Regional Board Executive Officer to determine whether the discharge should remain conditionally exempt or be prohibited.
C. **Natural Flows**: If the source is determined to be natural flows, then the Permittee must document the source.
D. **Unknown Sources**: If the source is unknown, then the Permittee must conduct monitoring consistent with Part IX.G of the MRP.
E. **Originates Upstream of SMB EWMP Group**: If the source is determined to originate from an upstream WMA, then the Permittee must inform the upstream WMA and Regional Board in writing within 30 days of identifying the presence of the discharge, provide all available characterization data and determination efforts, and document actions taken to identify its source.

Table 17
Source Identification Types

Type	Follow-up	Action Required by Permit
A. Illicit Discharge or Connection	Refer to IC/ID program	Implement control measures and report in annual report. Monitor if cannot be eliminated.
B. Authorized or Conditionally Exempt Discharges[1]	Document and identify if essential or non-essential	Monitor non-essential discharges
C. Natural Flows	End investigation	Document and report in annual report
D. Unknown	Refer to IC/ID program	Monitor
E. Upstream of SMB EWMP Group	End investigation	Inform upstream WMA and the Regional Board in writing within 30 days of identifying discharge.

1 Discharges authorized by a separate NPDES permit, a discharge subject to a Record of Decision approved by USEPA pursuant to section 121 of CERCLA, or is a conditionally exempt NSW discharge addressed by other requirements. Conditionally exempt NSW discharge addressed by other requirements are described in detail in Part III.A. Prohibitions – NSW Discharges of the Permit.

Source identification will be conducted using site-specific procedures based on the characteristics of the non-stormwater discharge. Investigations could include:

- Performing field measurements to characterize the discharge;
- Following dry-weather flows from the location where they are first observed in an upstream direction along the conveyance system; and
- Compiling and reviewing available resources, including past monitoring and investigation data, land use/MS4 maps, aerial photography, and property ownership information.

Where the source identification has determined the non-stormwater source to be authorized, natural, or essential conditionally-exempt flows, the outfall will require no further assessment and will move onto the next highest priority outfall. However, if the source identification determines that the source of the discharge is non-essential conditionally exempt, an ID, or is unknown, then further investigation will be conducted to eliminate the discharge or to demonstrate that it is not causing or contributing to receiving water impairments and will be added to the monitoring list until non-stormwater discharge is eliminated.

In some cases, source investigations may ultimately lead to prioritized programmatic or structural BMPs. Where the SMB EWMP Group has determined that they will address the non-stormwater discharge through modifications to programs or by structural BMP implementation, the SMB EWMP Group will incorporate the approach into the implementation schedule developed in the EWMP, and the outfall can be eliminated from the monitoring list.

5.7 NON-STORMWATER DISCHARGE MONITORING

As outlined in the MRP (Part II.E.3), outfalls with significant non-stormwater discharges that remain unaddressed after source investigation shall be monitored to meet the following objectives:

a. Determine whether a Permittee's discharge is in compliance with applicable dry-weather WQBELs derived from TMDL WLAs;
b. Determine whether the quality of a Permittee's discharge exceeds non-stormwater action levels, as described in Attachment G of the Permit; and
c. Determine whether a Permittee's discharge causes or contributes to an exceedance of receiving water limitations.

Thus, outfalls that have been determined to convey significant non-stormwater discharges where the source identification concluded that the source is attributable to a continued ID (Type A from **Table 17**, non-essential conditionally exempt (Type B from **Table 17**), or unknown (Type D from **Table 17**) must be monitored. Monitoring will be implemented within 90 days of completing the source identification and will be coordinated with the following receiving water dry-weather monitoring event.

5.7.1 Non-Stormwater Outfall-Based Monitoring Sites

The information to determine the number and location of outfalls requiring monitoring is not available at this time. After the outfall screening, inventory, prioritization, and source identification process, outfalls identified to require monitoring will be monitored per the permit requirements.

5.7.2 Monitored Frequency, Parameters, and Duration of Monitoring

After the outfall screening and determining which outfalls have significant non-stormwater flows, non-stormwater monitoring sites will be monitored for two (2) monitoring events. The monitoring events will be coordinated with receiving water monitoring site RW-SMB-2, which will allow for an evaluation

of whether the non-stormwater discharges are causing or contributing to any observed exceedances of water quality objectives in the receiving water. Significant non-stormwater outfalls will be monitored for all required constituents, per receiving water bodies, as outlined in Part IX.G.1.a-e of the MRP, except toxicity. Toxicity monitoring is only required when triggered by recent receiving water toxicity monitoring where a TIE on the observed receiving water toxicity test was inconclusive. An overview of the constituents to be monitored and the corresponding frequency is listed in **Table 18**. Outfalls on the monitoring list will be monitored for at least the duration of the Permit term, or until the non-stormwater discharge is eliminated. Additional analytical and monitoring procedures are discussed in **Attachment C**.

Table 18
List of Constituents for Non-Stormwater Monitoring

Constituent	Outfalls on Monitoring List
Flow, hardness, pH, dissolved oxygen, temperature, specific conductivity, and TSS	X
Table E-2 pollutants detected above relevant objectives	X
Aquatic Toxicity and Toxicity Identification Evaluation (TIE)[1]	
Lead	X
E. coli (Indicator Bacteria)	X

1. Annual frequency for non-stormwater outfall monitoring will be 2 times per storm year.
2. Toxicity is only monitored from outfalls when triggered by recent receiving water toxicity monitoring where a TIE on the observed receiving water toxicity test identifies pollutants or where the results were inconclusive. If toxicity is observed at the outfall a TIE must be conducted.

5.8 NON-STORMWATER OUTFALL PROGRAM SUMMARY

At this time, non-stormwater outfall monitoring sites have not been identified. The SMB EWMP Group will conduct the following steps as part of the non-stormwater outfall program to identify non-stormwater outfall monitoring sites:

1. Outfall screening;
2. Identification of outfalls with significant non-stormwater discharge (Part IX.C of the MRP);
3. Inventory of outfalls with non-stormwater discharge (Part IX.D of the MRP);
4. Prioritized source investigation (Part IX.E of the MRP); and
5. Identify sources of significant non-stormwater discharges (Part IX.F of the MRP).

Once non-stormwater discharges are eliminated, monitoring at the outfall will cease. Additionally, if monitoring demonstrates that discharges do not exceed any WQBELs, then action levels or water quality standards for pollutants identified on the 303(d) list, monitoring will cease at an outfall after the first year. Thus, the number and location of outfalls monitored has the potential to change on an annual basis.

Section 6
New Development/Re-Development Effectiveness Tracking Program

The New Development/Re-Development Effectiveness Tracking Program is used for tracking information data in regards to new and re-development activities. To meet the MRP requirements of Permit Attachment E, Part X.A, the SMB EWMP Group will maintain an informational database record for each new development/re-development project subject to the MCM requirements in Part VI.D.7 of the Permit and their adopted LID Ordinance. The database should track the following information:

1. Name of the Project and Developer;
2. Mapped project location (preferably linked to the Geographic Information System (GIS) storm drain map);
3. Issuance date of the project Certificate of Occupancy;
4. 85th percentile 24-hour storm event for project design (inches);
5. 95th percentile 24-hour storm event for projects draining to natural water bodies (inches);
6. Other design criteria required to meet hydromodification requirements for drainages to natural water bodies;
7. Project design storm (inches per 24 hours);
8. Project design storm volume (gallons or million gallons);
9. Percent of design storm volume to be retained onsite;
10. Design volume for water quality mitigation treatment BMPs (if any);
11. If flow through, water quality treatment BMPs are approved, provide the one-year, one-hour storm intensity as depicted on the most recently issued isohyetal map published by the Los Angeles County Hydrologist;
12. Percent of design storm volume to be infiltrated at an off-site mitigation or groundwater replenishment project site;
13. Percent of design storm volume to be retained or treated with biofiltration at an off-site retrofit project;
14. Location and maps (preferably linked to the GIS storm drain map) of off-site mitigation, groundwater replenishment, or retrofit sites; and
15. Documentation of issuance of requirements to the developer.

Until the EWMP is approved by the Regional Board or the Executive Officer, the SMB EWMP Group is only required to implement and track MCM information in its existing stormwater management program per Part V.C.4.d.i.

In addition to the requirements in Part X.A of the MRP, Part VI.D.7.d.iv of the Permit requires that the SMB EWMP Group implement a tracking system for new development/re-development projects that have been conditioned for post-construction BMPs. The following information is to be tracked using GIS or another electronic system:

1. Municipal Project ID
2. State Waste Discharge Identification (WDID) Number
3. Project Acreage
4. BMP Type and Description
5. BMP Location (coordinates)
6. Date of Acceptance

7. Date of Maintenance Agreement
8. Maintenance Records
9. Inspection Date and Summary
10. Corrective Action
11. Date Certificate of Occupancy Issued
12. Replacement or Repair Date

6.1 PROGRAM OBJECTIVES

The objective of the New Development/Re-Development Effectiveness Tracking is to assess whether post-construction BMPs, as outlined in permits issued by the Permittees, are implemented, and to ensure the volume of stormwater associated with the design storm is retained onsite, as required by Part VI.D.7.c.i. of the Permit. The New Development/Re-Development Effectiveness Tracking will gather necessary data to assess whether construction MCM, LID ordinances and BMPs are effective and being implemented.

6.2 EXISTING NEW DEVELOPMENT/RE-DEVELOPMENT TRACKING PROCEDURES

Within the SMB EWMP Group, each jurisdiction has a unique approach to tracking some or the entire 27 required development program tracking elements (15 elements identified in Attachment E.X.A and 12 elements in Part VI.D.7.d.iv.). For private development projects, a Building Department, or a variation of, is typically the entity responsible for collecting and recording the program tracking elements. In contrast, public improvement projects are normally the responsibility of a Public Works Department.

Based on a review of the existing new development/re-development tracking procedure for the different jurisdictions within the SMB EWMP Group, additional effort will be needed to track the 27 program tracking elements required by the Permit. Information has currently been recorded and stored differently across jurisdictions, with some using commonly-available software packages, such as Microsoft Office products and GIS, and others using proprietary software programs, such as Plan Check and Inspection System (PCIS), or in some instances paper files. SMB EWMP Group members will develop or modify their current tracking systems to set up a centrally-located spreadsheet template that includes the required information fields for each project that can be tracked separately by the individual jurisdiction's proprietary software system if integrated accordingly. Each jurisdiction will dedicate resources to develop a complete tracking system that works for their individual needs and internal processes.

6.3 SPECIAL CONSIDERATIONS FOR DATA MANAGEMENT AND REPORTING

A fundamental step in establishing individual data management protocols consists of developing a recommended standard operating procedure (SOP) and determining the responsible person within each jurisdiction for collecting, reviewing, and reporting the data. The SOP developed by each jurisdiction will consist of written instructions regarding documentation of routine activities and delineation of the primary steps in the land development approval process, relevant data generated at each step, and procedures for "handoff" of the project to the next group. Development and use of an SOP is an integral part of successful data management as it provides information to perform a task properly, and facilitates consistency in the quality and integrity of the tracking data.

6.3.1 Data Management

Each jurisdiction will conduct tracking to meet Permit requirements and facilitate reporting. The data management protocols will include:

- Designing and testing data entry sheets for the required information fields identified in **Section 6.1**;
- Describing the procedures and identifying the persons responsible for inputting data, assessing accuracy and consistency, and coordinating follow up actions when questions arise;
- Strategy for checking and validating data entry, including identifying persons responsible for managing and safeguarding data, performing data entry, supervising the data entry, and ensuring quality control of the data; and
- Specifying procedures for routinely and safely archiving data files.

Data collection for development review processes generally consist of the following similar steps:

- **Planning**: Project proponents submit an application to agency planning department to determine whether or not the project meets jurisdictional requirements. When required, the project may require a public hearing for conditions and entitlements. Project conditions may include water quality related requirements.
- **Building**: Projects may be conditioned subject to engineering, community services, or building department review and approval of plans or technical reports. During review, required water quality BMP designs are reviewed and accepted. When a building and/or grading permit is issued, project construction usually proceeds without further discretionary approvals.
- **Construction**: During construction, approved BMPs are implemented and then verified by the jurisdiction's inspector prior to issuance of a Certificate of Occupancy.
- **Post-Construction Inspections**: Once constructed, inspection and verification of maintenance is transferred to the jurisdiction's water quality program manager.

Relevant project data is collected during each phase of the development review process described above. Based on this general process and information gathered through the questionnaire, **Table 19** illustrates data collection opportunities throughout the planning, building, construction, and post-construction inspection processes for requirements in Part VI.D.7 of the Permit.

Table 19
Development Review Process and Data Collection

Stage	Process	Data Collection Opportunity
Planning	Planning review, conditions, and entitlements	Project name
		Developer name
		Location/Map
		Documentation of issuance of requirements
Building	Engineering review and approval of plans and technical reports	85^{th} and 95^{th} percentile storm event criteria
		Other hydromodification management requirements
		Project design storm intensity and volume
		Percent of design storm volume retained onsite
		Design volume for treatment BMPs
		One year/one hour storm intensity
		Percent of design storm infiltrated offsite
		Percent of design storm retained/treated with biofiltration offsite
		Location/Maps of offsite mitigation
Construction	Approval of BMP construction and issuance of Certificate of Occupancy	Issuance date of Certificate of Occupancy
Post-Construction Inspections	Inspection and tracking of post-construction BMPs	Inspection and maintenance dates

6.3.2 Additional Data

To facilitate annual assessment and reporting and future Reasonable Assurance Analyses (RAA) input data compilation, the SMB EWMP Group may also track the following questions and/or information:

- Do any modified MCMs apply to this project?
- Assessor's Identification Number (AIN)
- Street address
- Revised land use (based on City/County Land Use Categories)
- BMP maintenance funding source
- Tributary area to each BMP

6.3.3 Reporting

Coordinated effectiveness tracking among the SMB EWMP Group for watershed-scale reporting and compliance assessment will require a common reporting approach that complements individual Planning and Land Development Program MCM implementation. It is assumed that all group members have access to, can export data to, and use Microsoft Office products such as Access, Excel, and Word. Use of this software will facilitate the sharing of data to fulfill the reporting requirements in Part XVIII.A.1 and A.2 of the MRP.

Development of a data collection template and established SOPs for each jurisdiction will aid in future analyses and annual reporting. The example data collection template, presented in **Table 20**, includes the information to be tracked for each project.

Table 20
Example Data Collection Template

PLANNING									
Project Name / Description	New or Re-Development	Planning ID	Name of Developer	Assessor's Identification Number (AIN)	Location (Lat/Long or Cross Streets)	Address	City	Zip	Issuance of Requirements Date
ABC Development	*New Development*	*PA14-0001*	*XYZ Development, LLC*	*4272-029-017*	*Ocean Park and 31st Street 34.012603, 118.270348*	*3250 Ocean Park*	*Santa Monica*	*90405*	*3/11/2014*

BUILDING									
Building ID	Project Acreage (Acres)	Design Storm (in/24 hr)	Design Storm Volume (Gallons or MGD)	Units	Storm Volume Retained On-site (%)	85th % Storm Event (in/24 hr)	95th % Storm Event - Projects Draining to Natural Water Bodies (in/24 hr)	Type of BMP (Please select from list)	BMP Location (Lat/Long or Coordinates)
B14-0001	*18.943*	*0.920*	*473,200*	*Gallons*	*100%*	*0.920*	*None*	*(Bio)Infiltration Basins*	*34.012711, 118.271411*
								Permeable Pavement	*34.012311, 118.272411*
								Water Harvesting	*34.012311, 118.271411*
								Media Filtration Practices	*34.012511, 118.271411*
								Wet Detention	*34.012811, 118.271811*

BUILDING								
Contributing Area (Acres)	Design Volume for Treatment BMPs	Units	Offsite Run-on / Mitigation	Offsite Run-on Location	Design Storm Volume - Infiltrated at an Off-Site Mitigation Project (%)	Design Storm Volume - Retained or Treated with Biofiltration Off-Site (%)	Date of Maintenance Agreement	State WDID #
5.540	-		*No*	*None*	*0.00%*	*0.00%*	*11/15/2014*	*4 19C123456*
3.400	-				*0.00%*	*0.00%*		
2.400	-				*0.00%*	*0.00%*		
2.103	*6722*	*cf*			*0.00%*	*0.00%*		
5.500	-				*0.00%*	*0.00%*		

CONSTRUCTION		POST-CONSTRUCTION BMP INSPECTIONS			
Acceptance Date	Certificate of Occupancy Date	Maintenance Records	Inspection Date and Summary	Replacement or Repair Date	Corrective Action
11/5/2016	*11/15/2016*	*Yes*	*11/21/2017*	*None*	*No*
		No	*11/21/2018 - No Records*	*Unknown*	*Yes*
		Yes	*11/21/2019*	*None*	*No*
		Yes	*11/21/2020*	*None*	*No*
		Yes	*11/21/2021*	*None*	*No*

Required	**= Required Field**
Recommended	**= Recommended**

Annual Assessment and Reporting requirements to be included in an Annual Report are outlined in Part XVIII.A.1 through A.7 of the MRP. With regard to New Development/Re-Development Effectiveness Tracking, the SMB EWMP Group is required to annually track, analyze, and report on the following stormwater control measures in Part XVIII.A.1:

- Estimate the cumulative change in percent effective impervious area (EIA) since the effective date of the Permit and, if possible, the estimated change in the stormwater runoff volume during the 85th percentile storm event.
- Summarize new development/re-development projects constructed within the Permittee's jurisdictional area during the reporting year.
- Summarize retrofit projects that reduced or disconnected impervious area from the MS4 during the reporting year.
- Summarize other projects designed to intercept stormwater runoff prior to discharge to the MS4 during the reporting year.
- For the projects summarized above, estimate the total runoff volume retained onsite by the implemented projects.
- Summarize actions taken in compliance with TMDL implementation plans or approved Watershed Management Programs to implement TMDL provisions in Part VI.E and Attachments L-R of the Permit.
- Summarize riparian buffer/wetland restoration projects completed during the reporting year. For riparian buffers include width, length and vegetation type; for wetland include acres restored, enhanced, or created.
- Summarize other MCMs implemented during the reporting year, as deemed relevant.
- Provide status of all multi-year efforts that were not completed in the current year and will therefore continue into the subsequent year(s). Additionally, if any of the requested information cannot be obtained, then the Permittee shall provide a discussion of the factor(s) limiting its acquisition and steps that will be taken to improve future data collection efforts.

Group members are also required to track, evaluate, and provide an effectiveness assessment of stormwater control measures per Attachment E, Part XVIII.A.2:

- Summarize rainfall for the reporting year. Summarize the number of storm events, highest volume event (inches/24 hours), highest number of consecutive days with measureable rainfall, total rainfall during the reporting year compared to average annual rainfall for the subwatershed. Precipitation data may be obtained from the LACDPW rain gauge stations available at http://www.ladpw.org/wrd/precip/.
- Provide a summary table describing rainfall during stormwater outfall and wet-weather receiving water monitoring events. The summary description shall include the date, time that the storm commenced and the storm duration in hours, the highest 15-minute recorded storm intensity (converted to inches/hour), the total storm volume (inches), and the time between the storm event sampled and the end of the previous storm event.
- Where control measures were designed to reduce impervious cover or stormwater peak flow and flow duration, provide hydrographs or flow data of pre- and post-control activity for the 85th percentile, 24-hour rain event, if available.
- For natural drainage systems, develop a reference watershed flow duration curve and compare it to a flow duration curve for the subwatershed under current conditions.
- Provide an assessment as to whether the quality of stormwater discharges as measured at designed outfalls is improving, staying the same, or declining. The Permittee may compare water quality data from the reporting year to previous years with similar rainfall patterns, conduct

trends analysis, or use other means to develop and support its conclusions (e.g., use of non-stormwater action levels or municipal action levels as provided in Attachment G of the Permit).

- Provide an assessment as to whether wet-weather receiving water quality within the jurisdiction of the Permittee is improving, staying the same, or declining when normalized for variations in rainfall patterns. The Permittee may compare water quality data from the reporting year to previous years with similar rainfall patterns, conduct trends analysis, draw from regional bioassessment studies, or use other means to develop and support its conclusions.
- Provide status of all multi-year efforts, including TMDL implementation, that were not completed in the current year and will continue into the subsequent year(s). Additionally, if any of the requested information cannot be obtained, then the Permittee shall provide a discussion of the factor(s) limiting its acquisition and steps that will be taken to improve future data collection efforts.

Additional reporting elements required are identified in Part VI.D.7 of the Permit and include:

- A summary of total offsite project funds raised to date and a description (including location, general design concept, volume of water expected to be retained, and total estimated budget) of all pending public offsite projects.
- A list of mitigation project descriptions and estimated pollutant and flow reduction analyses.
- A comparison of the expected aggregate results of alternative compliance projects to the results that would otherwise have been achieved by retaining onsite the stormwater quality design volume.

Part XV.A of the MRP requires each Permittee or group to submit an Annual Report to the Regional Board by December 15th of each year. The annual reporting period is from July 1st through June 30th, and information reported will cover approved and constructed projects that have been issued occupancy.

6.4 SUMMARY OF NEW DEVELOPMENT/RE-DEVELOPMENT EFFECTIVENESS TRACKING

New Development/Re-Development Effectiveness Tracking is used for tracking information data in regards to new and re-development activities and their associated post-construction BMPs. The information is stored and will be submitted in an annual compliance report. Each jurisdiction will be individually responsible for tracking Permit requirements, based on their specific operational procedures and internal processes.

Section 7
Regional Studies

The MRP identifies one regional study: the SMC Regional Watershed Monitoring Program. The SMC is a collaborative effort between SCCWRP, State Water Board's Surface Water Ambient Monitoring Program (SWAMP), three Southern California Regional Water Quality Control Boards, and several county stormwater agencies. SCCWRP acts as a facilitator to organize the monitoring program, conducts the data analysis, and prepares monitoring results reports. The goal of the SMC is to develop a monitoring program on a regional level for Southern California's coastal streams and rivers.

Prior to the initiation of the SMC Regional Watershed Monitoring Program, in-stream monitoring in southern California was conducted by over a dozen different organizations, each of which had disparate monitoring programs that varied in design, frequency, and the indicators selected for measurement. Even where the monitoring designs were similar, the field techniques, laboratory methods, and quality assurance requirements were often not comparable, making region-wide assessments impossible. In addition, the lack of an integrated information management system precluded data sharing among programs. To address these problems, SCCWRP helped the SMC design and implement a coordinated and regional watershed monitoring program. The SMC works with local programs in the region to facilitate greater data collection and provide a regional context to address site- and watershed-specific questions.

The SMB EWMP Group, through the City of Los Angeles and LACFCD will continue to participate in the Regional Watershed Monitoring Program (Bioassessment Program) being managed by the Southern California Stormwater Monitoring Coalition (SMC). Initiated in 2008, the SMC's Regional Bioassessment Program is designed to run over a five-year cycle. Monitoring under the first cycle concluded in 2013, with reporting of findings and additional special studies planned to occur in 2014. SMC, is currently working on designing the bioassessment monitoring program for the next five-year cycle, which is scheduled to run from 2015 to 2019.

7.1 PROGRAM OBJECTIVES

The SMC Regional Watershed Monitoring Program seeks to coordinate and leverage existing monitoring efforts so as to produce regional estimates of condition, improve data comparability and quality assurance, and maximize data availability, but at the same time conserving monitoring expenditures. This program addresses watersheds, though, rather than the marine environment. The primary goal of the SMC Regional Watershed Monitoring Program is to implement an ongoing, large-scale regional monitoring program for southern California's coastal streams and rivers. The monitoring program addresses three main questions:

1. What is the condition of streams in our region?
2. What are the stressors that affect stream condition?
3. Are conditions getting better or worse?

7.2 REGIONAL STUDY PARTICIPATION

The MRP states that each Permittee shall be responsible for supporting the monitoring described at the sites within the watershed management area(s) that overlap with the Permittee's jurisdictional area. One program initiated under the SMC is the Regionally Consistent and Integrated Freshwater Stream Bioassessment Monitoring Program (Bioassessment Program), which included six (6) monitoring sites

that were monitored annually within the SMB EWMP Group area. The SMC Bioassessment Program initiated in 2009 and occurs in five years cycles. Sampling under the 2009 cycle concluded in 2013. The next five-year cycle is scheduled to begin in 2015, with additional special study monitoring scheduled to occur in 2014.

The City of Los Angeles and the LACFCD were participants of the 2009 Bioassessment Program, and the SMB EWMP Group will continue to coordinate with SCCWRP to participate in the SMC Regional Monitoring Program. During the next five-year Bioassessment Program cycle (2015 Bioassessment Program), as indicated by SCCWRP, previous types of monitoring resources will be available to Permittees to participate in the Bioassessment Program. The SMB EWMP Group will contact and discuss with the SCCWRP if the previous location will continue to be monitored in the 2015 Bioassessment Program. If so, then the SMB EWMP Group will coordinate with SCCWRP to participate in the 2015 Bioassessment Program.

Section 8
Special Studies

The MRP requires each Permittee to be responsible for conducting special studies required in an effective TMDL or an approved TMDL Monitoring Plan. The effective TMDLs, revised TMDLs, and approved monitoring plans relevant to the SMB EWMP Group do not require the completion of special studies. However, the SMB DDT and PCB TMDL have identified optional special studies as follows:

- Refine the relationship between sediment and concentrations of pollutants and fish tissue contamination;
- Determine total mass of DDT and PCBs in Santa Monica Bay subsurface sediments through sediment coring profiles;
- Identify flux rate of pollutants from the sediments to the water column; and
- Evaluate sediments embedded in storm drains to better estimate potential loadings of DDT and PCBs to Santa Monica Bay and identify potential sources.

At this time, the SMB EWMP Group will not participate in any special studies. At a future date, if implementation of a special study is desirable, then a separate work plan that coordinates with the CIMP will be developed.

Section 9
Non-Direct Measurements

Existing monitoring programs that collect water quality data in the watershed, as summarized in **Attachment A**, will be incorporated into the CIMP database to the extent practicable. Gathering and compiling information from outside the CIMP programs will be dictated by the cost. Water quality data reported by these monitoring programs will be evaluated for suitability for inclusion in the CIMP database. If the water quality data is deemed to be suitable, then it will be included in the database.

Section 10
Adaptive Management

An adaptive management approach provides a structured process that allows for taking action under uncertain conditions based on the best available science, closely monitoring and evaluating outcomes, and re-evaluating and adjusting decisions as more information is obtained.

The EWMP and CIMP are to be implemented using the adaptive process. As new program elements are implemented and data gathered over time, the EWMP and CIMP will undergo revision to reflect the most current understanding of the watershed and present a sound approach to addressing changing conditions. As such, the EWMP and CIMP will employ an adaptive management process that will allow the two programs to evolve over time.

10.1 INTEGRATED MONITORING AND ASSESSMENT PROGRAM

Part XVIII.A of the MRP details the annual assessment and reporting that is required as part of the annual report. The annual assessment and reporting is composed of seven parts:

1. Stormwater Control Measures
2. Effectiveness Assessment of Stormwater Control Measures
3. Non-stormwater Control Measures
4. Effectiveness Assessment of Non-stormwater Control Measures
5. Integrated Monitoring Compliance Report
6. Adaptive Management Strategies
7. Supporting Data and Information

Based on the findings of the annual assessment, revisions to the CIMP will be included as part of the Integrated Monitoring Compliance Report (IMCR), which is further outlined in **Section 11.2**, and submitted as part of the annual report.

10.2 CIMP REVISION PROCESS

Implementation of the CIMP will be used to gather data on receiving water conditions and stormwater/non-stormwater quality to assess water quality and the effectiveness of the EWMP. As part of the adaptive management process, re-evaluation of the CIMP will need to be conducted to better inform the SMB EWMP Group of ever-changing conditions of the watershed. Each program of the CIMP will be re-evaluated every two years, in line with the EWMP's adaptive management process, for the following:

- **Monitoring Site Locations**: As water quality priorities change and certain WBPCs are being address or identified, monitoring site locations may either need to be added or changed.
- **Monitoring Constituents**: Eliminate monitoring of constituents that are not detected.
- **Sampling and Testing Methods**: Modify the sampling and testing methodology as necessary based on lessons learned from previous year(s) and data analysis.
- **Monitoring Frequency**: Increase or decrease monitoring frequency based on the evaluation of RWL, WQBELs, and non-stormwater action levels.

Based on the re-evaluation, CIMP revisions will be made and submitted to the Regional Board for approval. CIMP revisions will be implemented upon approval by the Regional Board or within 60 days of submittal if the Regional Board expresses no objections.

Section 11
Reporting

Analysis and reporting of data is an integral part of verifying whether the CIMP is meeting MRP objectives. The MRP, establishes NPDES permit monitoring, reporting, and recordkeeping requirements, including those for large MS4s, based on federal Clean Water Act (CWA) section 308(a) and Code of Federal Regulations (40 CFR) sections 122.26(d)(2)(i)(F), (iii)(D), 122.41(h)-(l), 122.42(c), and 122.48. In addition, California Water Code (CWC) section 13383 authorizes the Regional Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The following sections outline the CIMP reporting process for the SMB EWMP Group.

11.1 DOCUMENTS AND RECORDS

Consistent with the Part XIV.A of the MRP requirements, the SMB EWMP Group will retain records of all monitoring information for a period of at least 3 years from the date of the sample, measurement, report, or application, including:

- Calibration data;
- Major maintenance records;
- Original lab and field data sheets;
- Original strip chart recordings for continuous monitoring instrumentations;
- Copies of reports required by the permit; and
- Records of data used to complete the application for the permit.

Records of monitoring will include:

- Date, time of sampling or measurements, exact place, weather conditions, and rainfall amount;
- Individual(s) who performed the sampling or measurements;
- Date(s) analyses were performed;
- Individual(s) who performed the analyses;
- Analytical techniques or methods used;
- Results of such analyses; and
- Data sheets showing toxicity test results.

11.1.1 Semi-Annual Analytical Data Submittal

Monitoring results data will be submitted semi-annually, as stated in Part XIV.L of the MRP. The transmitted data will be in the most recent update of the Southern California Municipal Storm Water Monitoring Coalition's (SMC) Standardized Data Transfer Formats (SDTFs) and sent electronically to the Regional Board Stormwater site to MS4stormwaterRB4@waterboards.ca.gov. The SMC SDTFs can be found at the SCCWRP web page http://www.sccwrp.org/data/DataSubmission.aspx. The submitted monitoring data will highlight the following:

- Exceedances of applicable WQBELs;
- Receiving water limitations;
- Action levels; and/or
- Aquatic toxicity thresholds for all test results, with corresponding sampling dates per receiving water monitoring station.

11.2 MONITORING REPORTS

Part XVIII.A.5, of the MRP presents the requirements of the IMCR that will be included and submitted on an annual basis as part of the Annual Report. As discussed in **Section 10**, the IMCR is one of seven parts of the Annual Assessment and Reporting.

The IMCR will include the following information as required by the MRP:

- Summary of exceedances against all applicable RWL, WQBELs, non-stormwater action levels, and aquatic toxicity thresholds for:
    - Receiving water monitoring – Wet- and dry-weather
    - Stormwater outfall monitoring
    - Non-stormwater outfall monitoring
- Summary of actions taken:
    - To address exceedances for WQBELs, non-stormwater action levels, or aquatic toxicity for stormwater and non-stormwater outfall monitoring
    - To determine whether MS4 discharges contributed to RWL exceedances and efforts taken to control the discharge causing the exceedances to the receiving water
- If aquatic toxicity was confirmed and a TIE was conducted, then identify the toxic chemicals determined by the TIE, and include all relevant data to allow the Regional Board to review the adequacy and findings of the TIE.

The IMCR will be submitted, as part of the Annual Assessment Report section of the Annual Report, to the Regional Board by December 15th of each year, for at least the duration of the Permit term. As indicated earlier, event summary reports will be attached to the IMCR.

In addition to the IMCR, the SMB EWMP Group will continue to submit the monthly SMBBB TMDL Monitoring Report.

11.3 SIGNATORY AND CERTIFICATION REQUIREMENTS

Part V.B of Attachment D of the Permit presents the Signatory and Certification Requirements and states:

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or US Environmental Protection Agency (USEPA) shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below [40 CFR section 122.41(k)(1)].
2. All applications submitted to the Regional Water Board shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer includes: (i) the chief executive officer of the agency (e.g., Mayor), or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., City Manager, Director of Public Works, City Engineer, etc.).[40 CFR section 122.22(a)(3)].
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
    a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above [40 CFR section 122.22(b)(1)];
    b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant

manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) [40 CFR section 122.22(b)(2)]; and

c. The written authorization is submitted to the Regional Water Board [40 CFR section 122.22(b)(3)].

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative [40 CFR section 122.22(c)].
5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 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, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." [40 CFR section 122.22(d)].

All required signatures and statements will be included as an attachment of the Annual Report, which will be submitted to the Regional Board by December 15th of each year, for at least the duration of the Permit term.

Section 12
Schedule for CIMP Implementation

As stated in Part IV.C.6 of the MRP, the SMB EWMP Group's CIMP implementation will initiate within 90 days after approval by the Executive Officer of the Regional Board. Monitoring of the existing twenty-four (24) SMBBB TMDL monitoring sites will continue per the CSMP schedule. Implementation of the seven CIMP monitoring sites will be initiated upon approval. Five of the sites will require installation of fixed autosamplers and appurtenances. Implementation of the CIMP may be subject to the availability and approval of construction permits from U.S. Army Corps of Engineers (Section 404 Nationwide Permit), Regional Board (Section 401 Water Quality Certification), Department of Fish and Wildlife (1602 Streambed Alteration Agreement), California Coastal Commission, California Department of Transportation, California State Parks, LACFCD, County Department of Beaches and Harbor, and other property owners It is anticipated that the permitting and installation process may take 18 months.

Section 13
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