

Draft

CITY OF VISTA

Jurisdictional Runoff Management Program

June 2015



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Statement of Certification

Jurisdictional Runoff Management Program Submittal

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Acronyms and Abbreviations

<u>Acronym/Abbreviation</u>	<u>Definition</u>
303(d) list	Clean Water Act Section 303(d) List of Water Quality Limited Segments
ASBS	Area of Special Biological Significance
Basin Plan	Water Quality Control Plan for The San Diego Basin
BMP	Best Management Practice
CASQA	California Stormwater Quality Association
CFR	Code of Federal Regulations
CGP	SWRCB Order No. 2009-0009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ
CIP	Capital Improvement Project
CIA	Common Interest Area
City	City of Vista
Copermittees	18 incorporated cities in San Diego County, the County of San Diego, the San Diego County Regional Airport Authority, and the San Diego Unified Port District
County	County of San Diego
CWA	Federal Water Pollution Control Act (also known as the Clean Water Act)
DEH	County of San Diego Department of Environmental Health
ESA	Environmentally sensitive area
GIS	Geographic Information System
HA	Hydrologic Area
HHW	Household Hazardous Waste
HMP	Hydromodification Plan
HOA	Homeowners Association
HPWQC	Highest Priority Water Quality Condition

<u>Acronym/Abbreviation</u>	<u>Definition</u>
HSA	Hydrologic Subarea
HU	Hydrologic Unit
IC/ID	Illicit connection and illicit discharge
IDDE	Illicit Discharge Detection and Elimination
IGP	SWRCB Industrial General Permit, Order No. 2014-0057-DWQ
JRMP	Jurisdictional Runoff Management Program
JURMP	Jurisdictional Urban Runoff Management Program
LID	Low Impact Development
MEP	Maximum Extent Practicable
MS4	Municipal separate storm sewer system
MS4 Permit	San Diego Regional Water Quality Control Board Order No. R9-2013-0001, as amended by Order No. R9-2015-0001
NAICS	North American Industrial Classification System
NOI	Notice of Intent
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
OES	State Office of Emergency Services
PDP	Priority Development Project
RARE	Rare, Threatened, or Endangered Species
REAP	Rain Event Action Plan
RMA	Residential Management Area
RWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SMARTS	Stormwater Multiple Application and Report Tracking System
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
Stormwater Ordinance	Stormwater Management and Discharge Control Program Ordinance

<u>Acronym/Abbreviation</u>	<u>Definition</u>
	(Vista Municipal Code Chapter 13.18)
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
TTWQ	Threat To Water Quality
USEPA	United States Environmental Protection Agency
WDID	Waste Discharge Identification
WMA	Watershed Management Area
WQIP	Water Quality Improvement Plan

Executive Summary

The Jurisdictional Runoff Management Plan (JRMP) is the City of Vista’s approach to improving water quality in its creeks, lagoons, and the ocean through reducing discharges of pollutants to the municipal separate storm sewer system (MS4: hereafter, "storm drain system"). As the operator of a storm drain system, the City of Vista (City) is subject to a National Pollutant Discharge Elimination System (NPDES) MS4 Permit issued by the Regional Water Quality Control Board, San Diego Region (RWQCB). The permit requires the City to reduce pollutants in discharges from its storm drain system to water bodies.

The City’s storm drain system, like that of most other jurisdictions across the United States, conveys most runoff from rain, irrigation runoff, natural groundwater seepage, and other sources of water to water bodies without first being directed to a treatment plant. To reduce pollutants in these storm drain system discharges to water bodies, the City implements or requires its residents and land owners to implement a variety of measures commonly referred to as Minimum Best Management Practices (BMPs) for Residential, Industrial, Commercial, Construction and Municipal Sites/Sources. Some examples of BMPs include covering potential pollutant sources to prevent contact with rain, employing erosion reduction techniques at construction sites, adjusting sprinklers to eliminate irrigation runoff, sweeping streets and parking lots, and building green infrastructure techniques like planters that capture and treat runoff for new development projects.

The most recent permit, RWQCB Order No. R9-2013-0001, as amended by R9-2015-0001 (MS4 Permit), requires the City of Vista and the other 20 municipal agencies in San Diego County (collectively, “Copermittees”) to prepare both jurisdictional and watershed scale plans that detail how they will comply with the new requirements. Each agency, including the City, prepares its own jurisdictional plan. The JRMP presented herein is an update to the City’s 2008 Jurisdictional Urban Runoff Management Plan (JURMP), which was prepared in response to the 2007 MS4 Permit. The watershed plans, known as Water Quality Improvement Plans (WQIP), are collaboratively prepared by the municipal agencies and each focus on a particular watershed. The Engineering Department’s Stormwater Division has led the City’s efforts to update this JRMP and prepare two WQIPs.

Permit-Required Plans:

- Jurisdictional Runoff Management Plan (1)
- Water Quality Improvement Plans (2)

Water Quality Improvement Plans (WQIP)

The City of Vista is located within the Carlsbad and San Luis Rey Watershed Management Areas (WMA). The City has collaboratively developed WQIPs in these two WMAs along with the other responsible agencies, which are listed below:

- Carlsbad WMA: the Cities of Carlsbad (lead agency), Encinitas, Escondido, Oceanside, San Marcos, and Solana Beach, and the County of San Diego
- San Luis Rey WMA: the County of San Diego (lead agency), the City of Oceanside, and Caltrans

The WQIPs identify specific water quality priorities, establish numeric water quality goals and objectives, the schedules by which they will be achieved, and the implementation strategies to achieve them. Bacteria has been identified as the highest priority water quality condition in both the Carlsbad and San Luis Rey WMAs.

The Carlsbad WMA is comprised of multiple distinct sub-watersheds, and the goals, schedules, and strategies have been formulated in light of the specific characteristics of individual sub-watersheds. The San Luis Rey area is subject to a bacteria Total Maximum Daily Load (TMDL), which sets numeric limits for bacteria levels during dry weather and during and immediately after storms. The San Luis Rey WQIP incorporates numeric goals, timelines by which they are expected to be achieved, and strategies to meet the goals based on the requirements of the TMDL.

The City's JRMP has been developed in light of the water quality priorities and goals identified in the two WQIPs. The water quality improvement strategies selected for implementation in the WQIP have been incorporated into the City's JRMP and are summarized in JRMP Appendix I.

Jurisdictional Runoff Management Program (JRMP)

The JRMP document presents an integrated programmatic approach to: reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) standard; effectively prohibit non-stormwater discharges; and protect and improve the quality of water bodies in the City of Vista. The JRMP describes operational programs and activities developed to meet the requirements of MS4 Permit, and it also serves as the implementation mechanism for WQIP strategies.

WQIP and JRMP Connection

The new MS4 Permit preserves some of the programmatic specificity of past permits, but it generally allows the City and other permitted jurisdictions more discretion in determining the details of how their day-to-day programs will be implemented. This approach is intended to allow the City and other regulated agencies more flexibility in directing resources and activities toward the highest priority issues identified in each WMA, as presented in the WQIPs.

Addressing these highest priorities, however, involves meeting numeric water quality targets. The targets are more stringent metrics than those established by previous stormwater permits, which mostly used programmatic achievements to determine compliance.

Functionally, the WQIP serves as an overarching strategic planning document, setting watershed-scale water quality priorities, goals, schedules, and strategies for the City and the other responsible agencies in each WMA. The JRMP document describes the City's minimum program implementation standards in compliance with the MS4 Permit and integrates the strategies defined by the WQIP. WQIP strategy integration includes both modifying existing activities to target WQIP priorities more effectively and developing new activities.

More detail about JRMP strategies, including where they have been modified to address WQIP priorities and integrate WQIP strategies, is provided in the following section. The full list of strategies the City has committed to implement in the JRMP and San Luis Rey and Carlsbad WQIPs is also included in Appendix I.

JRMP Components

As a result of new MS4 Permit requirements specific to jurisdictional programs and additional program enhancements to address highest priority water quality conditions within the San Luis Rey and Carlsbad WMA, changes have been made to program components described in the City's 2008 JURMP. Components of the City's updated JRMP are summarized below, including changes with respect to the 2008 JURMP.

Introduction

The introduction section discusses the regulatory background leading up to the creation of this JRMP, objectives of the JRMP, and how the JRMP integrates with WQIPs. City setting information, land use statistics, a map of the City's storm drain system, and information about Environmentally Sensitive Areas within the City are also included in this section.

Program Organization and Legal Authority

This section describes the City's legal authority to implement its stormwater program activities, as described in the JRMP. It also identifies and describes the departments within the City that conduct and oversee runoff management activities.

Key changes made with respect to the 2008 JURMP are summarized below:

- Added detail about legal authority, as outlined by the MS4 Permit.
- Revised departmental roles and responsibilities to account for changes in departmental organization.
- Provided additional detail on roles and responsibilities of different departments and divisions.

Illicit Discharge Detection and Elimination (IDDE)

Newly updated prohibitions of various non-stormwater discharges—discharges of water that do not originate from rain—and the City’s approach to controlling such discharges are included in this section. These discharges can increase pollutant loads in the water that flows to the City’s storm drain system and eventually to receiving waters. The categories of non-stormwater discharges the RWQCB or City has determined to be significant sources of pollutants are identified, and the appropriate control measures the City has identified to reduce the discharge of pollutants from such non-stormwater discharges are discussed.

This section describes the processes by which illicit connections and illicit discharges (IC/IDs) are detected by the City. This includes receiving, responding, and tracking of potential stormwater ordinance violations reported by both the general public and City personnel, as well as the City’s Dry Weather Major MS4 Outfall Discharge Monitoring Program. The City’s sanitary sewer overflow and other spill response and prevention methods are also described.

Key changes made with respect to the 2008 JURMP are summarized below:

- Combined the non-stormwater discharge section with IDDE section.
- Revised the discharge prohibitions and exceptions. Some non-stormwater discharges that were previously conditionally allowed are now prohibited or more strongly regulated by the 2013 MS4 Permit (e.g., irrigation runoff). Eliminating irrigation runoff is expected to be a major focus across the San Diego region over the remainder of the MS4 Permit term (2015 through 2018), and it will also help the City meet WQIP goals to reduce flow rates in the storm drain system when it is not raining.
- Updated discussion on dry weather monitoring procedures, including IC/ID prioritization and follow-up.
- Provided more detail on public complaint response procedures and spill response actions.
- Provided more detail on IC/ID investigation methods not associated with MS4 outfall monitoring.

Development Planning

Through development activities, the addition of impervious surfaces can alter the natural drainage patterns of the area and facilitate the introduction of pollutants to stormwater discharges. This section discusses City requirements of development projects that reduce potential adverse impacts to stormwater discharges, including consideration of the project type, project review and approval processes, and post-construction structural best management practice (BMP) requirements. The structural BMP discussion also includes procedures for the City’s structural BMP maintenance verification and inspection program. As with all other San Diego Copermittees, by the end of calendar year 2015 the City will update its post-construction

structural BMP requirements for development projects in coordination with a regionally-developed BMP Design Manual. In the meantime, the existing requirements for development projects (from the 2007 MS4 Permit) will continue to apply.

Key changes made with respect to the 2008 JURMP are summarized below:

- Revised descriptions of the roles and responsibilities of different departments, divisions, and sections.
- Revised structural post-construction BMP project maintenance verification and prioritization procedures.
- Developed a process to identify retrofit and stream rehabilitation projects, as required by the MS4 Permit (Appendix E). Retrofit or rehabilitation projects are generally targeted at areas of the City that have already been developed, including industrial, commercial, municipal, and residential land uses.

Construction Management

This section includes information and regulations applicable to construction activities within the City and discusses updates made to the City's watershed-based inventory of the construction sites within the City. Construction site inspection frequencies and methods are presented. This section also discusses procedures for ensuring that both private development projects and Capital Improvement Program projects provide proper construction BMP plans and obtain coverage under the State Construction General Permit,¹ when necessary.

Key changes made with respect to the 2008 JURMP are summarized below:

- Revised procedures to designate all construction sites as high priority, with the goal of reducing sediment discharges from construction sites. Reduced discharges of sediment are especially important in the Buena Vista Watershed since Buena Vista Lagoon is listed as impaired for sedimentation. Since bacteria readily adheres to sediment particles, it is anticipated that decreasing sediment levels in runoff will also reduce bacteria.
- Developed revised minimum BMP requirements in the Stormwater Standards Manual based on the most recent version of the California Stormwater Quality Association Standards.
- Required projects to prepare erosion control plans that address all applicable phases of development, and clarified that City inspectors have the authority to require additional BMPs in the field where necessary to maintain compliance with the MS4 Permit.

¹ State Water Resources Control Board Order No. 2009-009-DWQ, as amended by Order No. 2010-0014-DWQ and Order No. 2012-0006-DWQ

- Prepared a revised inspection form to emphasize the role of erosion control BMPs and clearly communicate required corrections to responsible parties.
- Developed revised follow-up and enforcement procedures to facilitate tracking and prompt resolution of violations.

Existing Development: Industrial and Commercial Facilities

This section discusses how the City updates and maintains its watershed-based inventory of industrial and commercial facilities, including mobile businesses. Prioritizing industrial and commercial facility inspections is based on the experience and knowledge gained through the inspections conducted during the previous permit cycle. The minimum BMPs required for industrial and commercial facilities have been updated, as included in the Stormwater Standards Manual (Appendix C). The industrial and commercial section also includes a discussion of facility inspection frequencies and procedures.

Key changes made with respect to the 2008 JURMP are summarized below:

- Revised prioritization procedures to direct more inspections toward geographic focus areas identified in the Carlsbad WQIP and other specific areas within the City to target businesses identified through previous inspections as significant sources of pollutants.
- Updated minimum BMPs for industrial and commercial facilities to address updates to the MS4 Permit and Stormwater Management and Discharge Control Ordinance (Vista Municipal Code Sections 13.18, or “Stormwater Ordinance”). The changes clarify the requirements and address deficiencies commonly observed during inspections over the past permit cycle. The updated Stormwater Ordinance and minimum BMP requirements are included in JRMP Appendices A and C, respectively.
- Added property-based inspections as an optional approach for assessing compliance at businesses. Property-based inspections are a patrol-style approach to efficient assessment of business clusters, such as shopping centers, for the presence of non-stormwater discharges or other stormwater ordinance violations. Reducing non-stormwater discharges will be a key component of the City’s approach to meeting numeric goals in the WQIPs.

Existing Development: Municipal Facilities and Infrastructure

This section provides a discussion of the City’s municipal properties and the process for maintaining its watershed-based inventory. The City requires its own facilities to comply with the same minimum BMPs required for industrial and commercial facilities, as listed in the Stormwater Standards Manual (Appendix C). The municipal facilities component (Section 7) identifies inspection frequencies and procedures for municipal site inspections, which are used to verify compliance with the minimum BMPs. Additional detail on BMPs specific to municipal

maintenance activities, such as storm drain cleaning and landscape maintenance, are described in the municipal infrastructure component of the JRMP (Section 8).

Key changes made with respect to the 2008 JURMP are summarized below:

- Updated the minimum municipal BMPs to be consistent with the BMPs required for industrial and commercial businesses.
- Added more detail about the City's efforts to conserve water and prevent runoff during landscape irrigation. Reducing dry weather flows, especially from irrigation, will help meet WQIP goals.

Existing Development: Residential Areas

The MS4 Permit introduces new requirements for how the City addresses stormwater in existing residential areas. In addition to the inventory process, this section also provides a description of the newly updated residential oversight program and methods that City staff will use to implement the program. Minimum BMPs required for residential areas and activities are included in the Stormwater Standards Manual (Appendix C).

Key changes made with respect to the 2008 JURMP are summarized below:

- Developed minimum BMP requirements for residential areas, which are included in the Stormwater Standards Manual (Appendix C).
- Created an inventory of Residential Management Areas (RMA) and developed an associated inspection/oversight program. In support of WQIP strategies to reduce non-stormwater flows, the RMAs are based primarily on mapped drainage areas.
- Provided more details on methods of residential area evaluations and oversight, including drive-through assessments and MS4 outfall field screening and upstream investigations.

Public Education and Participation

The updated education programs and activities that the City uses to foster awareness and encourage behavioral changes relating to stormwater activities are presented in this section. Information regarding educational programs conducted by the City, including target audience, content, form, and frequency, are discussed. This section describes the mechanisms that are used to encourage public participation in the City's stormwater program and the development of this updated JRMP.

Key changes made with respect to the 2008 JURMP are summarized below:

- In accordance with the WQIP emphasis on reducing dry weather flows, proposed revised outreach approach to reduce landscape irrigation runoff and conserve water.
- Updated list of targeted audiences and applicable training topics.

Fiscal Analysis

The means by which the City funds its day-to-day stormwater program, including JRMP activities and WQIP activities necessary to meet WQIP requirements, is discussed in this section.

The key change made with respect to the 2008 JURMP is summarized below:

- Revised the fiscal analysis approach to meet the fiscal reporting requirements specified in the 2013 MS4 Permit.

Enforcement Response Plan

The City has developed enforcement tools and procedures that will be used, as necessary, to achieve compliance with requirements of the stormwater ordinance. The City has developed an Enforcement Response Plan (Appendix B) that summarizes how City staff implement enforcement actions. The enforcement approach for each program component is discussed within that component's section of the JRMP, with additional details provided in the Enforcement Response Plan.

JRMP Implementation

Each City department is committed to implementing the relevant procedures and BMPs described in this JRMP. The goal of these actions is not only to meet regulatory requirements, but also to improve water quality for the City's residents. Results from the City's implementation of the JRMP will be documented and reported each year as part of the annual reporting process, similar to the approach in past years. Jurisdictional program data will be a significant part of the WQIP annual reports in watersheds in which the City has jurisdiction, and annual assessments will be completed through the WQIP annual reporting process. As part of the adaptive management and iterative approach, the City will refine its programs accordingly as new lessons are learned. Modifications to the JRMP will be documented to ensure clear communication and transferability from one staff person to another.

1 Introduction

All cities in San Diego County, including the City of Vista (City), have municipal separate storm sewer systems (MS4s; also known as “storm drain systems”) that are distinct from sanitary sewer systems. In contrast to wastewater in sanitary sewer systems, water that enters storm drain systems flows to local creeks and other water bodies without first being directed to a treatment plant. Because runoff that eventually reaches the storm drain systems may first pick up a variety of pollutants as it flows over and through roads, parking lots, outdoor storage areas, landscaped areas, and other developed areas, municipal agencies that operate storm drain systems are subject to permits that require actions to reduce pollution in discharges to storm drain systems. The Jurisdictional Runoff Management Program (JRMP) is the City of Vista’s approach to meeting permit requirements and improving water quality in local water bodies through reducing discharges of pollutants to the storm drain system.

1.1 Regulatory Background

Storm drain system permits are a component of the National Pollutant Discharge Elimination System (NPDES) permitting program, which is authorized by the federal Clean Water Act (CWA). The State of California administers the NPDES program within the state, and the San Diego Regional Water Quality Control Board (RWQCB) oversees NPDES permits within San Diego County and the southern portions of Orange and Riverside Counties. The RWQCB issued the first regional NPDES stormwater permit regulating all municipalities in San Diego County (collectively, “Copermittees”) in 1990. Revised versions were issued in 2001 and 2008, with each successive permit including increasingly prescriptive requirements. The most recent permit, RWQCB Order No. R9-2013-0001, as amended by R9-2015-0001 (MS4 Permit), increases the focus on watershed-level planning and achieving water quality outcomes. The MS4 Permit preserves some of the programmatic specificity of past permits, but it generally allows Copermittees more discretion in determining how resources are allocated. This approach is intended to allow the City and other regulated agencies more flexibility in directing efforts toward the issues identified as the highest priorities in each Watershed Management Area (WMA). However, addressing these highest priorities involves meeting numeric water quality targets. These targets are more stringent metrics than those established by previous storm water permits, which mostly used programmatic achievements to determine compliance.

The MS4 Permit requires the City of Vista and the other 20 municipal agencies in San Diego County to prepare both jurisdictional (JRMP) and watershed (WQIP) plans that identify activities they will implement to improve water quality. The JRMP is prepared individually by each agency and applies only within that agency’s jurisdiction. Each WQIP focuses on one

WMA and is collaboratively prepared by the municipal agencies within the WMA. The City of Vista is a responsible party for the WQIPs for the San Luis Rey and Carlsbad WMAs. The WQIP for those two WMAs identify the highest priority water quality conditions within each WMA, corresponding numeric goals, and strategies that the City of Vista and other responsible agencies will implement to meet the goals. The JRMP is described in more detail in Section 1.2, and the relationship between the JRMP and the WQIPs is described in Section 1.3.

1.2 Purpose and Objective

The primary purpose of the JRMP is to outline the strategies and supporting activities the City will implement to reduce the discharge of pollutants from its storm drain system to the Maximum Extent Practicable (MEP). To present the full picture of all the activities the City performs to improve water quality and meet the requirements of the MS4 Permit, the strategies identified in the Water Quality Improvement Plans (WQIP) for each of the WMAs in which the City has jurisdiction are also included in the JRMP. Section 1.3 provides more information about the integration between the WQIPs and the JRMP.

The JRMP describes how the City implements or requires its residents and land owners to implement a variety of measures commonly referred to as best management practices (BMPs) to reduce pollutants in storm drain system discharges to water bodies. Some examples of BMPs include covering potential pollutant sources to prevent contact with rain, employing erosion reduction techniques at construction sites, adjusting sprinklers to eliminate irrigation runoff, sweeping streets and parking lots, and building green infrastructure techniques like planters that capture and treat runoff from new development projects. The City has developed a Stormwater Standards Manual (Appendix C) that identifies minimum BMPs required for businesses, residents, construction sites, development projects. The Standards Manual also identifies minimum BMPs required of the City's own activities to effectively prohibit non-stormwater discharges and to reduce discharges of pollutants in stormwater to the MEP. The Stormwater Management and Discharge Control Program Ordinance (Stormwater Ordinance), codified in Vista Municipal Code Chapter 13.18, provides legal authority for the required BMPs and discharge prohibitions.

Each major component of the City's stormwater program, such as construction management and illicit discharge detection and elimination, has its own section within the JRMP. To increase usability for City staff who will implement these program components, each section has been written and formatted so that it is understandable on its own, without needing to reference a large number of other sections or external documents. For the same reason, acronyms and abbreviations have also been defined the first time they occur in each section. Each JRMP program component section also identifies the departments and sections that will be responsible for implementing the activities described in the section. While the City's

Stormwater Division has led the effort to update the JRMP, all responsible departments have been involved; therefore the updated JRMP reflects input from staff in all involved departments.

1.3 Integration with Watershed Quality Improvement Plans

Because the City is a responsible party in the San Luis Rey and Carlsbad Watersheds, it has helped develop the WQIPs for both Watershed Management Areas (WMA). Table 1-1 lists the percentage of the City of Vista located within each WMA, and WMA boundaries are also shown on Figure 1-1. The WQIPs for these two WMAs have both identified bacteria as the highest priority water quality condition and established associated numeric goals.

The San Luis Rey area is subject to a bacteria Total Maximum Daily Load (TMDL), so numeric targets based on the TMDL standards apply throughout the WMA. In the Carlsbad WMA, numeric targets have been set for several smaller drainages within the WMA, called “focus areas.” The City of Vista and most other cities within these WMAs have designed programs that will reduce or eliminate non-stormwater discharges. For example, irrigation runoff is prohibited by the permit because it conveys pollutants, such as bacteria, to the storm drain system and nearby waterways. Reducing non-stormwater discharges is expected to reduce levels of bacteria when it is not raining. In addition, the City of Vista’s jurisdictional program is targeting sediment, which is linked to a 303(d) listing in Buena Vista Lagoon located downstream from the City. Since bacteria readily adheres to sediment particles, it is anticipated that decreasing sediment levels in runoff will also reduce bacteria.

The list of strategies the City will implement to address WQIP priority conditions and meet numeric goals is provided in Appendix I of the JRMP. These strategies include the City’s core day-to-day operational practices, as well as additional commitments necessary to meet the numeric goals within the timelines specified in the WQIPs. All strategies the City has included in the WQIPs, including both core day-to-day operations and additional commitments, are included in the JRMP. Appendix I identifies the component(s) of the JRMP into which each WQIP strategy has been incorporated. The JRMP serves as the City’s primary mechanism for implementing its WQIP strategies.

1.4 City Setting

The City’s stormwater program has been developed in consideration of Vista’s location within the Carlsbad and San Luis Rey WMAs and the City’s overall geographic setting. Factors that affect the design and implementation of the stormwater program to comply with the MS4 Permit and meet WQIP numeric goals include the following: land use distribution, drainage patterns and watershed setting, locations and types of storm drain infrastructure, and locations of water bodies, including those designated as Environmentally Sensitive Areas (ESA). These factors are described in more detail below.

1.4.1 Location, Population, and Land Use

The City of Vista is located in the northern portion of San Diego County in the Highway 78 corridor, approximately 35 miles north of downtown San Diego and seven miles inland from the Pacific Ocean. The City is bordered by the City of Oceanside to the west and northwest, the City of San Marcos to the southeast, the City of Carlsbad to the southwest, and unincorporated areas of San Diego County along the eastern and northeastern border of the City. The City itself includes approximately 11,668 acres (19 square miles) and a population of more than 96,000.

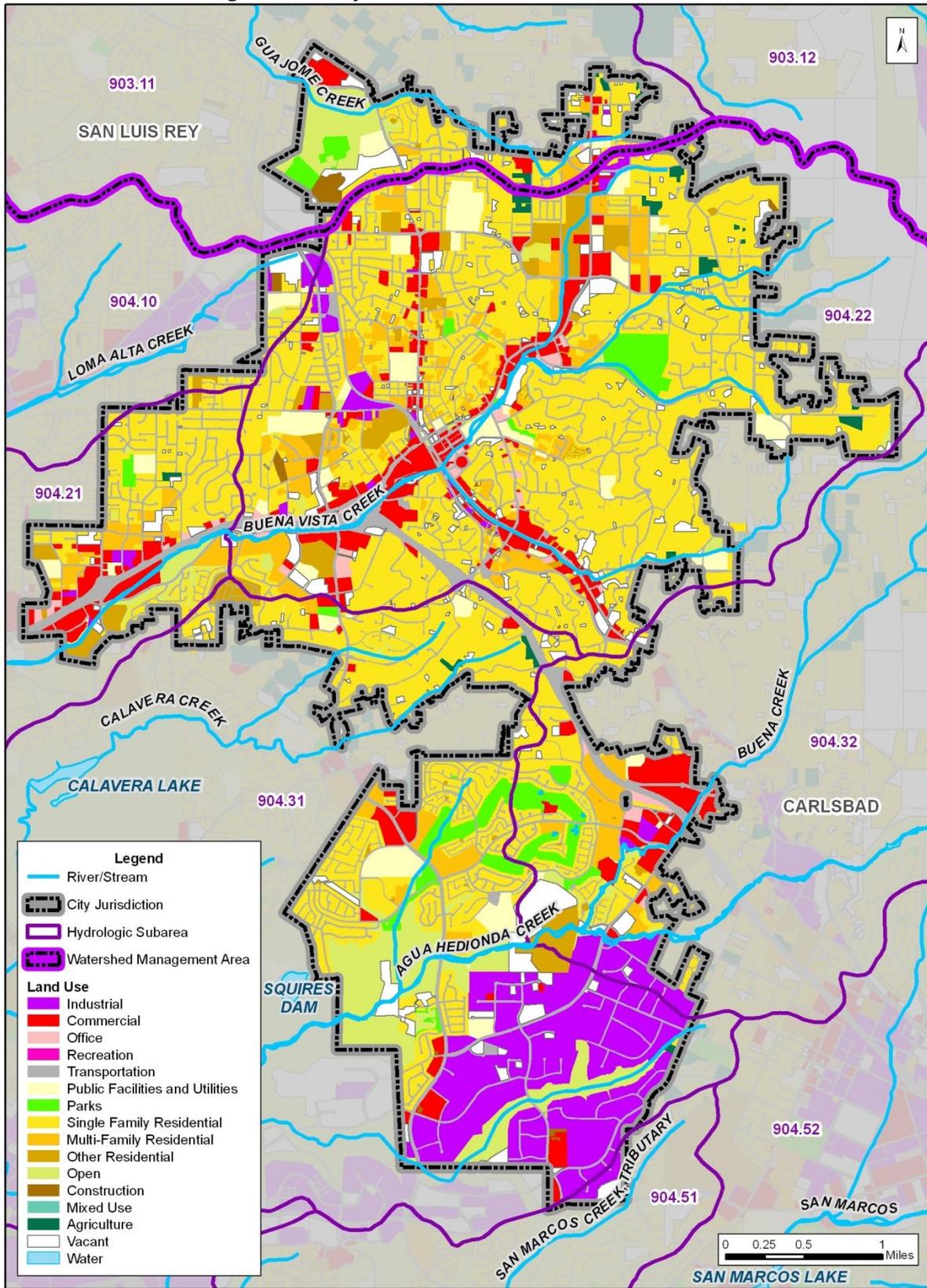
Land use within the City is mainly residential; other dominant land uses in the City include transportation, industrial and commercial, and undeveloped open space. Land use categories with the corresponding percentage of land use in the City’s boundaries are included in Table 1-1 and shown in Figure 1-1.

Table 1-1. City of Vista Land Use Breakdown

Land Use	Total Area (Acres)	Percentage
Single Family Residential	4,931	42%
Transportation	1,536	13%
Industrial	1,017	9%
Commercial	810	7%
Open	797	7%
Vacant	643	6%
Multi-Family Residential	638	5%
Public Facilities and Utilities	421	4%
Other Residential	366	3%
Parks or Golf Courses	315	3%
Office	80	<1%
Agriculture	72	<1%
Construction	41	<1%
Grand Total	11,668	100%

Source: 2014 San Diego Association of Governments (SANDAG) land use data

Figure 1-1. City of Vista Land Use and Watersheds



Base Data Sources: State Water Resources Control Board and SanGIS.

1.4.2 Watersheds

The City lies within two WMAs: the Carlsbad WMA, hydrologic unit (HU) 904, and the San Luis Rey WMA, HU 903. The majority of the City lies within the Carlsbad WMA. The Buena Vista and Agua Hedionda hydrologic areas (HA) within the Carlsbad WMA drain the largest percentage of the City. Table 1-2 summarizes the HAs within City boundaries and associated water bodies. Note that some of the water bodies are located downstream of the City of Vista, but they are included in the table to provide a watershed context. Watershed boundaries and local water boundaries are also shown on Figure 1-1.

Table 1-2. City of Vista Watersheds and Hydrologic Areas

Watershed Management Area	HA Name	HA Number	Percentage of City within HA	Water Bodies
San Luis Rey	Lower San Luis Rey	903.1	6%	Guajome Lake ¹ San Luis Rey River ¹
	Loma Alta	904.1	1%	Loma Alta Creek
Carlsbad	Buena Vista	904.2	54%	Buena Vista Creek Buena Vista Lagoon ¹
	Agua Hedionda	904.3	38%	Agua Hedionda Creek Buena Creek Calavera Creek Agua Hedionda Lagoon ¹
	San Marcos	904.5	1%	San Marcos Creek Batiquitos Lagoon ¹

Notes:

HA – hydrologic area

1. Water body is downstream of the City, outside the City’s jurisdictional boundaries.

1.4.3 Storm Drain System

The City maintains an inventory of its storm drain system conveyance structures, including inlets, pipes, and channels, in geographic information systems (GIS) format. A map of the City’s storm drain system displaying that data is included in Appendix G.

1.4.4 Environmentally Sensitive Areas and Impaired Water Bodies

Environmentally sensitive areas (ESAs), as defined in the MS4 Permit, include the following:

- CWA Section 303(d) listed impaired water bodies
- Areas designated as Areas of Special Biological Significance (ASBS) by the State Water Resources Control Board (SWRCB) and the RWQCB
- State Water Quality Protected Areas

- Water bodies designated with the Rare, Threatened, or Endangered Species (RARE) beneficial use by the SWRCB and the RWQCB
- Any other equivalent ESAs identified by the City

There are no ASBS or State Water Quality Protected Areas in the City’s jurisdiction. The ESAs within the City’s boundaries are presented in Figure 1-2 and Table 1-3, which also summarizes 303(d)-listed impairments and RARE beneficial use designations. Table 1-4 lists pollutant categories associated with impaired water bodies within the City or farther downstream within the same hydrologic areas. This table is used as a reference when assessing whether various inventoried sources, as described in later sections, may have the potential to contribute pollutants associated with 303(d)-listed impairments.

Table 1-3. City of Vista Environmentally Sensitive Areas

ESAs	303(d) Listed Impairment	RARE Beneficial Use
Agua Hedionda Creek	Indicator bacteria, manganese, phosphorus, toxicity, selenium, total dissolved solids, total nitrogen as N	
Buena Creek	DDT, nitrate and nitrite	
Buena Vista Creek	Sediment toxicity, selenium	X
Loma Alta Creek	Selenium, toxicity	

Note:

This table is based on the 2010 CWA 303(d) list of impairments and Section 2 of the Basin Plan (RWQCB, 2012).

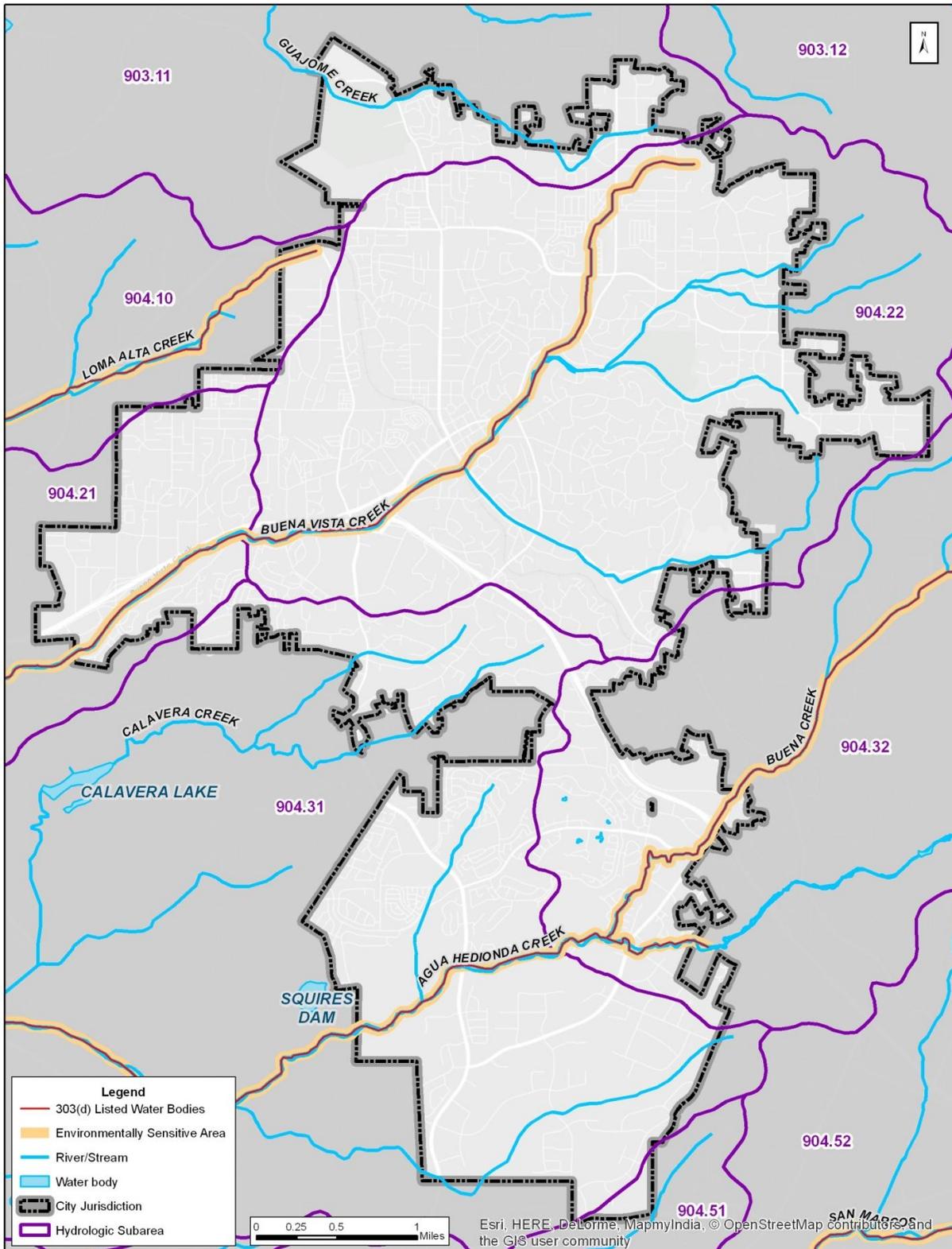
Table 1-4. Pollutant Categories Associated with Impairments by Hydrologic Area

Watershed Management Area	Hydrologic Area	Bacteria	Nutrients	Sediment	Dissolved Minerals
San Luis Rey	Lower San Luis Rey (903.1)	X	X		X
Carlsbad	Loma Alta (904.1)	X	X		
	Buena Vista (904.2)	X	X	X	
	Agua Hedionda (904.3)	X	X		X
	San Marcos (904.5)	X	X		

Note:

Bacteria has been identified as the highest priority water quality condition in both the San Luis Rey and the Carlsbad WQIPs.

Figure 1-2. City of Vista Environmentally Sensitive Areas



Base Data Sources: State Water Resources Control Board and SanGIS.

Note that the ESAs, as drawn on the map, include a 200 foot buffer on either side of each ESA. Facilities or activities within this buffer are considered “directly adjacent to” an ESA, as defined in the MS4 Permit.

2 Program Organization and Legal Authority

2.1 Introduction

The City of Vista (City) establishes, maintains, and enforces adequate legal authority within its jurisdiction to control pollutant discharges into and from its storm drain system and to meet the requirements of MS4 Permit² Provision E.1. The City has established local ordinances in the Vista Municipal Code (VMC) to provide legal authority in support of stormwater program goals, including reducing discharges of pollutants in stormwater to the maximum extent practicable (MEP) and effectively prohibiting non-stormwater discharges. The ordinances also provide the legal authority necessary to implement strategies designed to achieve the City's numeric goals included in the Water Quality Improvement Plans (WQIP) for the San Luis Rey and Carlsbad Watershed Management Areas (WMA). The following two Chapters of Vista Municipal Code (VMC) are the primary ordinances for establishing legal authority to implement the stormwater management program:

- City of Vista Stormwater Management and Discharge Control Program Ordinance (Stormwater Ordinance), VMC Chapter 13.18
- Grading and Erosion Control Ordinance, VMC Chapter 17.56

The Stormwater Ordinance has been updated to reflect changes to the requirements of the MS4 Permit, including new regulations for non-stormwater discharges. The City's Stormwater Ordinance also makes enforceable the City's revised minimum BMP requirements included in the Stormwater Standards Manual (Appendix C of this document). The updated Stormwater Ordinance is included in Appendix A. As with all other City ordinances, Vista Municipal Code chapters 13.18 and 17.56 are also available on the City's website (www.cityofvista.com).

Where violations of the Vista Municipal Code, including violations of requirements in the Stormwater Standards Manual, are observed, administrative and judicial procedures may be employed to enforce stormwater requirements. The City also has litter and public nuisance ordinances, which are not specific to stormwater but may in some cases be used to support stormwater program implementation. More detail about enforcement tools and procedures is included in the Enforcement Response Plan (Appendix B).

² San Diego Regional Water Quality Control Board Order No. R9-2013-0001, as amended by Order No. R9-2015-0001

2.2 Certification of Legal Authority

As required by the MS4 Permit, the City of Vista will prepare a letter certifying that the City has adequate legal authority to implement and enforce the requirements of Title 40 Code of Federal Regulations (CFR) Section 122.26(d)(2)(i)(A-F) and Order No. R9-2013-0001. This certification letter will be submitted with the first WQIP annual report, which is expected to be due in January 2017.

2.3 Departmental Roles and Responsibilities

The following is a list of departments, divisions, and programs within the City of Vista that conduct stormwater program-related activities.

Mayor and City Council

- Adopt ordinance revisions to carry out new MS4 Permit requirements
- Secure fiscal resources and approve budgets
- Provide public participation at City Council meetings
- Review and approve related policies and plans as needed
- Enter into formal agreements with Copermittees to define management structure, responsibilities, cost sharing, and decision making procedures for implementation of the MS4 Permit
- Sign reports or have principal executive office sign

City Attorney's Office

- Draft and approve ordinances and assist with enforcement as needed
- Ensure and certify adequate legal authority

City Manager's Office

- Oversee implementation of JRMP across multiple departments
- Coordinate public participation and outreach information via the City's Communication Officer
- Collaborate with enforcement staff on illegal discharges and water quality issues, and enforce applicable department codes
- Sign and certify reports submitted to the RWQCB or delegate authority to executive staff official
- Provide Geographic Information Systems (GIS) support, as follows:

- Assist with the development, maintenance, and access of information about the City's infrastructure, existing facilities, and publicly-owned areas
- Technical support for use of Cityworks software to track stormwater-related activities (e.g., inspections, enforcement cases, work orders)
- Provide Information Technology technical support

Engineering Department

- Stormwater Division
 - Coordinate implementation of the JRMP
 - Maintain inventory and conduct inspections and enforcement of existing facilities (industrial, commercial, and residential)
 - Responsible for enforcement of municipal areas and activities
 - Provide enforcement support for construction activities
 - Implement IDDE program, including dry weather monitoring, investigation, enforcement, and hotline response
 - Assist with training of municipal personnel, and industrial and commercial facility operators
 - Conduct outreach and education for various audiences such as residents, general public, and school children
 - Maintain the structural post-construction BMP inventory and oversee maintenance tracking activities
 - Act as representative in Carlsbad and San Luis Rey Watersheds and regional Copermittee management activities
 - Serve as liaison to City departments regarding implementation of the MS4 Permit and JRMP
 - Coordinate JRMP Annual Report preparation
- Capital Improvement Projects (CIP) Division
 - Ensure that public projects meet development standards
 - Oversee projects for compliance with erosion control requirements
 - Update construction site inventory
 - Contribute to education and outreach for construction audience

- Provide information for JRMP document updates and JRMP Annual Reports
- Engineering Inspection Division
 - Maintain construction site inventory
 - Conduct inspections and regulate construction sites regarding erosion, structural BMPs, and other site management activities
 - Report non-compliant sites, including SWRCB Construction General Permit, Order No. 2012-0006-DWQ (CGP) non-filers
 - Contribute to education and outreach for construction audience
 - Provide information for JRMP document updates and JRMP Annual Reports
- Land Development Division
 - Modify development requirements in Stormwater Standards Manual as needed
 - Implement development requirements consistent with Stormwater Standards Manual and the MS4 Permit
 - Maintain inventory of permits
 - Support structural post-construction BMP compliance and maintenance tracking
 - Responsible for Hydromodification Plan implementation
 - Assist with existing development enforcement for BMP compliance
 - Contribute to education for new development and construction activities
 - Provide information for JRMP document updates and JRMP Annual Reports
- Right-of-Ways Division
 - Maintain inventory of municipal areas
 - Provide information for JRMP document updates and JRMP Annual Reports
- Sewer Projects Division
 - Responsible for design, review, and approval of all publicly owned and maintained sewer infrastructure
 - Conducts plan checks and sewer permit issuance for private development connections to the public sewer system
 - Coordinate response to identified cross-connections and sewage spills

Community Development Department

- Development Services Division
 - Issue grading permits
 - Receive and review development and redevelopment applications
 - Responsible for low impact design (LID) and Hydromodification Management Plan (HMP) development and implementation
 - Develops contract documents and administers contracts, including BMP requirements
- Planning Division
 - Responsible for update to the City's General Plan and Environmental Review process
 - Responsible for ensuring that land uses in the City comply with the City's Municipal Code, General Plan, Council and Planning Commission policies, and State requirements
 - Contribute to education and outreach for new development and construction activities
 - Provide information for JRMP document updates and JRMP Annual Reports
- Building Division
 - Contribute to treatment control BMP maintenance tracking
 - Responsible for development site enforcement for building activities
 - Provide information for JRMP document updates and JRMP Annual Reports

Public Works Department

- Administration Division
 - Oversee contracts with contractors regarding solid waste disposal and Household Hazardous Waste activities
 - Coordinate Public Works Corporate Yard activities, such as BMP implementation, spill prevention/response, and training
- Street Maintenance Division
 - Administer street sweeping program
 - Conduct preventative maintenance

- Responsible for operation and maintenance of MS4 and City-owned structural post-construction controls
- Manage pesticides, herbicides, and fertilizers as applicable
- Provide information for JRMP document updates and JRMP Annual Reports
- Wastewater Maintenance Division
 - Responsible for the maintenance of the City's sanitary sewer system
 - Respond to and clean up sewage spills to prevent or minimize discharges to the MS4
 - Provide information for JRMP document updates and JRMP Annual Reports
- Fleet Maintenance Division
 - Implement equipment maintenance BMPs
 - Contribute to education and outreach for municipal personnel
 - Provide information for JRMP document updates and JRMP Annual Reports
- Parks Maintenance Division
 - Manage pesticides, herbicides, and fertilizers
 - Implement and maintain BMPs at City parks
 - Contribute to education and outreach for municipal personnel
 - Provide information for JRMP document updates and JRMP Annual Reports
- Facilities Maintenance Division
 - Provide general, routine maintenance, as well as BMP implementation and maintenance to select City-owned buildings
 - Contribute to education and outreach for municipal personnel
 - Provide information for JRMP document updates and JRMP Annual Reports

Fire Department

- Implement and maintain BMPs at fire-related facilities and during fire-related activities
- Contribute to education and outreach for municipal personnel
- Provide information for JRMP document updates and JRMP Annual Reports

Code Enforcement Department

- Assist Stormwater Division staff with enforcement cases where appropriate

Finance Department

- Process business license applications and acquire data for use in existing facility inspections or enforcement actions by City staff
- Responsible for assisting with stormwater budget management

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3 Illicit Discharge Detection and Elimination

3.1 Introduction

A core component of the City of Vista's (City) stormwater program is the illicit discharge detection and elimination program. Designed to actively detect and eliminate illicit connections and illicit discharges (IC/IDs) to the storm drain system, this program prevents the discharge of pollutants that would otherwise be conveyed untreated to nearby receiving water bodies. Illicit connections and illicit discharges are defined as the following:

- An *illicit connection* is a pipe, facility, or other device connected to the storm drain system or receiving waters, which has not been authorized by the City; or a permitted/authorized pipe, facility, or other device, which conveys illicit discharges.
- An *illicit discharge* is any discharge into the storm drain system or receiving waters that is prohibited by the City's Stormwater Management and Discharge Control Program Ordinance (Municipal Code Chapter 13.18, referred to as the "Stormwater Ordinance").

Illicit discharge detection and elimination efforts involve coordination between multiple City departments, including Public Works, Wastewater Operations, Engineering, and Fire, as well as Buena Sanitation District, County of San Diego Department of Environmental Health (DEH), and members of the public.

In support of the City's illicit discharge detection and elimination efforts, multiple stormwater program activities contribute to the detection of IC/IDs. Examples of these activities include:

- Dry Weather Major MS4 Outfall Discharge Monitoring Program (MS4 Outfall Monitoring Program) (Section 3.3.4)
- Existing development inspections (Sections 6, 7, 8, and 9).
- Maintenance of a Stormwater Hotline, available for reporting any water quality concern (Section 3.3.1)
- Public Education and Participation Program to increase public awareness and encourage environmental stewardship (Section 10).

The City investigates every IC/ID that is reported or detected by the public and City staff to identify the source(s) of the discharge. Consistent with the City's Enforcement Response Plan (Appendix B), the primary goal is to abate the identified source of discharge. Education is utilized as a means to prevent future IC/IDs, where feasible; however, escalated enforcement may also be employed by City staff when necessary. This section discusses prohibited

discharges, non-stormwater discharge exemptions (allowable discharges), and the City's procedures for IC/ID detection, prevention, response, and enforcement.

3.2 Non-Stormwater Discharges

Non-stormwater discharges to the storm drain system are prohibited unless the discharge has been authorized by a separate National Pollutant Discharge Elimination System (NPDES) permit or are conditionally allowed by the MS4 Permit. Some categories of non-stormwater discharges are allowed on the condition that they are addressed in accordance with the requirements of the Stormwater Ordinance and the Regional Water Quality Control Board, San Diego Region (RWQCB) Order No. R9-2013-0001 (MS4 Permit), which are discussed in Section 3.2.2.

The City will periodically review and evaluate conditionally allowed discharges to determine whether specified categories may be significant sources of pollutants to receiving waters. Where a category of non-stormwater discharge is determined to be a significant source of pollutants the City will take appropriate enforcement measures and may prohibit the discharge category from entering the storm drain system or implement best management practices (BMPs). See Appendix C for a list of the City's minimum BMPs and Appendix B for the Enforcement Response Plan, which details enforcement measures.

3.2.1 Prohibited Discharges

Consistent with the MS4 Permit, irrigation runoff that enters the City's storm drain system is now considered a prohibited discharge. Under the previous MS4 Permit, irrigation runoff was allowed unless it was shown to be a source of pollutants. Irrigation runoff includes intended or unintended overspray and excessive application of irrigation water from sprinklers, hosing, or other irrigation methods.

The following discharges are prohibited unless covered by NPDES Permit No. CAG919002 RWQCB Order No. R9-2008-002 or subsequent order (*General Waste Discharge Requirements for Discharges From Groundwater Extraction and Similar Discharges to Surface Waters within the San Diego Region Except for San Diego Bay (WDR)*), NPDES Permit No. CAG679001 RWQCB Order No. R9-2010-0003 or subsequent order (*General Waste Discharge Requirements for Discharges of Hydrostatic Test Water and Potable Water to Surface Waters and Storm Drains or Other Conveyance Systems within the San Diego Region*), or other NPDES permit as appropriate:

- Uncontaminated pumped ground water
- Water from crawl space pumps
- Non-stormwater from water line flushing and water main breaks

- Discharges from foundation drains and footing drains, if the system is designed to be located at or below the groundwater table to actively or passively extract groundwater during any part of the year.
- Discharges from recycled or reclaimed water lines

Section E.2.d.(3)(e) of the MS4 Permit requires that if the City is unable to identify and document the source of a recurring non-stormwater discharge to or from the storm drain system, then the City must address the discharge as an illicit discharge and update its Jurisdictional Runoff Management Program (JRMP) as needed to address the common and suspected sources of the non-stormwater discharge within its jurisdiction.

3.2.2 Conditionally Allowed Discharges

The following discharges are allowable discharges unless the City or the RWQCB identifies the discharge as a source of pollutants to receiving waters:

- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration to MS4s
- Springs
- Flows from riparian habitats and wetlands
- Discharges from potable water sources
- Discharges from foundation or footing drains if the system is designed to be located above the groundwater table at all times of the year and the system is only expected to discharge non-stormwater under unusual circumstances.
- Discharges of non-stormwater to the storm drain system from the following categories will be controlled by the requirements listed in the City's Stormwater Standards Manual (Appendix C); otherwise, they will be addressed as illicit discharges.
 - Air conditioning condensation
 - Individual residential vehicle washing (this does not include car washing for fundraisers or charity events)
 - Dechlorinated swimming pool discharges

Discharges determined by any authorized enforcement official or staff to be necessary to protect public health and safety are exempt from discharge prohibitions discussed above, provided that any conditions set for such discharges imposed by the authorized enforcement official or staff are satisfied. In emergency circumstances, the determination of an authorized enforcement

official or staff that a discharge is necessary may initially be oral but must be promptly confirmed in writing. In non-emergency situations, a prior written determination is required to exempt a discharge.

3.2.3 Firefighting Discharges

In accordance with Section E.2.a.(5) of the MS4 Permit, firefighting discharges to the MS4 must be addressed as illicit discharges only if the City or the San Diego Water Board identifies the discharge as a significant source of pollutants to receiving water. Firefighting discharges not identified as a significant source of pollutants to receiving waters, will be addressed, at a minimum, as follows:

Non-emergency firefighting discharges (i.e., discharges from controlled or practice blazes, firefighting training, and maintenance activities not associated with building fire suppression systems) are subject to the municipal BMPs described in the Stormwater Standards Manual to reduce or eliminate pollutants in such discharges from entering the storm drain system.

During emergency situations, priority of efforts is directed toward life, property, and the environment (in descending order). The BMPs listed in Appendix C should be implemented, but should not interfere with immediate emergency response operations or impact public health and safety.

3.3 Preventing, Detecting, and Responding to Illicit Connections and Illicit Discharges

In support of the City's illicit discharge detection and elimination efforts, multiple stormwater program activities contribute to the detection of IC/IDs. Examples of these activities include:

- Dry Weather Major MS4 Outfall Discharge Monitoring Program (MS4 Outfall Monitoring Program) see Appendix G for monitoring program procedures.
- Existing development inspections (see Section 6 for information on industrial and commercial inspections, Section 7 and 8 for information on Municipal facilities inspections, and Section 9 for information on residential inspections).

3.3.1 Reporting of Illicit Connections and Illicit Discharges

To facilitate the process of reporting and investigating illicit discharges, the City encourages the public, City, and contract staff to report IC/IDs. Water quality or stormwater-related questions and complaints will be responded to by appropriate City staff:

City of Vista Stormwater Hotline
English or Spanish: (760) 643-2804
waterquality@cityofvista.com

Alternatively, a regional public reporting hotline is provided by the County of San Diego at (888) 846-0800. The hotline is answered Monday through Friday, 8:00 a.m. – 5:00 p.m. and provides a voicemail message for 24-hour public access in both English and Spanish. The Public Works Department also accepts calls for sewage discharges/spills at (760) 639-6177 during business hours and after hours at (760) 825-3135.

3.3.2 Response to Stormwater-Related Complaints

When a stormwater-related complaint is received (e.g., hotline, email, or in person) it is logged into the Cityworks database. The Cityworks database enables complaint details, documents, and information to be linked spatially to an address or area. Investigations are initiated by Stormwater Division staff for all complaints suggesting an actual or potential discharge to the storm drain system or receiving waters. If investigators find evidence of a violation with the potential to release pollutants or an actual IC/ID, every effort is made to find the responsible party and inform them of the complaint and/or enact an enforcement measure, such as a written Notice of Violation. Parties found to be responsible for a violation or IC/ID are required to immediately cease and abate the discharge. Additional corrective actions or escalated enforcement actions (e.g., Administrative Citation) may also be issued, depending on case-specific circumstances and consistent with the Enforcement Response Plan (Appendix B).

If determined to pose a serious threat to human health or the environment, oral notification is provided to the RWQCB within 24 hours in accordance with Section 1.1.(6) of Attachment B of the MS4 Permit. Criteria listed below is used to determine the human or environmental health threats of a violation, where applicable:

- Estimated pollutant load discharged from site.
- Estimated volume of discharge.
- Types of pollutants discharged, including if toxic materials were discharged.
- Sensitivity of the receiving water body, including if it is Clean Water Act section 303(d) water body segment listed for any of the pollutants in the discharge.
- Proximity of site to sensitive habitat/endangered species.
- How much, if any of the discharge reached the receiving water body.
- Beneficial uses for affected water bodies.

3.3.3 Spill Response and Reporting

The City coordinates spill prevention, containment, and response activities throughout all appropriate departments, programs, and agencies so that maximum water quality protection is available at all times. Spills are prevented and mitigated through the implementation and

enforcement of minimum BMPs (Appendix C), which includes the proper disposal of wash water, maintaining a spill cleanup kit, and employee training regarding spill cleanup and other related BMPs. Spill response teams (consisting of both City and County of San Diego (County) resources) are utilized, and the City coordinates with upstream and downstream agencies as necessary. This subsection provides an overview of the City's general spill response and reporting actions consistent with MS4 Permit Section E.2.b.(4)-(5). For SSOs and hazardous material spills and releases, the City's Sewer Overflow Emergency Response Plan or the Hazardous Materials Response Plan should be the first point of reference.

Spills from the City's sanitary sewer system may be discovered during routine maintenance activities of the sewer system or observed and reported to the City by the public and City Public Works staff. The City has developed and adopted a Sewer System Management Plan (SSMP) in accordance with State Water Resources Control Board (SWRCB) Order No. 2006-003-DWQ and RWQCB Order R9-2007-0005, applicable to the sewer collections system operated by the City. More information regarding the City's preventative maintenance of the sewer system can be found in Section 8.4. The County Department of Environment Health (DEH) responds to sewage spills reaching a receiving water body.

The regional Hazardous Materials Incident Response Team (HIRT) handles all after-normal-business-hour complaints for the County Department of Environmental Health (DEH) and other designated agencies within San Diego County, including SSOs. The City contributes to the funding of the HIRT, which was founded in 1981 by the Unified Disaster Council and is funded by a Joint Powers Agreement and services all unincorporated San Diego County areas, 18 municipalities, two military bases, and five Indian Reservations.

If a spill from a private sewer lateral is not contained and no action is being taken by the responsible party to repair the lateral, Public Works staff will take necessary action. Due to the public health risk and safety, parties responsible for private sewer lateral spills are typically issued a Notice of Violation with conditions to immediately cease and clean up the spill. In addition, the private sewer lateral owner may be required to inspect and repair the private sewer lateral in accordance with Vista Municipal Code Chapter 14.14.

Spills that result in an illicit discharge to the City's storm drain system are reported annually in the City's JRMP Annual Report, which includes the number of discharges reported, detected, investigated, identified, and eliminated, and the number of associated enforcement actions. As required by the MS4 Permit, the City will provide verbal notification to the RWQCB of all instances of noncompliance within its jurisdiction that may pose a threat to human or environmental health within 24 hours from when the City is made aware of the situation. The specific information that must be reported within 24 hours of the incidence of noncompliance can be found in Section 1.1.(6) of Attachment B of the MS4 Permit.

3.3.4 Dry Weather Major MS4 Outfall Discharge Monitoring

In 2013, the City of Vista began routine visual monitoring of discharges from major MS4 outfalls during dry weather to detect non-stormwater and IC/IDs from its storm drain system. A “major outfall” is defined as an outfall that is 36 inches in diameter or drains to an industrial area and is at least 12 inches in diameter. These efforts contribute to detecting IC/IDs and non-stormwater discharges from the storm drain system.

Under the 2007 MS4 Permit, the City conducted field screening at all monitoring sites and tested any water present at the sites for various common stormwater pollutants. The 2013 MS4 Permit emphasizes the identification and elimination of dry weather discharges from the City’s outfalls. By working toward eliminating or reducing dry weather flows, the City is able to concentrate on reducing and eliminating a wide range of pollutants that may be transported to receiving waters.

The City has implemented procedures to investigate and inspect segments of its storm drain system that have a reasonable potential for receiving, containing, or discharging pollutants due to IC/IDs or other non-stormwater sources. All IC/IDs found during field work will be investigated immediately by Stormwater Division or contract staff and appropriate follow-up and/or enforcement actions will be taken as necessary. Detailed procedures for dry weather major MS4 outfall monitoring, IC/ID investigations and prioritization of investigations are included in Appendix G.

Note that other monitoring requirements specified in the MS4 Permit include wet weather MS4 outfall and receiving water monitoring. Those activities are completed by contractors through watershed-level programs for which cost is shared among the responsible watershed parties. The details of those programs are discussed in the Water Quality Improvement Plans (WQIP) for the San Luis Rey and Carlsbad Watershed Management Areas (WMA).

3.3.5 Storm Drain System Map

The City maintains a GIS-based map of its storm drain system which, along with other GIS data (e.g., addresses, land use, sewer infrastructure, contours, streets, etc.), is available to all City staff through an intranet-based VistaGIS interface or ArcGIS desktop software. Storm drain structures are updated on a regular basis by GIS division staff, such as with the completion of new projects or field corrections. Mapping of the storm drain system, and having access to multiple other GIS data layers, provide staff with useful information while investigating and responding to IC/IDs. Appendix G includes a map illustrating the storm drain system, along with the following features required by the MS4 Permit:

- All storm drain system segments owned, operated, and maintained by the City, and that includes MS4 outfall monitoring locations and drainage basins.

- All known locations of inlets that discharge and/or collect runoff into the City's storm drain system.
- All known locations of connections with other storm drain systems not owned or operated by the City (e.g. Caltrans storm drain systems).
- All known locations of MS4 outfalls and private outfalls that discharge runoff collected from areas within the City's jurisdiction.
- All segments of receiving waters within the City's jurisdiction that receive and convey runoff discharged from the City's MS4 outfalls.
- Locations of the inventoried major MS4 outfalls within the City's jurisdiction, pursuant to Section D.2.a.(1) of the MS4 Permit.
- Locations of the non-stormwater persistent flow MS4 outfall monitoring stations, identified pursuant to Section D.2.a.(1) of the MS4 Permit.

The status of major MS4 outfalls as having persistent flow, transient flow, or being dry will change as the City collects more data from outfall monitoring and as sources of flow are eliminated. For similar reasons, the sites at which persistent flow analytical monitoring is completed will likely change over time. Updates will be provided through the WQIP annual reporting process.

In accordance with Section E.2 of the MS4 Permit, each watershed within the City's jurisdiction contains at least one monitoring station. If field staff note inaccuracies in the map during field screening, the inaccuracies will be reported to the appropriate City staff so that updates can be made. The need for updates to the map will be assessed at least annually, and at that time updates will be made where necessary. The GIS files used in developing the City's storm drain system map will be made available to RWQCB staff upon request.

3.3.6 Investigating Illicit Connections and Illicit Discharges

In addition to the investigation procedures described in the dry weather MS4 outfall monitoring procedures (Appendix G), the City may also employ the following methods to identify the source of an IC/ID:

Review of Plans

As-built plans for the area of interest can be reviewed to verify intended storm drain and sanitary sewer pipe connections. However, an illicit connection may have occurred after the as-built drawings were created, so additional also in-field confirmation is likely necessary.

Dye Testing

Dye testing can confirm hydraulic connections between a potential source and a downstream location. Fluorescent dye is introduced at the source of the potential IC/ID and presence of the

dye is monitored downstream. This method is used only when necessary, because the public and appropriate regulatory agencies in the surrounding area need to be informed about the cause of the water discoloration.

Smoke Testing

By introducing smoke into an underground sewer system, smoke testing can be an effective means of identifying cross-connections between storm drain and sanitary sewers. Due to potential concerns with the presence of smoke (and inferring of a fire), the public and appropriate agencies need to be informed when smoke testing is conducted. .

Closed Circuit Television Inspection Monitoring

Closed Circuit Television Inspection (CCTV) cameras may be used to record video of underground storm drain and sanitary sewer. CCTV can be effective at identifying cross-connections and defects that may contribute to an illicit discharge. The public and regulatory agencies generally do not need to be informed prior to initiating this kind of investigation.

Confined Space Entry

Confined space entry may be used to physically enter storm drains, sanitary sewers, or other restricted-entry facilities. All applicable health and safety regulations must be followed. The public and regulatory agencies, however, generally do not need to be informed prior to initiating a confined space entry.

Potential Sewage IC/IDs

Further testing of suspected sewage-related flows is conducted when visual and odor observations do not adequately confirm the presence of sewage.

- Ammonia - Sewage frequently contains ammonia levels of 30 mg/L or greater. This can be measured with an inexpensive field screening kit.
- Bacteria - Sewage generally has high levels of total and fecal coliforms and *Enterococci*. Sewage treatment plants and many laboratories routinely conduct these indicator analyses.

3.3.7 Eliminating Illicit Connections and Illicit Discharges

Action is taken to eliminate IC/IDs and their sources as soon as possible after detection. IC/IDs that pose a serious threat to public health or the environment are eliminated immediately. Action may include the referral to the appropriate City department or other agency for abatement. IC/IDs that are not deemed to pose serious threats to public health or the environment are eliminated through an escalating series of enforcement actions, which are described in the Enforcement Response Plan (Appendix B).

When a discharge originates from a source outside the City's jurisdiction, and the City does not have legal authority to require that the discharge be eliminated, the City will notify the responsible agency with jurisdiction over the source of the discharge so that the agency can take action to eliminate it. In the event that the responsible agency is not responsive or otherwise does not eliminate the discharge in a timely manner, the City will notify the RWQCB as well.

If a responsible party has been identified during an illicit discharge investigation, the responsible party is required to take appropriate action to eliminate the illicit discharges and to perform any necessary clean-up or remediation in accordance with the City's Stormwater Standards Manual (Appendix C). Any refusal by the responsible party to perform necessary actions to eliminate the illicit discharge will be handled by Stormwater Division staff and appropriate enforcement action will be taken. If a responsible party is identified, but neglects to perform the necessary corrective action, the City may bill the responsible party for abatement costs and/or may take other escalated enforcement measures.

Appropriate remedial actions that may be taken to eliminate illicit discharges may include the following:

- Redirect non-hazardous discharges to the sanitary sewer, collection container, or onsite landscaped or pervious area(s) to infiltrate or evaporate, without resulting in erosion or runoff to the storm drain system or any adjacent property.
- Redirect hazardous discharges to a collection container for reuse or disposal via a licensed hazardous waste disposal service.

The City takes appropriate action to ensure the disconnection, blockage, or diversion of a pipe, facility, or other device connected to the storm drain system or receiving waters that has not been authorized by the City and is contributing to an illicit discharge to the storm drain system.

Examples of appropriate actions may include the following:

- Plug sinks and drains that are discharging prohibited materials to the storm drain system.
- Divert illicit discharges to the sanitary sewer if approved by the City, or treat on-site.

Illicit connections often require coordination between multiple City divisions, including Public Works Sewer, Stormwater, Building, and Planning. Note that in some cases special permits from the Encina Wastewater Authority are needed before material can be discharged to the sanitary sewer system, in addition to the City's approval.

3.4 Record Keeping

The City will maintain records in Cityworks of the following information for IC/ID investigations:

- Location of incident, including hydrologic subarea, portion of storm drain system receiving the non-stormwater or illicit discharge, and point of discharge or potential discharge from storm drain system to receiving water.

- Source of information initiating the investigation (e.g., public reports, staff or contractor reports and notifications, field screening, etc.).
- Date the information used to initiate the investigation was received.
- Date the investigation was initiated.
- Dates of follow-up investigations.
- Identified or suspected source of the illicit discharge or connection, if determined.
- Known or suspected related incidents, if any.
- Result of the investigation.
- If a source cannot be identified and the investigation is not continued, document the response pursuant to the requirements of MS4 Permit Section E.2.d.(3).

3.5 Enforcement

The City will take action in accordance with its Enforcement Response Plan (Appendix B) to eliminate IC/IDs. If the source of the non-stormwater discharge to the MS4 is natural (i.e. non-anthropogenic), then the City will document the data and evidence necessary to demonstrate to the RWQCB that the discharge arises from a natural source and does not require enforcement or further investigation.

As detailed in the Enforcement Response Plan, the MS4 Permit requires that violations are corrected within no more than 30 days, where feasible. When compliance has not been achieved within 30 days of discovering the violation, Stormwater Division staff will document why the violation has not been corrected within the appropriate timeframe.

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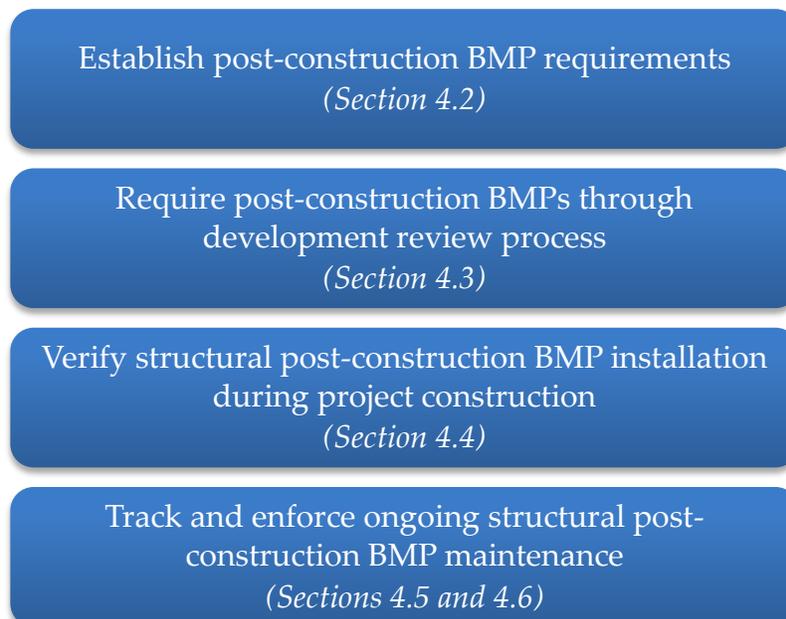
4 Development Planning

4.1 Introduction

Development projects can result in increased runoff volumes and increased levels of pollutants in runoff relative to pre-development conditions. The addition of impervious surfaces, such as pavement or rooftops, during development can be a key contributor to flow runoff volume increases. Increased runoff volumes may increase stream flow rates and durations, which in turn can lead to increased erosion in local rivers and streams. This process is referred to as hydromodification. Increases in impervious surfaces may also result in increased conveyance of sediment and other pollutants, such as bacteria, to local water bodies.

To reduce the potential for pollutants to impact stormwater quality and to control stormwater discharges (both flow and duration), the City has established design standards for new development and redevelopment projects that require the implementation of permanent stormwater control measures, including Low Impact Development (LID) techniques, source control Best Management Practices (BMPs), and post-construction structural BMPs. Figure 4-1 identifies the major components of the City's program to reduce development projects' impacts on the quality and quantity of stormwater discharges; these components are listed in sequential order. The figure also identifies the section(s) of this chapter in which the component is discussed in more detail.

Figure 4-1. Overview of City of Vista Approach to Reducing Stormwater Impacts from Development Projects



4.2 Development Project Requirements

The City's stormwater ordinance (Vista Municipal Code Chapter 13.18) and Stormwater Standards Manual require development projects within the City of Vista to incorporate post-construction BMPs into their designs. The requirements in the Stormwater Standards Manual are based on the Model Standard Urban Stormwater Mitigation Plan (SUSMP) and the Hydromodification Plan (HMP). Both of these plans were developed through a regional effort, which included the City and the 20 other municipal agencies in San Diego County (collectively, "Copermittees").

The Copermittees are currently developing a revised set of post-construction BMP requirements, the BMP Design Manual, to address the requirements in San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 (MS4 Permit). By December 2015, the new BMP Design Manual is expected to be incorporated into the City's Stormwater Standards Manual in place of the existing post-construction BMP requirements. Until then, the existing requirements in the Stormwater Standards Manual remain in effect.

Any development project that does not obtain prior lawful approval before the new requirements go into effect must update its design to comply with the new requirements. The 2007 MS4 Permit definition of prior lawful approval is referenced in the current Stormwater Standards Manual. The City will continue to apply that definition of prior lawful approval, although the definition may be updated if the RWQCB incorporates a revised definition of prior lawful approval into the MS4 Permit via a future amendment.

4.2.1 Types of Development

The City's Stormwater Standards Manual defines the categories into which site improvements may be classified:

- Development Projects
 - Priority Development Projects
 - Standard Projects
- Non-Development Projects

All development projects are classified as either Priority Development Projects or Standard Projects. Projects with an elevated potential impact on stormwater quality are identified as Priority Development Projects, and are defined in the City's Stormwater Standards Manual. This determination is based on a number of factors, such as the amount of impervious area created, the proposed land use, and existing land conditions. The Checklist for New Development and Redevelopment in the City's Stormwater Standards Manual provides more detailed guidance on how projects are classified.

Not all site improvements are considered “development projects” under the MS4 Permit, since not all improvement work involves activities that have the potential to come in contact with stormwater. For example, work that occurs only on the interior of a building is not considered a development project for stormwater purposes. Projects that are not considered development projects are classified as Non-Development Projects. The Checklist for New Development and Redevelopment also provides guidance on determining whether site improvements should be considered development projects.

4.2.2 BMP Requirements for Development Projects

Table 4-1 summarizes the post-construction BMP requirements provided in the City’s Stormwater Standards Manual. Priority Development Projects are subject to more BMP requirements than Standard Projects because Priority Development Projects are larger or include activities that have a higher potential to generate pollutants, such as automotive repair. The same requirements apply to both private projects and the City’s Capital Improvement Projects (CIP).

Table 4-1. Summary of Post-Construction BMP Requirements

BMP Type	Standard Projects	Priority Development Projects
Site Design LID	X	X ¹
Source Control	X	X
Treatment Control		X ¹

¹ Numeric sizing standards apply to Priority Development Projects. Numeric sizing incorporates design for water quality treatment and, where applicable, peak flow and flow duration control for hydromodification. If numeric sizing standards can be satisfied by LID features only, additional non-LID treatment control BMPs are not required. See the Stormwater Standards Manual for details.

When the City incorporates the new BMP Design Manual requirements into the Stormwater Standards Manual, it will also incorporate new standards for Priority Development Projects (PDPs). As required by the MS4 Permit, the standards are designed to prevent PDPs from having a negative net impact on critical coarse sediment discharges to receiving waters, i.e., from preventing the migration of critical coarse sediment into areas that periodically need to be replenished, such as creeks or beaches. The regional Watershed Management Area Analysis (WMAA) has identified critical coarse sediment areas and developed a geodatabase that shows their locations. The new BMP Design Manual will provide additional information about coarse sediment areas and evaluating their presence at a project site.

4.3 Project Review and Approval

The City of Vista has an established multi-departmental review and verification process for all new development and redevelopment projects. Through the implementation of development project requirements in the Stormwater Standards Manual and application of the procedures detailed below, the City will mitigate the negative impacts of urban runoff from development projects to the Maximum Extent Practicable (MEP). City staff review all development projects for minimum stormwater BMP requirements, as shown in Figure 4-2. The process shown in Figure 4-2 is written with private projects in mind, but the same general process also applies to CIPs.

4.3.1 Planning Phase

During the planning phase, development project proponents may request a pre-application meeting with City staff, prior to submitting a project application. If a pre-application meeting is held, a determination on whether a project is likely to be a Standard Project or Priority Development Project is typically made during the meeting.

Project conceptual plans are submitted to the City Community Development Department (Planning Division) for preliminary review and/or processing. At this stage, the project proponent must include the appropriate documents for the project application to be deemed complete. A complete project application will include the post-construction stormwater-related documents listed in Table 4-2. The Stormwater Standards Manual (Appendix C) provides additional detail on submittal requirements.

Table 4-2. Summary of Required Post-Construction Stormwater Documents

Document	Description and Notes
Checklist for New Development and Redevelopment Projects	Used to determine whether a development project is a Priority Development Project or a Standard Project
Post-construction BMP plan (WQTR or SWQMP) ¹	Describes post-construction BMPs and includes supporting calculations. The reports for Priority Development Project require some components not required for Standard Projects; see the Stormwater Standards Manual for details.
Operation and Maintenance (O&M) Plan	Describes how structural post-construction BMPs will be maintained after construction has been completed
Hydrology and Hydraulics (H&H) Study	Generally focused on flood control, but provides supporting calculations and information that may be used in review of proposed structural post-construction BMP design

¹ These documents are called Water Quality Technical Reports (WQTR) under 2007 MS4 Permit requirements, but is expected to change to Stormwater Quality Management Plan (SWQMP) after incorporating the new BMP Design Manual.

Throughout the permitting process, Planning Division staff coordinate with the project proponent. Planning Division staff review the conceptual project, the existing and proposed General Plan and Zoning designations, as well as informational studies. Based on this assessment, Planning Division staff determine at what level(s) the review process will be conducted: staff level, Planning Commission or City Council. Several departments or divisions (i.e., Planning, Building, Land Development, Sewer, Traffic, Public Works, and Fire), review the conceptual plans, including impacts to water quality as a result of the proposed land use and construction. The various departments provide the Planning Division with specific project conditions for permit approval that address project issues, such as water quality. This submittal includes the post-construction BMP plan (Water Quality Technical Report (WQTR) or Storm Water Quality Management Plan (SWQMP)). The post-construction BMP plan documents how all required site design, source control, and structural BMPs have been incorporated into the project design. A list of the current standard conditions of approval can be found in the Stormwater Standards Manual in Appendix C.

A final post-construction BMP plan (WQTR or SWQMP) is required before the planning phase is concluded. Once a project has received conditions of approval, the project proponent begins the plan check process with the Land Development Division. For CIP projects the process starts with the City Project Manager determining whether the project is a Standard Project or a Priority Development Project.

4.3.2 Land Development Plan Check Phase

During the plan check phase, the project proponent submits plans and studies that describe the project proposal in detail. This submittal includes plan sheets, the O&M Plan, the H&H Study and the previously approved post-construction BMP plan (WQTR or SWQMP). The City's Stormwater Standards Manual (Appendix C) provides more detail on what is required to be included in required submittals. The process for CIPs is the same as for private development projects.

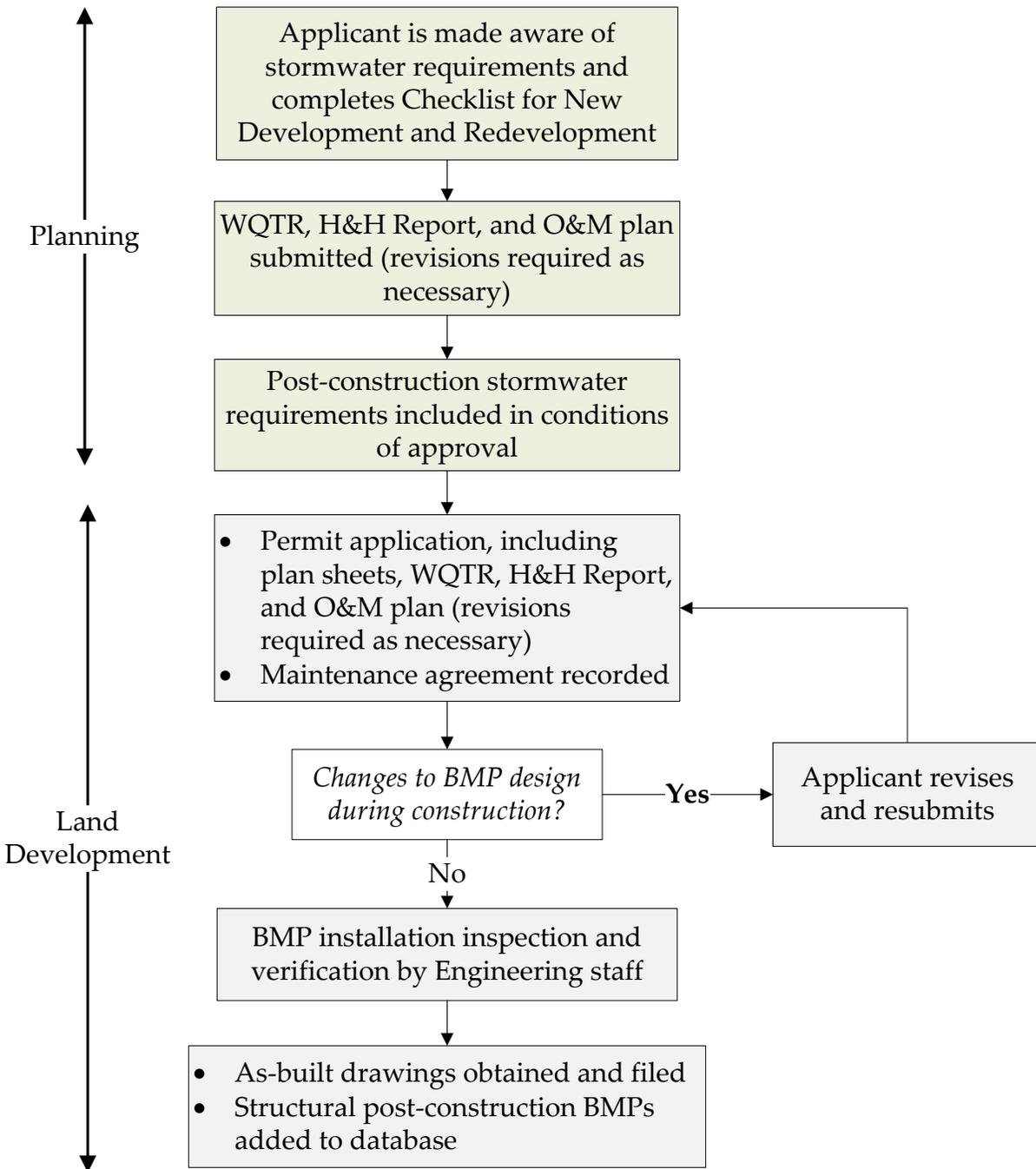
Several departments review the project submittals for conformance with the conditions of approval, engineering, zoning, public right-of-way, building code, and other requirements. During plan check reviewers check that the structural BMPs proposed in the post-construction BMP plan (WQTR or SWQMP) are consistent with the final WQTR or SWQMP approved during the planning stage (Section 4.3.1) and with the submitted plans. Reviewers also check that all proposed post-construction BMPs are clearly shown on applicable plan sheets and that cross-sections are included where necessary. This provides clear direction to the contractor and also helps City staff verify that structural BMPs have been constructed per plans during the verification inspection at the end of project construction (Section 4.4). Once the plan check

process is complete and the project plans are approved for all of the applicable permits, the permits are issued, and construction may begin.

At the conclusion of project construction, before occupancy permits are granted or construction securities are returned, a City inspector(s) will make a final inspection of the construction site using the single-plan BMP sheet to verify installation of all required BMPs for the project, as described in more detail in Section 4.4.

Figure 4-2 summarizes the project review and approval processes described in Sections 4.3.1 and 4.3.2.

Figure 4-2. Typical Priority Development Project Review and Approval Process



Notes

WQTR – Water Quality Technical Report or other post-construction BMP plan
 H&H Report – Hydrology and Hydraulics Report
 O&M Plan – Operation and Maintenance Plan for post-construction BMPs

4.4 Verification of New Structural BMPs

Engineering Department staff (Land Development, inspection, and stormwater staff) inspect the final completion of structural BMPs that are associated with engineering permits (grading permits and public improvement permits) and CIPs. Engineering staff also assist Building staff in inspecting the construction and installation of BMPs as needed. During these inspections, staff compare the project as constructed to the approved plans to verify the structural BMPs have been built per the plans.

Prior to certifying a project is ready for occupancy or returning the applicant's bonds, City staff verify that structural BMPs have been constructed consistent with approved development plans. The Certificate of Occupancy will not be issued and/or bonds will not be released to private projects unless the proposed structural BMPs have been inspected and signed off as being constructed properly. In the case of CIPs, the City may withhold operational acceptance or notification of completion until structural BMP installation is verified.

4.5 Structural BMP Tracking and Maintenance Verification

Following construction and approval of structural BMPs, the City takes measures to verify that they are being maintained as designed. The program activities described below apply to structural BMPs on both privately-owned and City-owned PDP sites.

4.5.1 Inventory Tracking

The City maintains a GIS-based database inventory of structural BMPs using Cityworks software. The database is regularly updated as PDPs with structural BMPs are completed and as site details change (e.g., property sale, contact change). This database includes the following information:

- Project address and hydrologic subarea (HSA)
- Structural BMP type(s)
- Structural BMP location(s)
- Approximate project size
- Date of construction (as-built plans date)
- Contact information for responsible parties of BMP maintenance
- Inspection results, enforcement actions, and resolutions

When added to the Cityworks database, each PDP site with structural BMPs is assigned an inspection priority of either "high" or "standard". Consistent with MS4 Permit Provision E.3.e.(2)(b), the City assigns a "high" inspection priority to PDP sites based on the following criteria:

1. Located within the City's portion of a "geographic area of focus" identified in applicable Water Quality Improvement Plans (WQIP), including:
 - a. Loma Alta Hydrologic Area, basin LA01
 - b. Buena Vista Hydrologic Area, basin BV06
 - c. Agua Hedionda Hydrologic Area, basin AH04
2. Total project size is more than 20 acres.
3. Project has established a poor compliance history. For prioritization purposes, poor compliance history is defined as being in violation of the City's requirements for structural post-construction BMP maintenance for the previous two consecutive reporting years.
4. City staff also have discretion to designate a project as high priority based on other factors if deemed necessary to protect water quality.

Projects that do not meet any of the above criteria are assigned a priority of "standard."

4.5.2 Maintenance Verification and Inspections

4.5.2.1 Annual Maintenance Verification

Operation and maintenance checklists are required with a project's SWQMP and can be used by responsible parties to guide maintenance activities. In addition, the City will implement an annual certification program to verify that structural BMPs associated with PDP sites are, in fact, being maintained as designed. Each year responsible parties for PDP sites will be required to submit a certification form to the City, documenting dates of inspection/maintenance for each BMP on site.

4.5.2.2 Maintenance Inspections

Structural BMPs installed at development projects will be subject to inspection by City inspectors to ensure the BMPs are being maintained and operating as designed. Each year, all high priority project sites will be inspected prior to the start of the rainy season. In addition to inspecting all high priority sites before the start of the rainy season, any projects that do not provide sufficient documentation to verify that appropriate maintenance work has been performed through the annual maintenance verification program described above will also be inspected before the end of the fiscal year. Additional standard priority sites may also be inspected based on site compliance history and City staff professional judgment.

Inspections will include examination of all structural BMPs at the site to verify that each structural BMP is in working order, being maintained properly, and is in compliance with all applicable City ordinances and permits. Results of the inspection are provided to the responsible party (e.g., property owner, manager, or tenant). Appropriate enforcement actions will be initiated as necessary. Section 4.6 below provides more details on the enforcement

process. Inspection results, as well as corrective actions and follow-up inspections, are recorded in Cityworks.

4.6 Enforcement

City staff will use a range of enforcement methods to ensure all structural post-construction BMPs on its inventory are properly maintained. Generally, written warnings will be issued to initiate corrective actions. Escalated enforcement, through use of Notice of Violations or administrative citations, may also be used. The City's Enforcement Response Plan (Appendix B) provides details on the process for initiating enforcement actions due to structural BMP maintenance deficiencies. As required by the MS4 Permit, a rationale will be recorded whenever compliance cannot be achieved within 30 days. Note that enforcement measures related to ensuring structural BMPs are built per the plans, prior to the completion of project construction, are discussed in Section 4.4 above.

4.7 Existing Development Retrofit and Rehabilitation

As required by the MS4 Permit, the City has developed an approach to identifying potential retrofit and stream, channel, or habitat projects for existing development. Appendix E describes the City's approach to identifying and implementing potential projects.

5 Construction Management

5.1 Introduction

5.1.1 Purpose

The City of Vista identifies construction sites and activities associated with any land-or soil-disturbing activity as a known or suspected source of pollutants to the storm drain system. Sediment, trash, bacteria, oil and grease, metals, organics, and nutrients are typically generated by construction-related sites and activities. Of these pollutants, sediment and trash are the primary pollutants generated by construction sites and activities. Both sediment and trash can carry bacteria and other pollutants, which can impact local storm drain systems, receiving waters and watersheds to which they drain.

To reduce or eliminate pollution conveyed by construction site activities, this section identifies City-wide administrative, education, inspection, enforcement, incentive, education, and Best Management Practices (BMP) programs. These required programs implement the San Luis Rey and Carlsbad Water Quality Improvement Plan (WQIP) construction site strategies to address the highest priority water quality condition—bacteria. Nutrients, organics, oil, grease, and metals contribute to the listed priority pollutants of concern in both WQIPs Watershed Management Areas (WMAs).

In addition to the WQIP strategies, the Construction Program also addresses the Municipal Separate Storm Sewer System (MS4) Permit³ requirements to:

- Reduce stormwater discharges from construction sites and activities to the Maximum Extent Practicable (MEP) and;
- Prohibit non-stormwater discharges from construction sites and activities.

Effective management of construction projects and activities occurs throughout the City of Vista by implementing ordinances, requiring BMPs, performing inspections, and implementing enforcement actions. These measures are anticipated to effectively address the highest priority and priority pollutants for the San Luis Rey and Carlsbad WMAs. The City implements its Construction Program through administrative, inspection, and environmental support functions.

³ San Diego Regional Water Quality Control Board Order No. R9-2013-0001, as amended by Order No. R9-2015-0001

To protect water quality in its watersheds, the City treats all land development construction activities and projects as a high threat to water quality (TTWQ) year-round. However, the inspection program identifies an inspection frequency based on season (wet and dry) and construction phase (grading, vertical, and finish). These inspection frequencies are expected to reduce stormwater and non-stormwater discharges, such as sediment and trash, which are associated with bacteria. For example, this approach is, in part, expected to reduce potential pollutant loading to water bodies such as Buena Vista Lagoon, which is located downstream of the City and listed as impaired for sediment. Reducing sediment discharges is also expected to reduce bacteria loading, since bacteria is often transported by sediment.

5.1.2 Definition of Construction Sites and Activities

Land- or soil-disturbing activities are typically associated with the following:

- Construction of new facilities.
- Removal, replacement, or reconstruction of existing facilities.
- Construction activities associated with the maintenance of existing facilities.

Types of activities that require BMPs to be implemented include but are not limited to the following:

- Clearing and grubbing
- Demolition
- Rough-grading
- Stockpiling of materials
- Excavation
- Building, construction or maintenance
- Concrete work
- Painting
- Finish-grading and landscaping
- Landscaping construction and maintenance
- Utility installation, testing, and maintenance
- Street construction, improvement, and maintenance

The cooperation of various responsible parties who conduct construction activities, such as contractors, owners and developers, is key to the continued success of Vista's construction program in complying with the MS4 Permit

The following sections detail how the City of Vista will meet the requirements outlined in Section E.4 of the MS4 Permit to reduce the discharge of pollutants in stormwater to the MEP and prohibit non-stormwater discharges of pollutants from construction activities and sites into the storm drain system, downstream 303(d)-listed water bodies, and other local environmentally sensitive areas (ESAs).

5.2 Best Management Practice (BMP) Requirements

5.2.1 BMP Requirements

To effectively reduce discharges of pollutants in stormwater from construction sites and activities year-round, an effective combination of BMPs appropriate for each phase of construction and activities is required. The City's BMP requirements are based on three major phases of construction, as defined below:

- **Grading:** Demolition, right-of-way work, site preparation and earthmoving, earthwork, construction or relocation of above-ground and below-ground utilities, construction or relocation of below-ground structures, work associated with construction of above-ground facilities more than five feet from structures, and dewatering;
- **Vertical:** Construction of above-ground structures, stucco, framing, mechanical, roofing, painting, electrical, drain flushing, and structure fire system testing prior to occupancy; and
- **Finish:** Fine-grading, roadways, slurry-seal, asphalt, concrete, walkways, parking lots, landscaping, painting, striping, traffic facilities, lighting facilities, and architectural work.

As required by the MS4 Permit, construction sites and activities within the City's jurisdiction must implement and maintain BMPs in the following categories, where applicable:

- Project Planning
- Erosion Control
- Sediment Control
- Run-on and Runoff Control
- Good Site Management ("Housekeeping"), including Waste Management
- Non-Stormwater Management
- Active or Passive Sediment Treatment Systems

The City standard for BMP selection, installation and maintenance is the California Stormwater Quality Association (CASQA) BMP fact sheets. The City's Stormwater Standards Manual (Appendix C) provides more detail on the CASQA BMP requirements and explains how they

align with the MS4 Permit BMP categories listed above for applicable construction phases, pollutants, and primary objectives.

The Stormwater Standards Manual also identifies which CASQA BMPs are required for each phase of construction. Construction sites and activities are required to schedule in advance which BMPs may be applicable to each phase. The City requires a complete set of BMPs at all sites and activities. In addition, the City requires an effective combination of both erosion and sediment control BMPs to reduce stormwater discharges. Sediment-control BMPs alone are not considered an effective BMP to reduce high priority and priority water quality pollutants of concern. For example, a silt fence is primarily used for sediment control rather than erosion control. To ensure that sediment does not mobilize on-site, additional erosion control BMPs are required, such as geotextiles and mats.

Construction sites are required to plan for the Dry Season and implement seasonally appropriate BMPs in the event of dry season rain events. The wet season is October 1 through April 30 and the dry season is May 1 through September 30. BMPs are required for active and inactive areas of construction sites and activities year-round.

All implemented BMPs must be properly installed and maintained until they are removed. The BMPs selected for each site or activity must be appropriate to the types of work proposed, including the different phases of construction. BMPs should also comply with other applicable State Water Resources Control Board (SWRCB) or San Diego Regional Water Quality Control Board (RWQCB) National Pollutant Discharge Elimination System (NPDES) permits, such as the SWRCB Construction General Permit (CGP)⁴ and RWQCB dewatering permits. Work in or adjacent to drainage channels or other water bodies may also be subject to additional permits from resource agencies. The Stormwater Standards Manual (Appendix C) provides a list of several different permits or approvals that other agencies may require.

The City may require additional BMPs to be implemented at construction sites or during activities as necessary to prevent pollutant discharges. This may include active or passive treatment systems, as described in the Stormwater Standards Manual (Appendix C).

5.3 Project Approval Process

Construction sites and activities with the potential to generate bacteria, trash and other pollutants that contribute to the highest and priority water quality conditions are associated with private and public projects. Various City departments/divisions issue local permits for private projects or construction activities. Other public agencies that do work or develop projects in the City may also be issued local permits. The City departments/divisions that issue

⁴ SWRCB Order No. 2009-0009-DWQ, as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ

local permits for construction sites include Engineering, Building, Land Development, Traffic, and Public Works. Public projects are reviewed by appropriate City departments and are subject to a similar review process as private project applications. Public projects are also known as Capital Improvement Projects (CIPs).

All private and public projects that will result in land- or soil-disturbing activities are required to complete a Checklist for New Development and Significant Redevelopment. This checklist is part of the initial permit application regardless of the department or division that is administering it: Engineering, Public Works, Traffic Engineering, or Planning. In addition, the Building Division requires a checklist to be completed and signed by the contractor or project owner to ensure required BMPs are implemented.

The City's requirements for projects that are and are not subject to the CGP are described below. Both public and private projects are subject to essentially the same City review and approval processes.

5.3.1 Local Project Review Requirements

The Land Development Department reviews the Construction BMP Plan submittals for consistency with the BMP requirements listed in the Stormwater Standards Manual (Appendix C). The Construction BMP Plan is included in the grading plan submittal to Engineering as a separate sheet. A grading or building permit is not issued until the entire grading plan submittal, including the Construction BMP Plan, is approved.

5.3.2 State Project Review Requirements

The City verifies that public and private projects subject to the CGP have coverage under it. The Waste Discharge Identification Number (WDID) is noted on the front sheet of the grading plan set. If a development site is one acre or greater, a project, or the phase of a project, is required to obtain coverage under the CGP. In conformance with the CGP, the City requires projects or phases of projects to complete a Stormwater Pollution Prevention Plan (SWPPP), which includes a Construction BMP Plan. As part of its local permit requirements for CGP projects, the City reviews Construction BMP Plans for both private and public projects. A Construction BMP Plan is required for all projects seeking a grading permit through the Land Development Department. The City may require Construction BMP Plans be submitted for appropriate construction phases if deemed necessary.

Although the City does not review and approve SWPPPs for private projects, it does do so for public projects, because, in most cases, the CGP designates the City as the legally responsible party.

5.4 Construction Site Inventory

For all public and private projects that are issued a local permit within its jurisdiction, the City of Vista maintains a watershed-based inventory. The inventory includes details on each construction site, including project name, location, and construction site priority. Privately-owned development projects are added to the City's construction inventory when permits are approved. Public projects are added to the construction inventory when a project begins construction. Other public agency projects, such as state agencies, transit districts, school districts or service providers, will be identified on the inventory where appropriate or when issued a local permit. Completed projects are removed from the inventory upon issuance of a certificate of occupancy, or other completion documentation. The City's construction inventory is typically updated on a monthly basis.

The City uses an electronic database to maintain its inventory, which includes the following components required by the MS4 Permit:

- Contact information for each site (e.g., name, address, phone, and email for the owner, developer and contractor).
- Basic site information, including location (address and hydrologic subarea), Waste Discharge Identification (WDID) number (if applicable), size of the site, and approximate area of disturbance.
- All construction sites and activities in the City of Vista are designated a high threat to water quality;
- Project start and completion dates;
- Required inspection frequency based on season and construction phase;
- Date of permit issuance;
- Date Construction BMP Plan is accepted; and
- Ongoing enforcement actions administered to the site.

5.5 Construction Site BMP Implementation

The City has an established inspection program to evaluate proper BMP implementation at construction sites within the City's jurisdiction. The inspection program is designed to confirm sites reduce the discharge of pollutants in stormwater to the MEP, effectively prohibit non-stormwater discharges, and address the high priority and priority water quality conditions for both the San Luis Rey and Carlsbad WMAs during the wet and dry seasons.

Pre-construction meetings are typically held with the contractor before work begins. During these meetings, City staff discusses BMP requirements, including how they are applied over the

life of the construction project as it progresses from one phase to another. No physical construction occurs until BMPs are in place and an initial BMP inspection is completed. Contractors are also informed that City inspectors have the authority to require implementation of all BMPs the inspector deems necessary to reduce pollutant discharges to the MEP, even if those BMPs are not explicitly documented on the project's Construction BMP Plan.

Once construction starts, Land Development Division inspection staff perform regularly scheduled site inspections to ensure BMPs are implemented consistent with the Construction BMP Plan and the City's BMP requirements during each stage of construction.

5.5.1 Inspection Frequency

Provision E.4 of the MS4 Permit states the City must identify high threat to water quality sites on its inventory. Threat to water quality (TTWQ) is then used to determine inspection frequency. As a proactive measure to protect water quality and because of construction site capacity to discharge bacteria-related pollutants such as trash and sediment, the City classifies all construction sites as a high TTWQ. Accordingly, the City will inspect all its inventoried construction sites weekly during the wet season and monthly during the dry season. In addition, the City may enhance its inspection frequency based on construction phase and/or compliance history during the wet and dry season.

In addition to more frequent routine inspections, the City also inspects sites prior to rain events. At sites subject to the CGP, City staff also verify that a Rain Event Action Plan (REAP) is present onsite and if the site BMPs are implemented, installed, and maintained to reduce discharges to the City's MS4. The pre-rain inspection program is referred to internally as the REAP Team Action Plan. Implementing the REAP Team Action Plan helps identify and resolve BMP implementation events prior to rain events.

The City's enhanced construction inspection program is expected to reduce discharges of pollutants associated with bacteria, such as sediment and trash, which are typically associated with construction projects. Therefore, the benefits of the City's enhanced program are as follows:

- Reducing sediment and trash discharges may reduce levels of bacteria, which can be transported with sediment and trash. Bacteria has been identified as the highest priority water quality condition throughout the City in the Carlsbad and San Luis Rey Water Quality Improvement Plans.
- Reduced sediment discharges should benefit the Buena Vista hydrologic area, which is impaired for sedimentation.
- Inspecting sites before predicted storms leads to sites with effective BMP implementation during the time when BMP implementation is most critical at a

construction site. Most discharges of sediment and trash from construction sites occur when it rains.

- Frequent, regular interaction with site-responsible parties will allow City inspectors to ensure appropriate BMPs are in place, as construction activities and phases change over time. This will help reduce discharges of bacteria, sediment, trash and other pollutants from construction sites to the MEP.

5.5.2 Inspection Procedure

Site inspections are performed by the City inspection staff on all inventoried sites. The City inspectors evaluate and confirm compliance with applicable ordinances and permits of required BMPs for each construction phase. Inspection findings are documented on the City's construction inspection form (Appendix F). At a minimum, inspections include the following components:

- Assessment of the implementation of all required BMPs and any additional BMPs required by the City, whether required through ordinances or permits. This assessment includes evaluating the adequacy and effectiveness of implemented BMPs, including how they are installed and maintained.
- Assessment of whether project proponents are making appropriate adjustments when BMP deficiencies are found as a result of City-conducted inspections.
- Visual observations of actual or potential discharges of sediment and/or construction-related materials from the site.
- Visual observations to evaluate presence of non-stormwater discharges.
- Visual observations of actual or potential illicit connections.
- Verification of coverage under the Construction General Permit (WDID number) during initial inspections, when applicable

When an inspector determines a site is noncompliant, the City follows up with the site until compliance is confirmed. Non-compliant issues are elevated as necessary to obtain compliance, as discussed in Section 5.6 and in the Enforcement Response Plan (Appendix B).

5.5.3 Inspection Tracking

Each inspection form, which includes site photos, is stored electronically. The number of inspections performed at each construction site will be tracked in the City's construction project database to ensure all construction sites in the City's inventory are being inspected at the appropriate frequency. At a minimum, inspection records will include the following information:

- Site name, location (address and hydrologic subarea), and WDID number (if applicable).
- Inspection date.
- Approximate amount of rainfall since the last inspection.
- Description of problems observed with BMPs, indication of the need for BMP addition/repair/replacement, any scheduled re-inspection, and date of re-inspection.
- Descriptions of any other specific inspection comments which must, at a minimum, include rationales for longer compliance times beyond 30 calendar days or prior to the next predicted rain event, whichever is sooner.
- Description of enforcement actions issued in accordance with the City's Enforcement Response Plan.
- Resolution of problems noted and date problems were resolved.

Inspection records and related documentation will be made available to RWQCB staff upon request.

5.6 Enforcement

The City enforces its construction BMP requirements at all construction sites in its jurisdiction. When violations are observed and documented during a site inspection, the City implements appropriate enforcement measures discussed in the City's Enforcement Response Plan (Appendix B). Enforcement actions are based on the severity of the violation and can range from written warnings to more severe enforcement such as stop work notices. For example, a stop work order is considered one of the City's escalated enforcement measures. The City does not utilize verbal warnings as an inspection enforcement measure.

City inspectors will typically seek to resolve incidents of observed noncompliance within 72 hours. Additional enforcement actions will be taken as necessary to obtain compliance when the required corrections are not made within the initial 72-hour timeline. In cases where the violation cannot be resolved within 30 days, or prior to the next rain event, whichever is sooner, the reason additional time was needed for case resolution will be documented and kept in the project's file. The RWQCB will be notified within five calendar days whenever a stop work order or other escalated enforcement action is taken. See the Enforcement Response Plan (Appendix B) for additional details on identification of escalated enforcement actions. When a site is subject to the CGP, City staff may also collaborate with RWQCB staff on enforcement actions.

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6 Existing Development: Industrial and Commercial Facilities

6.1 Introduction

About 16 percent of the land area in the City of Vista (City) is classified as industrial or commercial. Figure 6-1 shows where industrial and commercial areas are located. The City requires industrial and commercial facilities or areas to implement pollution prevention methods, also known as best management practices (BMPs), to reduce discharges of pollutants to the storm drain system. The required BMPs are listed in the City's Stormwater Standards Manual (Appendix C) and have been developed based on the requirements of San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 (MS4 Permit). The City inventories businesses subject to these requirements and facilitates BMP implementation through education, inspections, and enforcement. The City has also incorporated strategies to reduce discharges of bacteria, the highest priority water quality condition (HPWQC) identified in the Water Quality Improvement Plans (WQIPs) for the Carlsbad and San Luis Rey Watershed Management Areas (WMAs).

6.2 Industrial and Commercial Inventory

6.2.1 Background

A watershed-based inventory of known industrial and commercial businesses and properties (collectively, "facilities") within the City's jurisdiction has been developed and will be updated annually. The types of businesses included on the inventory are listed in Section 6.2.3. These business types are believed to have the potential to discharge pollutants into the storm drain system and impact local water quality.

6.2.2 Data Sources

The City uses business license data, Geographic Information Systems (GIS), and Cityworks software to regularly maintain and update a watershed-based inventory of industrial and commercial facilities within its jurisdiction. Data is gathered from the following sources to maintain the inventory, which is then integrated with Cityworks:

- City of Vista business license database
- RWQCB list of businesses with individual National Pollutant Discharge Elimination System (NPDES) permits

- State Water Resources Control Board (SWRCB) list of facilities covered under the NPDES Industrial General Permit, Order No. 2014-0057-DWQ (Industrial General Permit)
- Complaints filed for unregistered businesses

6.2.3 Inventoried Facilities

Businesses identified from the data sources described above are classified as inventoried based on their Standard Industrial Classification (SIC) code or North American Industrial Classification System (NAICS) code. The City maintains a list of codes associated with the types of activities listed below; businesses with those SIC or NAICS codes are included on the inventory.

Industrial Facilities

- Facilities subject to the statewide Industrial General Permit or other individual NPDES permit
- Facilities subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986
- Active landfills
- Hazardous waste treatment, disposal, storage and recovery facilities

Commercial Facilities

- Automobile repair, maintenance, fueling, or cleaning
- Airplane repair, maintenance, fueling, or cleaning
- Boat repair, maintenance, fueling, or cleaning
- Equipment repair, maintenance, fueling, or cleaning
- Automobile and other vehicle body repair, or painting
- Automobile (or other vehicle) parking lots and storage facilities
- Retail or wholesale fueling
- Contractors with significant storage yards
 - Painting and coating
 - Cement mixing or cutting
 - Masonry
 - Landscaping

- Pest control services
- Other contractors
- Eating or drinking establishments, including food markets
- Botanical or zoological gardens and exhibits
- Nurseries and greenhouses
- Golf courses, parks and other recreational areas/facilities
- Cemeteries
- Marinas
- Building material retailers and storage
- Animal facilities
- Portable sanitary services

Also inventoried are commercial or industrial facilities that do not fall into the categories above but may contribute a significant pollutant load to the storm drain.

Mobile businesses are identified through the City’s business license application process and included with the inventory of stationary industrial and commercial facilities described above. Unlicensed mobile businesses are identified and added to the inventory based on incidents reported to the Stormwater Hotline and violations directly observed by City or contract staff. Examples of mobile businesses include the following:

- Mobile vehicle washing
- Mobile carpet, drape or furniture cleaning
- Pool and fountain cleaning
- Power washing services

6.2.4 Inventory Data Management

The City maintains its industrial and commercial facility inventory through the use of a GIS-based data management system in accordance with MS4 Permit Section E.5.a. At a minimum, the inventory includes, where applicable, the following information for industrial and commercial facilities within the City’s jurisdiction:

1. Name and location (hydrologic subarea and address).
2. Classification as industrial or commercial.
3. Status of facility or area as active or inactive.

4. Identification of whether a business is a mobile business.
5. SIC or NAICS code(s).
6. Industrial General Permit Notice of Intent (NOI) and/or Waste Discharge Identification (WDID) number.
7. Identification of pollutants generated and potentially generated by the facility or area.
8. Whether the facility or area is adjacent to an environmentally sensitive area (ESA). “Adjacent to” is defined as being within 200 feet of an ESA. This is in accordance with past procedure and with the most recent definition provided by the RWQCB, which is found in Order No. R9-2007-0001. A map of ESAs is included in Appendix H.
9. Whether the facility or area is tributary to and within the same hydrologic subarea as a water body segment listed as impaired on the Clean Water Act Section 303(d) List of Water Quality Limited Segments (303(d) list) and generates pollutants for which the water body segment is impaired. This process is described in Section 6.2.5 below.

The City maintains its inventory in a GIS-based database and therefore has the ability to map the locations of inventoried industrial and commercial facilities, watershed boundaries, and water bodies, as required by the MS4 Permit.

6.2.5 Inventory Prioritization for Inspection

Section E.5.c.(1)(a) of the MS4 Permit requires that inspections are performed at an appropriate frequency to confirm that BMPs are implemented to reduce the discharge of pollutants to the storm drain system to the maximum extent practicable and are effective in reducing non-stormwater discharges. The inspection frequencies are required to consider the potential for a facility or area to discharge non-stormwater and pollutants and reflect the priorities set forth in the WQIPs. The City prioritizes facilities for inspections that have either a “high” or “standard” priority, with high priority facilities generally subject to more frequent inspections, as discussed in Section 6.4.1. Facilities with any of the following characteristics are considered high priority:

1. Located on a high priority parcel.
2. Identified as a potential source of pollutants associated with a downstream impairment.
3. History of non-compliance.

Each of the above characteristics is described in more detail below.

Located on a high priority parcel

If the facility is located within any “high priority” parcel identified on Figure 6-1, then the facility is considered high priority. High priority parcels are parcels containing facilities with a history of non-compliance and/or are known to have the potential to be a source of bacteria in stormwater discharges (bacteria being the highest priority water quality condition in Carlsbad

and San Luis Rey WMAs). These parcels are generally outdoor shopping centers that include restaurants with shared trash enclosures. Recycling yards are also included as high priority parcels, due to their relatively high potential for generating heavy metals and since they typically have significant exposure to stormwater.

Identified as a potential source of pollutants associated with a downstream impairment

Facilities that have not been previously inspected are classified as high priority if they are identified as likely to discharge pollutants for which a facility's receiving water body is 303(d) listed. Table 1-4 summarizes the pollutants of concern for the hydrologic areas in the City, which are then cross-referenced with pollutant discharge potentials listed in Table 6-1. Although Table 1-4 notes dissolved minerals as a class of pollutants associated with impairments in some parts of the City no categories of businesses (Table 6-1) have been identified as sources of dissolved minerals. After a facility is inspected, the pollutant discharge potential ratings will be updated to reflect observed site conditions, and inspection compliance history will be used to prioritize the facility going forward.

History of non-compliance

Facilities that are known to have a history of poor compliance with the City's minimum BMP requirements are classified as high priority. Compliance is based on the results of a facility's most recent inspection. Poor compliance means one or more significant BMP deficiencies or illicit discharges were identified during the inspection and required the City to take follow-up action to resolve them. A "standard" priority status may be eventually assigned to facilities with a poor compliance record based on future years' inspections that document satisfactory and consistent compliance.

City staff also have the authority to classify other businesses that may contribute significant pollutant loads or non-stormwater discharges to the City's storm drain system as high priority. The remaining businesses on the inventory are classified as standard priority.

6.3 Best Management Practice Requirements

The City requires commercial and industrial businesses to implement and maintain BMPs to prevent pollutants from entering its storm drain system. The City has updated its minimum BMPs applicable to industrial and commercial facilities, which are listed in the Stormwater Standards Manual (Appendix C). In addition, the City's Stormwater Ordinance gives authorized enforcement staff the authority to require additional BMPs beyond the minimum BMPs, where necessary, to reduce discharges of pollutants to the maximum extent practicable. Businesses can also be required to develop and implement site-specific BMP plans.

Consistent with WQIP strategies to reduce discharges of bacteria (see Appendix I), minimum BMPs prohibit irrigation runoff, which can transport bacteria. Minimum BMP requirements

also include sediment and erosion controls to reduce the potential for mobilization of soil particles, thereby also reducing mobilization of bacteria bound to the soil.

6.4 Best Management Practice Implementation

The City inspects inventoried industrial and commercial facilities to require compliance with the established minimum BMPs and the Stormwater Ordinance. The City also provides education and outreach to businesses to make them aware of and encourage compliance with the requirements, as described in Section 10.

6.4.1 Inspection Frequency

The inspection program is designed to meet the following MS4 Permit objectives:

- Inspect all inventoried stationary industrial and commercial facilities at least once within a five-year period. These inspections may be either onsite inspections or property-based inspections.
- Annually complete a number of onsite inspections equal to 20 percent of the total number of inventoried stationary facilities. If multiple onsite inspections are completed at a facility in a given year, including follow-up inspections or inspections in response to a hotline call, those inspections may be counted toward the 20 percent requirement. Property-based inspections, as defined in Section 6.4.3.2, are not counted toward the 20 percent requirement.

It is expected that high priority facilities will be inspected more than once within the MS4 Permit term; generally they will be inspected annually. The City will also complete regular property-based or patrolling-style inspections in Carlsbad WQIP focus areas AH 4 and BV 6, as described in the WQIP. Figure 6-1 shows the locations of these two focus areas.

Based upon inspection findings, the City will implement all follow-up actions (i.e., education and outreach, follow-up inspections, enforcement) necessary to require and confirm a facility's compliance with the City's minimum BMP requirements. Enforcement actions are discussed in Section 6.5 and in the City's Enforcement Response Plan (Appendix B).

6.4.2 Inspection Data Management

All inspection data for inventoried industrial and commercial facilities are tracked in Cityworks, a GIS-based data management program. Inspection records include the following, at a minimum:

- Name and location of facility or area (address and hydrologic subarea) consistent with the inventory name and location.
- Inspection and re-inspection date(s).

- Inspection method (i.e., onsite or property-based).
- Observations and findings from the inspection(s).

For onsite inspections, the records also include the following:

- Description of any problems or violations found during the inspection(s).
- Description of enforcement actions issued in accordance with the Enforcement Response Plan (Appendix B).
- The date BMP deficiencies or violations were resolved.

6.4.3 Inspection Methods Overview

Inspections of industrial and commercial facilities are typically conducted by designated Stormwater compliance inspection staff or contractors. Note that while contract staff may be used to complete inspections, only City staff may issue enforcement actions (e.g., Notices of Violation and citations). Inspections consist of either an onsite or property-based inspection. Data entry forms are available in Cityworks so that inspection data, such as results, inspector comments, and photos, can be input to the database consistently. Cityworks is also compatible with electronic tablets to accommodate in-field data entry by the inspector.

An inspection is typically initiated as a result of one of the following:

- An inspection is necessary to meet the inspection frequency requirements of the MS4 Permit, as described in Section 6.4.1.
- To investigate a potential illicit discharge as reported through the Stormwater Hotline or based on MS4 outfall monitoring.
- As a follow up to a previous inspection during which a violation was noted.

Previous facility inspection results are archived and available for research prior to conducting new inspections. Cityworks has been implemented since 2012 for such purposes, and historic inspection data is readily available to the inspector through the use of electronic tablets in the field and desktop computers in the office.

6.4.3.1 Onsite Inspections

Onsite inspections include the following components:

- Visual inspection for the presence of non-stormwater discharges, actual or potential discharges of pollutants, and actual or potential illegal connections.
- Determining whether description of the facility or area in the inventory has changed, and making corresponding updates if necessary.

- Assessment of the implementation of the minimum BMPs, including preventing non-stormwater discharges, as required by the Stormwater Ordinance.
- Verification of coverage under the Industrial General Permit, when applicable.

Often, the inspector will obtain information from the facility representative or other responsible individual while on site. If the information requested is not available for verification at the time of the inspection, the inspector may verify the information via telephone or email after the inspection. Areas in which pollutant sources and pollutant-generating activities are exposed to direct precipitation, stormwater run-on, or non-stormwater discharges will be assessed. Inspectors will evaluate the effectiveness of the business's actions to determine if they comply with the City's BMP requirements. Inspectors also look for evidence of illicit discharges, such as ongoing leaks or recent spills, or discharges/connections not authorized under an NPDES permit.

After the inspection, the facility representative and/or the responsible party is emailed an inspection summary for their records. If an email address is not available, a hard copy inspection summary report will be mailed to the facility.

6.4.3.2 Property-based Inspections

Property-based inspections, referred to as "drive by inspections" in the MS4 Permit, include the following components:

- Driving through a selected property that may evaluate multiple industrial or commercial facilities, rather than visiting each facility individually.
- Visual inspection for the presence of non-stormwater discharges, actual or potential discharges of pollutants, and actual or potential illegal connections.
- Determining whether description of the facility or area in the inventory has changed, and making corresponding updates if necessary.

Property-based inspections are generally more time-efficient than onsite inspections. Their use can allow the City to evaluate a large area in a comparatively short amount of time. They can also be used at lower priority businesses to satisfy the MS4 Permit requirement that all businesses are inspected at least once every five years.

The main focus for property-based inspections is inspecting the discharge points of a facility or property for evidence of non-stormwater discharges. Identified non-stormwater discharges are further investigated to determine if they are illicit discharges. If an inspector determines more extensive investigation is needed, an onsite inspection may be completed. Whenever an illicit discharge is identified, the responsible party is contacted, and the illicit discharge is required to be eliminated.

6.4.3.3 *Mobile Business Oversight*

Mobile businesses are subject to the same prohibitions and enforcement mechanisms as stationary industrial and commercial facilities. Through business licensing, the City is able to identify “mobile water users” such as mobile detailers, power washers, window cleaners, or similar businesses that use water in their regular business activities. These businesses’ activities have the potential to discharge pollutants to the storm drain system. Prior to receiving an approved business license, the business owner(s) or their representative(s) meet with City staff to discuss planned business activities, discharge prohibitions, spill prevention, and BMP requirements. Mobile water user equipment and BMPs are also subject to inspection by City staff. Mobile water users receive their business license only after completing this process.

6.5 Enforcement

Through legal authority in Vista Municipal Code Chapter 13.18 and procedures outlined in the Enforcement Response Plan (Appendix B), the City has the ability to issue enforcement actions for industrial and commercial facilities that are out of compliance with the City’s stormwater requirements. If BMP deficiencies or other violations of Chapter 13.18 are observed during an inspection, industrial and commercial facilities are typically provided the opportunity to correct BMP deficiencies or violations prior to initiating escalated enforcement action, such as issuing a Notice of Violation or an administrative citation. The Enforcement Response Plan (Appendix B) provides more details about the City’s enforcement tools and process.

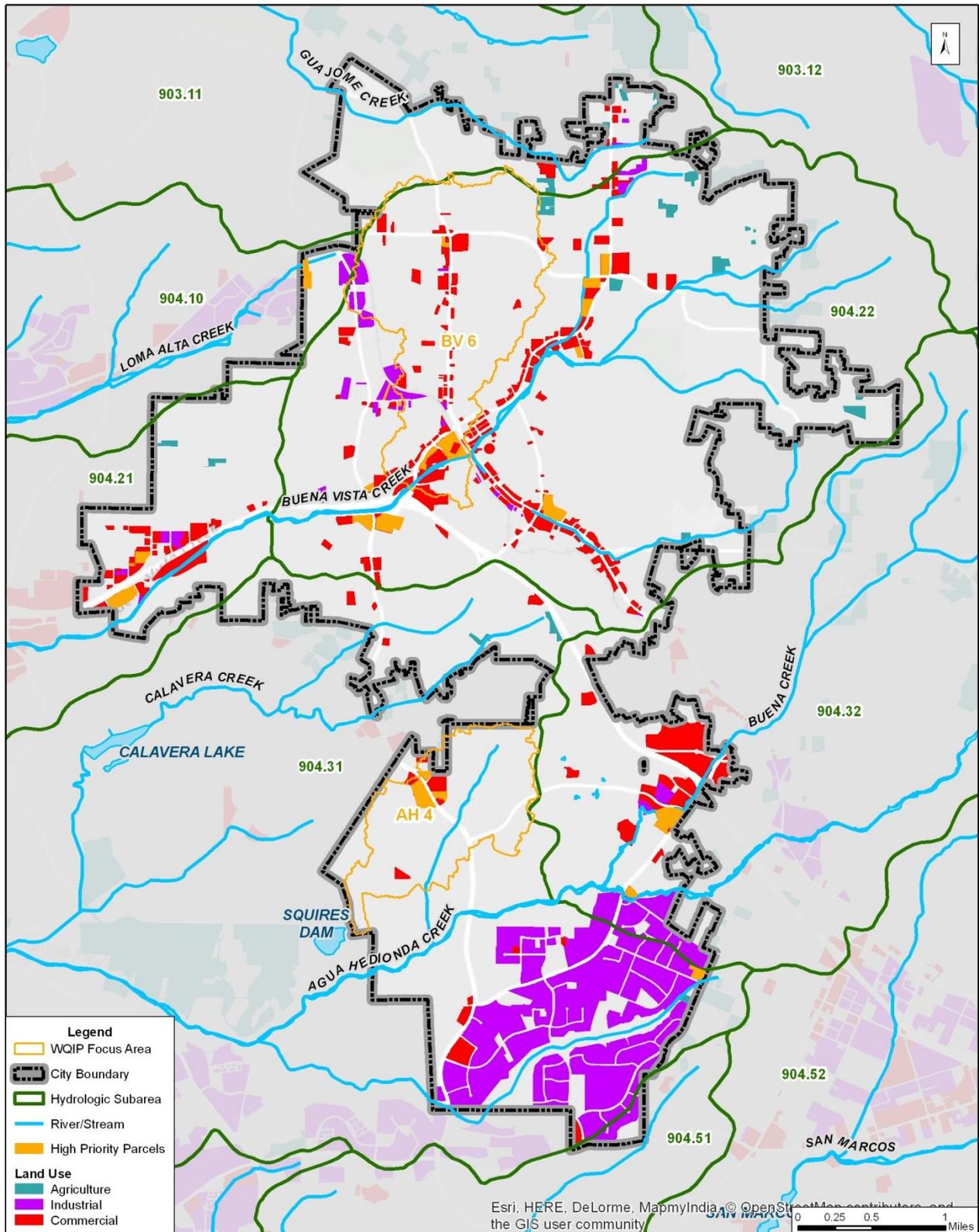
Consistent with MS4 Permit requirements, corrective actions for violations observed at industrial and commercial facilities are intended to be resolved within 30 calendar days from the date of the violation, or prior to the next rain event, whichever is sooner. Cityworks is used to track each step of the inspection and enforcement process, including routine and follow up inspections, inspector notes, photos of BMP deficiencies and corrections, and other related records. Cityworks will also be used to document the rationale when violations are not corrected within 30 days, as required by the MS4 Permit.

6.5.1 Identification of Industrial Non-filers

The RWQCB will be notified whenever an inspector finds a facility that is potentially subject to the Industrial General Permit, but has not filed the appropriate documentation with the State Water Resources Control Board. Notification to the RWQCB will be given within five calendar days of the inspector’s being aware. Such “non-filers” may be identified based on comparing the City’s list of industrial facilities, as identified by SIC codes listed in the Industrial General Permit, with the facilities listed on the State’s Storm Water Multiple Application and Report Tracking System (SMARTS) website (<https://smarts.waterboards.ca.gov>) as having filed for coverage or exemption. Non-filers also may be identified in the field based on inspection

results (e.g., if a facility that had filed for a no exposure exemption is found to have significant BMP implementation violations). Written notification will be provided by email to Nonfilers_R9@waterboards.ca.gov.

Figure 6-1. Industrial and Commercial Areas and High Priority Parcels



Note: some businesses in agricultural land use areas, such as nurseries and greenhouses, are included on the industrial/commercial inventory.
 Base Data Sources: SanGIS and City of Vista

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Table 6-1. Potential Pollutants at Industrial and Commercial Facilities¹

Category	Heavy Metals ²	Organics	Oil & Grease ²	Sediment	Pesticides	Nutrients	Oxygen Demanding Substances	Bacteria/ Viruses	Trash
Aggregates	PO	UL	UL	L	UL	UL	PO	UL	UL
Air Transit	PO	PO	PO	PO	UL	UL	UL	UL	UL
Airfields	L	PO	L	PO	UL	UL	PO	UL	PO
Airplane Repair	L	L	L	PO	UL	UL	PO	UL	PO
Animal Facilities	UL	UL	UL	PO	UL	L	L	L	PO
Auto Paint/Body	L	L	PO	PO	UL	UL	PO	UL	PO
Auto Repair	L	L	L	PO	UL	UL	PO	UL	PO
Boat Repair	L	L	L	PO	UL	UL	PO	UL	PO
Botanical/Zoological Exhibits	UL	PO	UL	PO	L	L	PO	L	PO
Building Materials	PO	UL	PO	L	PO	PO	PO	UL	L
Carpet/Furniture Cleaning	UL	PO	UL	PO	UL	UL	PO	UL	PO
Cement Mixing/Cutting	UL	UL	PO	L	UL	UL	PO	UL	PO
Cemeteries	UL	UL	UL	PO	L	L	PO	PO	PO
Eating/Drinking Establishments	UL	UL	L	PO	UL	UL	L	L	L
Equipment Repair	L	L	L	PO	UL	UL	PO	UL	PO
Fueling	L	L	L	PO	UL	UL	PO	UL	PO
Golf Courses/Parks	UL	UL	UL	L	L	L	PO	PO	PO
Ground Transportation	L	PO	L	PO	UL	UL	PO	UL	PO
Landfills	PO	PO	PO	L	PO	PO	L	L	L
Landscaping	UL	PO	UL	PO	L	L	PO	UL	PO
Manufacturing, Biotech/Pharmaceutical	UL	PO	UL	PO	UL	UL	PO	UL	PO
Manufacturing, Chemicals	UL	PO	PO	PO	PO	UL	PO	UL	PO
Manufacturing, Concrete	PO	UL	PO	L	UL	UL	PO	UL	PO
Manufacturing, Electronics	PO	UL	PO	PO	UL	UL	PO	UL	PO
Manufacturing, Equipment	PO	UL	PO	PO	UL	UL	PO	UL	PO
Manufacturing, Fabric/Clothes	UL	UL	UL	PO	UL	UL	PO	PO	PO

Table 6-1. Potential Pollutants at Industrial and Commercial Facilities (Continued) ¹

Category	Heavy Metals ²	Organics	Oil & Grease ²	Sediment	Pesticides	Nutrients	Oxygen Demanding Substances	Bacteria/Viruses	Trash
Manufacturing, Fabricated Metal	L	UL	PO	PO	UL	UL	PO	UL	PO
Manufacturing, Food/Drink	UL	UL	PO	PO	UL	UL	PO	L	PO
Manufacturing, Misc.	PO	PO	PO	PO	UL	UL	PO	UL	PO
Manufacturing, Paper	UL	UL	UL	PO	UL	UL	PO	PO	PO
Manufacturing, Plastic/Rubber	UL	PO	PO	PO	UL	UL	PO	UL	PO
Manufacturing, Primary Metal	L	UL	PO	PO	UL	UL	PO	UL	PO
Manufacturing, Stone/Glass	UL	UL	UL	L	UL	UL	PO	UL	PO
Manufacturing, Structural Steel	L	UL	UL	PO	UL	UL	PO	UL	PO
Manufacturing, Wood/Furniture	UL	UL	UL	PO	UL	UL	PO	PO	PO
Marinas	L	PO	L	PO	UL	UL	PO	PO	PO
Masonry	UL	UL	PO	L	UL	UL	PO	UL	PO
Nurseries/Greenhouses	UL	PO	UL	L	L	L	PO	PO	PO
Other Contractor	PO	PO	PO	PO	UL	UL	PO	UL	PO
Other Recreation	UL	UL	UL	UL	UL	UL	PO	PO	L
Painting/Coating	PO	PO	PO	PO	UL	UL	PO	UL	PO
Pest Control	PO	PO	UL	PO	L	UL	PO	UL	PO
Pool/Fountain Cleaning	UL	UL	UL	PO	UL	UL	UL	UL	UL
Portable Sanitation	UL	PO	PO	PO	UL	L	PO	L	PO
Publically Owned Treatment Works	PO	UL	UL	PO	UL	PO	L	UL	PO
Power Generation	PO	PO	PO	L	UL	UL	UL	UL	UL
Power Washing	PO	PO	PO	PO	UL	UL	UL	UL	UL
Printing	PO	PO	UL	PO	UL	UL	PO	PO	PO
Recycling	L	PO	PO	L	PO	PO	PO	UL	PO
Sewage Sludge	PO	PO	PO	PO	PO	L	L	L	PO
Vehicle Parking/Storage	L	L	L	L	UL	UL	PO	UL	PO
Vehicle Washing	PO	L	PO	PO	UL	UL	PO	UL	PO

Table 6-1. Potential Pollutants at Industrial and Commercial Facilities (Continued) ¹

Category	Heavy Metals ²	Organics	Oil & Grease ²	Sediment	Pesticides	Nutrients	Oxygen Demanding Substances	Bacteria/Viruses	Trash
Vehicle/Equipment Rental	L	UL	L	PO	UL	UL	PO	UL	PO
Waste Management	PO	PO	PO	L	UL	PO	L	L	L
Water Transit	PO	L	PO	PO	UL	PO	PO	PO	PO
Wholesale Food	UL	UL	PO	PO	UL	UL	L	PO	PO
Wholesale/Storage/Warehousing	UL	UL	PO	PO	UL	UL	PO	PO	PO

Notes:

L - Likely, PO - Possible, UL- Unlikely

1. This table is based on tables in the Copermittees' Baseline Long-Term Effectiveness Assessment (County of San Diego, 2011) and on the field experience of D-Max Engineering, Inc. D-Max has conducted more than 24,000 industrial and commercial facility inspections during which pollutant discharge potentials were assessed.
2. Discharge of heavy metals and oil and grease is possible if the facility has onsite parking.

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7 Existing Development: Municipal Facilities

7.1 Introduction

Municipal facilities within the City include public parks, administration buildings (e.g., Civic Center, corporate yard), fire stations, sewage pump stations, community facilities (e.g., senior center, Moonlight Outdoor Amphitheater, Wave Recreation Park, Avo Theater), and a number of other City-operated properties. This section discusses stormwater best management practices (BMP) and programs associated with these facilities. An inventory of the facilities is included in Appendix D. The City also conducts activities and operations such as power washing, street and sidewalk repair, painting, storm drain system maintenance, and graffiti cleaning. Stormwater BMPs and programs associated with these activities are described in Section 8 (Municipal Infrastructure).

7.2 Municipal Inventory

The City maintains and regularly updates a watershed (GIS-based) inventory of municipal facilities within its jurisdiction that has the potential to contribute pollutants and non-stormwater discharges to the City's storm drain system. Managing the inventory in GIS allows the City to map inventoried municipal facilities as needed. The inventory will include the following information, where applicable:

1. Name and location: hydrologic subarea (HSA) and address.
2. Status of facility or area as active or inactive.
3. Standard Industrial Classification (SIC) and/or North American Industrial Classification System (NAICS) codes.
4. Industrial General Permit Notice of Intent (NOI) and/or Waste Discharge Identification (WDID) number.
5. Identification of pollutants generated and potentially generated by the facility or area.
6. Whether the facility or area is adjacent to, within 200 feet of, any of the following environmentally sensitive areas (ESA) within the City: Agua Hedionda Creek, Buena Creek, Buena Vista Creek, and Loma Alta Creek. A map of these ESAs can be found in Appendix H.
7. Whether the facility or area is tributary to and within the same HSA as a water body segment listed as impaired on the Clean Water Act Section 303(d) list and generates pollutants for which the water body segment is impaired.

Inventoried municipal facilities are included in Appendix D. The inventory is reviewed annually and updated as needed. Further information regarding stationary municipal facilities is included in the following sections.

7.2.1 Stationary Facilities

Parks and Recreational Facilities

The City's Parks Maintenance Division and Recreation & Community Services Department maintains a number of parks, landscaped areas, and other recreational areas for use by the general public. Recreational facilities are defined as facilities that support outdoor activities such as sports fields and outdoor pools. City staff, or contractors under staff supervision, are responsible for park maintenance activities such as landscaping, waste removal and control, and maintenance of any other facilities on the grounds (such as restrooms or concessions). Post-construction BMPs located at City parks are typically maintained by Public Works staff.

Public Works Corporate Yard

The Public Works Corporate Yard consists of equipment and materials to support maintenance activities, including streets, wastewater, stormwater, facilities, and fleet maintenance. A second auxiliary yard, the Buena Yard, is utilized primarily for material storage (e.g., pipe, fencing, and green waste), as well as decanting of street sweeping material. Most impervious area runoff at the Buena Yard is controlled by a valve that directs flow to sanitary sewer until measurable rain is detected, at which time the valve directs flow to the storm drain system.

Wastewater Facilities

The City provides wastewater collection and transmission for its residents and facilities. The City's collection system includes a network of approximately 280 miles of pipeline and approximately 7,000 manholes. There are two pump stations and several metering stations within the City, and two outside city limits (in Carlsbad). The City's Public Works Wastewater Division is responsible for cleaning and maintaining the system on a regular basis. The sewage from a small portion of northwest Vista is conveyed to Oceanside; however, most of Vista's waste is conveyed to the Encina Water Pollution Control Facility in Carlsbad. Additional information about maintenance of the sanitary sewer system is provided in Section 8 (Municipal Infrastructure).

Fire Station Facilities

There are six fire stations within Vista city limits. Each station possesses unique characteristics, facilities, and intensity of use that determine if they are to be included with annual inspections. Most fire-fighting training is completed at the City of San Marcos' fire training facility, located in the City of San Marcos. The City of San Marcos implements BMPs for training activities at that location. Limited fire-related training (e.g., structure entry) occasionally takes place at the

City of Vista's Buena Yard, and BMPs are installed as necessary for the training. Fire-fighting vehicle maintenance is performed at the City's Public Works Corporate Yard.

Other Stationary Facilities

The City maintains a number of public buildings, such as administrative buildings, community centers, and leased facilities and/or properties, that do not fall into any of the aforementioned categories. These facilities are evaluated for their potential to discharge stormwater pollutants, and are inspected at a frequency determined by the facility's priority. Minimum BMPs are applicable to all facilities within the City to prevent and reduce stormwater pollution. These BMPs are implemented throughout the year at all facilities regardless if the facility is due for an inspection.

7.2.2 Special Events

The City receives requests to allow special events to occur on city property, streets, facilities, and particularly in the historic downtown area. Examples of special events include food festivals, fairs, parades, and car shows. The City requires organizers to apply for Special Events Permits, which allow City staff from multiple departments (including stormwater staff) to review proposed activities and identify any potential concerns. Depending on the type and size of event, the City may require pre-event meetings with event coordinators to discuss concerns identified by staff.

Potential pollutants associated with special events may include the following:

- Trash and debris
- Bacteria and oxygen-demanding substances from food preparation and consumption
- Oil and grease from vehicles and/or equipment
- Chemicals and bacteria from portable restrooms

7.2.3 Inventory Prioritization

Although the 2013 MS4 Permit does not specifically require the prioritization of municipal facilities as did the 2007 MS4 Permit, Section E.5.c.(1)(a) of the MS4 Permit requires that inspections are performed at an appropriate frequency. This process is undertaken to confirm that BMPs are implemented to reduce the discharge of pollutants to the storm drain system to the maximum extent practicable (MEP) and are effective in reducing non-stormwater discharges to the storm drain system. The inspection frequencies are required to consider the potential for a facility or area to discharge polluted non-stormwater and should reflect the priorities set forth in the San Luis Rey and Carlsbad Water Quality Improvement Plans (WQIP). In order to ensure municipal facilities are inspected at an appropriate frequency in accordance with the MS4 Permit, the City will prioritize municipal facilities. The specific frequencies at which facilities

receive inspections are discussed in Section 7.4.1. Criteria for prioritizing municipal facilities include the following:

Highest Priority Water Quality Conditions. Municipal facilities that are found to be, or are likely to be, a significant source of bacteria will be selected for inspection, since indicator bacteria is a highest priority water quality condition (HPWQC) throughout the City, as identified in the San Luis Rey and Carlsbad WQIPs. Table 6-1 in Section 6 (Industrial and Commercial Facilities) provides a summary of the water bodies within the City's jurisdiction and the applicable HPWQCs for the Carlsbad and the San Luis Rey watershed management areas. Appendix D includes the municipal facilities inventory, which indicates each facility's pollutant discharge potential.

Sensitivity of receiving water body. If a municipal facility is tributary to and within the same HSA as a 303(d)-listed water body and generates pollutants for which the water body is impaired, it may be considered for inspection. Table 6-1 in Section 6 (Industrial and Commercial Facilities) summarizes the 303(d)-listed impairments that are applicable to receiving waters in the City and the pollutants associated with the impairments. Appendix D includes the municipal facilities inventory, which indicates each facility's pollutant discharge potential.

Non-stormwater discharges. Non-stormwater discharges may themselves be sources of pollutants or may transport pollutants into the City's storm drain system. Results from dry weather field screening at the City's major MS4 outfalls, calls to the City's stormwater hotline, and data from previous municipal facility inspections can aid in identifying facilities that contribute non-stormwater dischargers and/or pollutants to the storm drain system.

Compliance history. Municipal facilities with a history of BMP non-compliance may be selected for inspection.

Change in activities. If there have been significant changes to a facility's activities and operations, it may be inspected so that City staff can reassess BMP implementation.

Best professional judgment. City staff may prioritize other municipal facilities for inspection based on institutional knowledge and best professional judgment.

7.3 Best Management Practice Requirements

7.3.1 Stationary Facilities

The implementation, operation, and maintenance of BMPs at municipal facilities are requirements of the City in order to prevent pollutants from entering the storm drain system. The City has designated a list of minimum BMP requirements for all municipal facilities and activities; the BMPs are identified in the City's Stormwater Standards Manual (Appendix C).

If a facility is believed to be a significant source of other pollutants of concern and the minimum BMPs are not adequate, the City may require additional structural or non-structural BMPs so that discharges of pollutants of concern are reduced to the MEP. The City may also elect to prepare a written BMP plan for the facility

In addition to the minimum BMPs described in Appendix C, the City has developed programs to identify, prioritize, and implement potential projects to retrofit areas of existing development and to rehabilitate streams, channels, and habitat. Appendix E of this document describes these two programs in further detail.

7.3.2 Special Events

Special Event Permits are required for events that will take place on City property. Permit applications are available to the public on the City's website, and are to be submitted for review prior to the planned event. Event organizers complete a permit application and then are subject to meeting with an appointed committee consisting of staff from multiple City departments. Outside agencies, such as the San Diego County Sheriff's Department and North County Transit District, also may participate in these meetings. Through the permitting process, the City confirms that event hosts/organizers are knowledgeable of the City's minimum BMP requirements and that appropriate BMPs will be implemented.

Special events are required to implement the applicable minimum BMPs provided in the Stormwater Standards Manual (Appendix C). The City includes a "Stormwater Protection" section within the special event application to identify requirements that may apply to an event. The application states that event staff are required to be trained on implementing BMPs (e.g., spill prevention). Installation of inlet protection, providing adequate waste management, and having a spill kit are some of the most frequently implemented BMPs for special events.

The City conducts regular inspections of its inventoried municipal facilities to ensure compliance with the established minimum BMPs and applicable local ordinances and permits and to reduce the discharge of pollutants in stormwater.

7.3.3 Inspection Frequency

7.3.3.1 Stationary Facility Inspections

Stationary municipal facility inspections will be conducted annually at facilities selected and will consider criterion discussed in Section 7.2.3. At least 20 percent of the inventory will be inspected annually. Some multi-function facilities, such as the Public Works Corporate Yard, or various high-use parking lots or parks, are anticipated to remain indefinitely on the annual inspection schedule. Other facilities, such as low-use or low-pollution risk facilities (e.g., some

recreational facilities, community services sites), will be inspected no less than once during the five-year permit cycle.

7.3.3.2 *Special Event Inspections*

Coordinators of special events are informed of their responsibility to implement the BMPs and of the penalties for failing to meet their commitments. Public Works staff are often on duty during a special event and are available as a resource to event staff. Inspections may also be conducted before, during, or after a special event, at discretion of Stormwater staff and considering event activities. Examples of events more likely to be inspected include new events with coordinators that have not previously organized events in the City of Vista or events expected to draw an especially large number of people. Any violations of the City's requirements are addressed through the enforcement process as described in Section 7.5.

7.3.4 *Inspection Procedures*

Inspections of facilities will include, at a minimum, visual inspections for the presence of non-stormwater discharges, actual or potential discharges of pollutants, actual or potential illicit connections, and verification that the description of the facility or area in the inventory has not changed. Onsite inspections will include, at a minimum:

- Determining whether description of the facility or area in the inventory has changed, and making corresponding updates if necessary.
- Assessment of compliance with applicable local ordinances (Vista Municipal Code Chapter 13.18) and permits related to non-stormwater and stormwater discharges and runoff. This includes the following:
 - Visual inspection for the presence of non-stormwater discharges, actual or potential discharges of pollutants, and actual or potential illegal connections.
 - Assessment of the implementation of the City's minimum BMPs and any other required BMPs identified in the Stormwater Standards Manual (Appendix C).
- Verification of coverage under the State Industrial General Permit (IGP),⁵ if the facility's IGP subjectivity has not already been evaluated. To date, no City municipal facilities have been identified as subject to the IGP. If new facilities are added to the inventory in the future, stormwater staff will evaluate them to determine if they may require coverage under the IGP.

If any violations or concerns are found as a result of the inspection, inspectors will initiate appropriate actions in accordance with the Enforcement Response Plan (Appendix B). As with

⁵ State Water Resources Control Board Order No. 2014-0057-DWQ

results from any existing facility inspection, municipal facility operators with noted BMP deficiencies are typically provided an opportunity to implement timely corrective actions prior to consideration of escalated enforcement action.

7.3.5 Inspection Content

Inspections of stationary municipal facilities will typically be conducted by designated Stormwater staff or contractors under staff supervision. All inspections are conducted onsite and are tracked using Cityworks. Facility inspections are the primary means of verifying that designated BMPs are being implemented at municipal facilities. The inspections, typically coordinated with City staff from other departments, also provide an opportunity to educate and reinforce the importance of stormwater pollution prevention. Inspections are conducted for the following reasons:

- To ensure that BMPs are properly implemented and functioning effectively;
- To identify maintenance (e.g., material removal) and repair needs;
- To ensure the proper implementation of stormwater management plans, and;
- To make sure that staff is aware of the stormwater management requirements.

Inspection information, including any corrective actions, is maintained in Cityworks. When deficiencies in BMP implementation are found during inspections, the inspector will document corrective actions required to bring the site/activity into compliance. The corrective actions will be given to appropriate staff and the inspection/corrective action documentation will be updated to demonstrate resolution once the corrective actions have been addressed.

7.3.6 Inspection Data Management

As with all existing facility inspections, inspectors track all municipal facility investigations and follow-up inspection data in Cityworks.

Inspection records will include, at a minimum:

- Name and location of facility or area (address and HSA) consistent with the inventory name and location.
- Inspection and re-inspection date(s).
- Inspection method(s).
- Observations and findings from the inspection(s).

For onsite inspections of existing development, the records will also include, as applicable:

- Description of any BMP deficiencies or violations observed during the inspection(s);

- Description of enforcement actions issued in accordance with the Enforcement Response Plan; and
- The date BMP deficiencies or violations were resolved.

7.4 Enforcement

Through legal authority in Vista Municipal Code Chapter 13.18 and procedures outlined in its Enforcement Response Plan, the City has the ability to issue enforcement actions for municipal facilities that are deficient in BMP implementation or demonstrating compliance with the MS4 Permit.

If BMP deficiencies or violations of Vista Municipal Code Chapter 13.18 are observed during an inspection, municipal facilities are typically provided the opportunity to correct BMP deficiencies or violations prior to initiating escalated enforcement action (such as issuing verbal and written warnings) and the procedure described in the Enforcement Response Plan (Appendix B) will be followed.

Consistent with MS4 Permit requirements, corrective actions for violations observed at municipal facilities are intended to be resolved within 30 calendar days from date of the violation, or prior to the next rain event (whichever is sooner). Cityworks is used to track each step of the inspection process, including inspections, follow-up inspections, notes, photos, and other related records. These features will also be used to document situations where violations are not corrected within 30 days, as required by the MS4 Permit.

8 Existing Development: Municipal Infrastructure

8.1 Introduction

The City of Vista has developed a comprehensive program designed to reduce pollutants that are transported in runoff from municipal activities. In accordance with Section E.5.b.(1)(c) of the MS4 Permit,⁶ this section describes *municipal infrastructure-related* pollution prevention activities. Stormwater pollution prevention activities for *existing municipal properties and associated facilities* are discussed in Section 7. Municipal activities are subject to the applicable minimum BMP requirements identified in the Stormwater Standards Manual (Appendix C), and this section provides discussion on how those BMPs are implemented by the City.

Municipal activities with the potential to introduce pollutants to stormwater include sidewalk repair, painting, and graffiti removal. In contrast, some municipal activities can directly prevent or reduce stormwater pollution, such as street sweeping, inspections, storm drain system maintenance, and regular upkeep of the sanitary sewer system (maintenance and repairs to prevent overflow events).

8.2 Roads, Streets, and Parking Facilities

8.2.1 Background

Roads, streets, highways, and parking facilities are an integral part of City functions. They support travel to residential, business and recreational areas; however, in doing so, they also collect and convey pollutants due to vehicular operation and other activities. These roadway facilities also are a part of the storm drain system, because they include curb, gutter, and/or roadside ditches, which can convey pollutants deposited on roadways untreated to creeks, other waterways, and eventually the ocean. As a result, regular maintenance is necessary to remove and/or reduce pollutants such as sediment, metals, and debris. To further maintain its infrastructure, the City also conducts roadway activities, which include building new roads and repairing or resurfacing existing roads. All construction-related activities undertaken by the City will continue to be conducted as described in Section 5 (Construction Management) of this document.

⁶ San Diego Regional Water Quality Control Board Order No. R9-2013-0001, as amended by Order No. R9-2015-0001

8.2.2 Street Sweeping

The City continues to maintain a routine sweeping schedule to reduce pollutant loads generated by City-owned roads, streets, highways, and parking facilities.

The street sweeping program and schedule have been adjusted to coordinate street sweeping with trash and recycling pick-up schedules. In addition street sweeping schedules have been established to meet minimum sweeping frequencies for high, moderate, and low volumes of trash and debris-generating areas within the City. For the purposes of the street sweeping program, the terms high, moderate, and low are used only to classify or rank the streets in relation to each other, but do not qualify the streets as generating significant or non-significant amounts of trash and debris. Sweeping occurs during the week except for holidays.

Although the 2013 MS4 Permit does not have a minimum requirement for street sweeping, the City will continue to implement street sweeping requirements of the 2007 MS4 Permit to prevent, to the MEP, the conveyance of sediment and other pollutants into its storm drain system. Table 8-1 displays the minimum sweeping frequencies for streets with concrete curb and gutter and parking facilities within the City.

Table 8-1. Sweeping Frequencies for Roads, Streets, and Parking Facilities

Sweeping Rate Category	Description	Approximate Miles Swept	Sweeping Frequency
High	Commercial streets	75	Minimum of twice per month
Moderate	Residential streets	225	Minimum of monthly
Low	Other streets and parking facilities	75	Minimum of once per year

Sediment and debris are collected and contained in a temporary storage area and protected from stormwater runoff at the Public Works Yard. The material is then disposed of through an approved disposal facility. Since street sweeping is conducted every week and Code Enforcement staff accompanies the sweepers, they can provide the City with further means to observe, respond to, and potentially prevent IC/IDs.

8.2.3 Best Management Practices

Similar to municipal stationary facilities, the City will continue to implement the minimum BMPs in the Stormwater Standards Manual (Appendix C) when conducting maintenance of its roads, streets, and parking facilities. Street sweeping and cleaning continue to be the main BMPs that are implemented for these facilities.

The City will also maintain unpaved roads and apply the appropriate controls to prevent erosion. Unpaved roads will be stabilized utilizing vegetation, gravel, structural containment

such as curbs, or other equivalent measures. In the event that any pervious areas are disturbed or otherwise become destabilized, temporary cover and containment measures will be installed, including erosion control blankets, gravel bags, fiber rolls, or silt fences. These BMPs will be maintained until the area can be permanently stabilized.

8.3 Storm Drain System Maintenance and Operations

8.3.1 Background

To prevent flooding during storms, the primary function of the storm drain system is to collect and transport surface runoff to receiving waters. In order to reduce the risk of flooding, as well as the transport of pollutants into receiving water bodies, the City of Vista will continue to regularly maintain its storm drain system.

The City's storm drain system consists of streets, curbs, catch basins, inlets, pipes of varying materials, natural creeks and streams, concrete channels, culverts, and detention basins. The City's storm drain system, as one complete entity, is included on the municipal inventory (Appendix D). The City also maintains a number of structural post-construction BMPs, such as vortex separators, bio-retention areas, inlet filter inserts, and detention facilities. More information about post-construction BMP maintenance tracking is provided in Section 4 (Development Planning).

The City's storm drain system management program includes responding to complaints received by the City's Stormwater Hotline, detecting and eliminating IC/IDs, inspecting and maintaining storm drain systems by cleaning, removing sediment, debris and excessive vegetation. The storm drain management program also includes flushing pipes, repairing and/or replacing damaged or failing storm drain system structures, as well as stenciling warning signs on storm drain inlets that designate the effects of illegal dumping.

8.3.2 Maintenance

The City maintains a comprehensive storm drain system maintenance schedule and will continue to assess the storm drain system maintenance procedures and results to ensure they are effective. The storm drain system maintenance schedule will continue as follows:

- MS4 inlets and catch basins will be inspected annually. Cleaning will be conducted to maintain functionality of the structures
- City-owned structural BMPs will be inspected bi-annually (twice per year). Structural BMP functionality is also confirmed through annual structural BMP tracking and verification activities (see section 4.5)

- Non-emergency and emergency repair, maintenance, and construction of storm drain system facilities will be conducted on an as-needed basis.

City-owned open channels will be cleaned to remove observed anthropogenic litter in a timely manner. The City will continue to respond to reports made by citizens or municipal personnel regarding storm drain system facilities that require inspection/cleaning that is beyond regular maintenance activities. Additionally, the City dispatches field crews during rain events to clear debris from inlets, grates, pipe openings, and road shoulders to maintain system functionality.

Above-Ground Maintenance

Maintenance of the above-ground storm drain system primarily includes the cleaning of creeks, rock-lined channels, concrete channels, and brow ditches. Debris removed from the above-ground storm drain system is transported to the City’s municipal yard and properly disposed of by the City’s waste hauler. City personnel make sure to handle materials and waste removed during maintenance activities in a manner that will not release the material to the storm drain system, or in any other way contaminate stormwater runoff.

Below Ground Maintenance

The below-ground maintenance program consists primarily of cleaning inlets, catch basins, and pipelines. Debris removed from the below-ground storm drain system is transported to the City’s municipal yard and properly disposed of by the City’s waste hauler. Any contaminated material that needs special disposal will be handled and disposed of appropriately by an outside contractor.

City personnel handle materials and waste removed during maintenance activities in a manner that will not release the material to the storm drain system, or in any other way contaminate stormwater runoff. The City keeps records to document all storm drain system maintenance activities and inspections. Recordkeeping for preventative maintenance, cleaning, and inspections contain the following information:

- Dates of inspections
- Items inspected
- Locations of facilities inspected or cleaned
- Overall amount of material removed (estimated in either volume or dry weight)
- Disposal site
- IC/IDs detected
- Corrective action required
- Date corrective action was taken

8.3.3 Best Management Practices

The City will continue to train field staff on implementing the City's established minimum BMPs, equipment inspection, and the action plan that is followed for regular maintenance and emergency maintenance and/or discharge control. Additional BMPs will also be used as necessary during routine and emergency maintenance, where applicable. The City will continue to use backhoes, excavators, and a combination jet-vacuum truck to collect both dry and liquid debris from the storm drain system, thereby preventing sediment and debris transport.

The City will continue to utilize the City-established minimum BMPs in the Stormwater Standards Manual (Appendix C) for municipal areas and activities. BMPs are designed to prevent waste from entering the system and to ensure that waste collected from the City's storm drain system does not re-enter it. If the City finds that certain portions of the storm drain system itself are contributing pollutants of concern to 303(d)-listed water bodies, additional BMPs will be implemented as necessary.

In addition, the City has a number of flood control facilities within the City, including multiple detention basins and other pollutant removal devices. All of the detention basins serve some pollutant removal capacity, particularly in removing sediment and associated pollutants. Additionally, the City maintains and operates a trash and debris net in the Buena Vista Creek, which will continue to be regularly maintained to ensure its pollutant removal capacity.

8.4 Sanitary Sewer System

8.4.1 Background

Sanitary sewer overflows (SSOs) caused by a defect or failure of a component of the City's sanitary sewer system have the potential to introduce untreated sewage into receiving water bodies. Untreated sewage can contain high concentrations of bacteria, viruses, and parasites, all of which have the potential to negatively impact the environment and pose a significant threat to human health. Although the City prioritizes spill prevention over response, the City promptly responds to SSOs to eliminate or reduce the amount of untreated sewage that reaches the storm drain system. If a discharge does enter the storm drain system, the City will clean up and properly dispose of the SSO overflow residue, as described in Section 3 of this JRMP.

8.4.2 Maintenance

The Public Works Department conducts routine inspections and maintenance of 280 miles of sanitary sewer system to prevent SSOs that may occur due to defects in the sanitary sewer system. Routine inspections and maintenance of the sanitary sewer system reduces the potential for an SSO and helps prevent and eliminate sewage from entering it. The City's

sanitary sewer maintenance program is discussed in the City's Sewer System Management Plan (SSMP) and is briefly described below.

Preventive Maintenance and Monitoring Activities

The City implements the following preventative maintenance and monitoring measures to prevent wastewater from entering the storm drain system:

- Routine sanitary sewer closed circuit television inspections and storm drain system surveys;
- Annual cleaning of all sanitary sewer system collection lines with a diameter of 15 inches or less; cleaning of trunk lines larger than 15 inches in diameter on a five-year rotation; and "Enhanced Maintenance Area" sewer line cleaning conducted quarterly or more frequently if required;
- Recording and responding to reports of potential SSOs from the public and City staff;
- GIS mapping of sewer and storm drain system intersects;
- Alarm systems at sewer pump stations.

Exfiltration Study

In January 2014, the City initiated a study to investigate potential sources of anthropogenic bacteria load contributions, specifically through exfiltration from municipal sanitary sewers into the storm drain system, where the two sewer systems cross in close proximity (Dudek 2014). The study was initiated in the San Luis Rey Watershed Management Area (WMA). The City has committed to dedicating additional resources to further implement this study, which addresses indicator bacteria, the highest priority water quality condition identified in both the Carlsbad and the San Luis Rey WQIPs. If proven cost-effective and successful in identifying and eliminating exfiltration, methods developed as part of this study may also be applied to portions of the City's infrastructure located in the Carlsbad WMA.

8.4.3 Best Management Practices

The City's SSMP includes BMPs to minimize and prevent SSOs. The City will continue to maintain and implement a SSMP in response to the SWRCB Order No. 2006-003-DWQ and RWQCB Order R9-2007-0005. The SSMP provides a documented plan that describes all sewer collection system activities and programs to ensure proper management of all sewer collection system assets. Implementing the SSMP will ensure proper management, operation, and maintenance of all parts of the sanitary sewer system, ultimately helping reduce and prevent SSOs. The SSMP includes the following components:

- GIS mapping of sewer assets
- Preventative Maintenance Program

- Rehabilitation and Replacement Plan
- Training Program for Operation & Maintenance Staff
- Equipment and Part Inventory
- Design and Performance Provisions
- Overflow Emergency Response Plan
- Fats, Oils, and Grease Control Program
- System Evaluation and Capacity Assurance Plan

Details of these BMPs are located in the City's SSMP.

8.5 Landscape Maintenance

8.5.1 Background

The City implements a variety of BMPs to reduce or eliminate the amount of pollutants entering the storm drain system from municipal parks and other landscaped areas. Potential pollutants from these areas include sediment (erosion), fertilizers, pesticides, and pet waste. In landscape management, irrigation runoff can be a means for conveying these pollutants. Therefore, BMPs are implemented to address both pollutants and their potential conveyor, irrigation runoff.

8.5.2 Best Management Practices

Contractors that support City staff in conducting landscape maintenance are expected to comply with the Stormwater Ordinance (Vista Municipal Code Chapter 13.18) and implement BMPs just as City staff do. Such requirements are included in contracts for landscape services, and City staff reinforce these requirements in the field.

City staff, or its contractors, regularly check landscape irrigation systems. Irrigation systems at most landscape maintenance areas are inspected either once weekly or twice per month. Repairs or system adjustments are made as soon as possible.

To reduce water use at some City facilities, artificial turf has been installed in place of grass turf. Most recently, grass at The Wave Waterpark has been replaced with artificial turf, and it was also installed at the soccer warmup area at Vista Sports Park. The City will continue to consider turf-replacement opportunities.

Due to topography, foot traffic, or limited vegetation cover, some landscape areas have historically demonstrated susceptibility to erosion and soil loss. Mulch is used in many areas, and is refreshed, as necessary, to minimize exposed soils. In other areas, City staff install and maintain sediment control devices to prevent stormwater pollution. For example, straw wattles

are often installed and maintained at the toe of slopes or other landscape areas that are adjacent to storm drains or hardscape with potential to discharge sediment.

Pesticides, herbicides, and fertilizers have the potential to be discharged to the storm drain system through: 1) overspray of application, 2) runoff of chemicals applied just prior to storm events, or 3) irrigation runoff. Integrated Pest Management (IPM) is the term used to describe a variety of practices and activities to control pests while reducing pesticide use. IPM is a training component for all pesticide applicators, and it is implemented at City facilities whenever practicable. City staff with pesticide applicator licenses (Qualified Applicator License) regularly participate in continuing education opportunities necessary to maintain their licenses, and renew licenses when required. Qualified Applicator License holders are required to follow guidelines set by the California Department of Pesticide Regulations and the County Agricultural Commission.

8.6 Mobile Maintenance Activities

8.6.1 Background

The City conducts a number of mobile maintenance activities, which are not designated to a specific location. Because such activities are not confined to a fixed facility, where BMPs may be permanently implemented, BMPs such as wet vacuum recovery systems, berms, wattles, gravel bags etc., are actively implemented during mobile municipal activities. Routine mobile maintenance activities include the following:

- Street and sidewalk repair
- Street striping
- Waste removal
- Traffic light maintenance
- Painting
- Landscape/right-of-way maintenance
- Graffiti removal

8.6.2 Best Management Practices

City field crews are routinely trained to implement the City's minimum BMPs during all mobile activities. City personnel involved in mobile activities are trained to identify and eliminate IC/IDs and to report them to the appropriate persons without delay.

9 Existing Development: Residential Areas

9.1 Introduction

Approximately 50 percent of the City of Vista (City) has a residential land use designation, which includes single-family residences, multi-family residences, and a small portion of other residential areas, such as mobile home parks. Since residential land use comprises such a large area of the City, residential activities (e.g., lawn-watering and/or fertilizing, which can produce runoff that contains bacteria, nutrients and sediment) can have a considerable effect on the quality of receiving waters in and around it. As a result, the City will implement a number of activities to reduce stormwater pollutants from residential areas.

9.2 Residential Inventory

In accordance with the San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 (MS4 Permit), the City has identified designated Residential Management Areas (RMAs) as part of the existing development inventory. The RMAs are based on basins delineated in the City's drainage master plan. To form the RMAs, the basins were edited to remove non-residential land uses and to define the evaluation methodology that applies to each. This process is discussed in more detail in Section 9.4. Inventoried RMAs are managed and tracked through the use of an electronic database. The residential inventory (Table 9-1 and Figure 9-1) captures the following information, as required by the MS4 Permit:

1. Name and location, including hydrologic subarea (HSA).
2. Status of area as active or inactive.
3. Whether the area is or includes a Common Interest Area (CIA), Homeowners' Association (HOA), or mobile home park.
4. Pollutants generated and potentially generated by the area.
5. Whether the area is adjacent to an environmentally sensitive area (ESA). "Adjacent to" is defined as being within 200 feet of an ESA. This is in accordance with past procedure and with the most recent definition provided by the RWQCB, which is found in Order No. R9-2007-0001.
6. Whether the area is tributary to and within the same HSA as a water body segment listed as impaired on the 303(d) list and generates pollutants for which the water body segment is impaired.

The City maintains a map showing the location of inventoried residential areas, watershed boundaries, and water bodies (Figure 9-1). Since the City’s jurisdictional area is almost entirely developed, the RMA boundaries are not expected to change over the life of the MS4 Permit; if boundaries do change, the map will be updated to reflect them. The potential pollutants listed in the residential inventory are based on the Copermittees’ Long-Term Effectiveness Assessment, which is an extensive analysis of existing pollutant sources, program activities, and water quality monitoring results (County of San Diego, 2011). Potential pollutants associated with each RMA may be adjusted based on data collected during field evaluations. The presence or absence of CIAs, HOAs, or mobile businesses will also be updated as needed.

9.3 Best Management Practice Requirements

The City has updated the minimum best management practices (BMPs) required for residents, who are required to eliminate or reduce a number of different types of non-stormwater discharges and to take other actions. For example, these actions may include the proper use of pesticides and fertilizers to reduce discharges of pollution. Notably, consistent with the MS4 Permit, irrigation runoff, which was previously an allowable discharge under the 2007 MS4 Permit, is now considered an illicit discharge. The full list of required residential BMPs is included in the Stormwater Standards Manual (Appendix C).

9.4 Program Implementation

The City’s residential program primarily focuses on addressing the highest priority water quality conditions (HPWQC) established within the Water Quality Improvement Plans (WQIPs) for the San Luis Rey and Carlsbad Watershed Management Areas (WMAs). At this time, the HPWQC for both WMAs is bacteria. The main focus of the City’s residential program will be reducing non-stormwater discharges, because this strategy is expected to reduce discharges of bacteria from the City’s storm drain system to downstream water bodies. It also is consistent with the 2013 MS4 Permit’s increased emphasis on eliminating non-stormwater discharges, including irrigation runoff, and with water conservation efforts being taken in response to the State’s ongoing drought.

These efforts are expected to target focus areas identified in the Carlsbad WQIP and on residential areas in the San Luis Rey WMA. The RMAs that have been identified as focus areas in the Carlsbad WQIP are listed below:

- RMA AH 4 (“AH04” in the WQIP), located along Melrose Drive and Shadowridge Drive in the Agua Hedionda hydrologic area.
- RMA BV 6 (“BV06” in the WQIP), located along Bobier Drive and Santa Fe Avenue in the Buena Vista hydrologic area.

- RMA LA 1B (“Oceanside and Vista Residential focus area” in the WQIP), located along Cielita Linda Drive, close to the intersection of North Avenue and Olive Avenue, in the Loma Alta hydrologic area.

The City’s newly developed residential-focused efforts were initiated to meet 2013 MS4 Permit requirements. As this program matures and as regulatory drivers change, the program itself also may change through an adaptive management process. Moreover, inspection, monitoring, hotline calls, and enforcement data collected will be used to evaluate the effectiveness of the City’s residential oversight program and to modify it as necessary to reduce non-stormwater discharges.

9.4.1 Residential Education

Education and outreach is a key mechanism used to increase residents’ awareness and modify behaviors to support BMP implementation. In addition to its own education and outreach efforts, the City contributes to regional education programs run collectively by all municipal agencies in San Diego County. This coordination helps provide consistent and cost-effective messaging across the region. As with the overall residential program emphasis described above, the City’s residential outreach efforts will focus on reducing non-stormwater discharges, such as irrigation runoff. Other topics, such as stabilizing slopes on residential properties to prevent erosion, using fertilizers and pesticides appropriately, pet waste management, and eliminating yard waste from entering the storm drain system, may also be covered. Section 10 of the JRMP, Education and Public Participation, provides more detail on outreach efforts.

As identified in the Carlsbad and San Luis Rey WQIPs, the City will collaborate with Vista Irrigation District (VID) to encourage and provide incentives to HOAs and property managers to reduce irrigation runoff. Such measures may include adjusting property landscaping, maintaining irrigation systems, and converting landscaped areas to drought-tolerant plants. These efforts are expected to be especially focused on RMAs AH 4, BV 6, and LA 1B, which have been identified as focus areas in the Carlsbad WQIP, as described above.

The City will also develop and distribute outreach materials targeting sediment control for residential areas within portions of the City located in the San Luis Rey WMA. Additional information about WQIP strategies is available in Appendix I.

9.4.2 Oversight Programs and Procedures

The primary methods of assessing BMP implementation within RMAs will be through MS4 outfall monitoring and property-based inspections or patrols, as further described in subsections 9.4.2.1 and 9.4.2.2 below. These methods will be used to meet the MS4 Permit requirement of inspecting each RMA at least once within a five-year period to evaluate compliance with BMP requirements. Table 9-1 and Figure 9-1 at the end of this section identify

which oversight method(s) will be used for each of the City's RMAs. Several additional residential oversight mechanisms will be used to supplement these two primary approaches, as described in subsection 9.4.2.3.

Results from oversight programs will be used to help refine educational efforts, as described in Section 9.4.1, where appropriate. Illicit discharges discovered will be addressed through the City's enforcement process, as described in Section 9.5.

9.4.2.1 Dry Weather MS4 Outfall Monitoring

Routine MS4 outfall monitoring and identification of non-stormwater discharges is a primary mechanism for overseeing RMAs. When non-stormwater flow is observed at an outfall during routine monitoring for the Dry Weather MS4 Outfall Monitoring Program, monitoring staff will investigate upstream areas to see if a flow source can be identified. During these investigations residential areas are likely to be visited, which the MS4 Permit identifies as RMA inspections. If an illicit discharge is discovered, it will be addressed through the enforcement process described in Section 9.5. Outfalls will be monitored once or twice per year; those with persistent non-stormwater flows will be monitored most frequently. Samples will also be collected for laboratory analyses at selected outfalls with persistent flow. In turn, a larger share of upstream investigation resources will be directed toward identifying and reducing sources of non-stormwater flow in areas upstream of these outfalls, including residential areas. Outfalls that are not discharging flow infer a lack of upstream non-stormwater discharges, and the corresponding RMA is considered inspected. More information about outfall monitoring procedures is included in Section 3 and in Appendix G.

9.4.2.2 Property-Based Inspections and Patrolling

Property-based inspections or patrols consist of making observations for actual or potential illicit discharges and illicit connections while driving through neighborhoods or complexes. Such inspections will be completed for RMAs that do not have major outfall monitoring locations associated with them. Observed illicit discharges, illicit connections, and other violations of the City's Stormwater Ordinance will be recorded in Cityworks, the City's GIS-based database. Where possible, staff will engage residents while in the field, explaining applicable requirements and alternative methods that are acceptable under the City's requirements, thereby directly working with residents to eliminate illicit discharges. When the responsible party may be a property manager or an HOA, staff will reach out to the responsible party. Obvious illicit discharges that may pose a threat to human or environmental health will be addressed immediately.

As required by the MS4 Permit, at least once per five-year period Stormwater staff will complete property-based inspections or patrols in all RMAs not assessed through outfall

monitoring. Additional property-based or patrolling inspections will be completed for Carlsbad WQIP focus areas AH 4 and BV 6, which also have associated MS4 outfall monitoring sites. City staff may elect to complete additional inspections for particular residential areas if they exhibit a history of repeated noncompliance. Onsite inspections, or assessments, may also be conducted at multi-family residential complexes. In addition to assessing for the presence of illicit discharges or illicit connections, onsite assessments include a full evaluation of the implementation of the City's designated residential minimum BMPs (Appendix C).

9.4.2.3 *Supplemental Oversight Mechanisms*

The City's Stormwater Hotline, described in Section 3, is another mechanism for overseeing RMAs and for reporting residential-based violations of the City's Stormwater Ordinance. The hotline number and email address are advertised through various media as part of the City's stormwater education program. Stormwater staff respond to complaints received through the hotline, and Cityworks is used to document investigation of the complaint. The corresponding land use, such as Residential, is included with the investigation as well as mapping capabilities within RMAs.

Staff from multiple departments and other agencies also assist with RMA oversight; examples include the following:

Street Sweeping – Street sweepers cover a large portion of the City during routine work, which provides an opportunity for substantial oversight of the City's RMAs. City Code Enforcement officers accompany street sweepers to address cars or equipment blocking sweeping routes. The City will explore developing a process for reporting of observed discharges during this activity.

Public Works Department –Public Works Department field staff (including Parks, Sewer, and Streets) frequent residential areas during routine activities. Staff are encouraged to report discharges to their supervisors for delivery to Stormwater staff.

Vista Irrigation District – Consistent with the San Luis Rey WMA WQIP, the City will be coordinating illicit discharge and illicit connection response procedures with VID staff. The intent is to consider discharges sourced from VID infrastructure or discharges that VID staff may observe and report to City staff.

9.5 **Enforcement**

When non-compliance with stormwater requirements are sourced to residential areas, procedure described in the City's Enforcement Response Plan (Appendix B) will be followed to attain compliance. Where possible, voluntary compliance will be achieved through engaging and educating residents. Particularly in cases when residents are unaware of new requirements,

the City will initially take an educational approach to build an effective partnership toward resolving the violation(s). When education is not sufficient to attain compliance, escalated enforcement actions, such as written warnings or citations, may be initiated.

The City will typically seek to resolve violations within 30 calendar days of their first observed occurrence, or prior to the next rain event, whichever is sooner. Obvious illicit discharges that may present an immediate threat to human or environmental health do not have 30 days to attain compliance and must be eliminated as soon as possible, as described in Section 3. Violations, their date of resolution, and enforcement actions are documented in Cityworks. Whenever a violation cannot be resolved within 30 days, the rationale for why a longer period was needed to attain compliance will also be recorded, as required by the MS4 Permit.

Table 9-1. Residential Management Areas and Evaluation Methods

No.	Residential Management Area	HSA	CIA, HOA, or Mobile Home ¹	Adjacent to ESA	Pollutants Potentially Generated ²							Evaluation Method	
					Metals	Oil & Grease	Sediment	Nutrients	Bacteria	Dissolved Minerals	Organics	Major Outfall Monitoring	Drive Through Patrolling
1	AH 1	904.31			L	L	L	L	L	L	L		x
2	AH 2	904.31			L	L	L	L	L	L	L		x
3	AH 3	904.31			L	L	L	L	L	L	L		x
4	AH 4 ³	904.31			L	L	L	L	L	L	L	42	x ¹
5	AH 5A	904.31, 904.32		x	L	L	L	L	L	L	L	21, 23	
6	AH 5B	904.31, 904.32		x	L	L	L	L	L	L	L	22, 37, 38, 41	
7	AH 6A	904.32		x	L	L	L	L	L	L	L	16, 19	
8	AH 6B	904.32		x	L	L	L	L	L	L	L		x
9	AH 7	904.32		x	L	L	L	L	L	L	L	14, 15, 36	
10	AH 9	904.32			L	L	L	L	L	L	L		x
11	AH 10	904.31			L	L	L	L	L	L	L	AH-17 ⁴	
12	AH 11	904.31			L	L	L	L	L	L	L		x
13	BV 1	904.21		x	L	L	L	L	L	L	L	9, 10, 11, 12	
14	BV 2	904.21		x	L	L	L	L	L	L	L	54	
15	BV 3A	904.21, 904.22		x	L	L	L	L	L	L	L	7, 8, 53A	
16	BV 3B	904.21		x	L	L	L	L	L	L	L		x
17	BV 4	904.22		x	L	L	L	L	L	L	L	51	
18	BV 5	904.22		x	L	L	L	L	L	L	L	6, 52	
19	BV 6 ³	904.22		x	L	L	L	L	L	L	L	50	x ¹
20	BV 7	904.22		x	L	L	L	L	L	L	L	5, 48	
21	BV 8	904.22		x	L	L	L	L	L	L	L	3, 45, 47, 47A	

Table 9-1. Residential Management Areas and Evaluation Methods (Continued)

No.	Residential Management Area	HSA	CIA, HOA, or Mobile Home ¹	Adjacent to ESA	Pollutants Potentially Generated ²							Evaluation Method	
					Metals	Oil & Grease	Sediment	Nutrients	Bacteria	Dissolved Minerals	Organics	Major Outfall Monitoring	Drive Through Patrolling
22	BV 9	904.22			L	L	L	L	L	L	L		x
23	BV 10	904.22		x	L	L	L	L	L	L	L	49	
24	LA 1A	904.10		x	L	L	L	L	L	L	L	13, 33	
25	LA 1B ⁵	904.10			L	L	L	L	L	L	L		x
26	SL 1A	903.11			L	L	L	L	L	L	L		x
27	SL 1B	903.11			L	L	L	L	L	L	L	0A, 43, 44	
28	SL 2	903.11			L	L	L	L	L	L	L		x

Notes:

-All RMAs are considered active.

-All RMAs are considered to be tributary to downstream water bodies listed as impaired on the 303(d) list and generating pollutants for which the water body segment is impaired.

1. Presence of any CIAs, HOAs, and mobile home parks within each RMA will be determined in the future as RMA evaluations progress.

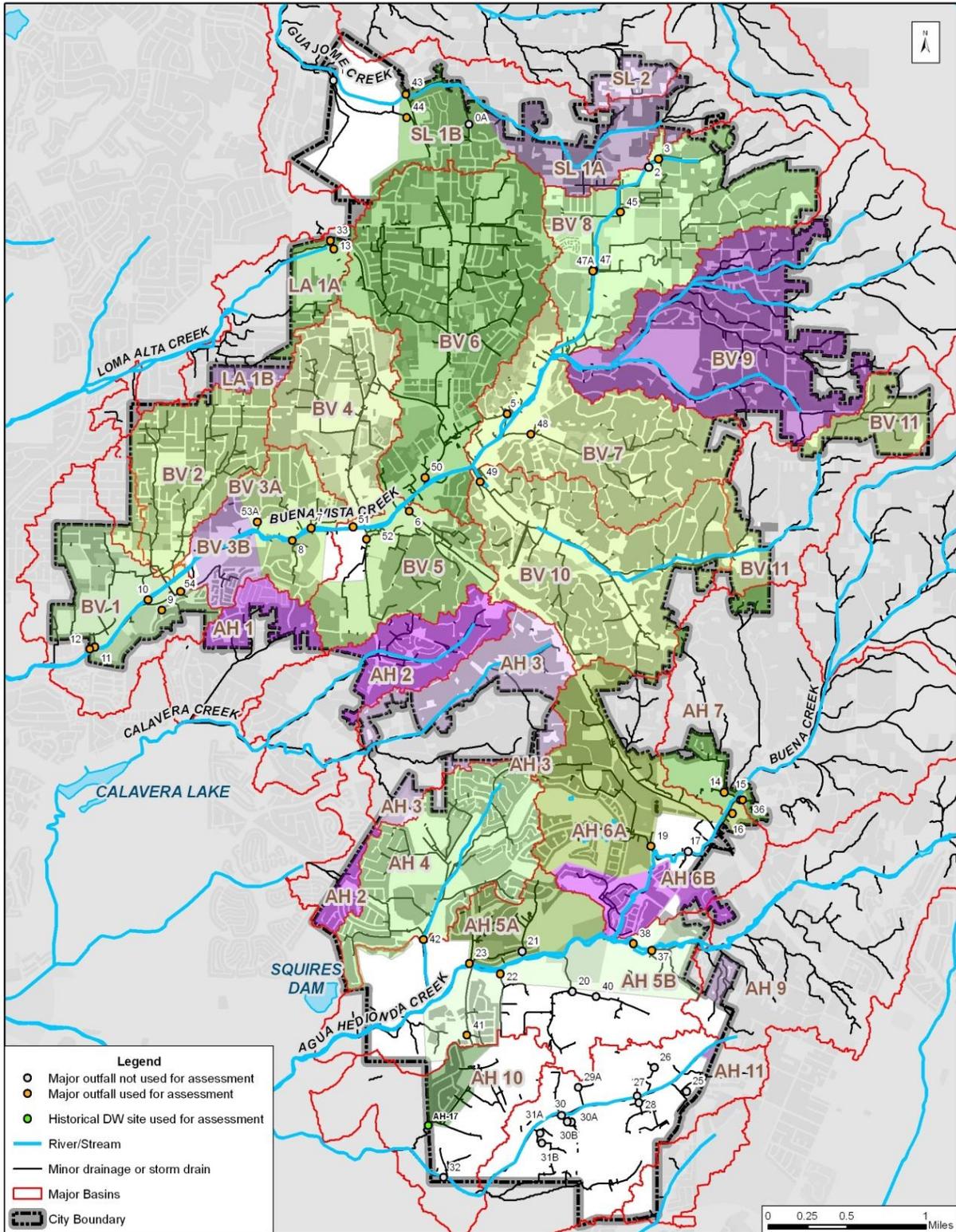
2. Based on the 2011 Long Term Effectiveness Assessment (County of San Diego).

3. This basin has been identified as a focus area in the Carlsbad WQIP. Patrolling style assessments will be completed in this area, as described in the WQIP.

4. AH-17 is a historical dry weather monitoring site at which additional observational field screening will be completed to assess for presence of flow.

5. Includes the Oceanside and Vista Residential focus area identified in the Carlsbad WQIP. The City will implement strategies as needed in this area to meet the flow reduction goals in the WQIP.

Figure 9-1. Residential Management Areas



Green shaded RMAs: assess using outfall monitoring
 Purple shaded RMAs: assess using drive through evaluations
 Gray shaded areas under RMAs: Residential land use
 Base Data Sources: SanGIS and City of Vista

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10 Education and Participation

10.1 Introduction

Routine daily activities can potentially contribute pollution to urban runoff and consequently affect the quality of the receiving waters. While some individual activities may not have a significant effect on water quality, collectively these activities may contribute a significant amount of pollutants to receiving waters. Receiving water quality is a concern to all, because not only can water degradation have a negative effect on public health and safety, but it can also negatively affect the aquatic environment, riparian habitat, and the aesthetic value of the area surrounding the water body.

Education is an important step in improving receiving water quality both locally and regionally. By increasing public awareness and encouraging a change in the public's behavior and the regulated community (e.g., construction and businesses), the City of Vista (City) may reduce or eliminate stormwater pollution caused by common daily activities. The overall goal of the education component is to provide an education program that will:

- 1) Encourage storm water pollution prevention behaviors and activities by tailoring promotional messages and materials to better communicate with various audiences, such as municipal staff, residents, businesses, etc. to specific targeted audiences; and
- 2) Provide the public with opportunities to participate in the development, implementation, and refinement of the Water Quality Improvement Plans (WQIPs).

Public participation also plays an important role in achieving the goals of the WQIPs and the City's Jurisdictional Runoff Management Program. Involving the community and school-aged children in the City's stormwater program helps improve stormwater awareness among individuals, and may lead to improved water quality. Collaboration between the City and the community may also help foster a sense of shared responsibility in protecting water quality both locally and regionally. The City encourages public participation through the programs discussed in Table 10-1. Educational programs and activities are tailored to meet the needs of the following target audiences:

- Municipal departments and personnel
- Construction site operators
- Industrial and commercial facility owners/operators
- Residential community, general public, and school children
- Other targeted audiences/activities, where applicable

10.2 Municipal Staff Training

The City educates and trains City employees and contractors on applicable stormwater regulations to assure that proper stormwater management practices are applied to all municipal projects and activities. It is important for all City staff and contractors to be aware of stormwater regulations so that their knowledge can be shared with citizens throughout the community. All municipal staff are encouraged to report non-stormwater discharges. The City continues to update its educational program to include information regarding plan review practices and current best management practice (BMP) technologies. Educational opportunities include annual training sessions, on-the-job training, weekly and monthly staff meetings, and citywide emails and newsletters. Municipal personnel are also made aware of any stormwater-related workshops or additional training seminars that are available. Table 10-1 summarizes key municipal staff training and education on stormwater-related issues and the frequencies at which they occur.

10.3 Educational Outreach

In accordance with Section E.7 (Public Education and Participation) of the MS4 Permit⁷ and the strategies described in the Carlsbad and San Luis Rey WQIPs, the City will implement a stormwater education program designed to promote and encourage behaviors that reduce stormwater pollution. The educational activities discussed in this section are intended to develop sustainable behavior changes in target communities, particularly behaviors that may be sources of bacteria, which has been identified as the highest priority water quality condition throughout the City.

The City may provide educational material to commercial businesses upon issuance and/or re-issuance of a business license, distribute educational material during inspections and/or complaint investigations, and may conduct workshops as needed. Municipal stormwater personnel keep educational material in their City vehicles and distribute as necessary to commercial facilities. Table 10-2 summarizes the key outreach activities the City will use to educate residents, schoolchildren, and other target audiences on stormwater-related issues.

⁷ San Diego Regional Water Quality Control Board Order No. R9-2013-0001, as amended by Order No. R9-2015-0001

Table 10-1. Municipal Staff Education and Training

Municipal Staff (Division)	Targeted Pollutants	Training/Education Topics	Typical Frequency
Public Works Dept. (Facilities Division)	<ul style="list-style-type: none"> • Bacteria • Sediment • Trash • Non-stormwater discharges 	<ul style="list-style-type: none"> • Good housekeeping • IC/IDs (identifying, reporting, and response) • Spill response, containment, and recovery • Implement BMPs to control sediment 	Annual
Construction Site Inspectors (Engineering Dept.)	<ul style="list-style-type: none"> • Sediment • Trash 	<ul style="list-style-type: none"> • Minimum BMPs for construction sites (including erosion and sediment control BMPs) • Inspection procedures • Rain Event Action Plan (REAP) preparation and implementation • Pre-construction meeting topics 	Annual
Stormwater Inspectors (Engineering Dept.)	<ul style="list-style-type: none"> • Sediment • Trash • Bacteria 	<ul style="list-style-type: none"> • Minimum BMPs for industrial, commercial, and residential areas • Spill response, containment, and recovery • IC/IDs • Non-stormwater discharge prohibitions • Methods to reduce the impact of residential and charity car washing 	Ongoing training from supervisors; as-needed formal training
Building Inspectors (Engineering Dept.)	<ul style="list-style-type: none"> • Sediment • Trash 	<ul style="list-style-type: none"> • Federal, state, and local water quality laws and regulations • BMP types: facility or activity specific, source control, and treatment control • Selection of the most effective treatment control BMPs for the pollutants of concern 	Annual
Fire Dept.	<ul style="list-style-type: none"> • Sediment • Non-stormwater discharges 	<ul style="list-style-type: none"> • BMPs during training exercises • Site-specific BMPs for each station • Spill response, containment, and recovery 	As-needed
Planning (Land Development Division)	<ul style="list-style-type: none"> • Sediment • Trash 	<ul style="list-style-type: none"> • Source control BMPs • Low Impact Development and Structural BMPs • Priority Development Projects • Active construction 	As-needed

Table 10-1. Municipal Staff Education and Training (Continued)

Municipal Staff (Division)	Targeted Pollutants	Training/Education Topics	Typical Frequency
City-wide	<ul style="list-style-type: none"> • Bacteria • Sediment • Trash • Non-stormwater discharges 	<ul style="list-style-type: none"> • Distinction between storm drain system and sewer system • IC/IDs • Irrigation runoff elimination • Reporting to Stormwater Hotline • Water conservation 	As Needed

Notes:

IC/IDs - illicit connection and illicit discharge

BMP - best management practice

10.4 Public Participation Programs

Community involvement plays an important role in achieving the goals of the JRMP. Community involvement with implementing JRMP-related activities helps to improve stormwater awareness among individuals and may lead to improved water quality. Collaboration between the City and the community helps foster a sense of shared responsibility in protecting water quality, both locally and regionally. Some programs, such as cleanup events, have direct water quality benefits. When the public has the opportunity to become more involved, there are several positive outcomes. First, those involved become more knowledgeable about stormwater issues. Second, they become educators and stewards for the City and the watershed. Finally, they provide important feedback to the City regarding the concerns of the public and issues that may be overlooked. The City regularly co-sponsors cleanup events, and will specifically focus on sponsoring trash collection events within the City's jurisdiction, in accordance with the WQIP strategies outlined in Appendix I.

During the development of the JRMP, the City will encourage public participation in its review, implementation, and refinement. This will be accomplished through making the JRMP available for review on the City's website, as well as through the ongoing implementation of the City's stormwater program, which will involve various community audiences. Also, the City has notified the public of opportunities to provide recommendations on and to participate in updating the City's highest priority water quality conditions, numeric goals, and water quality improvement strategies and their effectiveness set forth in the WQIPs.

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Table 10-2. Education and Outreach Opportunities

Education/ Outreach Opportunity	Target Audience	Description	Targeted Topics and Strategies	Targeted Messages	Typical Frequency
Outreach events (e.g., Coastal Cleanup Day, Earth Day, etc.)	<ul style="list-style-type: none"> • General public • Residents • School children 	<ul style="list-style-type: none"> • Participate in volunteer cleanup or public education events (e.g., hosting an information booth, distributing materials and brochures, and discussing stormwater pollution prevention) 	<ul style="list-style-type: none"> • Bacteria • IC/IDs • Nutrients • Trash 	<ul style="list-style-type: none"> • General stormwater concepts • Eliminating irrigation runoff • Identifying and reporting IC/IDs • Proper HHW disposal • Proper pet waste disposal 	Two events per fiscal year
Regional outreach and coordination	<ul style="list-style-type: none"> • All 	<ul style="list-style-type: none"> • Active participant with the San Diego Copermittees’ Education and Residential Sources Workgroup 	<ul style="list-style-type: none"> • Bacteria • IC/IDs • Nutrients • Trash • Irrigation runoff 	<ul style="list-style-type: none"> • Various 	Quarterly
Oil recycling event	<ul style="list-style-type: none"> • Residents 	<ul style="list-style-type: none"> • Promote and encourage management of motor oil, other automotive fluids, and oil filters (coordinated by City Public Works staff) 	<ul style="list-style-type: none"> • Illicit discharges 	<ul style="list-style-type: none"> • General stormwater concepts • Preventing IC/IDs • Proper HHW disposal 	Multiple events per year
Household Hazardous Waste (HHW) collection facility	<ul style="list-style-type: none"> • Residents • School children 	<ul style="list-style-type: none"> • Collect HHW to prevent illicit discharges (additional information can be found at www.cityofvista.com or www.earth911.com) • Promote to residents • Promote to qualified businesses 	<ul style="list-style-type: none"> • Illicit discharges 	<ul style="list-style-type: none"> • General stormwater concepts • Preventing IC/IDs • Proper HHW disposal 	Open on weekends to residents

Table 10-2. Education and Outreach Opportunities (Continued)

Education/ Outreach Opportunity	Target Audience	Description	Targeted Topics and Strategies	Targeted Messages	Typical Frequency
Articles in <i>Spotlight on Vista</i> newsletter	<ul style="list-style-type: none"> • Municipal staff 	<ul style="list-style-type: none"> • Prepare stormwater-related articles 	<ul style="list-style-type: none"> • Bacteria • IC/IDs • Nutrients • Trash • Irrigation runoff 	<ul style="list-style-type: none"> • Various 	As-needed
Articles in <i>Our Vista</i> newsletter	<ul style="list-style-type: none"> • Residents • Tourists 	<ul style="list-style-type: none"> • Prepare stormwater-related articles 	<ul style="list-style-type: none"> • Bacteria • IC/IDs • Nutrients • Trash • Irrigation runoff 	<ul style="list-style-type: none"> • General stormwater concepts • Eliminating irrigation runoff • Preventing and reporting IC/IDs • Proper HHW disposal • Proper pet waste disposal • Proper fertilizer/pesticide application 	As-needed
Paseo Santa Fe Targeted Outreach Effort Program	<ul style="list-style-type: none"> • Residents • Industrial facility operators • Commercial facility operators 	<ul style="list-style-type: none"> • Conduct assessment of behaviors and conduct outreach/education to residents and businesses 	<ul style="list-style-type: none"> • Irrigation runoff • Bacteria • Trash 	<ul style="list-style-type: none"> • Minimum BMPs • Eliminating irrigation runoff 	Project is grant-funded; outreach will occur during grant period
Stormwater Hotline	<ul style="list-style-type: none"> • All 	<ul style="list-style-type: none"> • Maintain and promote hotline for reporting any water quality concerns (operated by Public Works staff) 	<ul style="list-style-type: none"> • IC/IDs 	<ul style="list-style-type: none"> • Identifying and reporting IC/IDs 	24 hours per day/7 days a week

Table 10-2. Education and Outreach Opportunities (Continued)

Education/ Outreach Opportunity	Target Audience	Description	Targeted Topics and Strategies	Targeted Messages	Typical Frequency
City website	<ul style="list-style-type: none"> All 	<ul style="list-style-type: none"> Update and maintain website for stormwater-related information Promoting Stormwater Hotline 	<ul style="list-style-type: none"> Bacteria IC/IDs Nutrients Trash Irrigation runoff 	<ul style="list-style-type: none"> General stormwater concepts Stormwater Hotline Minimum BMPs Eliminating irrigation runoff Proper waste disposal 	24 hours per day/7 days a week
Development project pre-meetings	<ul style="list-style-type: none"> Construction site operators 	<ul style="list-style-type: none"> Established list of stormwater discussion items at pre-construction meetings 	<ul style="list-style-type: none"> Sediment IC/IDs 	<ul style="list-style-type: none"> General stormwater concepts Preventing and reporting IC/IDs Minimum BMPs 	Once per pre-construction meeting
Active construction site inspections and outreach	<ul style="list-style-type: none"> Construction site operators 	<ul style="list-style-type: none"> Send wet-weather notification letters Provide information on appropriate erosion and sediment controls Inspections by City staff 	<ul style="list-style-type: none"> Sediment IC/IDs 	<ul style="list-style-type: none"> General stormwater concepts Preventing and reporting IC/IDs Minimum BMPs 	<ul style="list-style-type: none"> Prior to wet season Inspections conducted in accordance with the schedule in Section 4
Existing development inspections	<ul style="list-style-type: none"> Industrial facility operators Commercial facility operators Residents Municipal staff 	<ul style="list-style-type: none"> Provide education of minimum BMP requirements during routine inspections 	<ul style="list-style-type: none"> Bacteria IC/IDs Nutrients Trash Irrigation runoff 	<ul style="list-style-type: none"> General stormwater concepts Preventing and reporting IC/IDs Minimum BMPs 	See sections 6, 7, and 9 for respective inspection frequencies

Table 10-2. Education and Outreach Opportunities (Continued)

Education/ Outreach Opportunity	Target Audience	Description	Targeted Topics and Strategies	Targeted Messages	Typical Frequency
Priority Development Projects with structural post-construction BMPs	<ul style="list-style-type: none"> Priority Development Project proponents 	<ul style="list-style-type: none"> Distribute site-specific information packet for structural post-construction BMP maintenance Provide/discuss inspection results for structural post-construction BMP maintenance needs 	<ul style="list-style-type: none"> Sediment Trash Bacteria 	<ul style="list-style-type: none"> BMP maintenance Minimum BMPs IC/IDs 	<ul style="list-style-type: none"> Distribute information packet (once) Inspection results (annual) Certification of maintenance (annual)
Irrigation Runoff Reduction targeted at Basins AH 4 and BV 6 (WQIP strategy; see Appendix I)	<ul style="list-style-type: none"> Residents Businesses Property managers 	<ul style="list-style-type: none"> Collaborate with Vista Irrigation District (VID) to promote behaviors to reduce landscape irrigation runoff Publicize grants and rebates available to help fund turf removal, implementing weather-based irrigation controllers for sprinkler systems, and similar retrofits of landscaped areas. 	<ul style="list-style-type: none"> Irrigation runoff 	<ul style="list-style-type: none"> Minimum BMPs Eliminating irrigation runoff 	Frequencies to be determined based on coordination with VID and available resources.

Notes:

IC/ID - illicit connection and illicit discharge

BMP - best management practice

HHW - household hazardous waste

VID - Vista Irrigation District

11 Fiscal Analysis

11.1 Introduction

The Regional Water Quality Control Board, San Diego Region (RWQCB) Order No. R9-2013-0001, as amended by Order No. R9-2015-0001, (MS4 Permit) requires the City of Vista (City) to secure the resources necessary to implement its Jurisdictional Runoff Management Program (JRMP). This includes the actions the City has committed to in the Water Quality Improvement Plans (WQIPs) for the Carlsbad and San Luis Rey Watershed Management Areas (WMAs). Those actions, referred to as “strategies” in the WQIPs, are summarized in Appendix I of the JRMP.

The City is also responsible for annually providing a stormwater fiscal analysis to the RWQCB, including information about expenditures and funding sources. To satisfy this requirement, each department or division involved in the stormwater program compiles financial information and provides it to the Engineering Department’s Stormwater staff, who analyzes the fiscal information and reports the findings to the RWQCB.

11.2 MS4 Permit Compliance Funding Needs and Sources

Each budget cycle’s estimated costs for implementing the stormwater program are prepared as part of the budget process. The specific amounts allocated and their corresponding funding sources are set in each year’s final adopted budget.

11.2.1 Funding Needs

The stormwater program funding needs are primarily driven by the following regulations:

- The MS4 Permit, including the JRMP requirements of Provision E and the WQIP requirements of Provision B
- The San Luis Rey bacteria total maximum daily load (TMDL), which is incorporated into the MS4 Permit and which the San Luis Rey WQIP has been prepared to address

The activities necessary to comply with these regulations are described in the JRMP. Examples of these activities include street sweeping, storm drain cleaning, maintaining structural Best Management Practices (BMPs), water quality monitoring, and inspecting construction sites and businesses to verify they are implementing appropriate measures to protect water quality. Other activities include increased efforts in focused areas of the City, which are necessary to meet WQIP numeric goals. All WQIP strategies are listed in JRMP Appendix I.

11.2.2 Funding Sources

Through the budgeting process, the City identifies sources of funding to comply with stormwater requirements. Specific funding sources are set during each budget process and are subject to change over time. The main sources of past and anticipated future funding are discussed below.

Historically, the City's Sewer Utility fund has been the primary source of funding MS4 Permit-required activities. Additional funding has also come from the acquisition of grants, when available. The City sometimes obtains funds from the Used Oil Block Grant and Department of Conservation Recycling Grant programs to supplement educational activities; however, Sewer Utility funds provide the majority of financial support for outreach and education efforts. Recently the City obtained Proposition 84 funds from the State for the Paseo Santa Fe green street project. The City will continue to pursue opportunities for grant funding in the future.

11.3 Fiscal Analysis Reporting

As part of the required annual reporting process, the City will prepare a summary of expenditures from the reporting period. The City will also prepare a list of funding sources for both the current and upcoming fiscal years.

Information necessary to complete the annual fiscal analysis will be collected from each responsible department or division. In accordance with MS4 Permit Provision E.8 (Fiscal Analysis), the City will report stormwater expenditures for capital projects, operation and maintenance, and staffing. Staffing and operation and maintenance costs mainly relate to day-to-day program activities, such as storm drain cleaning, reviewing plan submittals for development projects, and enforcing the Municipal Code's stormwater requirements. Examples of capital project expenditures include the cost of storm drain system improvements and installation of Low Impact Development (LID) features associated with larger City construction projects.

The City will report its fiscal analysis information in its JRMP annual reports until the RWQCB approves the WQIPs. The deadline for JRMP annual report submittal during the transitional period is October 31 following the end of the fiscal year. For example, FY 2015 ends on July 1, 2015, and the FY 2015 JRMP annual report is due to the RWQCB on October 31, 2015. After the WQIPs are approved, the JRMP annual report forms and fiscal analysis data will not be provided directly to the RWQCB; instead, they will be included as part of the WQIP annual reports. The City's fiscal analysis data will be included in the WQIP annual reports, for which the City is a responsible party. The WQIP annual reports for each reporting period are due January 31 of the following year. For example, the FY 2018 WQIP annual reports will be due on

January 31, 2019. It is anticipated that the WQIPs will be approved during FY 2016 and that the first WQIP annual reports will be due in January 2017.

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12 Reporting

12.1 JRMP Annual Reports

Section F.3.b.(1) of the MS4 Permit⁸ requires the City to document and demonstrate compliance with the Permit by completing an annual report. The report provides an opportunity to communicate the status of Jurisdictional Runoff Management (JRMP) activities to both the San Diego Regional Water Quality Control Board (RWQCB) and the public. The City's annual reports will utilize the JRMP Annual Report Form specified in the MS4 Permit, which will be completed for both the San Luis Rey and Carlsbad Watershed Management Areas (WMA). Until the first annual Water Quality Improvement Plan (WQIP) reports are required to be submitted (transitional period), the JRMP annual report will be submitted no later than October 31 each year.

During the period before the Water Quality Improvement Plans (WQIP) for the San Luis Rey and Carlsbad WMAs are approved, referred to as the "transitional period" in the MS4 Permit, the City will submit its JRMP annual reports directly to the RWQCB. Once the WQIPs are approved, JRMP annual reports will be submitted to the RWQCB through the WQIP annual reporting process. It is anticipated that the WQIPs will be approved during the 2015-2016 fiscal year and that the first WQIP annual reports will be due in January 2017.

The JRMP and annual reporting process involves a range of staff from different departments, such as Public Works and Land Development, who are responsible for implementing and collecting data for their stormwater program component. Although Stormwater staff facilitate and monitor the overall program throughout the year, they rely on several key departments and divisions to achieve compliance and accurately document it for the annual report. Discussion for each of the subsections that follow is in order of the JRMP Annual Report form sections..

12.1.1 Legal Authority

In each annual report the City must confirm that adequate legal authority has been established and is being maintained within its jurisdiction to control pollutant discharges into and from its MS4. As part of the first WQIP annual report, the City will submit a formal certification of legal authority, as required by MS4 Permit Section E.1.b. That certification statement must be signed by a Principal Executive Officer, Ranking Elected Official, or Duly Authorized Representative.

⁸ San Diego Regional Water Quality Control Board Order No. R9-2013-0001, as amended by Order No. R9-2015-0001

12.1.2 JRMP Document Update

It will be reported in the JRMP annual report if any updates to the JRMP document were required or recommended by the RWQCB during the reporting period. The City must confirm that the JRMP document was in fact updated accordingly and made available, within the reporting period, on the Regional Clearinghouse, a website used for the collection and distribution of information developed and maintained by the Copermitttees. If the required or recommended update was not completed and made available on the Regional Clearinghouse, the City will attach a schedule for completing and posting it. The City will also explain why the update and posting were not completed during the reporting period.

12.1.3 Illicit Discharge Detection and Elimination (IDDE) Program

The total number of non-stormwater discharges that were reported by the public, detected by the City or contract staff, investigated, and/or eliminated in each of the City's WMAs within the reporting period will be documented on the annual report form. Additionally, the total number of identified sources of non-stormwater and illicit discharges, the number of illicit connections and illicit discharges identified and/or eliminated, and the number of associated enforcement and escalated enforcement actions taken will be reported.

All non-stormwater discharges are considered illicit discharges unless the source is identified as one of the categories of non-stormwater discharges discussed in Section 3 of this report. If a non-stormwater discharge is identified but not included in one of the categories of non-stormwater discharges listed in Section 3, then the discharge is both a non-stormwater discharge and an illicit discharge.

12.1.4 Development Planning Program

The City will report whether an update to its BMP Design Manual was required or recommended by the RWQCB during the reporting period. When an update has been required or recommended, the City's annual report will state whether the update was completed and posted on the Regional Clearinghouse. If the required or recommended update was not completed and made available on the Regional Clearinghouse, the City will attach a schedule for completing and posting it.. The City will also explain why the update and posting were not completed during the reporting period.

Program implementation numbers will also be reported, including the total number of development projects submitted for review during the reporting period. Of these projects, the number that are Priority Development Projects (PDP) and the number of PDPs that were approved and/or granted occupancy during the reporting year will be reported. Any projects approved during the fiscal year that were granted any exemptions from the BMP Design

Manual requirements and/or allowed to implement alternative compliance options in accordance with Permit Section E.3.c.(3) will also be reported.

The numbers of completed PDPs in the City's inventory, high priority PDP structural BMP inspections, PDP structural BMP violations, and associated enforcement and escalated enforcement actions taken will also be included in the annual report.

12.1.5 Construction Management Program

In accordance with the MS4 Permit-specified annual report form, the numbers of active and inactive construction sites, construction sites closed/completed, construction site inspections and violations, enforcement and escalated enforcement actions issued will be reported.

12.1.6 Existing Development Program

The City must also report on its Existing Development Program, which includes the following components: municipal, commercial, industrial, and residential. The numbers of inventoried facilities or areas in the inventory, routine and follow-up inspections, violations, as well as enforcement and escalated enforcement actions will be reported for each of these four components.

12.1.7 Fiscal Analysis and Supplemental Data

Each year the City prepares a fiscal analysis summary, as described in JRMP Section 11 (Fiscal Analysis), and submits it along with the JRMP annual report form. In addition to the JRMP annual report forms and fiscal analysis data, where applicable, the City may include supplemental tables, data, and narrative to document program successes and challenges during the reporting period. Once the WQIP annual reporting process begins, additional supplemental descriptions of the City's progress in implementing WQIP strategies may also need to be prepared and submitted as part of the annual reporting process.

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13 Conclusions and Recommendations

The City has updated its Jurisdictional Runoff Management Program (JRMP) based on priorities, goals, and schedules identified in the Water Quality Improvement Plans (WQIP) for the San Luis Rey and Carlsbad Watershed Management Areas (WMA). In addition, this process has relied on experience gained through developing and implementing programs during the previous permit cycle. The updates include adjusting existing programs and developing new programs to target WQIP priorities, such as bacteria, and to meet Municipal Separate Storm Sewer System (MS4) Permit⁹ requirements.

As the JRMP is implemented, the City will assess and refine its program.. Moreover, recognizing that program implementation is an evolving process, the City will, as necessary, adjust its strategies and activities according to assessment results. This adaptive management approach is expected to more effectively reduce discharges of pollutants and non-storm water flow rates in the City's storm drain system, which should ultimately benefit local water bodies. To foster and sustain watershed and regional water quality improvements, the City will continue to work with the other agencies in San Diego County and in the San Luis Rey and Carlsbad Watersheds.

⁹ San Diego Regional Water Quality Control Board Order No. R9-2013-0001, as amended by Order No. R9-2015-0001

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14 References

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