2014 STORM WATER MANAGEMENT PLAN

City of Bakersfield and County of Kern

October 2015

FINAL

10/09/2015

10/09/2015

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CITY OF BAKERSFIELD AND COUNTY OF KERN

2014 STORM WATER MANAGEMENT PLAN

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STORM WATER MANAGEMENT PROGRAM OVERVIEW

1.1 INTRODUCTION

The City of Bakersfield, CA (City) MS4 and the County of Kern, CA (County) MS4 (collectively Permittees) are regulated under Waste Discharge Requirements for the County of Kern and the City of Bakersfield for Urban Storm Water Discharges, NPDES Permit No. CA0083399, Order No. R5-2013-0153, (Permit). The Permittees are required to submit a revised Storm Water Management Plan (SWMP) by September 8, 2014. The previous SWMP was prepared in 2006. This document is the revised SWMP, developed to comply with the Permit provisions.

The primary objective of the SWMP is to describe the framework for management of storm water discharges during the term of the Permit. The SWMP includes program elements and control measures that each Permittee will implement to reduce the discharge of pollutants in storm water to the maximum extent practicable (MEP), and to effectively prohibit non-storm water discharges into MS4s and watercourses within each Permittees' jurisdiction. The various components of the revised SWMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the MEP.

Per the Permit, the expected benefits of implementing the provisions of the Permit include:

- Enhanced Aesthetic Value: Storm water pollution may affect the appearance and quality of a water body, and the desirability of working, living, traveling, or owning property near that water body. Reducing storm water pollution makes the benefits of these water bodies more desirable.
- Enhanced Opportunities for Boating: Reducing storm water runoff may, in turn, reduce the loading of sediment and/or other pollutant which could adversely impact water clarity. By protecting the water clarity, the program enhances the boating experience.
- Enhanced Recreational and Subsistence Fishing: Pollutants in storm water can eliminate or decrease the numbers, or size, of sport fish and shell fish in receiving waters. Reducing pollutant concentrations is storm water can reverse these impacts.
- Reduced Flood Damage: Storm water runoff controls may mitigate the potential for flood damage by incorporating controls to address the diversion of runoff, insufficient storage capacity, and reduced channel capacity from sedimentation.
- Reduced Illness from Consuming Contaminated Fish: Storm water controls may reduce the presence of pathogens in fish caught by recreational anglers.
- Reduced Illness from Swimming in Contaminated Water.

- Epidemiological studies indicate that swimmers in water contaminated by storm water runoff are more likely to experience illness than those who swim farther away from a storm water outfall.
- Enhanced Opportunities for Non-contact Recreation: Storm water controls reduce turbidity, odors, floating trash, and other pollutants, which then allow waters to be used as focal point for recreation, and enhance the experience of the users.
- Drinking Water Benefits: Pollutants from storm water runoff, such as solids, toxic pollutants, and bacteria may pose additional costs for treatment, or render the water unusable for drinking.
- Water Storage Benefits: The heavy load of solids deposited by storm water runoff can lead to rapid sedimentation of reservoirs and the loss of needed water storage capacity.
- Improved Habitat Benefits: Storm water can have significant impacts to habitat and aquatic life. Storm water controls can minimize impacts to creek corridors and the wildlife dependent upon them.

1.2 BACKGROUND

The unincorporated urbanized area within the County is defined as a medium municipality (population greater than 100,000 but less than 250,000) (per 40 CFR). As such, the County must obtain a NPDES municipal storm water permit for storm water discharges associated with its urbanized area. The City is also designated as a medium municipality (per 40 CFR). Due to the interrelationship between the discharges of the County and City municipal storm sewers, the urbanized areas of Kern County in the vicinity of Bakersfield are designated as part of the medium municipal storm sewer.

The Permittees originally obtained coverage under WDR Order 94-164, NPDES Permit CA0083399, adopted on 24 June 1994. Subsequently, the Permittees obtained coverage under WDR Order 5-01-130, NPDES Permit CA0083399, adopted on 14 June 2001. The current Permit (Order No. R5-2013-0153) was adopted on December 6, 2013.

The EPA has conducted three audits of the program, and a summary of the findings are presented in Table 1.1. In addition, Table 1.1 includes a summary of modification to the storm water management program, in response to the audits. The Permittees have made some modifications in response to the August 2012 audit, however, the current Permit requires the Permittees to submit a revised SWMP that addresses the additional deficiencies from the 2012 audit (see Table 1.1).

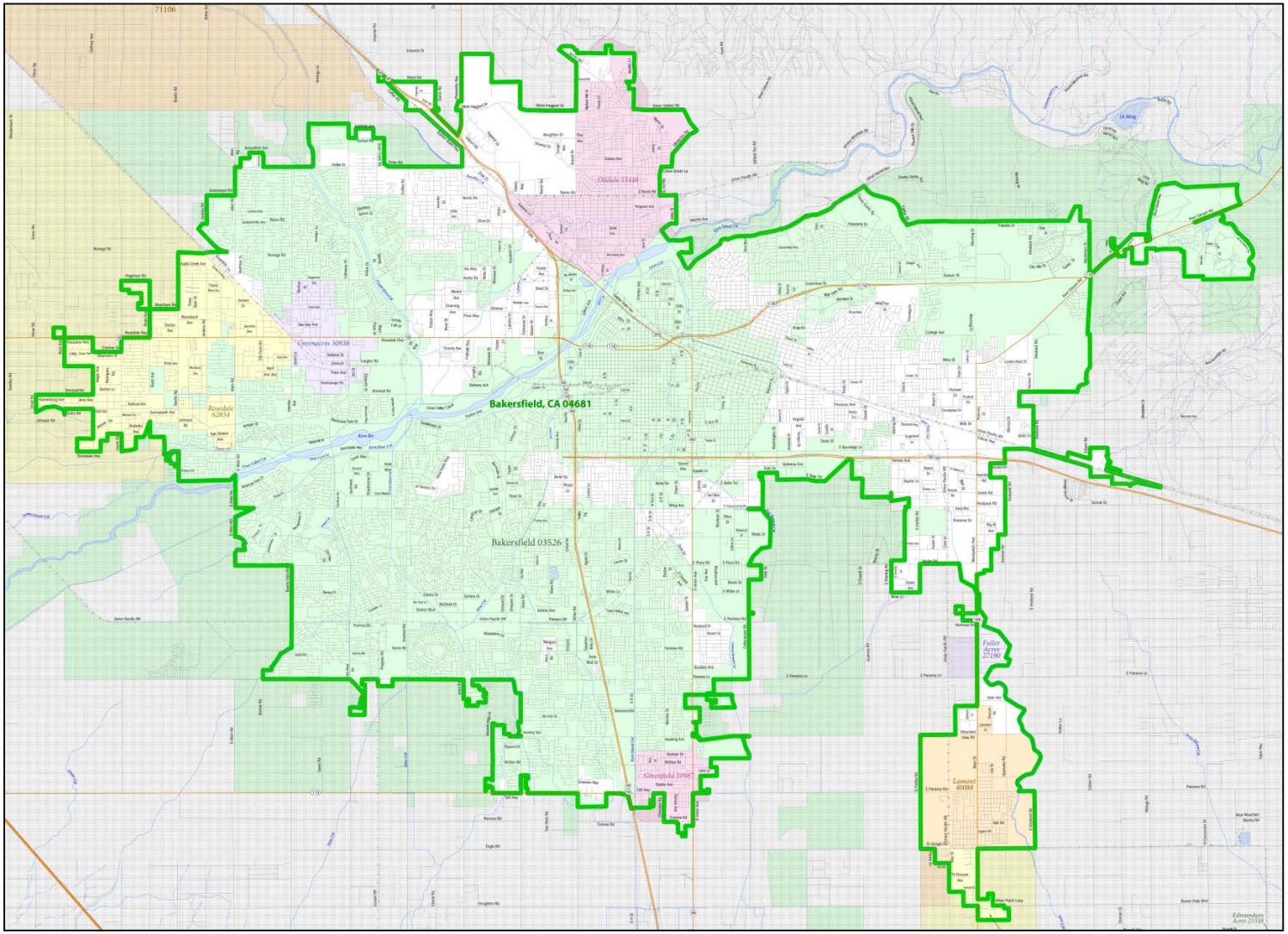
Table 1.1 Information Sheet Components
Storm Water Management Plan
City of Bakersfield and County of Kern

Date	Description	Findings	Program Modifications
November 2002	Comprehensive program evaluation	• City and the County were not ensuring that private and public construction projects were in compliance with local ordinances and the State Construction General Permit • City and the County were not implementing BMPs at municipal facilities and not conducting inspections at industrial facilities.	• Permittees submitted an updated SWMP in 2003. • The 2003 SWMP proposed updates to the procedures the Permittees were using to implement BMPs at municipal facilities, investigate illicit discharges, track inspections, and train inspectors.
November 2009	Construction Program	• City was not inspecting private construction projects, not requiring the submittal of Storm Water Pollution Prevention Plans (SWPPP) or reviewing SWPPPs for private projects, not able to provide an inventory of active construction projects, and not issuing any enforcement actions against noncompliant project sites. • City was not adequately conducting and documenting inspections of public projects. The City's lack of construction program implementation did not adequately ensure compliance with the City's local ordinances, the Construction General Permit, or WDR Order 5-01-130.	• The City of Bakersfield implemented additional construction program practices to comply with WDR Order 5-01-130. • Construction Inspection and Engineering staff attended storm water compliance training and obtained certification as Qualified SWPPP Developers and Practitioners.
August 2012	Illicit discharge control and construction site planning elements	• City and the County were not facilitating public reporting or fully implementing the storm drain stenciling program • City did not have written protocols for dry weather field screening and sampling. • City and County were not ensuring compliance with the Construction General Permit.	• Permittees developed a phone lines and website link to allow the public to report potential storm water issues.

1.3 PERMITTED AREA

The County and City, operate, and maintain a storm drainage system serving metropolitan Bakersfield and a portion of the surrounding unincorporated area. The County and City each have jurisdiction over about half of the Bakersfield metropolitan area. Figure 1.1 shows the boundaries of the permitted area (Bakersfield Urbanized Area) and the City and County jurisdictions. The system includes approximately 2 to 3 miles of major storm drain open channels and approximately 40 miles of major closed conduit conveyances.

Urban storm water runoff from the Bakersfield Urbanized Area is directed to either one of approximately 322 terminal retention basins or to one of 52 direct outfalls or 10 indirect outfalls (discharging after flowing through detention basins) discharging to the Kern River, East Side Canal, Carrier Canal, Stine Canal, or Kern Island Canal. The East Side Canal, Stine Canal, and Kern Island Canal are owned and operated by the Kern Delta Water District. The Carrier Canal is jointly owned by the City and the Kern Delta Water District and operated by the City. Approximately 90 percent of the average annual storm water runoff is retained in storm water terminal retention basins. The Kern River and the canals are considered waters of the United States or tributaries to waters of the United States. The Kern River and the canals are also waters of the State. Figure 1.2 shows the urban drainage watersheds that discharge to waters of the United States and State cover approximately 16,499 acres of the 88,576 acres within the Bakersfield Urbanized Area. Areas that do not drain to waters of the United States, drain to terminal drainage basins which are not considered waters of the United States or State. Locations of outfalls that correspond with the drainage areas are shown on Figure 1.2 and listed in Table 1.2. Figures 1.2 and Table 1.2 were developed based on the best information currently available. As the City/County continue to develop their GIS mapping Table 1.2 and Figure 1.2 may be updated with modified drainage area boundaries and/or additional drainage areas.



BAKERSFIELD URBANIZED AREA

FIGURE 1.1

CITY OF BAKERSFIELD AND COUNTY OF KERN
2014 STORM WATER MANAGEMENT PLAN

carollo

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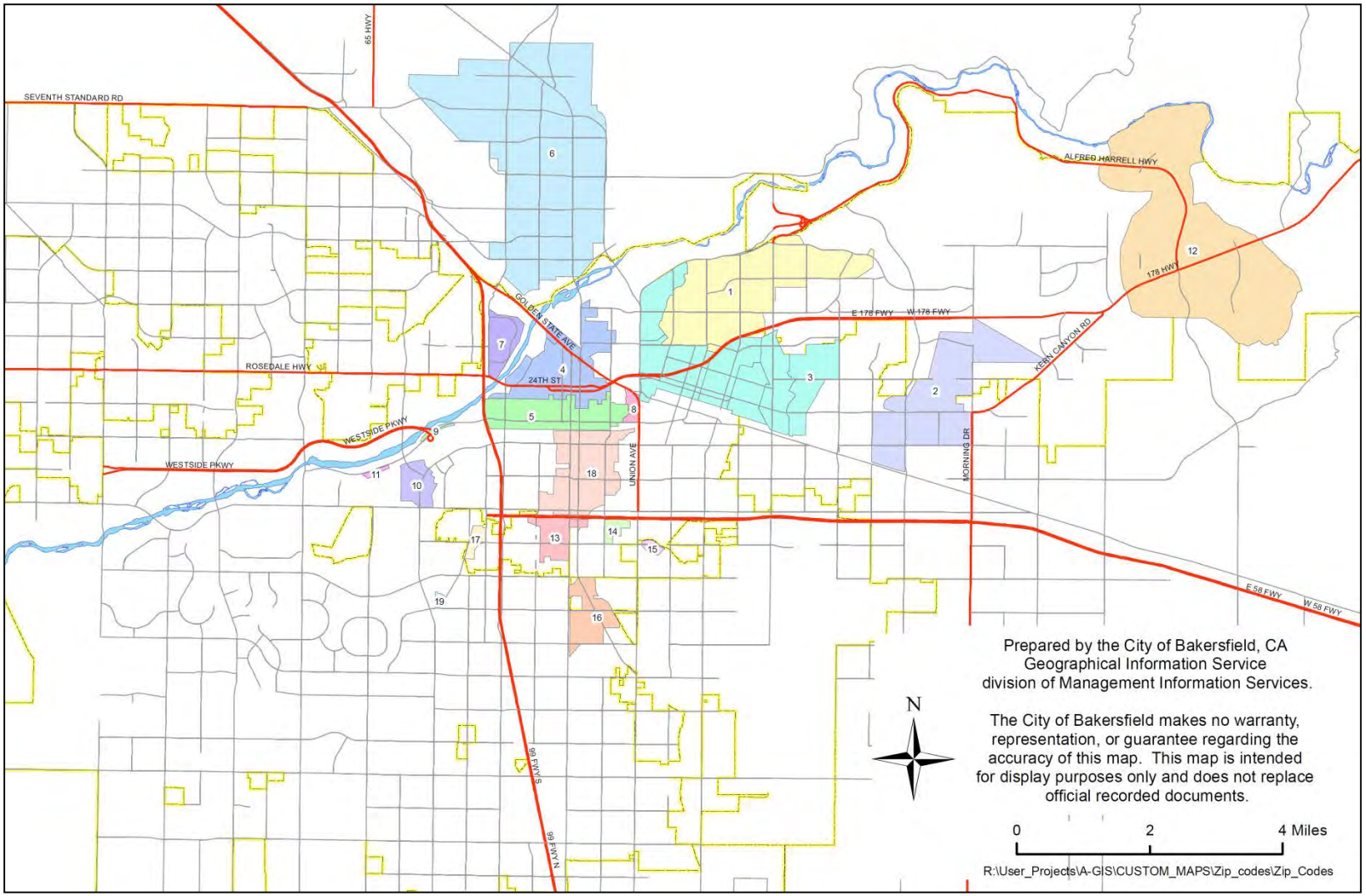


DRAINAGE AREAS

FIGURE 1.2

CITY OF BAKERSFIELD AND COUNTY OF KERN
2014 STORM WATER MANAGEMENT PLAN

carollo

Table 1.2 Drainage Areas
Storm Water Management Plan
City of Bakersfield and County of Kern

Drainage Area No.	Area Name	Area (Acres)	Receiving Water	Outfall
1	NE BAKERSFIELD	1,789	Kern River	@ Manor St.
1.1	NE BAKERSFIELD	4	Carrier Canal	@ Manor St.
2(1)	PIONEER	1335	East Side Canal	@ Fairfax Rd.
3.1	GARCES HIGH AREA	310	Kern Island Canal	@ Irene St.
3.2	BERNARD & UNION (NE)	19	East Side Canal	@ Bernard St.
3.3	ALTA VISTA	264	East Side Canal	@ Niles St. & Union Ave.
3.4	BAKER ST.	202	East Side Canal	along Lake St. between Union Ave. and Owens St. (18 outfalls)
3.5	ROBINSON	353	East Side Canal	along Lake St. between Owens St. and Brown St. (10 outfalls)
3.6	VIRGINIA	235	East Side Canal	along Lake St. between Brown Street and Canal St. (4 outfalls)
3.7	MT. VERNON	346	East Side Canal	@ Mt. Vernon Ave.
3.8(1)	HAWTHORNE	425	East Side Canal	@ Webster St.
4.1	GOLDEN STATE	72	Kern River	@ Golden State Hwy
4.2	ELM ST.	45	Kern River	@ Olive St.
4.3	ELM ST.	692	Kern River	near Beach Park
5	DOWNTOWN	600	Carrier Canal	@ Truxtun Ave.
6.1(1)	OILDALE	3,353	Kern River	@ North Chester Ave.
6.2(1)	OILDALE	881	Kern River	@ Hart St.

Table 1.2 Drainage Areas
Storm Water Management Plan
City of Bakersfield and County of Kern

Drainage Area No.	Area Name	Area (Acres)	Receiving Water	Outfall
7		246	Kern River	near Sillect Ave.
8	UNION	76	Kern Island Canal	@ 'R' St.
9	TRUXTUN EXT UNDERPASS	40	Kern River	near Commercial Way
10(1)	CALIFORNIA AVE	178	Carrier Canal	near Mohawk St.
11(1)	TRUXTUN PLAZA	19	Kern River	@ Truxtun Lake
12	RIO BRAVO	3,722	Kern River	near Lake Ming & Kern River Golf Course
13.1	BELLE TERRACE (EAST)	106	Kern Island Canal	@ Belle Terrace East
13.2	BELLE TERRACE (EAST)	85	Kern Island Canal	@ Adams St.
14	TERRACE WAY	88	Kern Island Canal—East Branch	@ Terrace Way
15	UNION & BELLE TERRACE	49	Kern Island Canal—East Branch	@ Belle Terrace East
16.1(1)	SOUTH CHESTER	241	Kern Island Canal	@ So. 'H' St.
16.2(1)	SOUTH CHESTER	64	Kern Island Canal—Central Branch	@ South Chester Ave.
17	BELLE TERRACE (WEST)	61	Stine Canal	near Terrace Ave.

Table 1.2	Drainage Areas Storm Water Management Plan City of Bakersfield and County of Kern			
Drainage Area No.	**Area Name**	**Area (Acres)**	**Receiving Water**	**Outfall**
18.1	VERNAL PLACE	29	Kern Island Canal	@ 'R' St.
18.2	VERNAL PLACE	557	Kern Island Canal	@ Vernal Place
19	HASTI-ACRES	13	Stine Canal	@ Wilson Ave.

Notes:

(1) Drainage areas also served by detention basis.

1.4 STORM WATER MANAGEMENT PLAN (SWMP) ORGANIZATION

The SWMP includes nine Program Elements that collectively aim at reducing pollutants in storm water runoff, to the MEP. The Program Elements include:

- Program Management
- Construction
- Commercial/Industrial
- Municipal Operations
- Illicit Connection and Detection
- Public Outreach
- Planning and Land Development
- Monitoring and Reporting
- Program Effectiveness Assessment and Reporting

The SWMP is organized in chapters, corresponding to the Program Elements. Each chapter includes the overall objectives of the Program Element and the associated Control Measures.

Each of the Control Measures are further described in individual Control Measure Information Sheets. These Information sheets include a description of the Control Measure, Existing Activities/Best Management Practice (BMPs), the Measureable Goals, Assessment Data and Information, and Implementation Plan. Table 1.3 Lists the components of the Information Sheets and corresponding definition.

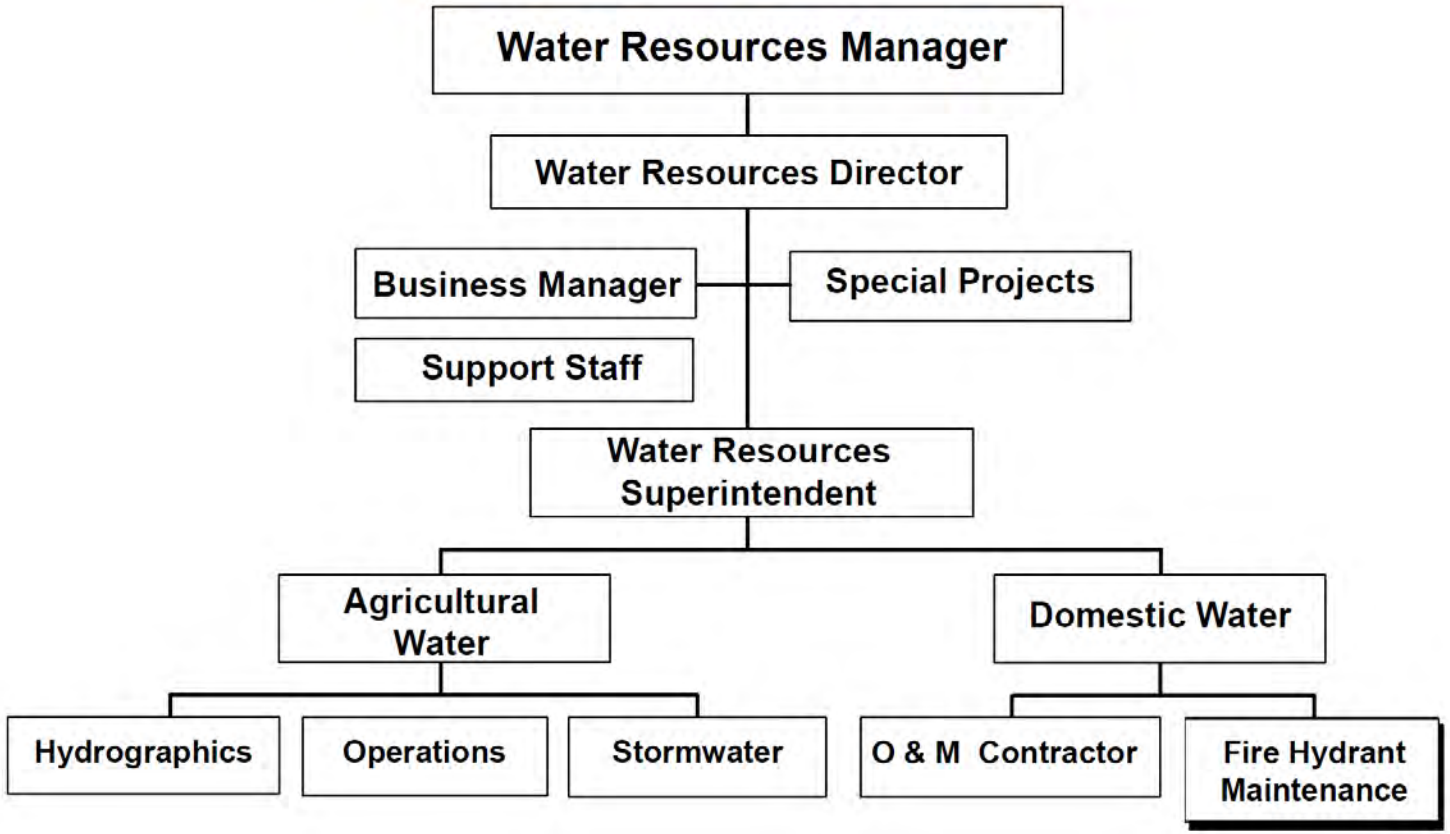
The Assessment Data and Information is used for the analysis of Program Effectiveness Assessment, as described in Chapter 10. Chapter 10 also includes a tabular summary of the assessment information/data and corresponding Outcome Levels for each of the Control Measures. These tables provide the basis for conducting a program effectiveness assessment, to be included in the Permittees Annual Reports.

Table 1.3 Information Sheet Components Storm Water Management Plan City of Bakersfield and County of Kern	
Terminology	**Definition**
Control Measure	Control Measures are the actions associated with each Program Element that are necessary to meet Permit provisions.
Existing Activities/BMPs	Practices and actvities that are currently practiced.
Measurable Goals	The measurable goals are specific activities associated with each Control Measure. The measurable goals establish the level of effort required to comply with the Permit.
Assessment Data and Information	The information/data that will be tracked and reported. This information will be used in annual reporting and to asses the program effectivness.
Responsible Parties	Identifies the parties with primary and secondary responsibility for implementation.
Implementation Schedule	Consists of a schedule for implementation within the Permit term.
Effectiveness Assessment Outcome Analysis	Identifies the Assessment Outcomes associated with the Assessment Data and Information corresponding to the Control Measures

1.5 RESPONSIBLE PARTIES

The City and County have jurisdiction over and/or maintenance responsibilities for the storm drainage system in the Bakersfield Urbanized Area, and are named as Permittees in the current Permit. The City and County have established an agreement (Agreement No. 12-105 City-County Agreement National Pollutant Discharge Elimination System, August 15, 2012) (2012 Agreement) that requires City and County staff to cooperate on all efforts and tasks required to comply with the Permit waste discharge requirements, SWMP, and Permit Monitoring and Reporting Program. In addition, this agreement requires the City and County to equally share in the costs associated with Permit compliance. The 2012 Agreement is included in Appendix A.

The City Water Resources Department (City Water) and the County Engineering, Surveying & Permit Services Department (ESPS) share the responsibility of administering the stormwater program. However, there are several other City and County Departments that have direct or indirect stormwater program responsibilities. Figures 1.3 and 1.4 show the organization charts for the City and City Water, respectively. Figures 1.5 and 1.6 show the organization chart for the County and for County ESPS.



CITY ORGANIZATIONAL CHART

FIGURE 1.3

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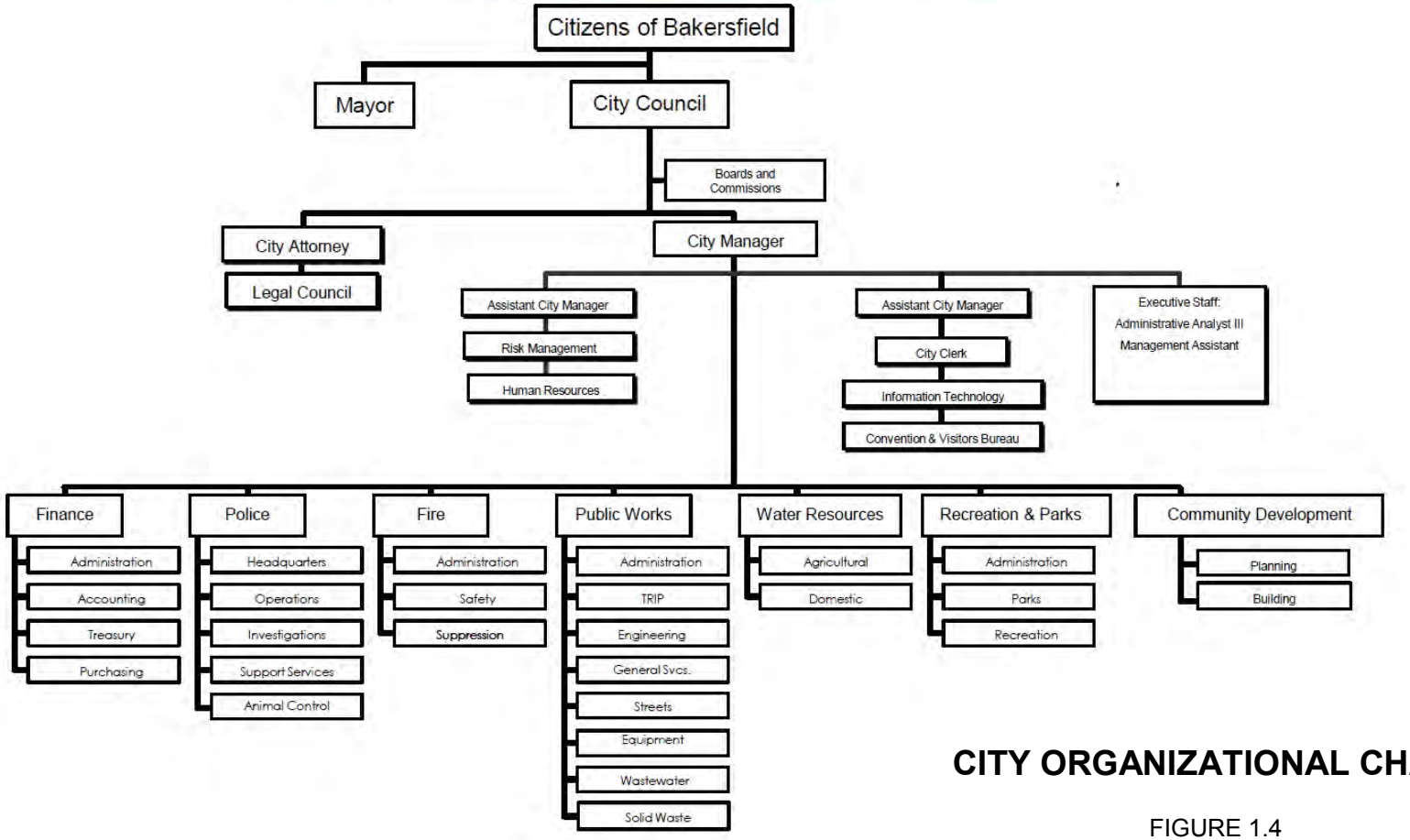
City of Bakersfield

FY 2014-2015 Organizational Chart



CITY ORGANIZATIONAL CHART

FIGURE 1.4

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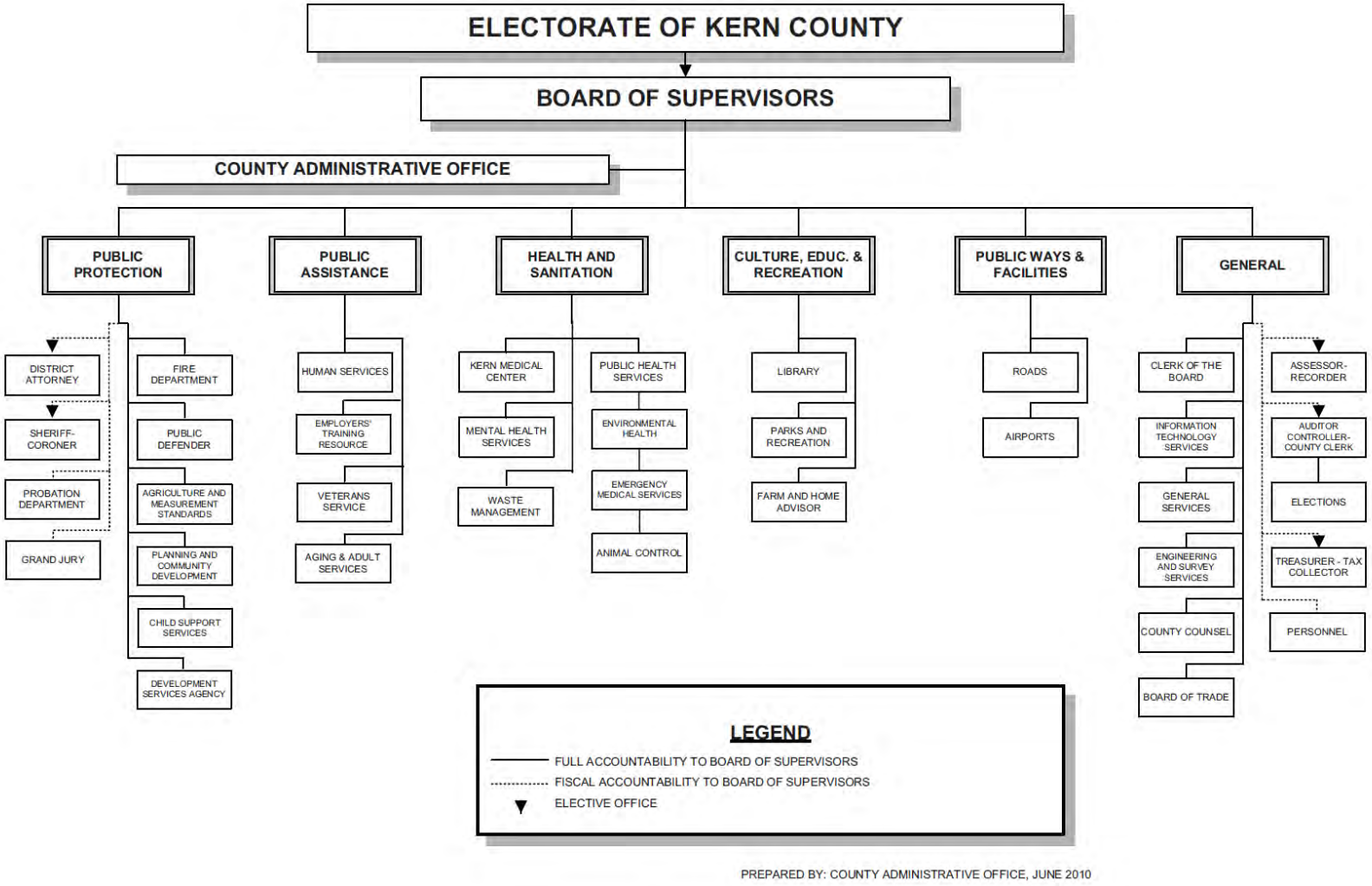

COUNTY ORGANIZATIONAL CHART

FIGURE 1.5

CITY OF BAKERSFIELD AND COUNTY OF KERN
2014 STORM WATER MANAGEMENT PLAN

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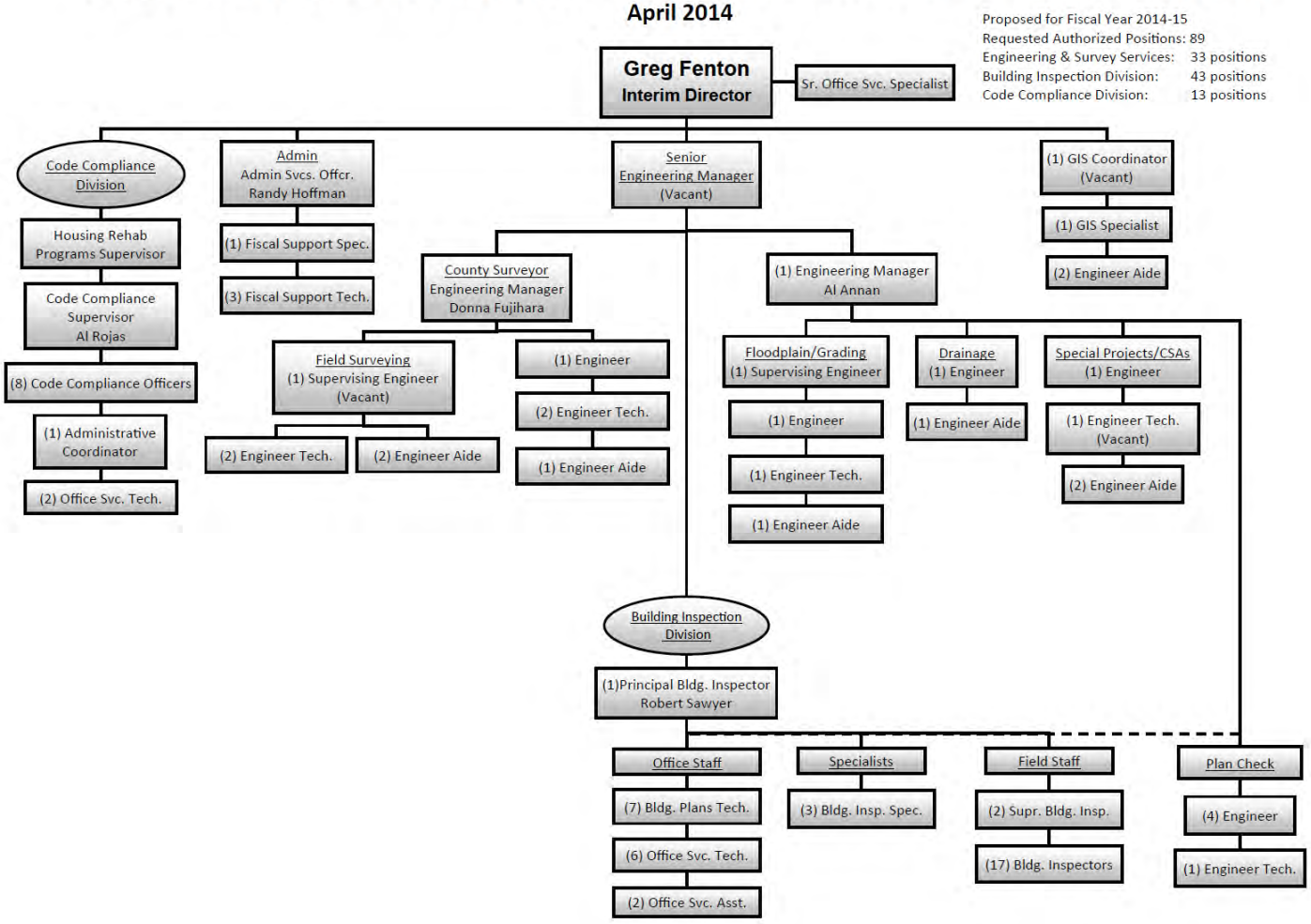

COUNTY ORGANIZATIONAL CHART

FIGURE 1.6

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Table 1.4 presents the City and County departments/divisions and the acronyms/short names used for these entities in this document. Table 1.4 also includes the staff within the departments that are responsible for implementing storm water program activities.

Table 1.5 presents the Control Measures associated with each program element and the responsibilities of individual departments/divisions. In this table a solid circle indicates primary responsibility and an open circle indicates secondary responsibility. Primary and secondary responsibility are assigned to the measurable goals associated with each of the Control Measures. Therefore, if a City or County department/division is assigned primary responsibility for measurable goals within a Control Measure then, primary responsibility is translated into Table 1.5.

Table 1.4 City and County Departments
Storm Water Management Plan
City of Bakersfield and County of Kern

Acronym/ Short Name	Department	Responsible Staff	Phone Number
	City		
City Water	Water Resources Department	Art Chianello, Jason Meadors, Heather Williams, John Ryan, Don Richardson	661-326-3715
City Streets	Streets Division – Public Works	Mike Connor	661-326-3111
City Operations	Operations Division – Public Works	Stuart Patteson, Michael Vogel, Wayne Hopfe, Sean Cacal	661-326-3781
City Wastewater	Wastewater Division - Public Works	Ralph Braboy, Zachary Meyer, Greg Wolf	661-326-3249
City Construction	Construction Engineering – Public Works	Robert Voyles, Rick Millwee, Steve Lesh	661-326-3724
City Subdivisions	Engineering Subdivisions - Public Works	Marian Shaw	661-326-3724
City Solid Waste	Solid Waste Division – Public Works	Kevin Barnes	City Solid Waste
City Building	Building Division – Community Development	Mark Fick, Phil Burns	661-326-3720
City Design Engineering	Design Engineering Division – Public Works	Ted Wright	661-326-3724
City Planning	Planning Division – Community Development	Jackie Kitchen	661-326-3733
City GIS	Geographic Information Systems (GIS)	Katie Reed	661-326-3439
City Fire	Hazardous Materials Response - Fire Department	Howard Wines	661-326-3979
City Parks	Recreation and Parks Department	Darin Budak, Ken Trone	661-326-3866

Table 1.4 City and County Departments
Storm Water Management Plan
City of Bakersfield and County of Kern

Acronym/ Short Name	Department	Responsible Staff	Phone Number
	County		
ESPS	Engineering, Surveying & Permit Services Department	Kevin Hamilton, Aaron Leicht, Al Annan	(661) 862-5100
County Roads	Roads Department	Craig Pope, Lynn Brooks, and Mark Evans	(661) 862-8850
County General Services	General Services Department	Danny Moreno	(661) 868-3000
County Environmental Health	Environmental Health Department	Matt Constantine and Donna Fenton	(661) 862-8740
County Waste	Waste Management Department	Doug Landon and Aurora Rush	(661) 862-8900
Waste-KSA	Kern Sanitary Authority	Rob Ellery and Jason Nordine	(661) 862-8984
County Planning	Planning and Community Development Department	Lorelei Oviatt and Scott Denney	(661) 862-8600
County GIS	Geographic Informatoion Systems (GIS) within the ESPS Department	Nik Turner	(661) 862-5100
County Fire	Fire Department-HazMat	Dave Goodell	(661) 391-7080
County Parks	Parks and Recreation Department	Robert Lerude	(661) 868-7000

Table 1.5 Specific Control Measure Responsibilities
Storm Water Management Plan
City of Bakersfield and County of Kern

Program Element	City Responsibility													County Responsibility									
	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Program Management (PM)																							
PM1 - Departmental Coordination (Program Coordination)	●	o	o	o	o	o	o	o	o	o	o	o	o	●	o	o	o	o	o	o	o	o	o
PM2 - Legal Authority	●													●									
PM3 - Fiscal Analysis	●													●									
PM4 - Annual Work Plan and Annual Reporting	●													●									

Table 1.5 Specific Control Measure Responsibilities
Storm Water Management Plan
City of Bakersfield and County of Kern

Program Element	City Responsibility													County Responsibility									
	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Construction (CONST)																							
CONST1-Source Identification (Inventory)	O				●		●							●	O	O							
CONST2-Threat to water quality prioritization	O				●		●							●	O	O							
CONST3- Plan Review and Approval	O					O	●							●									
CONST4 Construction Site Inspections	O				●		●							●	●	●							
CONST5 Progressive enforcement of non-compliant sites	O				●		●							●									
CONST6 Reporting of recalcitrant non-compliant sites	O				●		●							●									
CONST7– Internal and External Training	O				●		●							●	●	●							

Table 1.5 Specific Control Measure Responsibilities
Storm Water Management Plan
City of Bakersfield and County of Kern

Program Element	City Responsibility													County Responsibility									
	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Commercial and Industrial (CI)																							
CI1- Develop/Maintain Facility Inventory	O			●				●				O		O						●	O		O
CI2-Prioritize Facilities	●			O								O		●							O		O
CI3- Facility Inspection	●			●								●		●							●		●
CI4 - Enforcement	●			●			●					●		●							O		O
CI5 - Training	●			●								●		●							●		●
Municipal Operations (MUN)																							
MUN1- Sanitary sewer overflow and spill response	O	●		O			●					●		●							O		●
MUN2-Construction requirements for municipal capital improvement projects	O				●				●					●	●	●	●						
MUN3-Pollution prevention at Permittee facilities	O		●	●									O	●	O	O					O	O	

Table 1.5 Specific Control Measure Responsibilities
Storm Water Management Plan
City of Bakersfield and County of Kern

Program Element	City Responsibility													County Responsibility									
	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
MUN4-Landscape and pest management	O												●	●		●						●	
MUN5-Storm drain system maintenance	●	●				●		O		O				●	O					O			
MUN6-Street cleaning and maintenance	O	●								O			O	O	●			●					
MUN7-Parking facilities maintenance	O		●											O		●							
MUN8-Retention/detention basin maintenance	●													●	●	●							
MUN9-Public industrial activities management	●													●	●			●					
MUN10-Emergency procedures	O	O	●	O								O		●	O								
MUN11-Non-emergency firefighting flows	O											●		O							●		
MUN12-Training	●	O	O	O								O	O	●	O	O		O			O	O	O

Table 1.5 Specific Control Measure Responsibilities
Storm Water Management Plan
City of Bakersfield and County of Kern

Program Element	City Responsibility													County Responsibility										
	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Illicit Connection and Illicit Discahrge (ICID)																								
ICID1-Detection of Illicit Discharges and Illegal Connections	●	O												●										
ICID2-Illegal Connection Identification and Elimination	O			●		●	●							●					O					
ICID3-Investigation/Inspection and Follow-up Procedures	●			O										●					O					
ICID4-Enforcement of Local Codes and Ordinances	●						O							●										
ICID5-Training	●			O										●					O		O		O	
Public Outreach (OUT)																								
OUT1-Public Participation	●			O			O			●				●				●						
OUT2-Hotline/ website	●			O										●				O						
OUT3-Public Outreach Implementation	●													O				●						

Table 1.5 Specific Control Measure Responsibilities
Storm Water Management Plan
City of Bakersfield and County of Kern

Program Element	City Responsibility													County Responsibility									
	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
OUT4-Public School Education	O									O				O				●					
OUT5-Business Outreach	O			●								●		●				●					O
Planning and Land Develpoment (PLAN)																							
PLAN1-New/Revised Development Standards	O					●	●				●			●			●						
PLAN2-Plan Review Sign-Off	O				●	●	●				O			●	●	●	O						
PLAN3-Maintenance Agreement and Transfer	O					●	●							●									
PLAN4-Training	O						●				O			●	●		●						
Monitoring	●													●									
Program Effectiveness Assessment and Reporting	●													●									

Notes:
(1) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

Chapter 2

PROGRAM MANAGEMENT (PM)

2.1 INTRODUCTION

The components of the Program Management element provide the overall structure and management measures for implementing the storm water program. Program Management is critical to efficient and effective implementation of the stormwater management program.

Permit requirements can be found in **Provisions D.3, page 28**.

2.2 OBJECTIVES

The objective of Program Management element is to ensure that all elements of the SWMP are implemented on schedule and that Permit requirements are met.

The Program Management element does not include “Control Measures”; however, the Permit outlines a number of components and requirements associated with program management. These components include:

- PM1 - Departmental Coordination (Program Coordination)
- PM2 - Legal Authority
- PM3 - Fiscal Analysis
- PM4 - Annual Work Plan and Annual Reporting

The following Information Sheets describe the program management components in more detail. The Annual Work Plan and Annual Reporting are included in one Information Sheet. The Permit includes Training in the Program Management Program Element, however, training is addressed separately in each of the other Program Elements.

INFORMATION SHEET
PM1 - Program Coordination

Description

The City Water and the ESPS share the responsibility of administering the stormwater program. However, there are several other City and County Departments/Divisions that have direct or indirect stormwater program responsibilities. The Program Coordination component includes identifying responsible parties/divisions for storm water related activities, and providing a framework that promotes coordination within and across departments/divisions to effectively address program implementation.

The Permit includes several program coordination provisions, as described as follows.

The Permit requires that the Permittees review the 2012 Agreement to ensure that it provides for a management structure that addresses the following:

a) Designation of joint responsibilities
b) Decision making
c) Information management of data and reports, including the requirements of the Permit
d) Any and all other collaborative arrangements for compliance with the Permit.

The Permit requires the Permittees to jointly develop and/or update the standardized format(s) for all reports required under this Permit (e.g., annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports, etc.). The standardized reporting format(s) shall be used by all Permittees and shall include protocols for electronic reporting, specifically data reporting.

The Permit requires that the Permittees identify all department/divisions within the Permittees' jurisdiction that conduct storm water pollution prevention related activities and their roles and responsibilities. In addition, the Annual Report must include an up-to-date organizational chart specifying these departments and key personnel responsible for issuance of enforcement actions.

Existing Activities

City and County

The City and County conduct the following program management related activities:

- The Permittees have established the 2012 Agreement, which requires City and County staff to cooperate on all efforts and tasks required to comply with the Permit waste discharge requirements, SWMP, and Permit Monitoring and Reporting Program. The Permittees provided a letter to the Central Valley Regional Water Quality Control Board (CVRWQCB) stating that they have reviewed the 2012

Agreement and that it is adequate and complies with the provisions of the Permit. This letter is included in Appendix B.

- The City and County have identified department/divisions within stormwater related roles and responsibilities. Section 1.5 provides summary tables, and additional information is included in the discussion of the other Program Elements and associated Control Measures.
- Formal coordination of divisions/departments occurs annually as part of preparation of the Annual Reports.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

PM1 – Program Coordination																																												
		Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
Measurable Goal	**Assessment Data and Information**	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Update Report Formats – Update (or develop) the standardized formats for all reports including annual reports, monitoring reports, fiscal analysis reports, and program effectiveness reports. Include protocols for electronic reporting, as needed.	*Updated report formats.*	●													●																					■								
Roles and Responsibilities – Update, as needed, roles and responsibilities of departments/divisions.	*Updated tables of responsibilities*	●													●														■															
Steering Committee – Establishment of a Steering Committee to lead implementation of the storm water management program	*List of Steering Committee Members*	●													●														■															
Semiannual Meetings –Steering Committee meetings to review and assess program implementation	*Meeting agenda and attendee list*	●													●														■		■		■		■		■		■		■		■	
Annual Meetings – Meetings of all departments/divisions to prepare Annual Reports	*Meeting agenda and attendee list*	●	O	O	O	O	O	O	O	O	O	O	O	O	●	O	O	O	O	O	O	O	O	O					■				■				■				■			

Notes:
(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
PM2-Legal Authority

Description

The Legal Authority component involves the reviewing, maintaining, and enforcing adequate legal authority to control pollutant discharges from the Permittees' MS4s through ordinance, statute, permit, contract, or similar means.

The Permit includes several provisions related to legal authority, including:

- Control the contribution of pollutants in discharges of runoff associated with industrial and construction activity to the MS4. This requirement applies both to industrial and construction sites, which have coverage under the statewide general industrial or construction general storm water permits, as well as to those sites that do not require permit coverage
- Effectively prohibit identified illegal discharges (e.g., discharges of wash water from gas stations, mobile businesses, parking lots, storage areas containing equipment, discharges of pool water containing chlorine or bromine, discharges of sediment, pet waste, vegetation, food related wastes, toxic materials, pesticides, construction debris, etc.)
- Prohibit and eliminate illicit connections to the MS4
- Prohibit the discharge of spills, dumping, or disposal of materials other than storm water to its MS4
- Use enforcement mechanisms to require compliance with the Permittees storm water ordinances, permits, contracts, or orders
- Control the contribution of pollutants from one portion of the shared MS4 to another portion of the storm sewer system through interagency agreements among the Permittees (and other owners of the storm sewer system such as Caltrans)
- Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits, including the prohibition on illicit discharges to the MS4
- Require the use of BMPs to prevent or reduce the discharge of pollutants from MS4 to the MEP
- Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.

The Permit requires modification of existing ordinances, as needed to enforce all the requirements of the Permit. In addition, the ordinance(s) shall contain implementable and

progressive enforcement procedures. Modifications of the Permittees' ordinances, as needed, are required within one year after the adoption of the SWMP.

The Permit requires that each Permittee provides to the Executive Officer by 6 April 2015 a statement certified by its chief legal counsel that it has adequate legal authority to implement and enforce each of the requirements contained in 40 CFR 122.26(d)(2)(i)(A-F) and the Permit, including any modifications thereto in effect when the certified statement is provided. This statement shall be included in Permittees' revised SWMP(s), which shall describe the following:

- All urban runoff related ordinances adopted by the Permittees and appropriate citations thereof and the reasons they are enforceable;
- The Permittees' Progressive Enforcement Policy and how it will be effectively implemented;
- The local administrative and legal procedures available to mandate compliance with urban runoff related ordinances and, therefore, with the conditions of this Order;
- Descriptions of how these ordinances are implemented and how enforcement actions under these ordinances may be appealed; and
- A description of whether the municipality can issue administrative orders and injunctions or if it must go through the court system for enforcement actions.

Existing Activities

City

The City municipal code includes Chapter 8.34 Industrial Stormwater and Chapter 8.35 Stormwater System.

County

The County's code includes Chapters 14.26 Stormwater Ordinances, and 14.28 Stormwater Districts.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

PM2 – Legal Authority																																												
		Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
Measurable Goal	Assessment Data and Information	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Existing Ordinances – Review each Permittee's ordinances to assess compliance with Permit provisions.		●													●																			■										
Modify Ordinances – Modify each Permittee's ordinances, as needed, to comply with permit provisions.	*Modified ordinances (as needed)*	●													●																				■									
Legal Authority Statement – Each Permittee provide a letter to CVRWQCB regarding adequate legal authority	*Letters (each Permittee) to the CVRWQCB (6 April 2015)*	●													●																					■								

Notes:
(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
PM3-Fiscal Analysis

Description

The Fiscal Analysis component pertains to planning and reporting on the sources of funds and expenditures necessary to implement the stormwater management program. The 2012 Agreement requires the City and County to share costs equally.

The Permit includes several provisions related to fiscal analysis, including:

- Each Permittee shall secure the resources necessary to meet the requirements of the Permit and shall prepare an annual fiscal summary as part of the SWMP Annual Report. This summary shall, for each fiscal year covered by the Permit, identify the expenditures necessary to accomplish the activities of the SWMP.
- The fiscal summary must also include a description of the source(s) of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.
- The annual fiscal summary for the previous year and estimates of expenditures for the upcoming shall be categorized as follows:
    i. Program Management (administrative costs)
    ii. SWMP Development
        - Construction Program
        - Commercial and Industrial Program
        - Municipal Operations and Facilities Program - Maintenance of Structural BMPs and Treatment Control BMPs
        - Illicit Discharge and Detection Elimination Program
        - Public Involvement and Education Program
        - Planning and Land Development Program
    iii. Monitoring Program
    iv. Water Quality Based Programs
    v. Training
    vi. Other Services and Expenses
    vii. Performance and Effectiveness Evaluations

Existing Activities

<u>City and County</u>

The Permittees track expenditures for stormwater program activities, and report these expenditures in their Annual Reports.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

PM3 – Fiscal Analysis

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Track and Report Expenditures – Track annual expenditures on stormwater program activities using required fiscal report format.	*Report of annual program expenditures*	●													●														■				■				■				■			
Funding Analysis – Identify/quantify sources of funds for stormwater program activities	*Description of funding sources (amount available and legal restrictions)*	●													●																		■				■				■			■

Notes:

(1) Text Format: Existing, *Modified*, *New*

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
PM4-Annual Workplan and Annual Reporting

Description

The Permit requires preparation and submittal of Annual Workplans and Annual Reports. These documents pertain planning for activities in the upcoming reporting year, and providing documentation on activities completed within that reporting year.

The Permit includes several provisions related to preparation and submittal of Annual Workplans and Annual Reports, including:

- The Permittees shall submit an Annual Work Plan as part of the Annual Report. The Annual Work Plan shall describe in detail the Storm Water Management Plan (SWMP's) and the Permittees' proposed activities for the upcoming reporting year.
- The Permittees shall submit an Annual Report by 1 September of each year beginning with the 2013-2014 reporting period. The Annual Report shall document the status of the SWMP's and the Permittees' activities during the previous fiscal year, including the results of a qualitative and quantitative field level assessment of activities implemented by the Dischargers, and the performance of tasks contained in the SWMP. The Annual Report shall include a compilation of deliverables and milestones completed during the previous 12-month period, as described in the SWMP and Annual Work Plan. The Annual Report shall include a program effectiveness assessment and recommended modifications for each Program Element/Control Measure. Each Annual Report shall build upon the previous year's efforts. In each Annual Report, the Permittees may propose pertinent updates, improvements, or revisions to the SWMP, which shall be complied with under the Permit.

Existing Activities

City and County

On alternating years, the City and County lead the development of the Annual Report. The Annual Reports include information on future activities.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

PM4 – Annual Workplan and Reporting

Responsible Parties

Measurable Goal	Assessment Data and Information	City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Annual Workplan – Description of proposed activities for the upcoming reporting year to be included in the Annual Report.	*Annual Workplan that is included in each Annual Report*	●													●									
Annual Report – Report that documents status of program activities and effectiveness	*Annual Report (modified format that is aligned with SWMP)*	●													●									

Schedule

Measurable Goal	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Annual Workplan – Description of proposed activities for the upcoming reporting year to be included in the Annual Report.									■				■				■			
Annual Report – Report that documents status of program activities and effectiveness									■				■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

Chapter 3

CONSTRUCTION

3.1 INTRODUCTION

The purpose of the Construction Program Element is to control the contributions of pollutants in runoff from construction sites during all phases of construction.

Permit requirements can be found in **Provisions D.4, page 32**.

3.2 OBJECTIVES

The objectives of the Construction Program include:

- Provide adequate legal authority to control pollutants to the municipal separate storm sewer system (MS4) from construction sites
- Require review of construction plans and grading permits consistent with Permittee requirements
- Require Best Management Practices (BMPs) to control sediment and pollutants from construction sites to the MS4
- Maintain a tracking system (inventory) of active construction sites
- Inspect construction sites to ensure proper BMP implementation and compliance with local requirements and applicable Provisions of the Permit
- Bring forth enforcement actions for sites in violation of Permittee requirements and advise the Central Valley Regional Water Quality Control Board (CVRWQCB) of potential violations of Construction General Permit requirements
- Provide regular internal and external training on applicable components of the Storm Water Management Plan (SWMP) and related Permits
- Conduct an assessment as a part of the annual reporting process to determine the effectiveness of the Construction Program and identify any necessary modifications

The Permit also requires each Permittee to implement and enforce a program to control runoff from all construction sites subject to the State's National Pollutant Discharge Elimination System (NPDES), General Permit For Storm Water Discharges Associated With Construction And Land Disturbance Activities, Order 2009-0009-DWQ, NPDES CAS000002 (General Construction Permit).

The program will ensure:

- Sediments are retained on-site by adequate source control BMPs;

- Construction-related materials, wastes, spills, or residues are retained at the project site;
- Non-storm water runoff from equipment and vehicle washing and any other activity is contained on-site;
- Erosion from slopes and channels is controlled by effective BMPs;
- Erosion and sediment control plans are secured prior to issuance of a grading permits; that contains, the following:
  - If applicable to the site, a certification that a Notice of Intent has been submitted to the State Water Board;
  - A vicinity map showing nearby roadways, the construction site perimeter, and the geographic features and general topography surrounding the site;
  - A site map showing the construction project in detail, including the existing and planned paved areas and buildings; general topography both before and after construction; drainage patterns across the project area; and anticipated storm water discharge locations (i.e., the receiving water, a conduit to receiving water, and/or drain inlets);
  - A description of BMPs to address contractor activities that generates pollutants including, at a minimum, vehicle washing, equipment maintenance, and waste handling;
  - A description of the type and location of erosion and sediment control BMPs, including, but not limited to, limited grading during the wet season, and planting and maintenance of vegetation on slopes, to be employed at the site; and
  - The name and telephone number of the qualified person responsible for implementing the Storm Water Pollution Prevention Plan (SWPPP);
- If applicable, all environmental permits must be obtained from agencies such as the California Department of Fish and Wildlife, U.S. Army Corps of Engineers, and the Central Valley Water Board's 401 Water Quality Certification Program;
- The Permittees shall inspect construction sites within the MS4 Permit boundaries for compliance with local ordinances and SWMP and to confirm the Construction General Permit required SWPPP documents are on site. Sites shall be re-inspected at a frequency determined to be effective by the Permittees, based on the site's threat to water quality, and/or record of compliance until site completion and termination from coverage under the Construction General Permit. Sites in chronic noncompliance shall be reported to the Central Valley Water Board.

3.3 CONTROL MEASURES

The Construction Program Control Measures include the Control Measures specifically identified in the Permit and Control Measures needed to address all of the Construction Program objectives. The Control Measures included in the Construction Program are:

- CONST1 – Source Identification (Inventory)
- CONST2 – Threat to water quality prioritization
- CONST3 – Plan Review and Approval
- CONST4 – Construction Site Inspections
- CONST5 – Progressive enforcement of non-compliant sites
- CONST6 – Reporting of recalcitrant non-compliant sites
- CONST7 – Internal and External Training

This section includes Information Sheets for each of the Control Measures. Note that the Construction Program Element includes providing legal authority to control pollutants to the storm drain system. This legal authority is addressed in PM2.

INFORMATION SHEET
CONST1 – Source Identification (Inventory)

Description

The Source Identification Control Measure includes identifying construction projects, developing an inventory of construction projects, and tracking progress throughout the stages of construction.

Existing Activities

The County of Kern and the City of Bakersfield are responsible, within their respective jurisdictions, for regulation and approval of construction activity in the Bakersfield Urbanized Area.

City and County

The City and County maintain records of grading permits issued, records of construction site inspections, violations and any enforcement related correspondence.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CONST1 – Source Identification

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Construction Project Database – Maintain, modify or develop a database of active construction projects that includes basic information on the site owner, address, contact information, project type, NOI filed, WDID number, and level of threat to water quality. In addition, the database should include inspection dates, inspector name, site conditions, violations, correspondence enforcement actions.	Example database entry Number of active and completed projects	O				●		●							●	O	O														■		■				■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
CONST2 – Threat to Water Quality Prioritization

Description

The Threat to Water Quality Prioritization Control Measures includes implementing a process for evaluating the potential water quality threat that a construction project poses. Construction projects are characterized as having a low, medium or high threat to water quality. The Permit requires that the frequency of re-inspection of construction sites is based on the threat to water quality.

Existing Activities

City and County

The City and County do not have a formal prioritization process based on threat to water quality. City and County staff are generally aware of the factors that contribute to the potential threat to water quality (sediment transport potential and proximity to receiving waters).

The Permittees are in the process of developing an approach to calculate the threat to water quality. It is possible that methodology may follow steps outlined in the Construction General Permit sediment risk calculator. The 'Low', 'Medium', and 'High' determinations may then be used to rank and prioritize construction projects.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CONST2 – Threat to Water Quality Prioritization

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Threat to Water Quality Prioritization – Establish process for determining the threat to water quality from construction projects, and base inspection frequency the threat level.	*Formalized process for calculating threat to water quality.*	O				●		●							●	O	O																				■							
Threat to Water Quality Prioritization Tracking – Include the threat to water quality in the Construction Projects Database (See CONST1).	*Number of high, medium, and low threat construction projects*	O				●		●							●	O	O																				■				■			

Notes:
(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
CONST3 – Plan Review and Approval

Description

The Plan Review and Approval Control Measure involves Permittee review of construction drawings and plans prior to issuing a grading permit. The intent of the review is to confirm that the plans include measures to minimize erosion and transport of pollutant to the storm drain system.

The Permittees submitted a Grading Inspection Checklist to the Central Valley Water Board. The checklist must be updated to include items in the Permit (Provisions D.4.c, p. 33). The Permit requires an update to be included in the Annual Report.

Existing Activities

City

City Building has an established process for reviewing construction plans prior to issuing a grading permit. This process involves:

- Review of plans based on the Grading Plan Checklist

County

The County has an established process for reviewing construction plans prior to issuing a grading permit. This process involves:

- Reviewing plans for compliance with adopted 2013 CALGreen Residential and Non-Residential Stormwater Management Requirements, Compliance Forms and Worksheets.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CONST3-Plan Review and Approval

Responsible Parties

Measurable Goal	Assessment Data and Information	City: Water	City: Streets	City: Operations	City: Wastewater	City: Construction	City: Subdivisions	City: Building	City: GIS	City: Design Engr.	City: Solid Waste	City: Planning	City: Fire	City: Parks	County: ESPS	County: Roads	County: General Services	County: Planning	County: Waste	County: Waste-KSA	County: GIS	County: Fire	County: Parks	County: Env. Health
Plan Review Process – Evaluate plan review process and requirements. Modify the review process, existing forms, existing checklists (including the previously submitted Grading Plan Checklist) as needed	*Revised plan review process, forms, checklists (including a revised Grading Plan Checklist)*	O					O	●							●									
Develop Information Sheet – Develop a construction plan review information sheet that outlines the procedures and requirements. Provide the information to grading permit applicants.	*Number of permit applicants that were provided with the information sheet.*	O					O	●							●									
Plan Review – Conduct plan review for construction prior to issuing grading permits	*Number of plans reviewed and grading permits issued*	O					O	●							●									

Schedule

Measurable Goal	2013-2014 Jul.-Sept.	2013-2014 Oct-Dec.	2013-2014 Jan.- Mar.	2013-2014 Apr-Jun.	2014-2015 Jul.-Sept.	2014-2015 Oct-Dec.	2014-2015 Jan.- Mar.	2014-2015 Apr-Jun.	2015-2016 Jul.-Sept.	2015-2016 Oct-Dec.	2015-2016 Jan.- Mar.	2015-2016 Apr-Jun.	2016-2017 Jul.-Sept.	2016-2017 Oct-Dec.	2016-2017 Jan.- Mar.	2016-2017 Apr-Jun.	2017-2018 Jul.-Sept.	2017-2018 Oct-Dec.	2017-2018 Jan.- Mar.	2017-2018 Apr-Jun.
Plan Review Process										■										
Develop Information Sheet											■									
Plan Review										■	→	→	→	→	→	→	→	→	→	→

Notes:

(1) Text Format: Existing, *Modified*, New

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
CONST4 – Construction Site Inspections

Description

The Construction Site Inspections Control Measure involves inspecting sites to confirm that source control and BMPs have been implemented. Inspections are documented in the Construction Project Database (see CONST1).

Existing Activities

City and County

City and County are responsible for construction site inspections in their respective jurisdictional areas. The primary job of the inspector is to ensure that construction activities are conducted in accordance with permits and approved plans.

The construction site inspection activities include:

- City conducts a minimum of 2 site inspections during the construction process. The County has not established a minimum number of construction site inspections. County inspections are scheduled with regular building inspections.
- Recording (field notes) of site conditions, including source control measures, construction BMPs and confirmation of completed SWPPP (if applicable).
- The City and County are in the process of developing a Construction Site Inspection Checklist, based on a draft checklist previously submitted to the CVRWQCB, and the requirements of the current Permit.
- Increased number of site inspections are conducted if inspectors find that certain aspects of the construction process are not being conducted in accordance with permits and approved plans
- Follow-up inspections are conducted as needed to ensure that any unacceptable conditions are corrected prior to issuance of final clearances.
- Records of construction site inspections are maintained.
- City Design Engineering, City Construction and County Engineering, Surveying & Permit Services Department (ESPS) all have staff with Qualified SWPPP Practitioner (QSP) certification.
- For City and County projects, the Permittees input the SWPPP data into the Storm Water Multiple Application and Report Tracking System (SMARTS) system to apply for a Notice of Intent (NOI). Field inspections, by a QSP, are the responsibility of the contractor. The Contractor's QSP uploads reports to the SMARTS system and submits them to the City for review and certification.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table

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CONST4 – Construction Site Inspections

Measurable Goal	Assessment Data and Information	Responsible Parties: City													Responsible Parties: County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Construction Site Inspection Checklist – Revise and update the draft Construction Site Inspection Checklist, as needed.	*Construction Site Inspection Checklist*	O				●		●							●	●	●							
Site Inspections – Conduct construction site inspections (at determined frequency) for compliance with local ordinances, SWMP, and Construction General Permit required documentation.		O				●		●							●	●	●							
Site Inspection Tracking– Track occurrence and results of site inspections in Construction Project Database (See CONST1)	*Number of construction sites and inspections conducted per site*	O				●		●							●	●	●							

Measurable Goal	Schedule: 2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Construction Site Inspection Checklist – Revise and update the draft Construction Site Inspection Checklist, as needed.										■										
Site Inspections – Conduct construction site inspections (at determined frequency) for compliance with local ordinances, SWMP, and Construction General Permit required documentation.										■	→	→	→	→	→	→	→	→	→	→
Site Inspection Tracking– Track occurrence and results of site inspections in Construction Project Database (See CONST1)										■			■				■			

Notes:
(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
CONST5 – Progressive Enforcement of Non Compliant Sites

Description

The Progressive Enforcement of Non-Compliant Sites establishes the enforcement procedures and measures applicable to sites out of compliance with local codes, ordinances and Construction General Permit requirements.

Existing Activities

City and County

City and County progressive enforcement procedures include the following:

- Verbal Notification. The inspector verbally informs the site operator that some portion of the work is deviating from permits and approved plans. Most cases of noncompliance are resolved at this stage.
- Written Notification. If verbal notification of deviations from permits and approved plans fail to result in corrections, or if deviations are repeated, the inspector issues a written notification to the site operator. This notification will outline deviations and the consequences of not making immediate corrections. The site operator and the inspector will then generally meet to review the necessary corrective actions.
- Cancel Permits and Withholding of Approvals. If written notification of the deviations from permits and approved plans fails to result in the appropriate corrections, the respective City or County Inspector/Building Official will attempt to meet with the construction site operator to resolve the problem. If the deviations from permits and approved plans are not resolved at this time, respective City or County Building Official may cancel permits or withhold further inspections and approvals. Very few cases of noncompliance advance to this stage.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CONST5 – Progressive Enforcement of Non Compliant Sites

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review enforcement procedures and revise as necessary.	*Revised enforcement procedures, as needed*	O				●		●							●																					■								
Implement enforcement procedures for non-compliant sites		O				●		●							●																						■	→	→	→	→	→	→	→
Track enforcement activities in the Construction Project Database	*Track number of violations and enforcement measures*	O				●		●							●																						■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
CONST6 – Reporting of Recalcitrant Non-Compliant Sites

Description

The Reporting of Recalcitrant Non-Compliant Sites includes the procedures for reporting recalcitrant non-compliant sites to the CVRWQCB.

Existing Activities

City and County

Progressive enforcement on non-compliant sites is described in CONST5. The description includes the City and County cancelling permits and withholding approvals if corrections are not made as a result of previous actions. The City and County follow the progressive enforcement procedures for all construction sites (i.e. for sites not subject to the Construction General Permit, and sites that are subject to the Construction General Permit).

For recalcitrant non-compliant construction sites that are subject to the Construction General Permit, the City does not currently have a formalized process for reporting these sites to the CVRWQCB. The County's enforcement procedures include reporting non-compliant construction sites, that are subject to the Construction General Permit, to the CVRWQCB.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CONST6– Reporting of Recalcitrant Non-Compliant Sites

Measurable Goal	Assessment Data and Information	Responsible Parties																						
		City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Reporting Procedures - Develop procedures for reporting recalcitrant non-compliant sites, which are subject to the Construction General Permit, to the RWQCB	*Document procedures for reporting sites to RWQCB*	○				●		●							●									
Tracking Reporting Activities - Track reporting activities in the Construction Project Database	*Number of sites reported to the RWQCB*	○				●		●							●									

Measurable Goal	Schedule																			
	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Reporting Procedures - Develop procedures for reporting recalcitrant non-compliant sites, which are subject to the Construction General Permit, to the RWQCB						■														
Tracking Reporting Activities - Track reporting activities in the Construction Project Database						■			■				■				■			

Notes:

(1) Format: Existing, *Modified*, *New*

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
CONST7 – Internal and External Training

Description

The internal and external training Control Measure involves providing training for staff (City and County inspectors) and businesses (builders, contractors, developers, etc.).

Existing Activities

The City and County recognize that internal education is an important part of implementing the Construction Program Element Control Measures. In addition, the City and County understand that education for developers, contractors and builders is an important component of construction site storm water management.

City

The City's internal training activities include:

- Several City inspectors are QSP certified
- Several City inspectors have Certified Erosion, Sediment, and Storm Water Inspector (CESSWI) full or in-training certifications
- All City inspectors have regular informal training as well.

Educational materials provided to contactors, developers and builders include:

- As part of the plan review and approval process, the City provides developers with a handout on construction site BMPs.

County

The County's internal training activities include:

- County inspectors receive informal training.
- The County conducts internal educational activities to ensure that all county personnel involved in the construction site planning, review, and approval process are aware of the requirements of the General Construction Permit and the need to incorporate its requirements into projects (including public works projects) before they are released for construction.

Educational materials provided to contactors, developers and builders include:

- The County has typical BMPs available on the County's webpage with applicable forms.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CONST7 — Internal and External Training

		Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
Measurable Goal	**Assessment Data and Information**	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Identify Training Needs - Identify internal and external training/education needs		O				●		●							●	●	●														■													
Develop/Implement Training – Develop and implement staff training on the Construction Program Element Control Measures	*Training sessions held, topics/agenda, attendees, and attendee feedback.*	O				●		●							●	●	●																■				■				■			
Develop/Implement External Training - Implement training/education for businesses (developers, contractors, builders). Training and education may be in the form of identifying outside training opportunities for businesses, providing materials on the Construction Program Element Control Measures, and/or offering training (by City/County) to businesses.	*Types of training/education provided to businesses and feedback (if provided)*	O				●		●							●	O	O																■				■				■			

Notes:
(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

COMMERCIAL AND INDUSTRIAL (CI)

4.1 INTRODUCTION

The purpose of the Commercial and Industrial Program Element is to control industrial and commercial sources identified as significant contributors of pollutants. Some of the industrial and commercial facilities will be subject to coverage under the Industrial Storm Water General Permit Order 97-03-DWQ (General Industrial Permit).

The General Industrial Permit is an NPDES permit that regulates discharges associated with 10 broad categories of industrial activities. The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The General Industrial Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan.

In April 2014, the State Water Resource Control Board recently adopted the Industrial Storm Water General Permit Order 2014-0057-DWQ, which will go into effect on July 1, 2015.

The Permit outlines a strategy for coordination between the Central Valley Regional Water Quality Control Board (CVRWQCB) and the Permittees. The strategy builds on the state/Permittee partnership by focusing their limited resources on the following activities:

- The Permittees will take a lead role in inspecting restaurants, automotive service facilities, retail gasoline outlets, and industrial facilities not covered by the General Industrial Permit
- The CVRWQCB will be the lead agency for inspections of facilities covered or in need of coverage under General Industrial Permit
- The Permittees will assist the CVRWQCB in its activities to fully enforce the General Industrial Permit through spot check inspections, referrals, and/or joint inspections
- The CVRWQCB and Permittees will coordinate their information systems and task scheduling to avoid duplication and strengthen their inspections activities

Permit requirements can be found in **Provisions D.5, page 34**.

4.2 OBJECTIVES

The objectives of the Commercial and Industrial Program include:

- Provide adequate legal authority to control pollutants from industrial and commercial facilities to the municipal separate storm sewer system (MS4)

- Develop and maintain an inventory of industrial and commercial facilities located within the Permittees' jurisdiction
- Prioritize the industrial and commercial facilities within the inventory, based on their threat to water quality
- Conduct inspections of the industrial and commercial facilities that pose a significant threat to water quality with an inspection frequency based on the prioritization of the facility and conduct follow-up inspections to bring the facility into compliance
- Implement a progressive enforcement policy to ensure that adequate enforcement is conducted, and, if necessary, to refer potential non-filers to the CVRWQCB
- Provide regular internal and external training on components of the Storm Water Management Plan (SWMP) and related Permits
- Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Commercial and Industrial Program and identify any necessary modifications

4.3 CONTROL MEASURES

The Commercial and Industrial Program Control Measures include the Control Measures specifically identified in the Permit and Control Measures needed to address all of the Commercial and Industrial objectives. The Commercial and Industrial Program Control Measures include:

- CI1 – Develop/Maintain Facility Inventory
- CI2 – Prioritize Facilities
- CI3 – Facility Inspection
- CI4 – Enforcement
- CI5 – Training

The Commercial and Industrial Program Element also includes a Control Measure to provide adequate legal authority to control commercial and industrial discharges to the storm drain system. This legal authority is addressed in Program Management (PM)2.

The Permit includes additional description of each of these control measures and requirements. This additional detail is provided in the corresponding Control Measure Information Sheets.

INFORMATION SHEET
CI1 – Develop/Maintain Facility Inventory

Description

Develop/maintain an inventory of restaurants, automotive service facilities, retail gasoline outlets, and industrial facilities not covered by the General Industrial Permit, as well as other facilities that may pose a threat to water quality.

Existing Activities

City

Several existing databases provide information on commercial and industrial facilities in the City. These include:

- City Wastewater has a database of industrial facilities that are connected to the sewer system. These facilities are mapped in geographical information system (GIS).
- California Environmental Reporting System (CERS) database include any facility that handles hazardous materials and hazardous waste in regulated quantities throughout California.
- CVRWQCB website includes a database of facilities with coverage under the Industrial General Permit.

County

Several existing databases provide information on commercial and industrial facilities in the County. These include:

- CERS database include any facility that handles hazardous materials and hazardous waste in regulated quantities throughout California.
- The County Health Department Envision database includes all restaurants as well as any solid waste facilities that are not included in CERS
- CVRWQCB website includes a database of facilities with coverage under the Industrial General Permit.

Measurable Goals & Assessment Data and Information

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CI1– Develop/Maintain Facility Inventory

Measurable Goal	Assessment Data and Information	Responsible Parties																						Schedule																	
		City												County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Commercial and Industrial Facility Database - Develop database of industrial and commercial facilities (restaurants, automotive service facilities, retail gasoline outlets, and industrial facilities not covered by the General Industrial Permit), and facilities with coverage under the Industrial General Permit (based on CVRWQCB database). Database to include information on business name, owner, type of business/facility, address, threat to water quality and inspection activities. For facilities covered under the Industrial General Permit, include confirmation of current WDID, SWPPP onsite, and BMP implementation.	*Commercial and Industrial Facility Database*	O			●				●				O		O						●	O		O								■										
GIS Mapping - Develop GIS mapping of industrial and commercial facilities	*GIS Map*	O			O				●						O						●	O		O									■									

Notes:

(1) Text Format: Existing, *Modified*, *New*

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
CI2 – Prioritize Facilities

Description

The Prioritize Facilities Control Measure involves categorizing facilities based on potential threat to water quality.

The Permit requires prioritization of all facilities into high, medium, and low categories on the basis of the potential for water quality impact using criteria such as pollutant sources on site, pollutants of concern, proximity to a water body, and violation history of the facility. The different priority categories will be assigned different inspection frequencies, with the highest priority facilities receiving more frequent inspections. The Permit also requires a description of the process for prioritizing inspections and frequency of inspections. High priority facilities must be inspected a minimum of once per year. If any geographical areas are to be targeted for inspections due to high potential for storm water pollution, these areas must be listed in the SWMP. Further the SWMP must explain how the priority assigned to any one facility may be modified based on the site inspection findings and the facility's potential to discharge pollutants.

Existing Activities

City and County

The City and County have not established a methodology for prioritizing commercial and industrial facilities.

Measurable Goals & Assessment Data and Information

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CI2– Prioritize Facilities

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Prioritization Criteria - Develop criteria for prioritizing commercial and industrial facilities into high and low threat to water quality. Identify corresponding inspection frequency.	*Document the prioritization criteria and inspection frequency*	●			○								○		●							○		○									■											
Prioritize Facilities - Incorporate the threat to water quality prioritization into the Industrial and Commercial Facilities Database	*Identified high priority sites*	●			○								○		●							○		○													■							

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
CI3 – Inspect Facilities

Description

The Inspect Facilities Control Measure addresses inspection of commercial and industrial facilities to ensure implementation of pollution reduction and control measures.

The Permit includes specific requirements for inspection of high priority facilities: The objective of the pollutant reduction and control measures at high priority industrial and commercial facilities is to effectively prohibiting non-storm water runoff and reducing pollutants in storm water runoff.

- Inspections must at a minimum:
  - Evaluate the facility's compliance with the requirement to select, design, install, and implement storm water control measures;
  - Conduct a visual observation for evidence of unauthorized discharges, illicit connections, and potential discharge of pollutants to storm water;
  - Verify whether the facility is required to obtain coverage under the General Industrial Permit, and whether the facility has in fact obtained such permit coverage; and
  - Evaluate the facility's compliance with any other relevant local storm water requirements.
- At a minimum, the Permittees must document the following for each inspection:
  - The inspection date and time; the name(s) and signature(s) of the inspector(s);
  - Weather information and a description of any discharges occurring at the time of the inspection;
  - Any previously unidentified discharges of pollutants from the site;
  - Any control measures needing maintenance or repairs;
  - Any failed control measures that need replacement;
  - Any incidents of noncompliance observed; and
  - Any additional control measures needed to comply with the Permit Requirements.

Further, inspection findings must be tracked to ensure inspections are conducted at the frequency required, to highlight and document the recidivism of noncompliant facilities, and to aid follow up and enforcement activities.

Existing Activities

City and County

The City and County inspect some of the commercial and industrial facilities in the permitted area.

- The City and County conduct industrial stormwater inspection and monitoring audits as part of their respective Industrial Waste Pretreatment Programs. These inspections include facilities that may or may not require coverage under the General Industrial Stormwater Permit. Inspection and monitoring audits include:
  - Require proof of coverage under the General Industrial Storm Water Permit. Inspectors will ask to see proof that the industry has filed a notice of intent (NOI) for coverage under the General Industrial Storm Water Permit (WDID provides proof). Industries exempt from coverage under the General Industrial Storm Water Permit will be required to provide supporting documentation. Industries unable to show proof of coverage or exemption will be subject to follow-up action.
  - Review of self-monitoring records. Inspectors will audit self-monitoring records kept in accordance with the requirements of the General Industrial Storm Water Permit. The auditor will look for evidence of excessive or unacceptable levels of pollutants being discharged to the municipal storm drain system. If monitoring records are unacceptable or non-existent, or if records indicate excessive or unacceptable levels of pollutants, the industry will be subject to follow-up action.
  - Maintaining records of inspection activities at industrial and commercial facilities.
- The City and County have an Industrial and Commercial Facilities Inspection Checklist.
- The Certified Unified Program Agency (CUPA) was developed to consolidate the administration of six specific state hazardous materials program under one agency. County Environmental Health and City Fire are the CUPAs for the County and City, respectively. Under CUPA, inspections of hazardous materials (above ground storage tanks, underground storage tanks, hazardous waste treatment, hazardous waste generators, hazardous materials management, spill response, and the California Fire Code) are consolidated into a single inspection.
  - The Bakersfield City Fire Department conducts **annual** inspections of all facilities subject to CERS that handle hazardous materials and hazardous wastes in regulated quantities within the City of Bakersfield.
  - Kern County generally conducts inspections of facilities subject to CERS on a triennial (once every three years) schedule, the minimum frequency allowed by law. The exceptions to the triennial schedule are Underground Storage Tank

(UST) facilities, which are otherwise required to be inspected annually by State law.

- Inspections under CUPA address:
  - Spill prevention
  - Spill containment
  - Spill clean-up protocols
  - Completed Business Plans (for hazardous materials and hazardous waste handlers)
  - Completed Risk Management Prevention Plan (RMP) (for acutely hazardous waste handlers)

Measurable Goals & Assessment Data and Information

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CI3– Inspect Facilities																																												
Measurable Goal	**Assessment Data and Information**	**Responsible Parties**																							**Schedule**																			
		City													**County**										**2013-2014**				**2014-2015**				**2015-2016**				**2016-2017**				**2017-2018**			
		Water	**Streets**	**Operations**	**Wastewater**	**Construction**	**Subdivisions**	**Building**	**GIS**	**Design Engr.**	**Solid Waste**	**Planning**	**Fire**	**Parks**	**ESPS**	**Roads**	**General Services**	**Planning**	**Waste**	**Waste-KSA**	**GIS**	**Fire**	**Parks**	**Env. Health**	**Jul.-Sept.**	**Oct-Dec.**	**Jan.- Mar.**	**Apr-Jun.**	**Jul.-Sept.**	**Oct-Dec.**	**Jan.- Mar.**	**Apr-Jun.**	**Jul.-Sept.**	**Oct-Dec.**	**Jan.- Mar.**	**Apr-Jun.**	**Jul.-Sept.**	**Oct-Dec.**	**Jan.- Mar.**	**Apr-Jun.**	**Jul.-Sept.**	**Oct-Dec.**	**Jan.- Mar.**	**Apr-Jun.**
Establish Inspection Procedures - Review procedures established as part of other ongoing programs (e.g. inspections conducted as part of the industrial pretreatment program, and through CUPA). Modify and develop procedures and inspection checklists, as needed.	*<u>Commercial and Industrial Inspection procedures and checklists</u>*	○			●								●		●							●		●										■										
Facility Inspections - Inspect facilities on the established schedule (based on priority level)		○			●								●		●							●		●											■				■				■	
<u>Track Inspections - Track inspection activities in the Industrial/Commercial Facilities Database. Include records of inspection date/time, inspector name, signature, weather, any previously unidentified discharges of pollutants from the site, control measures needing maintenance or repairs; failed control measures and observed noncompliance. For facilities covered under the Industrial General Permit, include confirmation of current WDID, SWPPP onsite, and BMP</u> implementation	*<u>Inspections conducted and inspection results</u>*	●											●		●																					■				■				■

<u>Notes:</u>

(1) Text Format: Existing, *Modified*, *<u>New</u>*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
CI4 – Enforcement

Description

The Enforcement Control measure establishes the procedures for follow up enforcement activities for noncompliant sites.

The Permit requires that the City and County must ensure that all necessary follow up and enforcement activities are conducted to require necessary implementation and maintenance of the control measures implemented by industrial/commercial facilities.

Existing Activities

City and County

The City and County have established progressive follow-up actions that are implemented whenever inspections or audits of industrial activities find that industries have not: obtained coverage, or satisfactory exemptions from coverage, under the state's General Industrial Storm Water Permit; are not complying with the requirements of the General Industrial Storm Water Permit (current WDID, SWPPP onsite, and BMP implementation); and are not in compliance with local storm water discharge requirements.

Follow-up actions are conducted on a case by case basis. Typical follow-up actions include:

- Issue order requiring industry to submit a compliance schedule (BMC 8.34.040) (County Code of Ordinances 14.26.290)
- Issue order requiring industry to commence self-monitoring (BMC 8.34.050) (County Code of Ordinances 14.26.300)
- Require industry to comply with city's NPDES permit (BMC 8.34.060) (County Code of Ordinances 14.26.310)
- Notify the Regional Water Quality Control Board, Central Valley Region (RWQCB)
- Issue Administrative Enforcement Orders (AEOs) and fines (BMC 15.65.120)
- Initiate civil actions
- Request District Attorney initiate criminal actions

Measurable Goals & Assessment Data and Information

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CI4– Enforcement

Responsible Parties

Measurable Goal	Assessment Data and Information	City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Enforcement Procedures - Review and modify enforcement procedures and revise as necessary	*Enforcement procedures*	○			●			●					●		●							○		○
Track Enforcement Actions - Track enforcement activities in the Industrial/Commercial Facilities Database. Include records of specific measure taken, notifications to the CVRWQCB, and changes in inspection frequencies as a result of enforcement actions.	*Number of facilities that required enforcement actions, number reported to the CVRWQCB, and changes in inspection frequencies.*	●													●									

Schedule

Measurable Goal	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Enforcement Procedures - Review and modify enforcement procedures and revise as necessary											■									
Track Enforcement Actions - Track enforcement activities in the Industrial/Commercial Facilities Database. Include records of specific measure taken, notifications to the CVRWQCB, and changes in inspection frequencies as a result of enforcement actions.												■				■				

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
CI5 – Training

Description

The Training Control Measure involves providing training for staff that are responsible for conducting inspections of commercial and industrial facilities.

The Permit requires that all staff whose primary job duties are implementing the industrial storm water program is trained to conduct facility inspections. The training must cover what is required under the Permit in terms of storm water control measures, the requirements of other applicable Industrial Storm Water General Permits or other related local requirements, the City/County site inspection and documentation protocols, and enforcement procedures. Follow-up training must be provided every other year to address changes in procedures, techniques, or staffing. The City and County must document and maintain records of the training provided and the staff trained.

Existing Activities

City and County

The City and County do not currently require specific training for staff that implements the industrial stormwater program requirements. However, while not stormwater specific, some staff currently receives training that includes relevant pollution prevention principles with respect to proper storage, handling, spill prevention, and clean-up procedures for hazardous materials. Related training activities include:

- City and County CUPA staff attends the annual CUPA Training Conference to maintain certification as UST Inspectors and proficiency in conducting inspections at hazardous materials and hazardous waste facilities.

Measurable Goals & Assessment Data and Information

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

CI5– Training

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Develop Training Program – Identify training opportunities (internal or external) commercial and industrial inspectors and develop a training program.	*Training program documentation*	O			●								●		O							●		●							■													
Conduct Training - Conduct initial training for key staff and follow up training every other year		O			●								●		O							●		●								■								■				
Training Records - Maintain records of training	*Number of training sessions, topics/agenda, attendee list, and attendee feedback.*	●			O								O		●							O		O												■				■				

Notes:

(1) Text Format: Existing, *Modified*, New

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

MUNICIPAL OPERATIONS (MUN)

5.1 INTRODUCTION

The Municipal Operations Program Element addresses pollution prevention and discharge to the storm drain from City and County facilities and operations.

Permit requirements can be found in **Provisions D.6, page 37**.

5.2 OBJECTIVES

The objectives of the Municipal Operations Program include:

- Prevent sanitary sewer overflows (SSO) or spills from entering the storm drain system and respond quickly and appropriately if an SSO or spill does enter the storm drain system
- Implement development standards that require source and treatment control Best Management Practices (BMPs) to reduce pollutants from Permittee owned construction projects
- Implement pollution prevention BMPs for public facilities (e.g., corporation yards) and Facility Pollution Prevention Plans (FPPPs) for public facilities to minimize or eliminate pollutant discharges to the storm drain system
- Implement a standard protocol for storage, usage, and disposal of pesticides, herbicides (including pre-emergents), and fertilizers on Permittee-owned property such as park sites, landscaped medians, and golf courses
- Promote the use of integrated pest management methods and less toxic alternatives
- Clean and maintain catch basin inlets to prevent debris accumulation and flooding
- Ensure that catch basin inlets are properly stenciled or permanently imprinted, or have legible curb markers to discourage illicit discharges into the storm drain system, and promote the 24 hour hotline number
- Maintain and inspect detention basins and pump stations
- Conduct street sweeping activities
- Clean and inspect Permittee-owned parking facilities to minimize the build-up and discharge of pollutants to the storm drain system
- Provide regular internal training on applicable components of the Storm Water Management Plan (SWMP)

5.3 CONTROL MEASURES

The Municipal Operations Program Control Measures include the Control Measures specifically identified in the Permit and Control Measures needed to address all of the Municipal Operations objectives. The Municipal Operations Program Control Measures include:

- MUN1-Sanitary sewer overflow and spill response
- MUN 2 - Construction requirements for municipal capital improvement projects
- MUN 3 - Pollution Prevention at Permittee facilities
- MUN 4 - Landscape and pest management
- MUN 5 - Storm drain system maintenance
- MUN 6 - Street cleaning and maintenance
- MUN 7 - Parking facilities maintenance
- MUN 8 - Retention/detention basin maintenance
- MUN 9 - Public industrial activities management
- MUN 10 - Emergency procedures
- MUN 11 - Non-emergency firefighting flows
- MUN 12 – Training

INFORMATION SHEET
MUN1 – Sanitary Sewer Overflow and Spill Response

Description

The purpose of the Sanitary Sewer Overflow (SSO) and Spill Response Control Measure is to limit the potential water quality impacts of a sanitary sewer overflow and other spills.

Existing Activities – SSOs and Septic Systems

Both the City and County have sanitary sewer systems in the greater Bakersfield Area. Because some areas of the County may be almost surrounded by the City, some areas may be serviced by the County sewer system and POTW while a neighboring area may discharge to the City system and POTW. In general, the sanitary lines in both systems are buried much deeper than the storm drains, so the tendency in this area of extremely low water table and low moisture content soils would be for any exfiltration from the sanitary sewer to migrate downward, away from the storm drain system. Some portions of existing development in the City and County use septic systems for wastewater treatment and disposal.

City

City Streets is responsible for inspection and maintenance of the City sanitary sewer system. The following activities are conducted:

- Inspection of sanitary lines on a complaint basis. TV cameras are typically used to identify the extent of the problem before repairs are made.
- Implementation of an ongoing sewer rehabilitation program in the older parts of the system. To date, very few areas of exfiltration from the sanitary sewer system have been identified during repair or rehabilitation inspections.
- The City follows the statewide permit for Sanitary Sewer Overflows through the California Integrated Water Quality System. This system is for reporting sewer overflows that may impact the storm drain system. The database includes the location, type of overflow, estimated volume, discharge to land or receiving water, and cleanup actions. It is also the database where the City reports the annual sewer collection system maintenance. Incident maps and annual reports are accessible and viewable by the public.

County

The Waste Department is responsible for inspection and maintenance of the County sanitary sewer system in the Kern Sanitation Authority (KSA) only. County Service Areas (CSAs) are the responsibility of Engineering, Surveying, and Permit Services Department (ESPS). The following activities are conducted:

- The County has implemented municipal code for addressing septic systems. Section 14.20.060 of the Kern County Municipal Code prohibits the discharge of waste from waste disposal systems to surface waters either directly or by runoff drainage. Section 14.20.050 of the Kern County Municipal Code requires failing septic systems to either be reconditioned in accordance with the Uniform Plumbing Code (UPC) or abandoned properly.
  - Generally, if a system fails and the system is within 200 feet of either the County or City sanitary sewer, then the owner is encouraged (UPC) to hook up to the sanitary sewer. If the sanitary sewer is more than 200 feet away, then the County of Kern Environmental Health Services Department continues the follow up action to ensure that reconditioning is carried out.
  - New development in Bakersfield is required to be hooked up to the sanitary sewer system. The County maintains records of failing septic systems with a potential to seep into the storm drain system; and documents the results of any failing septic system elimination activities.
- The County maintains records of leaking sanitary sewers or failing septic systems with a potential to seep into the storm drain system; and documents the results of any leaking sanitary sewer or failing septic system elimination activities.
- KSA cleans its entire system every four years and inspects its lines on a seven-year schedule using TV cameras. Inspections to date have not identified significant numbers of breaks in the sanitary lines.
- KSA has Sewer System Management Plan (SSMP) to be in compliance with the Sewer System Overflow statewide General Waste Water Discharge Requirement. Following activities are conducted per the SSMP:
  - KSA's preventive maintenance program calls for cleaning one-fourth of system every year. KSA owns and operates its own hydrovac sewer cleaning truck.
  - Hot spots are identified, tracked and cleaned four times a year.
  - KSA owns and operates its own TV van sewer videoing capability.
  - KSA's preventive maintenance program calls for TV'ing one-seventh of the system every year in addition to hot spots and after overflows.
  - KSA inspects all interceptors and grease traps at least annually. Problem spots are inspected quarterly.
  - KSA has a Fats Oils and Grease (FOG) education program for restaurants. It includes pamphlets and onsite training for dischargers that produce FOG.
  - KSA annually budgets money to repair/replace sewer line segments.
  - Engineering review for line capacity and district approval of all new connections to the system. Visual inspection of new connections for proper plumbing practices.

  - KSA has the legal authority to implement its pretreatment program through the Kern County Code of Ordinances Title 14 Utilities.
  - Local limits are established and implemented on its industrial dischargers
  - KSA monitors one permitted categorical discharger (AC Plating) and one non-categorical (KMC) discharger. Performs Priority Pollutants are tested for once per year

- KSA's SSMP requires an Emergency Response Plan, which includes procedures for various volumes of overflow, lists of emergency equipment and contacts, maps, release estimation information, and State and Federal reference materials.
- KSA maintains a two-man full time collection crew. On call 24 hour a day for emergency response to sewer system overflows.
- KSA reports all overflows on the State of California Integrated Water Quality System (CIWQS)

Existing Activities – Spills

The City and County have programs in place that includes procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer. These response procedures apply to spills on public or private facilities. Emergency notification procedures are included in Appendix F.

City

The following programs and plans address spill response related activities:

- City Fire uses the procedures in its Area Plan (revised January 2013) to respond to incidents within the City. The Area Plan identifies responsible agencies and coordinates emergency incident response. Information on supplies and equipment, notification lists, and procedures are also included in the Area Plan.
- City Fire as the Chair of the Region V Hazardous Materials Local Emergency Planning Committee that coordinates emergency response in the seven lower San Joaquin Counties.
- The City and County Fire Departments have a Joint Powers Agreement (JPA) that provides for mutual aid to incidents within some response areas outside the City. City Fire is responsible for emergency response, providing technical information, risk assessment, and spill cleanup supervision as the Certified Unified Program Agencies (CUPA) within the City of Bakersfield.
- City Fire Department is responsible for emergency response, fire suppression, rescue, and, in the case of spills, initiating containment.

County

The following programs and plans address spill response related activities:

- County Environmental Health uses the procedures in its Area Plan to respond to incidents within the County. The Area Plan identifies responsible agencies and coordinates emergency incident response. Information on supplies and equipment, notification lists, and procedures are also included in the Area Plan.
- The City and County Fire Departments have a Joint Powers Agreement (JPA) that provides for mutual aid to incidents within some response areas outside the County. In general, County Environmental Health responds to every incident in the County. County Environmental Health is responsible for emergency response, providing technical information, risk assessment, and spill cleanup supervision as the CUPA for Kern County, outside of the City of Bakersfield.
- County Fire Department is responsible for emergency response, fire suppression, rescue, and, in the case of spills, initiating containment.
- The County receives information on relatively small but reportable quantity discharges from oil exploration and production companies in the area via facsimile machine. Information on discharges of greater than 1 gallon of oil including: date, time, location, responsible party, volume spilled, volume recovered, and volume lost is provided. Notification on cleanup procedures used and waterways affected is also given. These notifications of spill reports are used primarily for non-emergency situations that do not affect waterways. Emergency situations are reported directly to County Fire Department personnel. The County keeps a log of these spill reports for reference.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN1 – Sanitary Sewer Overflow and Spill Response

Measurable Goal	Assessment Data and Information	Responsible Parties: City: Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	Responsible Parties: County: ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Schedule: 2013-2014: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2014-2015: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2015-2016: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2016-2017: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2017-2018: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Inspection Procedures - Review procedures for inspecting the sanitary sewer system and revise as necessary.	*Revised sewer system inspection procedures, as needed*	O	●		O			●							●									●								▮											
Conduct Inspections - Conduct inspections of the sewer system		O	●		O			●							●									●					▮	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Review Spill Response Procedures – Review spill response procedures and revise, if needed.	*Revised spill response procedures, as needed*	O											●		O								O	●							▮											
Maintain Records - Maintain a database of SSOs and Spills. The database should include information on each event including, location, type of event, volume, quality, discharge to storm drain or receiving water, clean-up actions.	*Number of events, types of events, volume, quality, and discharge to storm drain or receiving water*		●										●										O	●								▮					▮				▮			

Notes:

(1) Text Format: Existing, *Modified*, *New*

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
MUN 2 - Construction Requirements for Municipal Capital Improvement Projects

Description

The Construction Requirements for Municipal Capital Improvement Projects involves implementation of design and construction requirements for City and County projects.

Existing Activities

The City and County have implemented the following procedures related to constructions requirements for public projects:

- The City and County follow the Planning and Land Development Program Element and the Construction Program Element requirements for City and County projects.
- For projects greater than or equal to 1 acre of disturbed area, the City and County obtain coverage under the General Construction Permit. Projects are entered into the SMART system.
- City Design Engineering conducts a review of City projects
- ESPS, Roads and General Services conduct their respective reviews of County projects.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 2 - Construction Requirements for Municipal Capital Improvement Projects

Measurable Goal	Assessment Data and Information	Responsible Parties – City: Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	Responsible Parties – County: ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Design Review – Conduct design review of City and County projects based on Development Standards	Number of design reviews conducted for City and County projects.	O								●					●	O	O							
NOI Submittal – Require NOI for projects greater than or equal to 1 acre		O								●					●	O	O							
Construction Project Database – Include City and County projects in the construction project database. Track information including project type, lead department, NOIs filed, and BMPs implemented.	*Number of City/County Projects, types of projects, number of NOIs filed, and BMPs.*					●									●	●	●	●						

Measurable Goal	Schedule 2013-2014: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2014-2015: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2015-2016: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2016-2017: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2017-2018: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Design Review					■															
NOI Submittal					■															
Construction Project Database									■				■				■			

Notes:
(1) Text Format: Existing, *Modified*, <u>New</u>
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
MUN 3 - Pollution Prevention at Permittee facilities

Description

The Pollution Prevention at City Facilities Control Measure involves controlling transport of pollutants from City and County facilities to the storm drain system. This Control Measure focuses on permittee facilities not covered under the Industrial General Permit.

Existing Activities

City

The City has implemented pollution prevention at landfill facilities, which is addressed in MUN9.

Pollution prevention has been implemented at City facilities, as follows:

- Municipal Corporation Yard provides storage for some hazardous materials. The City has a Spill Prevention Control and Countermeasure Plan (SPCCP) for the Municipal Corporation Yard. This plan addresses all storage tanks, containers, liquid storage, filling procedures, and transport within the yard. The SPCCP is periodically updated to reflect changes in the operations and layout of the yard.
- Other City facilities with storage tanks also have SPCCP's.

County

The county has implemented pollution prevention at landfill facilities, which is addressed in MUN9.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 3 – Pollution Prevention and Permittee Facilities

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Develop Inventory -Develop inventory of City and County facilities that have potential to lead to pollutant discharge to the storm drain system.		O			●										●	O	O					O	O										■											
Review Existing City/County Plans - Review City/County facility pollution prevention plans and modify/update as needed.	*Modified or new Pollution Prevention Plans, as needed.*	O			●										●	O	O					O	O																■					
Implement Pollution Prevention Plans - Implement pollution prevention plans at City and County facilities as needed.	*Number of facilities that require pollution prevention plans and number of plans implemented.*	O		●	●									O	●	O	O					O	O																		■	→	→	→

Notes:

(1) Text Format: Existing, *Modified*, New
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
MUN 4 - Landscape and Pest Management

Description

The Landscape and Pest Management Control Measure involves controlling City and County use and storage of pesticides and fertilizers to minimize discharge of these chemicals to the storm drain system.

Existing Activities

The City and County have implemented measures that address storage and use of pesticides and fertilizers. For pesticides, these activities include:

- One key measure is requiring appropriate certification for pesticide application. The County of Kern Department of Agriculture has been delegated enforcement and service authority for State regulations that require that agricultural pest control businesses be supervised by a Qualified Applicator Licensee and that individuals who apply or supervise the application of restricted pesticides hold a Qualified Applicator Certificate. Licenses and certificates are obtained after successful completion of: (1) a written examination on pesticide laws and regulations; and (2) a written examination covering at least one pest control category.
- Employees of public agencies, during the course of their duties, are required to utilize restricted pesticides or any other pesticide, are required by State regulations to secure a Qualified Applicators Certificate. Qualified Applicator Certificate holders are authorized to use or supervise the use of a restricted use pesticide or any other pesticide application.
- Job descriptions of those individuals who must apply pesticides in the course of their work clearly state that holders of the position must be Qualified Applicator Certificate holders, in categories appropriate to the work to be conducted, and that the certificate be kept current. Where permitted by State law, job descriptions for positions that only assist with the application of pesticides will be exempt from this requirement.
- Future job opening announcements for positions that will require the application of pesticides clearly state that successful candidates for the position must show proof that they hold a valid Qualified Applicator Certificate. Announcements for positions that only require assisting with pesticide applications will note that a Qualified Applicator Certificate is desirable for the position, but not required, as permitted by State law.
- Providing funding to City and County employees to cover the cost of continuing education and certificate renewal fees.

- Notifying all county and city employees that the use of pesticides on official business is prohibited, except by specified individuals who are Qualified Applicator Certificate holders. Any request for application of pesticides must be reviewed by a specified and certificated individual, who will then determine, in accordance with agency operating policy, whether the application can be conducted by internal forces or contracted to a licensed pest control business.
- All future contracts that require the application of pesticides will require that the contractor provide, prior to issuance of a notice-to-proceed, proof to the contract administrator that the business is properly licensed in accordance with State regulations.
- City Water Resources Department has an annual contractor that applies herbicides to City owned facilities such as levees, canal banks, and storm water retention/detention basins. The annual contractor has a Qualified Applicator License.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 4 - Landscape and Pest Management

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review/develop Protocols - Review/develop pesticide and fertilizer application protocols for City and County facilities, and revise as necessary. Incorporate integrated pest management (IPM) methods and less toxic alternatives.	*Revised pesticide and fertilizer application protocols (include IPM methods), as needed.*	○												●	●		●						●								■													
Review Certified Staff - Review City and County organizational structures annually to ensure that employees involved in the use of pesticides are properly licensed and certificated.	List of certified employees	○												●	●		●						●								■													
Develop/implement Protocols - Develop/implement pesticide and fertilizer application protocols at City and County facilities		○												●	●		●						●									■	→	→	→	→	→	→	→	→	→	→	→	→
Track Usage – Maintain a database of pesticide and fertilizer use at City and County facilities. Include information on location of application, certified employee, type of fertilizer or pesticide, active ingredient, application area, application volume.	*Volume of pesticide or fertilizer use, area applied, and active ingredients*	○												●	●		●						●										■				■				■			

Notes:

(1) Text Format: Existing, *Modified*, New
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
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INFORMATION SHEET
MUN 5 - Storm Drain System Maintenance

Description

The Storm Drainage System Maintenance Control Measure involves maintenance of the storm drain system infrastructure to ensure system performance.

The City and County, within their respective jurisdictions, are responsible for the operation and maintenance of the publicly owned storm drainage facilities in the Bakersfield metropolitan area. The publicly owned storm drainage system in the Bakersfield metropolitan area includes the following type facilities:

- Catch Basins
- Pipelines
- Ditches and Open Channels
- Detention Basins
- Sumps / Retention Basins
- Street "Siphons"
- Ancillary Facilities (Weirs, gates, trash racks, pumps, fencing, etc.)

The detention/retention basins are an important component of the storm drain infrastructure. The Retention/detention Basin Construction and Maintenance Control Measure addresses these components of the storm drain system (see MUN 8).

As noted in the Permit, the Permittees submitted a summary of standard operation procedures (SOPs) of inspection maintenance schedules for drainage facilities. The Permittees are required to update this SOP and schedule to include a process for prioritizing the inspection and maintenance of drainage facilities based upon water quality impacts. The updated SOPs shall be included in the Annual Report.

Existing Activities

The City and County both carry out storm drainage system maintenance year round on an "as needed" basis. In addition, crews are "on call" to respond to emergency conditions should the need arise. Since the County and the City Streets and City Water crews maintain storm drainage facilities, the storm drainage system and street maintenance functions must be coordinated. This coordination comes about somewhat automatically since street repair and maintenance work are usually best accomplished during the warmer summer months when asphalt pavements are easier to work with while storm drainage system maintenance can be effectively accomplished in spring and early fall. In either case, the relatively mild Bakersfield climate and low rainfall gives crews a wide latitude in

scheduling maintenance of streets and storm drainage facilities. A description of scheduled maintenance activities for the City and County follows.

City

City Streets and City Water is responsible for maintenance of the publicly owned drainage facilities in the City of Bakersfield. The following maintenance activities are conducted:

- Vegetation Control - Unwanted vegetation that develops within drainage facilities is controlled by physical and chemical methods. Physical methods are preferred. Physical control methods include mechanical cutting and collection of vegetation debris. Chemical control of vegetation is performed by City Parks and also by a contracted licensed herbicide applicator. Pesticide/herbicide applications by City Parks are performed under the direct supervision of certificated applicators, using registered materials in accordance with product label directions. All pesticide/herbicide applications are performed in accordance with written prescriptions and permits issued by the County Department of Agriculture. Physical vegetation controls are accomplished throughout the year, but most efforts are concentrated in the spring growing season so that weeds and excessive growth can be brought under control before the fire season and before the weeds set seeds. Physical controls continue throughout the year for spot controls. Chemical controls are coordinated with the vegetation growth cycle; pre-emergents are applied in late winter (after the rainy season) and early spring to prevent the weed germination and start of growth and post-emergents are applied during spring and summer while weeds are in their growth cycle. Accumulated debris is removed year round, but the most intensive efforts are concentrated in the spring when basins begin to dry out and become accessible, with follow-up debris removal in the fall just prior to the start of the rainy season.
- Leaf Litter Collection. The City specifies certain days in which residents can pile leaf litter at the curbside for collection by specially modified trash trucks. The collected leaf litter is then hauled to the landfill, where the material is buried or used in an experimental composting project. The leaf litter collection prevents significant amounts of debris from entering the storm drainage system. Catch basin cleaning is coordinated so that it occurs following the city's fall leaf litter removal program but before the rainy season. By coordinating these two programs, the amount of leaf litter debris that can enter catch basins following cleanings is minimized.
- Debris Removal: Debris is removed from catch basins, street siphons, sumps, and other drainage facilities. The City has two combination hydro-jet vacuum trucks that are used as needed for cleaning catch basins. When debris is the result of illegal dumping, an attempt to determine the origin of the debris is made. If toxic or otherwise hazardous materials are detected in any drainage facility, the cleanup and follow-up civil/criminal enforcement actions are turned over to City Fire and the City Attorney and/or District Attorney if a responsible party is identified.

- Sediment Removal: Sediment that has accumulated in catch basins, street siphons, sumps, and other drainage facilities is removed and used to maintain drainage facility embankments or is composted. The city's Aqua Tech vacuum truck is used to remove sediment from catch basins. The accumulation of sediment in detention/retention basins and sumps occurs slowly, and to date has not been an ongoing problem. When accumulated sediment is present, it is removed during the late spring, summer, or early fall when basins are least likely to have standing water. Sediment that has accumulated in catch basins is removed following the leaf litter collection program and before the start of the rainy season, as discussed above. The sediment from the detention/retention basins and sumps is combined with organic material (greenwaste) and composted at the City's Greenwaste Facility. The compost is physically screened thought 1/2-inch screens, and tested for metals and pathogens per State of California Regulations, Title 14, Natural Resources--Division 7, Chapter 3.1, Sections 17868.1 through 17868.3, and 17868.5.
- Line and Grade: The line and grade of channels, sumps, and other drainage facilities are maintained to line and grade by removal of sediment (see above) or by placement of fill where required. Activities to maintain line and grade of storm drainage facilities are generally coordinated with sediment removal operations which are accomplished in late spring, summer, or early fall.
- Miscellaneous: Miscellaneous maintenance includes repair and maintenance of fences, gates, signs, risers, and pumping facilities. Street siphons are treated chemically (dry chlorine tablets) to prevent offensive odors and unsanitary conditions. The bottoms of slow draining retention basins are ripped to restore percolation capability. Most miscellaneous activities are accomplished on an as needed basis. Pumps and gates are maintained during the late spring, summer, and early fall so that these facilities are ready when the rainy season begins. Street siphons are chemically treated during the summer immediately following the removal of debris (see above).
- A drainage system maintenance record system is currently maintained by the separate City jurisdictions. Drainage system maintenance records will indicate the location, date, time, and type of maintenance performed on the drainage system; where applicable, records will indicate the weight/volume and nature of materials removed and the location and method of disposal.
- City Water has installed some "no dumping/drains to river" markers on catch basins in highly visible areas downtown. City Water has also stenciled curbs in selected areas of the City.

County

County Roads and ESPS are responsible for the maintenance of publicly owned drainage facilities in the unincorporated portion of the Bakersfield metropolitan area. The following maintenance activities are conducted:

- Vegetation Control - Unwanted vegetation that develops within drainage facilities is controlled by physical and chemical methods. Physical methods are preferred. Physical control methods include mechanical cutting and collection of vegetation debris. Convict laborers are used for manual cleaning, when available. Cut vegetation is disposed of in a landfill. Chemical control of vegetation is contracted to the Kern Mosquito and Vector Control District. The District, operated under a cooperative agreement with the State Health Department, utilizes registered materials in accordance with product label instructions. A certificated applicator supervises all District pesticide/herbicide applications. Physical vegetation controls are accomplished throughout the year, but most efforts are concentrated in the spring growing season so that weeds and excessive growth can be brought under control before the fire season and before the weeds set seeds. Chemical controls are coordinated with the vegetation growth cycle; pre-emergents are applied in late winter and early spring to prevent the weed germination and start of growth and post-emergents are applied during spring and summer while weeds are in their growth cycle.
- Debris Removal - Debris is removed from catch basins, street siphons, sumps, and other drainage facilities. Debris is disposed of in a landfill. When debris is the result of illegal dumping, an attempt to determine the origin of the debris is made. If toxic or otherwise hazardous materials are detected in any drainage facility, the cleanup and follow-up enforcement actions are turned over to County Fire and Environmental Health. Accumulated debris is removed year round, but the most intensive efforts are concentrated in the spring when basins begin to dry out and become accessible, with follow-up debris removal in the fall just prior to the start of the rainy season. Street siphons are cleaned during the summer months when nuisance flows are insufficient to thoroughly flush the siphons of accumulated materials and the warm weather contributes to the odor problems common with siphons. Catch basin cleaning is generally conducted in the early fall prior to the rainy season.
- Sediment Removal: Sediment that has accumulated in catch basins, street siphons, sumps, and other drainage facilities is removed and used to maintain drainage facility embankments or is disposed of in a landfill. The accumulation of sediment in detention/retention basins and sumps occurs slowly, and to date has not been an on-going problem. When accumulated sediment is present, it is removed during the late spring, summer, or early fall when basins are least likely to have standing water. Sediment that has accumulated in catch basins is removed in the early fall prior to the rainy season.

- Line and Grade: The line and grade of channels and the embankments of sumps, and other drainage facilities are maintained to line and grade by removal of sediment (see above) or by placement of fill where required. Activities to maintain line and grade of storm drainage facilities are generally coordinated with sediment removal operations which are accomplished in late spring, summer, or early fall.
- Miscellaneous: Miscellaneous maintenance includes repair and maintenance of fences, gates, signs, risers, and pumping facilities. Street siphons are treated chemically by the Kern Mosquito and Vector Control District to control pests. Most miscellaneous activities are accomplished on an as needed basis. Pumps and gates are maintained during the late spring, summer, and early fall so that these facilities are ready when the rainy season begins. Street siphons are chemically treated during the summer immediately following the removal of debris (see above).
- A drainage system maintenance record system is currently maintained by the County jurisdictions. Drainage system maintenance records indicate the location, date, time, and type of maintenance performed on the drainage system; where applicable, records will indicate the weight/volume and nature of materials removed and the location and method of disposal.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 5 - Storm Drain System Maintenance

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
GIS Mapping - Develop GIS storm drain system mapping	*Storm drain maps*	O					●		O						●	O					O																			■				
Prioritization – Develop/revise storm drain system prioritization (high/low)	*Prioritization Criteria/Process*	O	●												●	O															■													
Review Maintenance Schedule/Activities - Review/revise scheduled maintenance activities, and revise as needed. Consider prioritization in development of schedule.	*Revised scheduled maintenance activities, as needed*	O	●												●	O															■													
Conduct leaf litter collection program		O	●								O															■				■				■				■				■		
Implement Storm Drain System Marking - Implement a storm drain system marking program (aluminum discs or stencils). Conduct stenciling or labeling (aluminum discs) in coordination with maintenance activities.		●	O												●																			■										
Track Maintenance Activities – Develop/Maintain a Storm Drain System Maintenance database. Track maintenance activities (vegetation control, debris removal, sediment removal and other activities), locations, and prioritization. In addition, include records of storm drain system inlet labels, and volumes of leaf litter collected.	*Total number of system components that were maintained, maintenance frequency, type of maintenance, material removed (vegetation, debris sediment, other), and status of labeling.*	O	●												●																		■				■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
MUN 6 - Street Cleaning and Maintenance

Description

The Street Cleaning and Maintenance Control Measure involves City and County street sweeping and maintenance to reduce pollutant sources transport to the storm drain system.

Existing Activities

The City and County, within their respective jurisdictions, are responsible for the operation and maintenance of all publicly maintained streets, roads, and highways, excepting State owned roads, within the Bakersfield metropolitan area.

The climatic conditions in the Bakersfield metropolitan area rarely results in the formation of ice on roadways; therefore, neither the county or the city conducts deicing activities in the Bakersfield metropolitan area.

City

City Streets is responsible for the operation and maintenance of city-owned streets, roads, and highways in the Bakersfield metropolitan area. The following activities are conducted:

- Street Sweeping/Cleaning. All city-owned streets, roads, and highways are swept on a regular basis by city crews. The sweeping schedule and type of sweeper used for each area is shown below.
  - Downtown Area. The downtown area, which is the older part of the City, is swept three nights per week using a vacuum truck. The city uses vacuum trucks downtown because the debris on streets in that area tends to consist of paper and other lightweight litter which is easily vacuumed. The contents collected by the vacuum sweepers are disposed in a municipal landfill. The operators of street sweepers report the location of damaged streets and clogged catch basins for follow-up maintenance
  - Residential Areas and Other Streets. These areas are swept once every three weeks with broom trucks. The broom trucks are equipped with water spray nozzles to help prevent fine dust from becoming airborne; nozzles are sized to prevent surface runoff. The contents collected by the broom type sweepers are disposed in a municipal landfill. The operators of street sweepers report the location of damaged streets and clogged catch basins for follow-up maintenance
- Surface Management. Surface management includes the replacement and/or reconditioning of worn road surfaces. Surface management is accomplished by city crews and under contract by private paving companies. The city restricts most non-emergency repaving and resurfacing work to the warm and dry periods of the year

when pavement materials are more workable and yield better results. During paving operations, non-storm water flows (gutter flows, etc.), if any, are diverted from the area being paved. Excess materials from paving operations are recycled or properly disposed in landfills.

- Street Repair. Street repair includes the repair of relatively small portions of paved surfaces such as potholes. Road repairs are accomplished by city crews and under contract by private paving companies. Street repairs are accomplished primarily in the warm dry months when pavement materials are more workable and yield better results; however, potholes arise in the winter wet period, and are repaired as they develop.
- Facility Maintenance. The city routinely performs maintenance on streets to prevent the concentration of storm water on street surfaces. This work includes the maintenance of curbs, gutters, and street siphons that remove water from roadways.
- The City documents maintenance activities and keeps records of number of curb miles swept; volume or weight of material collected, and number and location of street and road repairs.

County

County Roads is responsible for operation and maintenance of publicly-owned streets, roads, and highways in the unincorporated portion of the Bakersfield metropolitan area. The following activities are conducted:

- Street Sweeping/Cleaning. The medians and arterial roads are swept for the county under contract with a private street sweeping company. In limited other areas, County Service Areas (CSAs) have been formed for the purpose of levying taxes to pay for street sweeping; street sweeping in these areas is performed by private street sweeping companies under contract to the county.
- Surface Management. Surface management includes the replacement and/or reconditioning of worn road surfaces. Surface management is accomplished by county crews and under contract by private paving companies. The county restricts most non-emergency repaving and resurfacing work to the warm and dry periods of the year when pavement materials are more workable and yield better results. During paving operations, non-storm water flows (gutter flows, etc.), if any, are diverted from the area being paved. Excess materials from paving operations are recycled or properly disposed in landfills.
- Road Repair. Road repair includes the repair of relatively small portions of paved surfaces such as potholes. Road repairs are accomplished by county crews and under contract by private paving companies. Road repairs are accomplished primarily in the warm dry months when pavement materials are more workable and yield better results; however, potholes arise in the winter wet period, and are repaired as they develop.

- Facility Maintenance. The county routinely performs maintenance on roads to prevent the concentration of storm water on road surfaces and the subsequent runoff induced erosion of the road shoulder. This work includes the maintenance of culverts and chutes that remove water from roadways. These measures minimize erosion and the contribution of sediments to the storm water system.
- Siphon Cleaning. Siphons under streets are routinely cleaned for sediment and debris.
- The County documents maintenance activities and keeps records of number of curb miles swept; volume or weight of material collected; and number and location of street and road repairs.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 6 - Street Cleaning and Maintenance

Measurable Goal	Assessment Data and Information	Responsible Parties: City: Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	Responsible Parties: County: ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Schedule: 2013-2014: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2014-2015: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2015-2016: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2016-2017: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2017-2018: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review/revise prioritization of City and County streets as needed	*Revised prioritization criteria/process, as needed*	O	●												O	●																												
Conduct Street Sweeping - Implement street sweeping program		O	●												O	●								■	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Maintain Records - Maintain a Street Cleaning Database that includes records of sweeping locations and frequencies, green waste collection activities, volume of street sweeping debris, and volume of green waste.	*Miles swept, frequency, volume of debris removed, and volumes.*	O	●								O			O	O	●			●																■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
MUN 7 - Parking Facilities Maintenance

Description

The Parking Facilities Maintenance Control Measure involves protocols for cleaning City and County parking facilities to reduce parking lot sources of pollutants to the storm drain system.

Existing Activities

City

The City uses a contractor to sweep City parking facilities on an as needed basis. Heavily used parking facilities are swept approximately once a month

County

The County uses a contractor to sweep County parking facilities on an as needed basis.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 7 - Parking Facilities Maintenance

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Existing Procedures – Review lots that are swept, identify new parking lots for sweeping (if any), and revised sweeping frequency, if needed.	*Modified procedures for parking lot sweeping, if needed.*	O		●											O		●								■																			
Implement parking facility sweeping		O		●											O		●								■	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Maintain records of parking facility sweeping in the Street Sweeping Database	*Number of lots swept, and volume of debris removed.*	O		●											O		●																■				■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
MUN8 – Retention/Detention Basin Maintenance

Description

The Retention/Detention Basin Maintenance Control Measure involves maintenance activities specifically for the Retention and Detention Basin components of the storm drain system. The maintenance activities ensure proper operation of these structural BMPs.

A list of the storm drain infrastructure components is provided in MUN5.

Existing Activities

The City and County maintenance activities on the detention/retention basins are conducted as part of the overall storm drain system maintenance program. The details on the types of activities (both City and County) are provided in MUN5. The maintenance activities for detention/retention basins are summarized briefly as follows:

- Removal of unwanted vegetation
- Debris removal
- Sediment removal
- Line and grade of the basin embankments
- City Water tracks inspection and maintenance activities. ESPS tracks inspection activities. City and County log sheets are provided in Appendices C and D.

The City and County schedule maintenance of detention/retention basins prior to storm events to ensure that these systems will operate properly during storm events. In addition, the City and County conduct maintenance in response to public complaints.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 8 - Retention/Detention Basin Maintenance

Responsible Parties

Measurable Goal	Assessment Data and Information	City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Prioritize detention/retention basins - Include detention/retention basins in prioritization of storm drain system maintenance	*Prioritization criteria*	●													●	●	●							
Record Keeping -Track maintenance activities for retention/detention basin and include this information in the Storm Drain System Maintenance Database.	*Total number of system components that were maintained, maintenance frequency, type of maintenance, and material removed (vegetation, debris sediment, other).*	●													●	●	●							

Schedule

Measurable Goal	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Prioritize detention/retention basins - Include detention/retention basins in prioritization of storm drain system maintenance											■									
Record Keeping -Track maintenance activities for retention/detention basin and include this information in the Storm Drain System Maintenance Database.													■							

Notes:
(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
MUN 9 – Public Industrial Facilities Management

Description

The Public Industrial Facilities Management Control Measure involves controlling pollutants from City or County industrial facilities.

Existing Activities

The City and County have identified two municipal landfills, the China Grade Landfill and the City (Panorama) Landfill as public industrial facilities. The following activities are associated with these facilities:

- The China Grade Landfill was closed in October 2010; The City (Panorama) Landfill was closed in May 2013. Neither landfill discharges to a municipal storm drain system.
- All County and City municipal waste facilities have or will obtain waste discharge requirements from the Central Valley Regional Water Quality Control Board (CVRWQCB).
- County Waste and the City Solid Waste ensure compliance with all provisions of CVRWQCB permits.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 9- Public Industrial Facilities Management

Measurable Goal	Assessment Data and Information	Responsible Parties																						Schedule																			
		City													County									2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review/develop Inventory – Review/develop inventory of public industrial facilities (facilities that have or should have coverage under the Industrial General Permit).	*Inventory of public industrial facilities*	●													●	●			●														■											
Record Keeping - Track compliance with the Industrial General Permit and other facility permits, as needed.	Number of facilities, WDIDs, and pollution prevention plans.	●													●	●			●																		■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
MUN 10 – Emergency Procedures

Description

The Emergency Procedures Control Measure addresses emergency repairs of essential public infrastructure and responses to natural disasters. This Control Measure includes activities aimed at reducing impact of emergency repairs and natural disasters, while recognizing that public health and safety is the first priority.

Existing Activities

City

Stormwater related protocols for emergency situations include:

- City Water Maintains levees, channels and weirs along the river. City Water has completed two new manuals that address the operation and maintenance of the levees along the southern banks of the Kern River and emergency storm patrol procedures during storm events. City Water maintenance crews patrol all Department facilities and perform emergency repairs and flood fighting on facilities as required.
- Assist in the testing for hazardous materials and the mitigation of threats during emergency caused by storm water and/or other overflow situations.
- City Streets and Operations support reducing impact of infrastructure repair to storm water systems by following storm water compliance measures as much as possible.
- The Bakersfield Fire Department maintains an On-Call List of CUPA personnel available to respond to after-hours hazardous materials emergencies in the City of Bakersfield. The list is available through the 9-1-1 dispatch center.

County

Stormwater related protocols for emergency situations include:

- County ESPS is the lead department in any emergency repairs to drainage facilities. The Roads Department provides assistance.
- County Environmental Health maintains an On-Call List of CUPA personnel available to respond to after-hours hazardous materials emergencies in Kern County. The list is available through the 9-1-1 dispatch center.
- The Kern County Fire Department has two primary functions in regards to natural disaster emergency procedures. They are as follows:
  - Preparatory and Recover Obligations
  - Reduce flood damage by assisting primary agencies with storm water diversion and containment by constructing pre-emergency diking and berming.

- Inspect and regulate Waste Management related facilities and/or hazardous materials handlers, with County Environmental Health.
- Emergency Operations
  - Assist in the testing for hazardous materials and the mitigation of threats during emergency caused by storm water and/or other overflow situations.
  - Coordinate and orchestrate ICS-driven incident management and operations.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 10 - Emergency Procedures

Measurable Goal	Assessment Data and Information	Responsible Parties																						
		City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Review/develop Emergency Procedures - Review/develop emergency procedures as related to minimizing impact to the storm drain system or receiving waters	*Revised emergency procedures, as needed*	O	O	●	O								O		●	O								
Implement Procedures - Implement emergency procedures		O	O	●	O								O		●	O								

Measurable Goal	Schedule																			
	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review/develop Emergency Procedures - Review/develop emergency procedures as related to minimizing impact to the storm drain system or receiving waters																	■			
Implement Procedures - Implement emergency procedures																				■

Notes:
(1) Text Format: Existing, *Modified*, New
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
MUN 11 – Non-Emergency Firefighting Flows

Description

Non-Emergency Firefighting Flows Control Measure includes activities aimed at minimizing pollutant transport from storm drain system as a result on non-emergency fire department activities.

Description of the types of activities that need to be addressed:

- Flows from building fire suppression systems during installation, maintenance, or testing
- Discharge of potable water and/or potable water mixed with firefighting foaming agents (or other chemicals?) during firefighting practice drills/exercises.

Existing Activities

City Fire and County Fire conduct installation, maintenance and testing of fire suppression systems. In addition, the City, County, and Bakersfield College jointly owns a fire fighting training facility and the City and County share use of this Bakersfield College facility. The following practices have been implemented to minimize pollutant transport in discharges to the stormwater system:

- City Fire and County Fire follow department policies and National Fire Protection Association (NFPA) standards that address maintenance standards and testing of water-based fire protection systems.
- Berms and other BMPs are used if firefighting foaming agents have been deployed.
- Contain and/or dispose of foam solution waste products by diking and containing residue according to relevant regulations and standards.
- Annex F of the NFPA standard for the use of low, medium, and high expansion foam is incorporated by reference and is included as Appendix E.
- For fire flow tests, domestic potable water is discharged from hydrants. Typically, the water is dechlorinated the water with tabs and mats. If it is in a tract, the developer/contractor is responsible for installing all BMP's necessary to prevent discharge of pollutants into storm drain system.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 11 - Non-Emergency Firefighting Flows

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review/Develop Protocols - Review/develop protocols aimed at minimizing impact to the storm drain system or receiving waters as a result of non-emergency firefighting flows. In addition, address non-emergency firefighting flows through the SRWCB NPDES Permit for Drinking Water System Discharges to Surface Waters (Draft), upon adoption of this permit.	*Revised protocols for non-emergency fire-fighting flows, as needed*	○											●		○							●											■											
Implement Measures - Implement non-emergency firefighting flow measures		○											●		○							●											■	→	→	→	→	→	→	→	→	→	→	→

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
MUN 12 - Training

Description

The Training Control Measure involves providing training for staff the implement Municipal Operations Control Measures and generally increasing awareness of the stormwater management program.

Existing Activities

City

The City conducts several training activities for staff involved in implementing stormwater program management control measures:

- City staff that are Qualified Applicator Certificate holders provide routine on-the-job training to subordinate staff that assist with the application of pesticides on public right-of-ways and at municipal facilities. This training covers worker safety, following pesticide label instructions, mixing techniques, residual disposal, and other appropriate topics.
- The City Fire Department provides First Responder training to the "Operational" level for all Fire Department crews with a potential to contact hazardous materials. Operational level employees are trained to respond to releases or potential releases of hazardous substances to protect nearby persons, property, or the environment. The training involves an initial 24 hour course followed by an annual 8 hour refresher course.
- The City Fire Department provides First Responder training to the "Operational" level for all Fire Department crews with a potential to contact hazardous materials. Operational level employees are trained to respond to releases or potential releases of hazardous substances to protect nearby persons, property, or the environment. The training involves an initial 24 hour course followed by an annual 8 hour refresher course.
- The members of the Hazmat team receive additional training through the California Specialized Training Institute (CSTI) operated by the State Office of Emergency Services (OES). All hazardous material responders are trained to either the Technician (5 weeks) or Specialist (7 weeks) level.
- The Bakersfield Fire Department Hazmat Team is an OES Certified Type 1 Team (Cert. #OR-2011-31). This team is qualified to respond to all emergencies involving hazardous materials in the Bakersfield City limits and elsewhere throughout California when so activated by OES. Training consists of quarterly drills with all Hazmat personnel and alternates. Periodic Hazmat response training occurs with Kern

County Environmental Health and the Bakersfield Police Department's SWAT team. On-site training occurs with railroad companies and regulated fixed-facility industries. There are approximately 30 regular members and 50 alternate members on the Hazmat Team.

- Police Department employees have received First Responder training to the "Awareness" level. The Awareness level is for individuals likely to witness or discover a hazardous substance release and may need to initiate an emergency response sequence. The training is provided in an 8 hour session. In addition, two officers are trained to the Operational level and they provide Awareness level training to other Police Department employees.
- The Public Works Department offered training in 2011 to train engineers and inspectors to be Qualified Storm Water Pollution Prevention Plan Developers and Practitioners. Some training may have occurred since then.
- Water staff has attended training held by the Public Works department and also attends webinar sessions. In addition, staff have attended stormwater seminars and conferences.

County of Kern

- County Fire Department crews with a potential to contact hazardous materials have all received First Responder training (29 CFR 1910.120(q)(6)) to the "Operational" level. In addition, the County Hazardous Materials Control Unit members are trained to the Specialist (7 weeks) level through the CSTI.
- County EHSD staff receives Hazardous Waste Operations and Emergency Standards (HAZWOPER) training (29 CFR 1910.120). In addition, emergency response staff receive either Technician (5 weeks) or Specialist (7 weeks) level training through the CSTI.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

MUN 12 - Training

Measurable Goal	Assessment Data and Information	Responsible Parties																						
		City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Identify Training Needs - Identify needs for the Municipal Operations training program. Include training on overview of the stormwater management program, connectivity to water quality, system performance and key activities (storm drain and detention basin maintenance, and pollution prevention measures (SSOs, septics, spills, roadways, etc.).		●	O	O	O								O	O	●	O	O		O			O	O	O
Develop Training Opportunities - Develop Municipal Operations training opportunities	Type of training, agenda, topics	●	O	O	O								O	O	●	O	O		O			O	O	O
Implement Training - Implement Municipal Operations training program.	Number of training sessions, topics, and attendees.	●	O	O	O								O	O	●	O	O		O			O	O	O

Measurable Goal	Schedule																			
	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Identify Training Needs										■										
Develop Training Opportunities													■							
Implement Training																■				■

Notes:

(1) Text Format: Existing, *Modified*, New

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

ILLICIT CONNECTION/ILLICIT DISCHARGES (ICID)

6.1 INTRODUCTION

The Illicit Connection/Illicit Discharge program element focuses on minimizing the discharge of pollutants to the storm drain system from illicit discharges and illegal connections.

Permit requirements can be found in **Provisions D.7, page 39**.

6.2 OBJECTIVES

The objectives of the Illicit Connection/Illicit Discharge program element include:

- Provide adequate legal authority to control and/or prohibit pollutants from being discharged to the municipal storm drain system;
- Proactively detect illicit discharges and illegal connections through a variety of mechanisms including, but not limited to, public reporting, dry weather monitoring, and field crew inspections
- Upon identification of an illegal connection, investigate and eliminate the connection through a variety of mechanisms including, but not limited to, permitting or plugging the connection;
- Upon identification of an illicit discharge, investigate the discharge and conduct any necessary follow up actions to mitigate the impacts of the discharge
- Conduct an assessment as a part of the annual reporting process; determine the effectiveness of the Program Element and identify any necessary modifications.

6.3 CONTROL MEASURES

The Illicit Connection/Illicit Discharge Control Measures include the Control Measures specifically identified in the Permit and Control Measures needed to address all of the Illicit Connection/Illicit Discharge Program objectives. The Illicit Connection/Illicit Discharge Control Measures include:

- ICID1 - Detection of Illicit Discharges and Illegal Connections
- ICID2 - Illegal Connection Identification and Elimination;
- ICID3 - Investigation/Inspection and Follow-up Procedures;
- ICID4 - Enforcement of Local Codes and Ordinances
- ICID5 - Training

The objective of providing adequate legal authority for the Illicit Connection/Illicit Discharge Program Element is addressed in PM2.

The Permit states that the Permittees submitted a proposed Illicit Dumping Control Program (2002) to further control illegal dumping to the Central Valley Regional Water Quality Control Board (CVRWQCB). The Permittees are required to continue to implement this enhanced program as a part of the Illicit Connection/Illicit Discharge Program. Since the proposed Illicit Dumping Control Program (2002) was submitted, the Permittees stormwater management program has evolved. This SWMP addresses the main components of the proposed program, including public education, surveillance (or inspection), and investigation, enforcement and abatement.

INFORMATION SHEET
ICID 1 - Detection of Illicit Discharges and Illegal Connections

Description

This control measure involves several methods of detecting illicit discharges and illegal connections.

Existing Activities

The City and County conduct a regular inspection/detection program that piggybacks storm drain system inspection activities. Investigation activities include:

- Inspectors conduct routine inspections of the storm drain system during performance of maintenance activities and at any time when suspicious discharges or unusual conditions are detected or reported. Routine inspections of the storm drain system include the following observations:
  - Discharges during dry weather. If discharges during dry weather are detected, observations of the color, odor, temperature, and presence of an oil sheen in the discharge are made. Unusual color, odor, temperature, or presence of an excessive oil sheen result in further investigation.
  - Presence of deposits and stains. The presence of unusual deposits or stains in or near the storm drain triggers further investigation.
  - Condition of vegetation. Excessive vegetation growth, abnormalities in vegetation, or dead vegetation in or near the storm drain result in further investigation.
- At the beginning of each permit term, field screening of all outfalls is conducted. Subsequently approximately 20% of the outfalls are surveyed each year.
- The field screening activities are prioritized to focus first on the older areas of the system, industrial areas, and areas in close proximity to receiving waters.
- As part of the field screening activities, the City and County conduct dry weather sampling per permit requirements.
- The City and County track the results of the field screening activities including the number, quantity, and quality of dry weather flows and the number, quantity, quality, and source of illicit discharges; and document the results of any illicit discharge elimination activities.

The City and County also rely on public reporting of illicit discharges and illegal connections. The City and County facilitate reporting of illicit discharges and illegal connections through the following mechanisms:

- City and County websites include phone numbers for reporting illicit discharges.

- City and County websites includes a link for reporting illicit discharges.
- KEEN program includes a 24/7 hotline for environmental reporting.
- “Bakersfield Mobile” (operated by City Sourced) is an App for smart phones allows the public to report and take a picture of illicit discharges or illegal connections.
- The County has an ICID flyer available online and paper copies available at the County Public Services Building permit center.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

Measurable Goal	Assessment Data and Information	ICID 1 - Detection of Illicit Discharges and Illegal Connections — Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Facilitate Public Reporting - Facilitate reporting of illicit discharges by maintaining the City and County phone numbers and web links	Maintained phone numbers and web links	●	O												●															■	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Review Communication/ Response Procedures - Review protocols for coordinating public complaints to other departments and responding appropriately. Revise as necessary.	*Revised communication procedures, as needed*	●	O												●																	■												
Implement Complaint Communication and Response - Receive, route, tracked, and investigate public complaints per established procedures		●	O												●																	■	→	→	→	→	→	→	→	→	→	→	→	→
Review City/County Outfall Field Screening Procedures – Review field screening procedures and protocols. Modify as necessary.	*Revised outfall field screening activities, as needed.*	●	O												●																	■												
Review Outfall Prioritization - Review outfall prioritization criteria in context of threat the water quality. Modify as necessary	*Revised outfall prioritization, as needed.*	●	O												●																■													
Incorporate outfalls and prioritization into storm drain system GIS mapping		●	O												●																	■												

ICID 1 - Detection of Illicit Discharges and Illegal Connections

Measurable Goal	Assessment Data and Information	Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Dry Weather Monitoring - Conduct dry weather field outfall screening per the Permit, and receiving water monitoring.	Dry weather field screening results and water quality data	●	O												●										■				■				■				■				■			
Develop/Maintain an Illicit Discharges and Illegal Connections Database – Develop/maintain a database that includes information on the locations of illicit discharges and illegal connections, source identification procedures, investigation and enforcement procedures. Include information on source of illicit discharges/connections (i.e. public reporting). Incorporate illicit discharges and illegal connections into GIS mapping.	*Number of illicit discharges and illegal connections identified, locations and sources.* *GIS mapping of illicit discharges and illegal connections*	●	O												●																	■												

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
ICID2 - Illegal Connection Identification and Elimination

Description

The Illegal Connection Identification and Elimination Control Measure includes the procedures for identifying illegal connections and implementing measures to eliminate the illegal connections. It also includes preventing future connections through ensuring that building plans show proper connections to the sewer and storm drain system.

Existing Activities

City

The City's plan check and review process includes measures to prevent future illegal connections. Existing procedures include:

- City Building reviews plans for proper connections to the sewer and storm drain system
- Once approved by City Building, the site and building plans serve as guides for inspectors. Construction inspections include confirmation of proper connections to the storm drain and sanitary sewer systems.
- The City documents cases in which plan check and review and/or building/site construction inspection identified potential or actual illicit connections.

County

The County's plan check and review process includes measures to prevent future illegal connections. Existing procedures include:

- Plans approved by the Engineering Surveying and Permit Services Department (ESPS) are used by inspectors for both subdivisions and building construction. Inspecting for proper connections to the storm drain and sanitary sewer systems is standard procedure. If the diameter of the storm drain is large enough, inspectors will check inside the pipe for the proper connections.
- The County documents cases in which plan check and review and/or building/site construction inspection identified potential or actual illicit connections.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

ICID2-Illegal Connection Identification and Elimination

Measurable Goal	Assessment Data and Information	Responsible Parties																						
		City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Review Illegal Connection Response Procedures - Review follow-up protocols for responding to reports on illegal connections. Modify as needed.	*Revised Illegal Connection Response Procedures, as needed*	O			●										●					O				
Implement Response Procedures - Implement illegal connection response procedures		O			●										●					O				
Implement Building Plan Review - Include review of building plans for proper connections to the sewer and storm drain systems	*Number of plans reviewed and number requiring revision due to identified illegal connections, number of illegal connections identified during project construction inspections*	O					●	●							●									
Track Illegal Connections – Track illegal connections in the Illicit Discharges and Illegal Connections Database, and include location, type of illegal connection, source of information, and elimination measures.	*Number of illegal connections reported, number verified, information source, number of illegal connections eliminated.*	O			●										●									

Measurable Goal	Schedule																			
	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Illegal Connection Response Procedures					■															
Implement Response Procedures						■														
Implement Building Plan Review	■																			
Track Illegal Connections						■			■				■				■			

Notes:
(1) Text Format: Existing, *Modified*, New
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
ICID3- Investigation/Inspection and Follow-up Procedures

Description

The Investigation/Inspection and Follow-up Procedures Control Measure focuses on further investigation of illicit discharges and illegal connections. The investigation and follow-up procedures lead to more information about illicit discharges and illegal connections, and in combination with record keeping can contribute to identifying priority areas and/or trends.

Existing Activities

For suspected illicit discharges and illegal connections identified through public reporting, field screening, or dry weather sampling, the City and County implement the follow-up investigative activities, including:

- Upstream investigation. Crews attempt to discover the origin of the unusual condition by following the evidence of the condition upstream to its source. Due to the hazards associated with the confined space conditions in storm drains, crews generally work their way upstream by moving to "access points" (manholes, etc.) where conditions in the storm drain can be observed. Through the process of elimination, crews are usually able to isolate the section of storm drain where the unusual conditions begin.
- Surface inspection. Once the section of storm drain where the unusual condition begins is isolated, crews inspect the aboveground area that discharges to that section, looking for evidence of the unusual condition. If the surface inspection is unable to determine the source of the unusual condition, the case is referred to the Director of ESPS at the County, and to City Water Superintendent for follow-up action. No further action is taken if the source is a legitimate non-storm water flows according to the definition of such flows (e.g., firefighting flows, landscape irrigation) in the City/County's ordinance).

Enforcement and relations activities are described in ICID4.

The City and County use information from previous years to inform the prioritization of outfall inspections in the following years. Adjustments in outfall prioritization are based on field screening activities, dry weather flow results, and locations that required follow-up actions.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

ICID3- Investigation/Inspection and Follow-up Procedures

Measurable Goal	Assessment Data and Information	Responsible Parties: City — Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	Responsible Parties: County — ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Schedule: 2013-2014 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2014-2015 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2015-2016 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2016-2017 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2017-2018 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Investigation Protocols - Review protocols for investigations and follow-up actions. Revise as necessary.	*Revised investigation and follow-up protocols, as needed.*	●			O										●					O										■														
Conduct Follow up Investigations – Conduct follow-up investigation of outfalls when necessary		●			O										●					O										■	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Track Follow-up Investigations - Record follow-up investigation activities in the Illicit Discharge and Illegal Connection Database	Number of reports through public notification, number found through field screening, investigation activities, and follow-up actions.	●			O										●					O													■				■				■			
Map Follow-up Investigations - Map illicit discharges and illegal connections in GIS, and incorporate information on locations requiring follow-up activities.	*Mapping of follow-up investigations.*	●													●															■	→	→	→	→	→	→	→	→	→	→	→	→	→	→

Notes:

(1) Text Format: Existing, *Modified, New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
ICID4 - Enforcement of Local Codes and Ordinances

Description

The Enforcement of Local Codes and Ordinances Control Measure involves implementing procedures for enforcement of codes/ordinances and the progressive levels of enforcement that are imposed on parties that are out of compliance.

Existing Activities

The follow-up actions described in ICID3 provide information to determine if a suspected dry weather flow is a legitimate non storm water flows according to the definition of such flows (e.g., firefighting flows, landscape irrigation) in the City/County's ordinance. If there is evidence to suggest that the dry weather flow is a result of an illicit discharge or illegal connection, then the following actions are taken:

- Notice of possible violation. Once the source of the unusual condition is determined, crews attempt to contact the responsible party and notify said party of county codes and regulations regarding discharges to the municipal storm drain system. In most circumstances, responsible parties take immediate action to eliminate the cause of the unusual discharge or unusual condition and no further investigation or enforcement actions are necessary.
- When the responsible party cannot be located or is unwilling or unable to eliminate the cause of the violation, crews refer the case to the Director of ESPS at the County, and to the City Water Superintendent at the City for follow-up action.
- Follow-up actions are mandatory when inspections detect unusual conditions that are an imminent threat to the health, safety, and welfare of maintenance crews, the general public, or the environment. Follow-up actions are accomplished on a case by case basis as conditions warrant, under the general direction of the Director of ESPS at the County, and to the City Water Superintendent at the City. Typical follow-up actions focus on collecting evidence and enforcement procedures:
  - Photographs and video of the storm drain system and suspect activity
  - Grab samples of discharges
  - Composite samples
  - Laboratory analyses
  - Notify the County of Kern Health Department.
  - Notify County Fire and/or City Fire
  - Notify the CVRWQCB

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

ICID4 - Enforcement of Local Codes and Ordinances

Responsible Parties

Measurable Goal	Assessment Data and Information	City: Water	City: Streets	City: Operations	City: Wastewater	City: Construction	City: Subdivisions	City: Building	City: GIS	City: Design Engr.	City: Solid Waste	City: Planning	City: Fire	City: Parks	County: ESPS	County: Roads	County: General Services	County: Planning	County: Waste	County: Waste-KSA	County: GIS	County: Fire	County: Parks	County: Env. Health
Review Progressive Enforcement Procedures - Review progressive enforcement policy/procedures and modify as necessary.	*Revised procedures, as needed.*	●						O							●									
Implement Progressive Enforcement - Implement progressive enforcement actions for non-compliant sites.		●						O							●									
Track Enforcement Measures - Record enforcement actions in the Illicit Discharge and Illegal Connection Database	*Number and types of enforcement actions taken*	●						O							●									

Schedule

Measurable Goal	2013-2014 Jul.-Sept.	2013-2014 Oct-Dec.	2013-2014 Jan.- Mar.	2013-2014 Apr-Jun.	2014-2015 Jul.-Sept.	2014-2015 Oct-Dec.	2014-2015 Jan.- Mar.	2014-2015 Apr-Jun.	2015-2016 Jul.-Sept.	2015-2016 Oct-Dec.	2015-2016 Jan.- Mar.	2015-2016 Apr-Jun.	2016-2017 Jul.-Sept.	2016-2017 Oct-Dec.	2016-2017 Jan.- Mar.	2016-2017 Apr-Jun.	2017-2018 Jul.-Sept.	2017-2018 Oct-Dec.	2017-2018 Jan.- Mar.	2017-2018 Apr-Jun.
Review Progressive Enforcement Procedures									■											
Implement Progressive Enforcement					■	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Track Enforcement Measures									■				■				■			

Notes:
(1) Text Format: Existing, *Modified*, New
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
ICID5 - Training

Description

The Training Control Measure involves providing information and education for staff that are involved in the illicit discharge and illegal connection activities.

The Permit states that the Permittees submitted a proposed training program covering storm water pollution prevention and illicit discharge detection and elimination to the Central Valley Water Board per WDR Order 5-01-130. The Permittees are required to update the training program in the SWMP to include training necessary for personnel to meet the objectives described in the Permit.

Existing Activities

City

The City does not currently have a formal training program for illicit discharge activities. In-house informal training is currently provided to employees that may inspect or investigate an illicit discharge or illegal connections.

County

The County does not have an established an ICID training program.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

ICID5 - Training

Responsible Parties

Measurable Goal	Assessment Data and Information	City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Identify/Develop ICID Training- Identify and develop training programs/opportunities for staff involved in the ICID Control Measures	*Training session modules and topics*	●			O										●					O		O		O
Implement ICID Training – Implement ICID training for staff involved in the ICID Control Measures		●			O										●					O		O		O
Record Training - Track training activities provided to staff	*Number of training sessions, topics, attendees, and attendee feedback.*	●			O										●					O		O		O

Schedule

Measurable Goal	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Identify/Develop ICID Training- Identify and develop training programs/opportunities for staff involved in the ICID Control Measures											■									
Implement ICID Training – Implement ICID training for staff involved in the ICID Control Measures												■								
Record Training - Track training activities provided to staff													■							

Notes:
(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

PUBLIC OUTREACH (OUT)

7.1 INTRODUCTION

The Public Outreach Control Measure focuses on providing information and education on the stormwater management program. Objectives include increasing awareness of the connectivity between stormwater and receiving water quality, and a better understanding of the potential benefits of effective stormwater management.

Permit requirements can be found in **Provisions D.8, page 40**.

7.2 OBJECTIVES

The objectives of the Public Outreach Program include:

- Encourage the public to actively participate in the implementation of the storm water program as well as the various outreach events.
- Promote the use of the 24-hour public reporting hotline.
- Implement a public education strategy for the overall program that includes developing and distributing materials, conducting a mixed media campaign, participating in community outreach events, and conducting public opinion surveys to gauge the level of awareness and behavior change within a community and/or target audience.
- Evaluate the ability to interface and coordinate with school education programs on a regional or local level.
- Implement a business outreach program.
- Conduct an assessment as a part of the annual reporting process, determine the effectiveness of the Public Outreach Program and identify any necessary modifications.

7.3 CONTROL MEASURES

The Public Outreach Program Control Measures include the Control Measures specifically identified in the Permit and Control Measures needed to address all of the Public Outreach Program objectives. The Public Outreach Program Control Measures include:

- OUT1 - Public Participation
- OUT2 - Hotline/ website
- OUT3 - Public Outreach Implementation

- OUT4 - Public School Education
- OUT5 - Business Outreach

The Permit includes additional description of each of these control measures and requirements. This additional detail is provided in the corresponding Control Measure Information Sheets.

INFORMATION SHEET
OUT1 - Public Participation

Description

The Public Participation Control Measure involves implementing measures to encourage public participation in stormwater program activities.

The Permit include a specific requirement for implementing mechanisms for public participation in the implementation of the SWMP (i.e., programs that engage the public in cleaning up creeks, removal of litter in river embankments, stenciling of storm drains, etc.).

Existing Activities

City

The City conducts a number of events that engage the public in the stormwater management program activities, including:

- Household Hazardous Waste (HHW) Collection – The City encourages residents to participate in the County HHW program, as described under the County programs.
- Litter Abatement
  - City contracts with the Homeless Center for litter clean-up along freeways.
  - As part of Keep Bakersfield Beautiful, the City organizes volunteers for trash clean-up, conducts and Adopt an Highway Program, and leads the City's Great American Clean-up Program (stream clean-up along the Kern River in the Bakersfield Urbanized Area).

The City has considered public involvement in storm drain marking. However, due to public safety concerns, the City prefers that this activity be conducted by City staff.

The City publicizes the public participation programs through the City website and the Keep Bakersfield Beautiful website. In addition, information is provided in flyers to new residents and in the annual recycled calendar that is provided to residents.

County

The County conducts a number of events that engage the public in the stormwater management program activities. The public participation program activities include:

- Household Hazardous Waste Collection - The County Waste Management Department (WMD) is the lead agency and develops and implements the program. The County operates a permanent Special Waste Facility in the Metro Bakersfield Area that is open 4 days per week to residents and small businesses. The Special Waste Facility accepts a wide range of Household Hazardous Waste and

Conditionally Exempt Small Quantity Generator (CESQG) Waste, including but not limited, to used motor oil, pesticides, herbicides and paint products.

- Litter Reduction - The County Sheriff's Department through a KernCOG grant works with the County WMD to implement a litter abatement program. The Sheriff's Department targets and issues warnings and citations to drivers with untarped loads. The WMD provides tarps to the Sheriff's Department to distribute with each citation or warning. The WMD also runs a billboard and movie theater public information campaign called "Save Your Cash, Tarp Your Trash".
- Litter Abatement – Several programs encourage and involves the public in clean-up urban areas and the Kern River.
  - The County WMD works with Sheriff's Department and Community Volunteers for community litter clean-ups.
  - Keep Kern Roads Clean – Adopt-a-Road program for litter clean-up.
  - Supports the City's Great American Clean-up Program.

The County tracks and reports data for use of the Special Waste Facility, including the number of customers, the types and quantities of wastes received, the tonnage recycled and/or re-used, and the tonnage disposed.

The County has considered public involvement in storm drain marking. However, due to public safety concerns, the County prefers that this activity be conducted by County staff.

The County WMD publicizes the used oil and HHW programs through a number of ways including:

- The Kern County Raceway Park: Full page colored advertisement in the race program for every race and an on-track k-rail billboard advertisement for the entire race season. The WMD also staffs a booth for three major race events and distributing used motor oil recycling containers.
- The Department publishes the full 30 page Kern County Recycling Guide in the AT&T Valley Yellow Pages, including Recycling Hazardous Waste (residential and CESQGs), Recycling Automotive Products (Motor Oil, Oil Filters, Antifreeze, and Batteries). The Recycling Guide includes three full pages to hazardous waste and used motor oil recycling including a listing of all used motor oil and oil filter recycling locations. The Recycling Guide is also available on the County WMD website at www.KernCountyWaste.com.
- Radio and television public service announcements in both English and Spanish promoting used motor oil recycling.
- Waste Watch - The local NBC affiliate (Channel 17) broadcasts a news report once a month concerning the proper management and disposal of waste. Reports cover

HHW, used oil recycling, latex paint recycling. etc. Preceding the news report, the station broadcasts commercial spots ("teasers") advertising the upcoming report.

- Newspaper advertisements The KCWMD places full to quarter page color advertisements monthly in The Bakersfield California, specifically showcasing the Metro Bakersfield Special Waste Facility.
- Distribution of Bi-lingual flyers promoting services offered of the Metro Bakersfield Special Waste Facility.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

OUT1 - Public Participation

Responsible Parties

Measurable Goal	Assessment Data and Information	City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Review Program - Review the Public Participation Program and identify additional needs, if any.	*List Public Participation Program Needs, if any.*	●			O						O				●				O					
Develop New Program Components – Develop new Public Participation program components, as needed.	*New Program Components, if any.*	●			O						O				●				O					
Review Publicity Approaches - Review publicity approaches and mechanisms and revise as needed.	*Revised and new publicity mechanisms, as needed.*	●			O						O				●				O					
Conduct Events - Conduct HHW and Used Oil events.		O									●								●					
Maintain Records - Maintain records on the HHW and Used Oil events, and other wastes collected at the Specialty Waste Facility.	Number of volunteers, number of participants, type of waste, and volume collected.	O									●								●					
Litter Reduction and Abatement – Conduct litter reduction and abatement measures, including Great American Clean up Event on the Kern River.		●						O			O			O					O					
Maintain Records – Keep records of litter reduction and abatement activities.	Type of event/activity, number of events, type of waste, and volume collected.	●						O			O			O					O					

Schedule

Measurable Goal	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Program												■								
Develop New Program Components																■				
Review Publicity Approaches												■								
Conduct Events	■				■				■				■				■			
Maintain Records (HHW and Used Oil)	■				■				■				■				■			
Litter Reduction and Abatement	■	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Maintain Records (litter reduction)	■				■				■				■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
OUT2 – Hotline/Website

Description

This Control Measure involves operating a public hotline number to facilitate public reporting of illicit discharges, illegal dumping, and other observed pollution problems.

Existing Activities

The City and County receive public reports of illicit discharges to the storm drain system through the following mechanisms:

- Telephone lines at the following departments:
  - City Fire, City Police Department, City Public Works, City Water
  - County Sheriff's Department, ESPS, County Environmental Health
- City website includes a link to report an illicit discharge online.

In order to facilitate the public reporting of illegal dumping, the City/County distributes a flyers educating the general public about storm water quality issues and listing a telephone number(s) to call to report an incident. The flyer is made available through City/County offices.

ESPS maintains a "Drainage Complaint" log that records reports of flooding as well as illicit discharges.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

OUT2 – Hotline/Website

Measurable Goal	Assessment Data and Information	Responsible Parties: City: Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	Responsible Parties: County: ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Schedule: 2013-2014: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2014-2015: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2015-2016: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2016-2017: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2017-2018: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Maintain Phone Line - Maintain City and County public reporting phone numbers.		●													●										■	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Publicize Reporting Mechanisms - Promote/publicize public reporting number in various media (paper and electronic).	*Flyers and website pages.*	●													●				O						■	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Review City and County Websites - Review City and County websites and modify as needed to promote stormwater program activities, public reporting mechanisms, outreach and education. Incorporate source control/pollution prevention specifically related to zinc and copper.		●													●				O														■											
Modify Websites - Implement changes to City and County websites, as needed.	*Modified webpages/ information /links*	●			O										●				O														■											
Maintain Records – Track reports received through phone numbers. Include this information in the Illicit Discharge and Illegal Connection Database.	*Number and types of storm water program related reports.*	●			O										●																		■											

Notes:

(1) Text Format: Existing, *Modified, New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
OUT3 - Public Outreach Implementation

Description

The Public Outreach Implementation Control Measure includes developing and implementing outreach efforts to better inform the public of the stormwater management program. A key issue is for the public to make the connections between urban runoff, receiving water quality, the importance of pollution prevention and their role in stormwater management program activities.

The Permittees submitted a public outreach program for users of pesticides and fertilizers The Permittees are required to update and implement this program to:

- Coordinate with the County Agriculture Commission and Extension Service and environmental organizations, and interested stakeholders.
- Provide targeted information concerning proper pesticide use and disposal, potential adverse impacts on water quality, and alternative, less toxic methods of pest prevention and control, including IPM.
- Continue coordination with household hazardous waste collection agencies.

Existing Activities

The City and County have not currently implemented an outreach program to inform the public of the stormwater management program, and the overall objectives of improving stormwater quality and protecting receiving waters. The County, has developed outreach related to pesticides and herbicides.

County

The County has implemented a public outreach program related to the propose use, handling and disposal of pesticides and herbicides. In addition, through publicity of HHW and used oil events (see PM1), the County is promoting the message of proper waste disposal.

Specific outreach activities related to pesticides and herbicides include:

- City and County Residents are provided information and links by several County departments on the proper use, handling and disposal of pesticides and herbicides.
- County website links include the Agriculture Measurement Standards Department, California Department of Pesticide Regulations, and the Environmental Health Department webpage.
- The HHW program includes information on the proper disposal of pesticides and herbicides.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

OUT3 - Public Outreach Implementation

Measurable Goal	Assessment Data and Information	Responsible Parties																						
		City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Review Outreach Program - Review existing stormwater program educational materials/information being disseminated to the public and form of media used. Revise program as needed.	*New or revised components of the Public Outreach Program.*	●													●				O					
Review Pesticide Outreach Program - Conduct specific review of the pesticide outreach program per Permit requirements. Revise the program as needed.	*New or revised components of the Pesticide Outreach Program.*	●													●				O					
Implement New Program Components - Develop additional stormwater program educational materials (pesticide related and general program outreach) and implement distribution, as needed.	*New program materials and distribution mechanisms, as needed.*	●													●				O					
Maintain Records - Maintain records of educational materials and mechanisms for dissemination.	Education topic, type of distribution, estimated dissemination, and media employed.	●													●				O					

Measurable Goal	Schedule																			
	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Outreach Program - Review existing stormwater program educational materials/information being disseminated to the public and form of media used. Revise program as needed.												■								
Review Pesticide Outreach Program - Conduct specific review of the pesticide outreach program per Permit requirements. Revise the program as needed.												■								
Implement New Program Components - Develop additional stormwater program educational materials (pesticide related and general program outreach) and implement distribution, as needed.																■	→	→	→	→
Maintain Records - Maintain records of educational materials and mechanisms for dissemination.																	■			

Notes:

(1) Text Format: Existing, *Modified*, *New*
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(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
OUT4 - Public School Education

Description

The Public School Education Control Measure involves measures to inform and engage school-age children in stormwater management activities and pollution prevention.

Existing Activities

City and County

The City and County do not have educational programs that specifically inform and engage school-age children on the stormwater management program, scope of activities and overall objectives.

There are programs that specifically address pollution prevention and environmental education, in general. These programs include:

- The Clean Kids Puppet Shows – County Waste, in partnership with the nonprofit Community Clean Sweep, provides an interactive, environmental puppet show program to thousands of elementary-aged students each year. The Clean Kids puppet show provides an opportunity for students to become teachers. Ten children use ventriloquist-sized puppets to deliver waste management messages to the whole student body. Messages include illegal dumping, tires, proper handling of household hazardous waste delivered by such characters as Rat-enger the rat, Dulce Roja the red fox, Jamey G the ostrich, Gator Gabe the alligator, Vincent the vulture, Tux the penguin, Peanut the elephant, and Dragonetti the dragon.
- The Kern County of Superintendent of Schools Environmental Camp - This one week camp is available to all fifth and sixth graders in Kern County. The Kern Environmental Education Program (K.E.E.P.) has a two camp locations on the central coast—Los Oso and Cambria.
- The County has an active educational program that addresses a variety of topics. This program provides an educational structure to incorporate specific stormwater management educations.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

OUT4 - Public School Education

Measurable Goal	Assessment Data and Information	Responsible Parties																						
		City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Review Educational Programs - Review existing program components and identify other opportunities for education of school aged children (through schools, afterschool programs, community facilities, County educational program).		O													O				●					
Implement Existing Programs – Provide opportunities for Clean Kid Puppet show and environmental camp.		O													O				●					
Develop New Programs - Develop additional educational approaches, as needed.	New educational program components.	O													O				●					
Implement New Educational Programs - Implement educational program components, as needed.		O													O				●					
Maintain Records - Maintain records of educational events/programs.	Types of events, number of events, number of attendees.	O													O				●					

Measurable Goal	Schedule																			
	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Educational Programs - Review existing program components and identify other opportunities for education of school aged children (through schools, afterschool programs, community facilities, County educational program).								■												
Implement Existing Programs – Provide opportunities for Clean Kid Puppet show and environmental camp.	■	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Develop New Programs - Develop additional educational approaches, as needed.								■												
Implement New Educational Programs - Implement educational program components, as needed.												■	→	→	→	→	→	→	→	→
Maintain Records - Maintain records of educational events/programs.												■								

Notes:

(1) Text Format: Existing, *Modified*, New

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
OUT5 – Business Outreach

Description

The Business Outreach Control Measure involves providing educational and information materials to commercial and industrial business owners.

Existing Activities

County

The County provides outreach related to pesticide management, including:

- County Department of Agriculture sponsors and participates in a number of programs to educate users regarding the safe and responsible use of pesticides. Workshops are conducted in conjunction with the Professional Association of Pesticide Applicators (PAPA) and the California Pest Control Advisors (CPCA), two trade associations that represent pest control businesses and applicators. In addition, the Department of Agriculture has implemented educational programs that target structural pest control businesses and golf course operators.
- County Waste distributes brochures that advocate: (1) buying only the quantities of pesticides and fertilizers needed; (2) follow label directions for usage and disposal; (3) be responsible and don't put the material in the trash; and (4) save hazardous waste for a collection day. The brochures also suggests less toxic alternatives to pesticides and fertilizers. Brochures are distributed along with other materials used to promote the household hazardous waste program.
- In addition, the University of California Cooperative Extension-Farm and Home Advisors are available to the public to assist with the identification of pests and to make suggestions for control of pests using suitable means, methods, and materials. In addition, the Farm and Home Advisor can assist the public with recommendations on fertilizer requirements for various soils and plant materials. The Farm and Home Advisor works closely with the Department of Agriculture to ensure that all recommendations are in compliance with all laws and current standards of practice; Farm and Home Advisors that make pesticide and fertilizer suggestions and recommendations are licensed in accordance with State regulations. The County is working on updating it’s webpage to include a storm water page with information and links.

The County provides outreach related to illicit discharge detection and elimination, as follows:

- Dischargers contributing dry weather flows that are determined to be from illicit connections or non storm water discharges, are provided with educational materials

that explain the storm water quality concerns, legal issues, and provide details on alternatives to discharging to the storm sewer.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

OUT5 – Business Outreach

Measurable Goal	Assessment Data and Information	Responsible Parties: City — Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	Responsible Parties: County — ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Schedule: 2013-2014 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2014-2015 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2015-2016 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2016-2017 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2017-2018 — Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Identify Outreach Targets - Identify types of businesses for outreach activities.	*List of business types for outreach.*	O			●								●		●				●					O				▮														
Review Program - Review the existing outreach program and modify as needed		O			●								●		●				●					O				▮														
Implement Existing Outreach Activities – Continue outreach program (pesticide and illicit discharge related components).		O			●								●		●				●					O	▮	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→	→
Identify/Develop Program Components - Develop opportunities for business specific outreach and mechanisms for distribution information.	*New program components.*	O			●								●		●				●					O									▮									
Implement New Outreach Components- Implement new business outreach program, as needed.		O			●								●		●				●					O											▮	→	→	→	→	→	→	→	→
Maintain Records - Maintain records of business outreach programs.	*Types of materials distributed, mechanisms, targeted businesses.*	O			●								●		●				●					O									▮			▮				▮			

Notes:

(1) Text Format: Existing, *Modified, New*
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PLANNING AND LAND DEVELOPMENT (PLAN)

8.1 INTRODUCTION

The Planning and Land Development Program Element focuses minimizing impacts of stormwater discharges from new development and redevelopment.

Permit requirements can be found in **Provisions D.9, page 41**.

8.2 OBJECTIVES

The objectives of the Planning and Land Development Program include:

- Incorporate water quality and watershed protection principles into the Permittees' policies and planning procedures.
- Ensure that selected post-construction storm water controls will remain effective upon project completion by requiring a maintenance agreement and transfer or establishing a maintenance district zone for all priority development projects.
- Provide a comprehensive review of development plans to ensure that storm water quality controls are properly selected to minimize storm water quality impacts.
- Provide regular internal training on applicable components of the Storm Water Management Plan (SWMP).
- As a part of the annual reporting process, conduct an assessment (at least annually) to determine the effectiveness of the Program Element and identify any necessary modifications.

8.3 CONTROL MEASURES

The Planning and Land Development Program Control Measures include the Control Measures specifically identified in the Permit and Control Measures needed to address all of the Planning and Land Development objectives. The Planning and Land Development Control Measures include:

- PLAN1 – New/Revised Development Standards
- PLAN2 – Plan Review Sign-Off
- PLAN3 – Maintenance Agreement and Transfer
- PLAN4 – Training

The Permit includes additional detail on the requirements associated with the control measures. This information is included in the Control Measure Information Sheets.

INFORMATION SHEET
PLAN1 - New/Revised Development Standards

Description

The New/Revised Development Standards Control Measure establishes the stormwater related standards for new and redevelopment.

The Permit provides specific requirements for the Permittees Development Standards, per **Provisions D. 11, p. 43**.

Permittees shall review and revise their current Development Standards by **6 April 2015** as necessary to address the following:

- Post Development Standards - Each Permittee shall ensure that all new development and significant redevelopment projects falling under the priority project categories listed below and not draining to terminal drainage basins meet Development Standards.
- Priority Development Project Categories – For projects which do not drain to a terminal drainage basin, Development Standards requirements shall apply to: (1) significant redevelopment; (2) home subdivisions of 10 housing units or more; (3) commercial developments great than 100,000 square feet; (4) automotive repair shops; (5) restaurants; (6) parking lots 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to urban runoff; (7) streets and roads; and (8) retail gasoline outlets (RGO). Significant redevelopment is defined as the creation or addition of at least 5,000 square feet of impervious surfaces on an already developed site. Significant redevelopment includes, but is not limited to, expansion of a building footprint or addition or replacement of a structure; structural development including an increase in gross floor area and/or exterior construction or remodeling; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities related with structural or impervious surfaces. Where significant redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to the Development Standards, the numeric sizing criteria discussed below applies only to the addition, and not the entire development.
- Best Management Practices (BMP) Requirements – The Development Standards shall include a list of recommended pollution prevention, source control, and/or structural treatment control BMPs. The Development Standards shall require all new development and significant redevelopment projects falling under the above priority project categories or locations to implement a combination of BMPs selected from the recommended BMP list, including at a minimum: (1) source control BMPs and (2) structural treatment control BMPs.

- Numeric Sizing Criteria – The Development Standards shall require structural treatment BMPs, including LID BMPs where feasible, to be implemented for all priority development projects. In addition to meeting the BMP requirements listed above, all structural treatment BMPs for a single priority development project shall be sized collectively to comply with either the volume-based or flow-based numeric sizing criteria:
  - Volume-based BMPs shall be designed to mitigate (infiltrate or treat) either:
    - The volume of runoff produced from a 85th percentile, 24-hour storm event, as determined from the local historical rainfall record; or
    - The volume of runoff produced by the 85th percentile, 24-hour rainfall event, determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, Water Environment Federation (WEF) Manual of Practice No. 23/American Society of Civil Engineers (ASCE) Manual of Practice No. 87, (1998); or
    - The volume of annual runoff based on unit basin storage volume, to achieve 80 percent or more volume treatment by the method recommended in California Storm Water Best Management Practices Handbook – Industrial/Commercial, (1993); or
    - A Permittee justified design storm volume that is determined as part of the Development Standard development and approved by the Executive Officer. The treatment of this volume shall achieve approximately the same reduction in pollutant loads achieved by treatment of the 85th percentile, 24-hour runoff event.
  - Flow-based BMPs shall be designed to mitigate (infiltrate or treat) either:
    - The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity, as determined from the local historical rainfall record, multiplied by a factor of two; or
    - The maximum flow rate of runoff, as determined from local historical rainfall records, that achieves approximately the same reduction in pollutant loads and flows as achieved by mitigation of the 85th percentile hourly rainfall intensity multiplied by a factor of two.
- Equivalent Numeric Sizing Criteria - Each Permittee may develop any equivalent numeric sizing criteria or performance-based standard for post-construction structural treatment BMPs as part of the Development Standards. Such equivalent sizing criteria may be authorized for use in place of the above criteria. In the absence of development and subsequent authorization of such equivalent numeric sizing criteria, the above numeric sizing criteria requirement shall be implemented.
- Pollutants and Activities of Concern – As part of the Development Standards, each Permittee shall identify pollutants and/or activities of concern for each new development or significant redevelopment project. The Permittees shall identify the

pollutants of concern by considering the following (1) receiving water quality, including pollutants for which receiving waters are listed as impaired under CWA Section 303(d); (2) land use type of the development project and pollutants associated with that land use type; (3) pollutants expected to be present on site at concentrations that pose potential water quality concerns; (4) activities expected to be on the site; and (5) changes in flow rates and volumes resulting from the development project and sensitivity of receiving waters to changes in flow rates and volumes.

- Restaurants Less than 5,000 Square Feet - New development and significant redevelopment restaurant projects where the land area development is less than 5,000 square feet shall meet all Development Standards except for structural treatment BMP.
- Infiltration and Groundwater Protection – To protect groundwater quality, each Permittee shall consider the type of development and resulting storm water discharge and, if appropriate, apply restrictions to the use of structural BMPs, which are designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins).
- Maintenance Agreement and Transfer- Each Permittee shall require that all developments subject to Development Standards and site specific plan requirements provide verification of maintenance provisions for Structural Treatment Control BMPs, including but not limited to legal agreements, covenants, California Environmental Quality Act (CEQA) mitigation requirements, and or conditional use permits. Verification at a minimum shall include:
  - The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either
  - A signed statement from the public entity assuming responsibility for Structural Treatment Control BMP maintenance and that it meets all local agency design standards; or
  - Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or
  - Written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural Treatment Control BMPs; or
  - Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural Treatment Control BMPs.

The Permit encourages implementation of Water Quality Protection Principles for new development and redevelopment. Additional detail on the approaches and concepts are provided in **Provisions D.10, page 42**.

The City and County General Plans serve as the basis for future planning, and present opportunities for integration of watershed and stormwater quality and quantity management considerations. The Permittees are required to, revise, or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space. Additional information is provided in **Provisions D. 13, page 47**.

In addition, the Permit also requires that the Permittees CEQA process include procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. Additional information is provided in **Provisions D. 12, page 46**.

Existing Activities

The City and County are responsible, within their respective jurisdictions, for regulation and approval of construction activity in the Bakersfield metropolitan area, and have in place well developed programs for site planning. These existing programs incorporate consideration of potential water quality impacts resulting from new development and re-development. Current activities/procedures include:

- The majority (over 90 percent) of new developments and significant redevelopment in the Bakersfield metropolitan area are required to discharge storm water to terminal sumps. In addition, most of the remaining areas of new development and significant redevelopment drain to detention basins.
- The sumps and detention basins serve as storm water BMPs during the construction and post construction phase of development because sumps prevent the discharge of storm water to waters of the United States and detention basins significantly improve the quality of storm water before discharging to waters of the United States.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

PLAN1 - New/Revised Development Standards

Measurable Goal	Assessment Data and Information	Responsible Parties – City: Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	Responsible Parties – County: ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Review Existing Development Standards - Review City and County development standards and revise, as needed, to address Permit requirements.	*Revised Development Standards (if needed).*	○					●	●				●			●			●						
Implement Revised Development Standards - Implement revised (as needed) development standards.		○					●	●							●			●						

Measurable Goal	Schedule 2013-2014: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2014-2015: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2015-2016: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2016-2017: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	2017-2018: Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Existing Development Standards												■								
Implement Revised Development Standards												■								

Notes:

(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
PLAN2 - Plan Review Sign-Off

Description

The Plan Review Sign-Off Control Measure involves the processes and procedures for plan review and approval. Specifically, this Control Measure involves reviewing plans for measures to minimize impacts to stormwater quality.

As discussed in the Permit, Permittees submitted a description of the procedures for incorporating storm water BMPs into the site planning process for new developments and public works projects. The Permittees are required to update these procedures. Requirements for the procedures include:

- Each Permittee shall provide for the review of proposed project plans and require measures to ensure that all applicable development will be in compliance with storm water ordinances, local permits, and all other applicable ordinances and requirements.
- Each Permittee shall develop a process by which its Development Standards will be implemented. The process shall identify at what point in the planning process development projects will be required to meet Development Standards. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing the Development Standards, as well as any other measures necessary for the implementation of Development Standards.
- Each Permittee shall develop and implement no later than 8 September 2014, a geographic information system (GIS) or other electronic system for tracking projects that have been conditioned for post-construction treatment control BMPs. The electronic system, at a minimum, should contain the following information:
  - Municipal Project ID
  - State WDID No
  - Project Acreage
  - BMP Type and Description
  - BMP Location (coordinates)
  - Date of Acceptance
  - Date of O&M Certification
  - Inspection Dates and Summaries
  - Corrective Actions Taken
  - Date Certificate of Occupancy Issued

Existing Activities

City and County

Since the majority (over 90 percent) of new developments and significant redevelopment in the Bakersfield metropolitan area are required to discharge storm water to terminal sumps, and most of the remaining areas of new development and significant redevelopment drain to detention basins, many projects are not required to have project specific stormwater control measures. For projects that do not discharge to terminal sumps, the City and County require stormwater management measures and they are a condition for plan approval.

While the City and County believes that it is the owner's/developer's/builder's responsibility to know, understand, and comply with all regulations and codes regarding their own individual projects, the City and County attempts to introduce the requirements of the General Construction Permit and other storm water requirements into projects at the earliest possible opportunity, so that these requirements can be incorporated into projects, rather than be added to projects. This is generally accomplished as follows:

- Environmental Review. As part of the California Environmental Quality Act (CEQA) discretionary projects are required to address storm water quality management, both during and after construction as part of the environmental review process.
- Tract Maps/Parcel Maps. The plan review process and requirements depend on the type of project, proposed approach for stormwater drainage, and discharge point (terminal sump or connection to a storm drain system). Plans are conditioned to ensure that adequate drainage facilities are proposed in accordance with the proposed development. Requirements for plan approval may include preparing a stormwater drainage study that shows the assumptions and methodology of the design, and the appropriate hydrologic and hydraulic calculations for the storm drain infrastructure as well as any required BMPs.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

PLAN2 - Plan Review Sign-Off

		Responsible Parties																							Schedule																			
		City													County										2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
Measurable Goal	Assessment Data and Information	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Plan Review Procedures/Criteria – Review plan review procedures/criteria and revise as needed for consistency with development standards and Permit requirements.	<u>*Revised Plan Review Procedures.*</u>	O				●	●	O				O			●	●	●	O																		■								
Implement Plan Review Procedures – Implement use of revised plan review procedures/criteria.		O				●	O	●				O			●	●	●																			■								
<u>*Post Construction Control Inspections - Conduct inspections of completed priority projects to verify use and maintenance of control measures.*</u>		O				●		●							●	●	●																■	→	→	→	→	→	→	→	→	→	→	→
<u>*Track Post Construction Controls – Track implementation/inspection of controls in the Construction Project Database. Include Municipal Project ID, State WDID No., acreage, BMP type/description, BMP Location, date of acceptance, date of O&M certification, inspections, corrective actions, date certificate of occupancy.*</u>	<u>*Number of projects approved for post construction BMPs, types of BMPs, inspection results.*</u>	O				●		●							●	●	●												■				■				■				■			

<u>Notes:</u>

(1) Text Format: Existing, *Modified*, <u>*New*</u>
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

INFORMATION SHEET
PLAN3 - Maintenance Agreement and Transfer

Description

The Maintenance Agreement and Transfers Control Measures establish the procedures for ensuring that stormwater controls (BMPs) will be maintained to ensure effectiveness.

Existing Activities

City

The City does not have a formal process for implementing maintenance agreements for stormwater control measures on private sites.

County

The County's grading ordinance requires the developer to maintain the drainage facilities; however, a County Service Area (CSA) can be established if the drainage facility is to be publically maintained. In this case each subdivision parcel is assessed an annual fee/assessment which is used to maintain the drainage facilities.

For private subdivisions, the developer is required to establish a Home Owners Association (HOA) or Property Owners Association (POA) where the adopted Conditions, Covenants, and Restrictions (CC&Rs) designate the drainage facility maintenance to the HOA/POA. At the same time, a CSA overlay is created and if the HOA/POA fails to adequately maintain the drainage facilities the CSA can be enacted to collect annual fees/assessments for the County to maintain the drainage facilities.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

PLAN3 - Maintenance Agreement and Transfer

		Responsible Parties																						
		City													County									
Measurable Goal	Assessment Data and Information	Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Review Maintenance Agreement – Review existing or develop new stormwater treatment maintenance agreements, as necessary.	*<u>Revised or new maintenance agreements</u>*	O					●	●							●									
Implement requirements for stormwater treatment maintenance agreements		O					●	●							●									
Maintain Records – Track stormwater treatment agreements in the Construction Project Database	*<u>Number of agreements, and parties responsible for stormwater treatment system maintenance</u>*	O					●	●							●									

	Schedule																			
	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
Measurable Goal	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Maintenance Agreement – Review existing or develop new stormwater treatment maintenance agreements, as necessary.													■							
Implement requirements for stormwater treatment maintenance agreements														■						
Maintain Records – Track stormwater treatment agreements in the Construction Project Database																	■			

<u>Notes:</u>

(1) Text Format: Existing, *Modified*, *<u>New</u>*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

INFORMATION SHEET
PLAN4 - Training

Description

The Training Control Measure focuses on providing information on planning and land development standards and post construction controls.

Existing Activities

City and County

The City and County do not have a formal training program for staff involved reviewing plans for consistency with development standards and requirements for post construction controls.

As discussed, the majority (over 90 percent) of new developments and significant redevelopment in the Bakersfield metropolitan area are required to discharge storm water to terminal sumps, and most of the remaining areas of new development and significant redevelopment drain to detention basins, many projects are not required to have project specific stormwater control measures.

Measurable Goals, Assessment Data and Information, Implementation Plan

The Measurable Goals, Assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

PLAN4 - Training

Measurable Goal	Assessment Data and Information	Responsible Parties																						
		City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Review Training Program - Review training activities and identify any additional needs		O					●					O			●	●		●						
Develop additional training program components, as needed	*Revised plan review training, as needed*	O					●					O			●	●		●						
Implement Training – Implement training and maintain training records	*Number and types of training sessions held, topics, and attendees*	O					●					O			●	●		●						

Measurable Goal	Schedule																			
	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Review Training Program - Review training activities and identify any additional needs													■							
Develop additional training program components, as needed														■						
Implement Training – Implement training and maintain training records															■	→	→	→	→	→

Notes:
(1) Text Format: Existing, *Modified*, *New*
(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility
(3) Solid Arrow = Indicates an ongoing activity

MONITORING AND REPORTING

9.1 INTRODUCTION

The Monitoring and Reporting Program requirements are included in the Permit (as part of Order R5-2013-0153, NPDES CA0083399).

9.2 OBJECTIVES

As described in the Permit the primary objectives of the Monitoring Program shall include, but not be limited to:

- Assessing compliance with (Waste Discharge Requirements (WDR) Order R5-2013-0153
- Measuring and improving the effectiveness of the Storm Water Management Plan (SWMP)
- Assessing the chemical, physical, and biological impacts on receiving waters resulting from urban runoff
- Characterizing urban runoff
- Identifying sources of pollutants
- Assessing the overall health and evaluating long-term trends in receiving water quality

9.3 MONITORING REQUIREMENTS

Ultimately, the results of the monitoring requirements outlined below shall be used to refine the SWMP to reduce pollutant loadings and protect and enhance the beneficial uses of the receiving waters in the Bakersfield Urbanized Area. The monitoring requirements consist of the following:

- Baseline Monitoring
  - Wet Weather Monitoring
  - Receiving Water Monitoring
  - Dry Weather Field screening
- Special Studies
  - Monitoring Data Assessment Methodology (see City of Bakersfield and County of Kern, 2015)
  - Copper and Zinc Investigation and Reduction Plan (see City of Bakersfield and County of Kern, 2015)

This chapter focuses on the Baseline Monitoring requirements. The Copper and Zinc Investigation and Reduction Plan is anticipated to include additional stormwater system monitoring. The rationale and scope of any additional monitoring will be described in the Copper and Zinc Investigation and Reduction Plan.

9.3.1 Wet Weather Monitoring

The Wet Weather Monitoring requirements include collecting wet weather samples from the following three locations (see Figure 9.1) during two qualifying storm events:

- Mohawk Drive outfall to the detention basin
- North Chester Avenue manhole access north of the Golden State Overpass
- Hawthorne Ravine at the intersection of Hawthorne Avenue and River Boulevard

The drainage areas of the three outfalls have different land use characteristics. The predominant land uses are industrial, commercial and residential for the North Chester, Mohawk and Hawthorne sites.

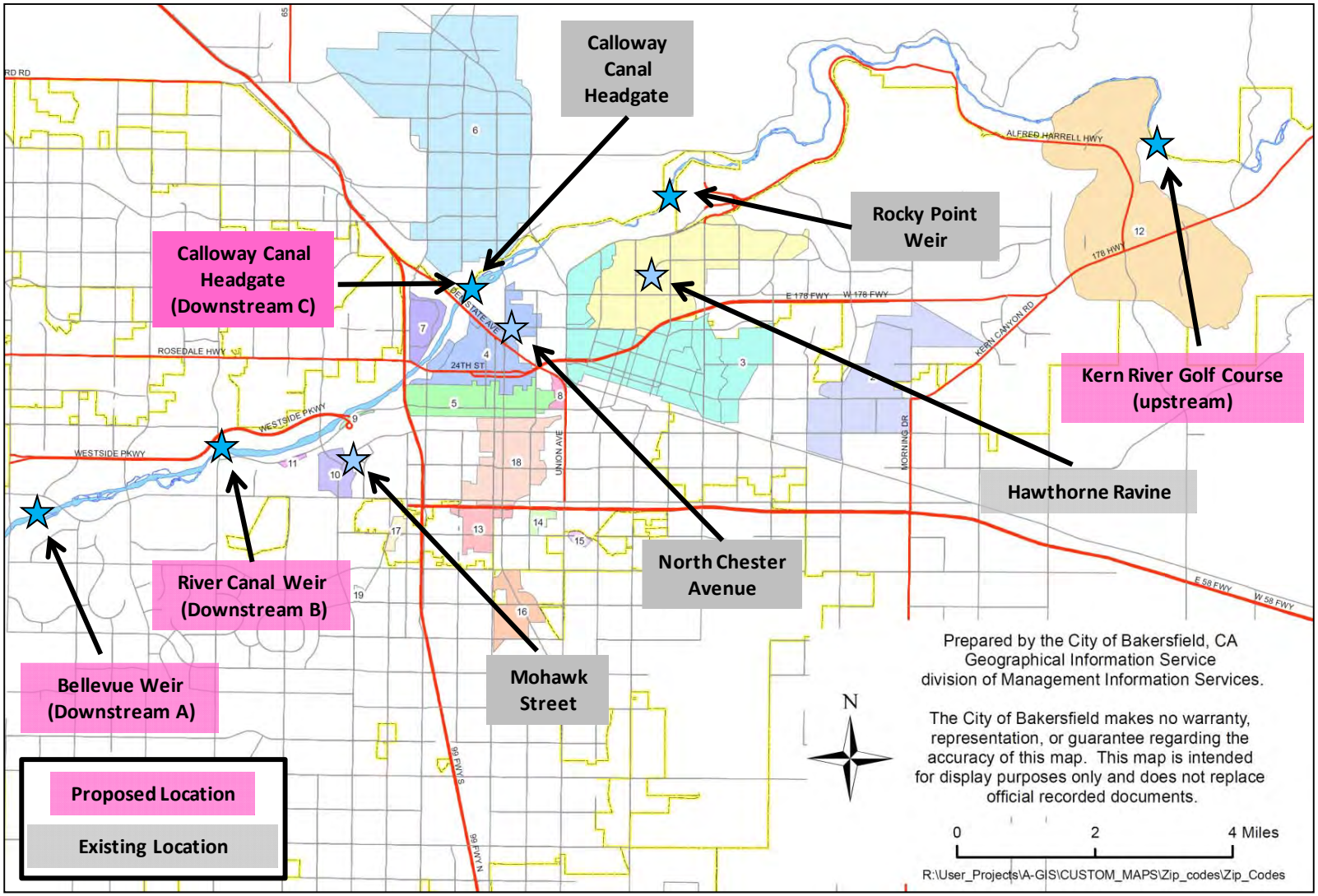
Required analyses are provided in Table 1 in the Monitoring and Reporting Program of the Permit, and include metals, organics, conventional pollutants, and bacterial analyses. Attachment 1 of the Monitoring and Reporting Program includes requirements for analytical limits. The Permit also includes the definition of a qualifying storm event.

9.3.2 Receiving Water Monitoring

The Receiving Water Monitoring requirements include collecting samples at the following upstream and downstream monitoring locations:

- Rocky Point Weir
- Calloway Headgate

While the receiving water monitoring locations are identified in the Permit, as part of the Monitoring Data Assessment Methodology (Special Study), the Permittees are required to evaluate whether other receiving water monitoring locations would be more effective for assessing the impacts of the MS4 discharge. The Proposed Monitoring Data Assessment Methodology presents the rationale for modifying the receiving water monitoring locations. Any change in monitoring locations is subject to RWQCB approval.



WET WEATHER AND RECEIVING WATER MONITORING LOCATIONS

FIGURE 9.1

pw://Carollo/Documents/Client/CA/Bakersfield/9622A00/Deliverables/Figure 9_1

Proposed modifications to the receiving water monitoring locations are shown in Figure 9.1 and include:

- Relocation of the Upstream Monitoring Location – The proposed new upstream monitoring location is at the Golf Course.
- Relocation of the Downstream Monitoring Location –The proposed approach is to utilize a variable location for the downstream monitoring location:
  - The first, second and third preference for the downstream monitoring location is the Bellevue Weir (downstream A), the River Canal Weir (downstream B) and the Calloway Headgate (downstream C).
  - The field crew will attempt to collect a sample at the Bellevue Weir. If there is no water in the Kern River at that location then field crew will move upstream to the River Canal Weir. The field crew will attempt to collect a sample at the River Canal Weir. If there is no water in the Kern River at that location then field crew will move upstream to the Calloway Headgate. The field crew will attempt to collect a sample at the Calloway Headgate. If there is no water at this location, then it will be noted that a downstream sample could not be collected.

The Permit requires that samples be collected during two storm events and once during the dry season. Required analyses are provided in Table 1 in the Monitoring and Reporting Program of the Permit. Attachment 1 of the Monitoring and Reporting Program includes requirements for analytical limits.

9.3.3 Dry Weather Field Screening

The Dry Weather Field Screening requirements include dry weather monitoring of all of the outfalls in the MS4 each year. If there is sufficient flow to conduct field monitoring, then flow will be analyzed in the field for temperature, pH, phenols, chlorine, total copper, specific conductance (EC), methyl blue activated substances (detergents/ surfactants), and turbidity. Follow-up actions are required if dry weather field screening Action Levels, presented in Table 2 of the Monitoring and Reporting Program, are exceeded. Attachment 1 of the Monitoring and Reporting Program includes requirements for analytical limits.

9.4 REPORTING REQUIREMENTS

The Monitoring and Reporting Program includes the requirements for Annual Reports and Annual Workplan. The implementation schedule and responsible parties for preparation and delivery of these documents, are included in PM4. The Permit requires that the Annual Reports include results of the baseline monitoring and any other monitoring that is conducted (i.e. for the copper and zinc investigation). The Permit also requires that the Annual Workplan outlines the planned baseline and any other monitoring to be conducted in the following year.

In addition, as discussed in Chapter 10, the baseline monitoring results provided information for Program Effectiveness and Assessment. The results of the wet weather, receiving water, and dry weather monitoring, will be used (as indicated in Chapter 10) to assess the effectiveness of implementing stormwater management program activities and control measures.

9.5 MONITORING PROGRAM IMPLEMENTATION

The Monitoring Program components, assessment Data and Information, Responsible Parties, and Implementation Schedule are summarized in the following table.

Monitoring Program

Responsible Parties

Measurable Goal	Assessment Data and Information	City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Wet Weather Monitoring [1]	Water Quality Data	●													●									
Receiving Water Monitoring [2]	Water Quality Data	○													●									
Dry Weather Field screening [3]	Field Screening Results and Water Quality Data	●													●									

Schedule

Measurable Goal	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Wet Weather Monitoring [1]		■	■			■	■			■	■			■	■			■	■	
Receiving Water Monitoring [2]	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Dry Weather Field screening [3]	■			■	■			■	■			■	■			■	■			■

Notes:

Text Format: Existing, *Modified*, New

Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

(1) The timing of wet weather events is based on hydrologic conditions. Sampling will be conducted per Permit requirements. Qualifying storms are most likely to occur in December through March.

(2) Receiving water monitoring requires two storm and one dry event. Sampling will be conducted per Permit requirements. Qualifying storms are most likely to occur in December through March, and dry conditions are likely between April and September.

(3) Dry weather field screening is based on hydrologic conditions. Field screening will be conducted per Permit requirements. Dry conditions are likely between April and September.

PROGRAM EFFECTIVENESS AND ASSESSMENT

10.1 INTRODUCTION

The Permit requires that the Permittees assess the effectiveness of the storm water program. Effectiveness Assessment is the process that is used to evaluate if programs are resulting in desired Outcomes (CASQA, 2007). The Outcomes are defined as the results of implementing a stormwater control measure, program element or overall program (CASQA, 2007). Effectiveness Assessments are an important component of the overall adaptive management or iterative approach to stormwater management.

Permit requirements can be found in **Provisions D.19, page 48**.

10.2 OBJECTIVES

The objectives of the Program Effectiveness Assessment include:

- Identifying the direct and indirect measurements that the Permittees used to track the effectiveness of their programs as well as the outcome levels at which the assessment is occurring. Direct and indirect measurements shall include, but not limited to, conformance with established Performance Standards, quantitative monitoring to assess the effectiveness of Control Measures, measurements or estimates of pollutant load reductions or increases from identified sources, raising awareness of the public, and/or detailed accounting/documentation of SWMP accomplishments.
- Tracking the long-term progress of their SWMP towards achieving improvements in receiving water quality.
- Using the information gained from the program effectiveness assessment to improve their SWMPs and identify new BMPs, or modification of existing BMPs. This information shall be reported within the Annual Reports.
- Collaborative development of a (Long Term Effectiveness Assessment) LTEA strategy, which shall build on the results of the Permittees' Annual Reports and the initial program effectiveness assessments. The LTEA shall be submitted to the Central Valley Water Board no later than 180 days prior to the permit expiration date of 6 December 2018 and shall identify how the Permittees will conduct a more comprehensive effectiveness assessment of the storm water program as part of the SWMP. The strategy will address the storm water program in terms of achieving both programmatic goals (raising awareness, changing behavior) and environmental goals (reducing pollutant discharges, improving environmental conditions).

10.3 APPROACH

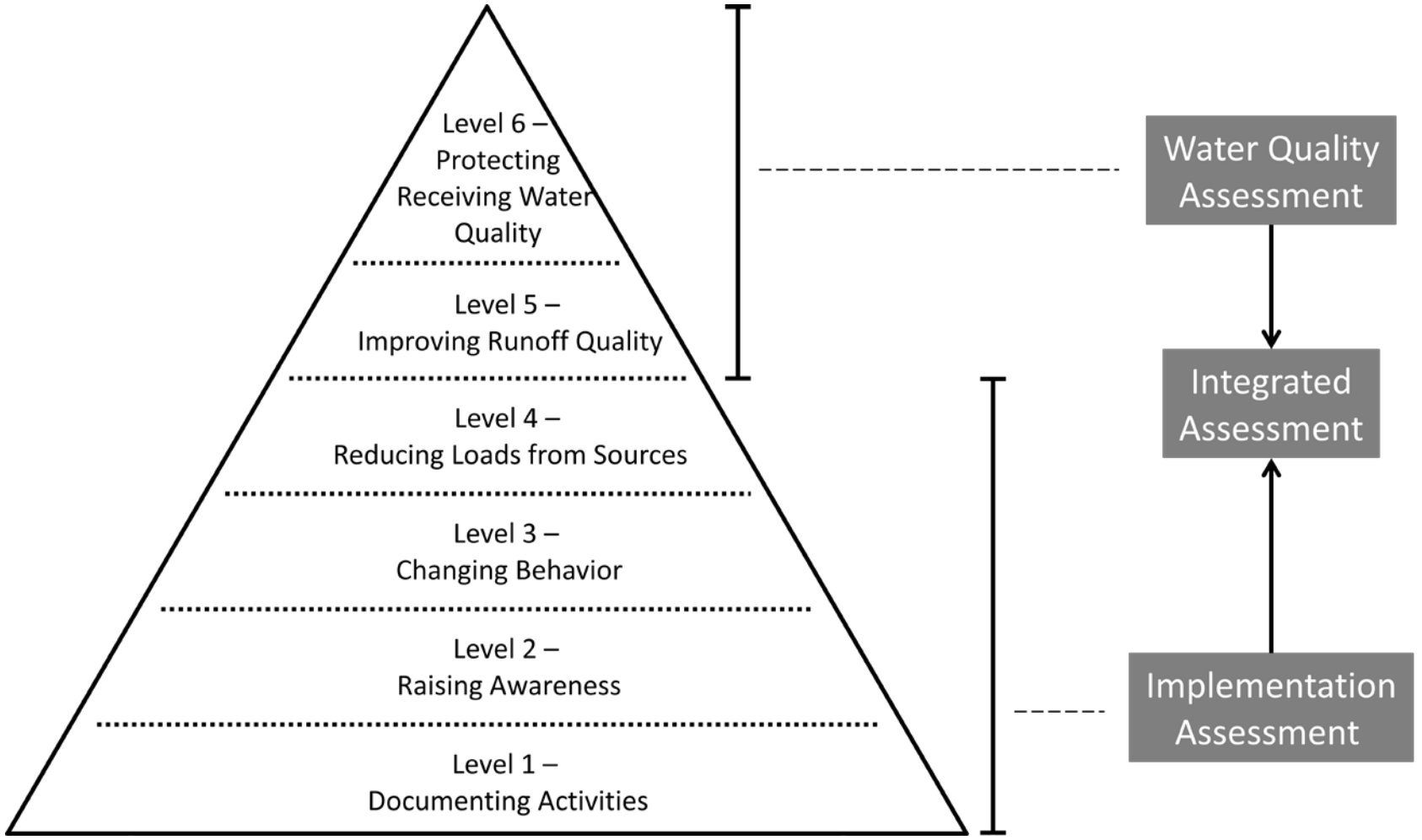
The Program Effectiveness Assessment approach follows the Municipal Stormwater Program Effectiveness Assessment Guidance (CASQA, 2007). This section outlines the main elements of the effectiveness assessment process, including:

- Effectiveness Assessment Outcomes
- Types of Effectiveness Assessments
- Adaptive Management Approach

10.3.1 Effective Assessment Outcomes

Outcomes refer to the results of a control measure, program element, or overall program and are categorized into six Outcome Levels, as shown in Figure 10.1. CASQA (2007) and EPA provide descriptions of the six Outcome Levels and the key questions regarding the outcomes that may be accomplished by a program element or control measure. The following discussion is adapted from these references:

- Level 1 – Documenting Activities: Many program activities are either required by or necessary to meet the requirements of storm water permits. Level 1 Outcomes provide a means of evaluating whether or not program activities are being implemented in accordance with permit requirements.
  - Key question: Is the program element/control measure being implemented in accordance with the Permit Provisions, SWMP control measures, and performance standards
- Level 2 - Knowledge and Awareness: An important goal of storm water programs is to increase the knowledge and awareness of target audiences such as residents, businesses, and municipal employees. Increasing awareness and changing attitudes about storm water pollution and control measures is generally assumed to be necessary as a basis for achieving targeted behavioral changes. Level 2 Outcomes provide a means of gauging whether outreach, training, or other facilitation activities are achieving progress toward these changes
  - Key question: Does the program element/control measure raise the target audience's awareness of an issue?
- Level 3 – Behavior: A wide variety of behaviors are addressed by municipal storm water programs. For example as a result of education and outreach, residents may pick up after their pets, or reduce pesticide use in their gardens. Likewise, municipal employees may be required to modify road maintenance practices, or to install and maintain permanent post-construction structural BMPs. Level 3 Outcomes measure the effectiveness of programs in effecting changes in the behavior of target populations.



SOURCE: ADAPTED FROM CASQA (2007)

EFFECTIVENESS ASSESSMENT OUTCOME LEVELS

FIGURE 10.1

CITY OF BAKERSFIELD AND COUNTY OF KERN
2014 STORM WATER MANAGEMENT PLAN

pw://Carollo/Documents/Client/CA/Bakersfield/9622A00/Deliverables/Figure 10_1

  - Does the program element/control measure change a target audience's behavior which will result in the implementation of recommended BMPs?

- Level 4 - Source Load Reductions: Source load reductions are changes in the amounts of pollutants associated with specific sources before and after a BMP or control measure is implemented. Reductions can be measured in terms of a pollutant load or in the volume of water that is being discharged.
  - Does the program element/control measure reduce the load of pollutants from the sources to the storm drain system?

- Level 5: Storm Drain System Discharge Quality & Hydrology: A primary focus of stormwater management programs is to reduce pollutants in stormwater to the maximum extent practicable, and to ensure that these discharges do not cause or contribute to violations of water quality standards in receiving waters. In many respects, Level 5 Outcomes may be measured as reductions in one or more specific pollutants, and may reflect effectiveness at a variety of scales ranging from site-specific to programmatic.
  - What is the quality of the storm drain system discharge to receiving waters and how has this quality changed with time?

- Level 6: Receiving Water Conditions: The overriding objective of storm water management programs is to protection of receiving waters. Changes to receiving water and environmental quality may be expressed through a variety of outcomes. Level 6 assessments may be complicated by the fact that receiving water conditions may reflect pollutants and flows discharged from sources other than MS4s.
  - What is the receiving water quality and are there measurable changes in water quality with time?

Program elements and control measures will typically have Outcomes at more than one of the Levels described above and not all Outcome Levels will necessarily be applicable to all activities. In addition, the Outcome Levels associated with individual control measures may be different than those associated with a program element or the overall program. For example, changes in behavior (Level 3) or awareness (Level 2) may be attributed to a single control measure or to a program element. However, changes in runoff quality (Level 5) or receiving water quality (Level 6) are more likely to be the result of implementing a combination of control measures, an entire program element or an overall program (CASQA 2007).

10.3.2 Types of Effectiveness Assessments

There are different types of assessments that may be conducted as part of the process of assessing the overall effectiveness of a storm water program. The three main types of assessments and relationships between outcome Levels are shown in Figure 5. CASQA (2007) provides the following descriptions of the three assessment types:

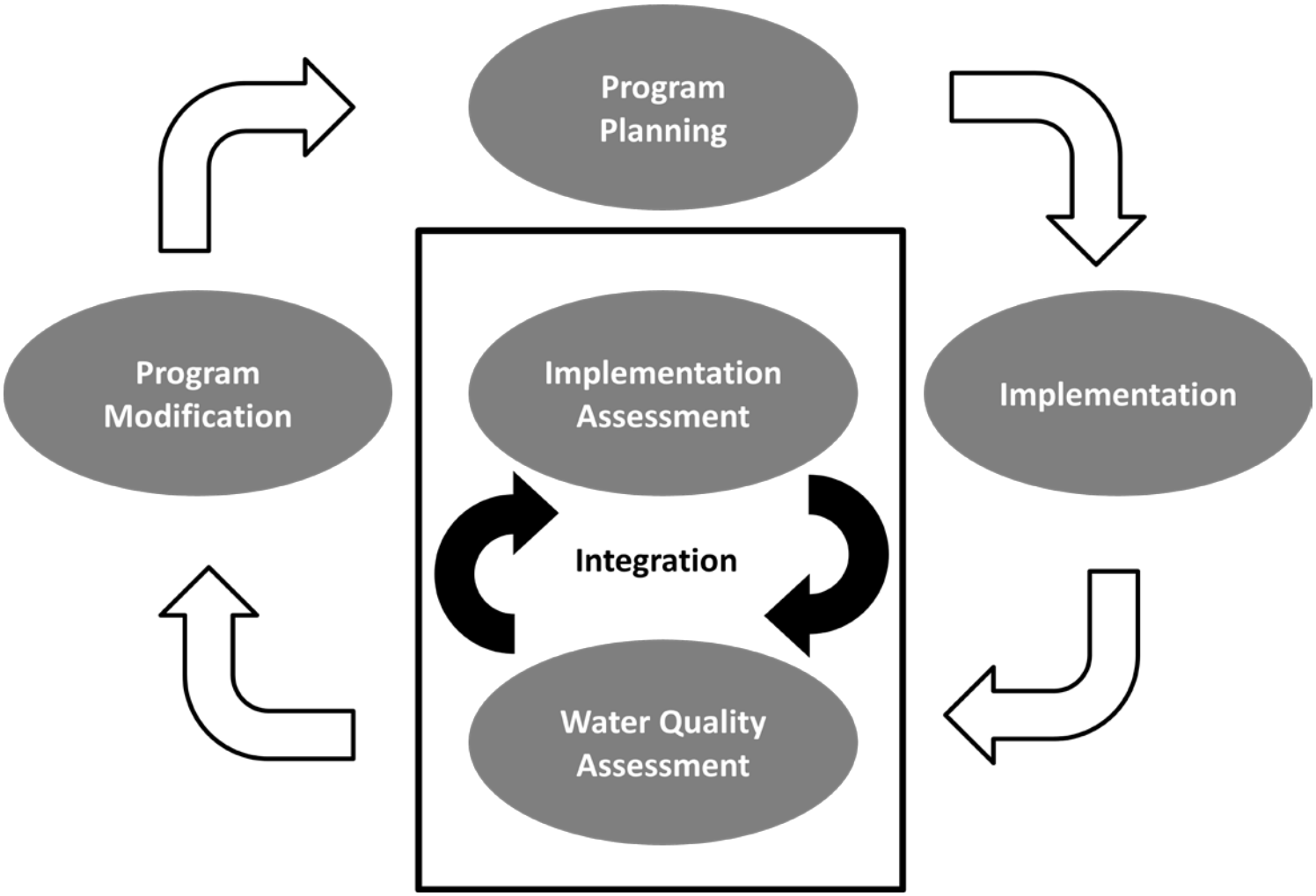
- Implementation Assessment - Implementation assessment is the analysis of the effectiveness of a program element or control measure at meeting a target programmatic Outcome or goal. As depicted in Figure 10.1, implementation assessments evaluate the success of meeting Outcomes at Levels 1 to 4. Implementation assessments may include the analysis of the program element or control measures. Implementation assessments typically focus on specific BMPs such as inspections, street sweeping, debris collection, or the development/ implementation of BMPs.
- Water Quality Assessment - Water quality assessments use environmental data and related information to characterize the quality of stormwater discharges and the water bodies that receive these discharges. This type of assessment can include a variety of chemical, biological, and physical parameters. Water quality assessments are typically used to draw conclusions about overall program effectiveness, and results are usually general and require extended periods of monitoring and analysis.
- Integrated Assessment - Integrated assessment is the process of evaluating whether stormwater program implementation is resulting in the protection or improvement of water quality. In this process, relationships between program activities and water quality improvements are explored and refined. Because of the number and variety of BMPs being implemented at any given time, and because many factors external to stormwater programs affect water quality, establishing these relationships is challenging.

10.3.3 Adaptive Management Approach

The adaptive management approach to storm water management is an iterative process that relies on the assessments to provide a basis for making program improvements and modifications. Modifications may include:

- Improving upon areas that did not accomplish goals
- Expanding upon efforts that proved to be effective
- Discontinuing efforts that may no longer be productive
- Shifting priorities to make more effective use of resources

The general adaptive management approach is shown in Figure 10.2. Program modification can be conducted based on information obtained through either implementation assessment, water quality assessment or through a combination of the two (i.e., integrated assessment).



ADAPTIVE MANAGEMENT APPROACH

SOURCE: ADAPTED FROM CASQA (2007)

FIGURE 10.2

CITY OF BAKERSFIELD AND COUNTY OF KERN
2014 STORM WATER MANAGEMENT PLAN

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pw://Carollo/Documents/Client/CA/Bakersfield/9622A00/Deliverables/Figure 10_2

The results of program assessments and any proposed modifications to the SWMP will be included in the Permittees Annual Reports.

10.4 PROGRAM MANAGEMENT - PROGRAM EFFECTIVENESS ASSESSMENT

The following tables outline the information and outcome levels for assessing the effectiveness of the program management control measures. The information and data collected as described for the Program Elements provide the data/information used to assess the stormwater program effectiveness. Tables 10.1 through 10.7 correspond to each of the Program Elements.

Table 10.1 Program Management - Effectiveness Assessment Outcomes
Storm Water Management Plan
City of Bakersfield and County of Kern

Outcome Level		Description
PM1 – Program Coordination		
1.	Document Activities	✓ Reviewed/Revised report formats ✓ Tables of departmental responsibilities ✓ List of Steering Committee members
2.	Knowledge and Awareness	✓ Staff attendance at meetings
PM2 – Legal Authority		
1.	Document Activities	✓ Reviewed/Revised ordinances completed ✓ Legal authority statements provided to the CVRWQCB
PM3 – Fiscal Analysis		
1.	Document Activities	✓ Annual program expenditures reported ✓ Program funding identified
PM4 – Annual Work Plan and Annual Reporting		
1.	Document Activities	✓ Reviewed/Revised Annual Report format

Table 10.2 Construction - Effectiveness Assessment Outcomes
Storm Water Management Plan
City of Bakersfield and County of Kern

Outcome Level		Description
CONST1 – Source Identification (Inventory)		
1.	Document Activities	✓ Established/Maintained a Construction Project Database and maintained ✓ Number of active and completed projects ✓ Number of projects requiring a Construction General Permit

Table 10.2 Construction - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
CONST 2 Threat to water quality prioritization		
1.	Document Activities	✓ Documented procedures for calculating threat to water quality.
2.	Knowledge and Awareness	✓ Number of high threat construction projects. Number of medium, and low threat construction projects
3.	Behavior	✓ Increased inspection frequency of high threat projects (if any)
CONST 3- Plan Review and Approval		
1.	Document Activities	✓ Reviewed/Revised plan review process, forms, checklists (including revised Grading Plan Checklist) ✓ Number of information sheets provided to permit applicants ✓ Number of plans reviewed and grading permits issued
2.	Knowledge and Awareness	✓ Percentage of plans requiring revisions ✓ Percentage of projects requiring NOIs to projects that submitted NOIs
CONST 4 Construction Site Inspections		
1.	Document Activities	✓ Reviewed/Revised Construction Site Inspection Checklist ✓ Construction site inspections tracked in Construction Project Database
2.	Knowledge and Awareness	✓ Number of construction sites and inspections conducted per site ✓ Number of active construction sites
3.	Behavior	✓ Percentage of construction sites with proper BMP implementation, year to year ✓ Percentage and number of construction sites requiring follow-up action, year to year ✓ Percentage and number of construction sites in compliance after follow-up action
CONST 5 Progressive enforcement of non-compliant sites		
1.	Document Activities	✓ Reviewed/Revised enforcement procedures ✓ Number of violations and types enforcement measures tracked in Construction Project Database
2.	Knowledge and Awareness	✓ Percentage and number of construction sites requiring enforcement actions ✓ Percentage and number of construction sites requiring enforcement actions beyond verbal notification
3.	Behavior	✓ Percentage and number of construction sites in compliance after verbal notification ✓ Percentage and number of construction sites in compliance after additional (beyond verbal) notification

Table 10.2 Construction - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
CONST 6 Reporting of recalcitrant non-compliant sites		
1.	Document Activities	✓ Reviewed/Revised procedures for reporting sites to RWQCB ✓ Number of sites reported to the RWQCB tacked in Construction Project Database
2.	Knowledge and Awareness	✓ Percentage of construction sites subject to the Construction General Permit that required reporting to the RWQCB
CONST 7– Internal and External Training		
1.	Document Activities	✓ Internal training program identified/developed (topics/agendas) ✓ External training identified/developed (topics/agenda)
2.	Knowledge and Awareness	✓ Internal training sessions held, topics/agenda, and attendees ✓ Training/education provided to businesses ✓ Percentage of inspectors that are QSP certified ✓ Percentage of inspectors that have received internal training
3.	Behavior	✓ Increased knowledge of construction program (based on training feedback)

Table 10.3 Commercial and Industrial - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
CI1 - Develop/Maintain Facility Inventory		
1.	Document Activities	✓ Developed/Maintained Commercial and Industrial Facility Database ✓ Developed/Maintained a GIS map of Commercial and Industrial Facilities
CI2 – Prioritize Facilities		
1.	Document Activities	✓ Documented prioritization criteria and inspection frequency ✓ Categorization of high priority sites in the Commercial and Industrial Facility Database ✓ Number of high priority sites ✓ Number of facilities with coverage under the Industrial General Permit

Table 10.3 Commercial and Industrial - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
CI3 – Facility Inspection		
1.	Document Activities	✓ Reviewed/Revised Commercial and Industrial Inspection procedures and checklists
2.	Knowledge and Awareness	✓ Number of high priority facilities inspected ✓ Number of facilities inspected that are covered under the Industrial General Permit ✓ Percentage and number of facilities inspected in compliance with codes and ordinances ✓ Percentage and number of facilities inspected that are implementing BMPs ✓ Percentage and number of facilities inspected that have been checked for compliance on the Industrial General Permit. ✓ Percentage and number of facilities requiring follow-up inspection/activities
CI4 – Enforcement		
1.	Document Activities	✓ Reviewed/Revised enforcement procedures ✓ Enforcement actions tracked in Commercial and Industrial Database
3.	Behavior	✓ Number and percentage of facilities that required enforcement actions ✓ Number and percentage of facilities requiring more than verbal warning ✓ Number and percentage reported to the CVRWQCB
CI5 – Training		
1.	Document Activities	✓ Training program identified/developed (topics/agenda)
2.	Knowledge and Awareness	✓ Number of training sessions and number of attendees
3.	Behavior	✓ Increased knowledge of Commercial and Industrial Program based on training feedback

Table 10.4 Municipal Operations - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
MUN1-Sanitary sewer overflow and spill response		
1.	Document Activities	✓ Reviewed/Revised inspection procedures ✓ Reviewed/Revised spill response procedures ✓ Number of SSO events, types of events

Table 10.4 Municipal Operations - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
2.	Knowledge and Awareness	✓ Volume and quality of discharge to receiving water from and SSO event
MUN 2 - Construction requirements for municipal capital improvement projects		
1.	Document Activities	✓ Number and percentage of City/County Projects receiving design review ✓ Number and percentage of City/County projects with NOIs filed
2.	Knowledge and Awareness	✓ Number and percentage of City/County projects that require revisions based on plan review
MUN 3 - Pollution prevention at Permittee facilities		
1.	Document Activities	✓ Inventory of City/County facilities with potential for pollutant discharges to storm drain system.= ✓ Number of facilities with pollution prevention plans
2.	Knowledge and Awareness	✓ Reviewed/Revised Pollution Prevention Plans
3.	Behavior	✓ Number and of facilities that require pollution prevention plans and number of plans implemented
MUN 4 - Landscape and pest management		
1.	Document Activities	✓ Reviewed/Revised pesticide and fertilizer application procedures
2.	Knowledge and Awareness	✓ List of certified employees ✓ Volume of pesticide or fertilizer use, area applied, and active ingredients
3.	Behavior	✓ Percentage difference in pesticide application year to year ✓ Percentage difference in fertilizer application year to year
MUN 5 - Storm drain system maintenance		
1.	Document Activities	✓ Developed/Maintained Strom Drain System Maintenance Database ✓ Storm drain maps ✓ Documented prioritization criteria/process ✓ Reviewed/Revised scheduled maintenance activities
2.	Knowledge and Awareness	✓ Number of systems and system type maintained ✓ Percentage of storm drain inlets marked ✓ Volume of vegetation, sediment, debris removed in each system
3.	Behavior	✓ Volume of vegetation, sediment, debris and percent difference year to year ✓ Percent different in inlets marked year to year

Table 10.4 Municipal Operations - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
4.	Source Load Reduction	✓ Pounds of sediment that was not transported to receiving water through maintenance activities
MUN 6 - Street cleaning and maintenance		
1.	Document Activities	✓ Reviewed/Revised prioritization criteria/process ✓ Developed/Maintained Street Cleaning Database
2.	Knowledge and Awareness	✓ Miles swept, frequency, volume of debris removed ✓ Percentage of miles swept to total street miles
3.	Behavior	✓ Percentage difference in miles swept year to year ✓ Percentage difference in debris volume removed year to year
4.	Source Load Reduction	✓ Pounds of debris that was not transported to receiving water through street sweeping activity
MUN 7 - Parking facilities maintenance		
1.	Document Activities	✓ Reviewed/Revised procedures for parking lot sweeping ✓ Parking lot sweeping tracked in Street Sweeping Database
2.	Knowledge and Awareness	✓ Number of lots swept, and volume of debris removed
3.	Behavior	✓ Percentage difference in number of lots swept year to year ✓ Percentage difference in debris volume removed from lots year to year
4.	Source Load Reduction	✓ Pounds of debris that was not transported to receiving water through street sweeping activity
MUN 8 - Retention/detention basin construction and maintenance		
1.	Document Activities	✓ Reviewed/Revised prioritization criteria ✓ Tracked maintenance activities in Storm Drain System Maintenance Database
2.	Knowledge and Awareness	✓ Number of systems and system type maintained ✓ Volume of vegetation, sediment, debris removed in each system
3.	Behavior	✓ Volume of vegetation, sediment, debris and percent difference year to year
4.	Source Load Reduction	✓ Pounds of debris that was not transported to receiving water through street sweeping activity
MUN 9 - Public industrial activities management		
1.	Document Activities	✓ Inventory of public industrial facilities
2.	Knowledge and Awareness	✓ Number of facilities with coverage under the Industrial General Permit

Table 10.4 Municipal Operations - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
MUN 10 - Emergency procedures		
1.	Document Activities	✓ Reviewed/Revised emergency procedures
2.	Knowledge and Awareness	✓ Number and type of emergencies ✓ Measures implemented to minimize impacts to storm drain system and receiving waters
MUN 11 - Non-emergency firefighting flows		
1.	Document Activities	✓ Reviewed/Revised protocols for non-emergency firefighting flows
MUN 12 - Training		
1.	Document Activities	✓ Identify/Develop training (training topics, agenda)
2.	Knowledge and Awareness	✓ Number of training sessions, topics, and attendees.
3.	Behavior	✓ Increased knowledge of Municipal Operations Program, based on feedback from attendees

Table 10.5 Illicit Connections and Illicit Discharges - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
ICID1 - Detection of Illicit Discharges and Illegal Connections		
1.	Document Activities	✓ Reviewed/Revised communication procedures ✓ Reviewed/Revised outfall prioritization criteria/process ✓ Developed/Maintained Illicit Discharge and Illegal Connection Database
2.	Knowledge and Awareness	✓ Number of illicit discharges and illegal connections identified, locations and source of information ✓ GIS mapping of illicit discharges and illegal connections
3.	Behavior	✓ Number of illegal discharges identified year to year ✓ Number of complaints verified year to year ✓ Number of changes in outfall prioritization
4.	Source Load Reduction	✓ Dry weather outfall flow data, and changes/trends in water quality ✓ Dry weather flow receiving water data, and analysis of impacts of MS4 discharge (upstream and downstream)

Table 10.5 Illicit Connections and Illicit Discharges - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
ICID2 - Illegal Connection Identification and Elimination		
1.	Document Activities	✓ Reviewed/Revised Illegal Connection Response Procedures ✓ Tracked illegal connections in Illicit Discharge and Illegal Connection Database
2.	Knowledge and Awareness	✓ Number of plans reviewed and number requiring revision due to identified illegal connections ✓ Number of illegal connections identified during project construction inspections ✓ Number of illegal connections reported, number verified, and information source
3.	Behavior	✓ Number of illegal connections identified through plan review year to year ✓ Number of illegal connections identified through inspections year to year ✓ Number of illegal connections reported and verified year to year
ICID3 - Investigation/Inspection and Follow-up Procedures		
1.	Document Activities	✓ Reviewed/Revised investigation and follow-up protocols ✓ Tracked follow-up procedures in Illicit Discharge and illegal Connection Database ✓ GIS Mapping of locations were follow-up procedures are conducted
2.	Knowledge and Awareness	✓ Number of illicit discharges/illegal connections verified through follow-up actions ✓ Number of illicit discharges/illegal connections with sources identified through follow-up actions
ICID4 - Enforcement of Local Codes and Ordinances		
1.	Document Activities	✓ Reviewed/Revised enforcement procedures ✓ Tracked enforcement actions in Illicit Discharge and illegal Connection Database
2.	Knowledge and Awareness	✓ Number and types of enforcement actions taken ✓ Number of enforcement actions taken, beyond verbal notification
3.	Behavior	✓ Number and types of enforcement actions taken year to year ✓ Number of enforcement actions taken, beyond verbal notification year to year
ICID5 - Training		
1.	Document Activities	✓ Identified/Developed training (topics, agenda)
2.	Knowledge and Awareness	✓ Number of training sessions, topics and attendees

Table 10.5 Illicit Connections and Illicit Discharges - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
3.	Behavior	✓ Knowledge of Illicit Discharges/Illegal Connection Program Element based on attendee feedback

Table 10.6 Public Outreach - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
OUT1 - Public Participation		
1.	Document Activities	✓ Reviewed/Revised and new public participation components ✓ Revised/Revised publicity mechanisms
2.	Knowledge and Awareness	✓ Number of HHW and Used Oil events ✓ Number of litter clean-up and stream clean-up events ✓ Number of volunteers and number of participants at events ✓ Volume and type of waste collected at events
3.	Behavior	✓ Number of participants in each event, year to year ✓ Volume of each type of waste collected, year to year
OUT2 - Hotline/ website		
1.	Document Activities	✓ Reviewed/Revised flyers ✓ Reviewed/Revised webpages
2.	Knowledge and Awareness	✓ Number and types of storm water program related public reports ✓ Types of stormwater program messaging provided through outreach mechanisms
OUT3 - Public Outreach Implementation		
1.	Document Activities	✓ Reviewed/Revised Public Outreach Program components ✓ Reviewed/Revised Pesticide Outreach Program components
2.	Knowledge and Awareness	✓ Education topic, type of distribution, estimated dissemination, and media employed
OUT4 - Public School Education		
1.	Document Activities	✓ Reviewed/Revised educational program components
2.	Knowledge and Awareness	✓ Types of events, number of events, number of attendees
OUT5 - Business Outreach		
1.	Document Activities	✓ Reviewed/Revised Business Outreach program components ✓ Target audience for Business Outreach
2.	Knowledge and Awareness	✓ Types of materials distributed, mechanisms, targeted businesses

Table 10.7 Planning and Land Development - Effectiveness Assessment Outcomes Storm Water Management Plan City of Bakersfield and County of Kern		
Outcome Level		**Description**
PLAN1 - New/Revised Development Standards		
1.	Document Activities	✓ Reviewed/Revised Development Standards
2.	Knowledge and Awareness	✓ Municipal Project ID, State WDID No., Project Acreage, BMP Type and Description, BMP Location (coordinates), Date of Acceptance, Date of O&M Certification, Inspection Dates and Summaries, Corrective Actions Taken, Date Certificate of Occupancy Issued
PLAN2 - Plan Review Sign-Off		
1.	Document Activities	✓ Review/Revised Plan Review Procedures ✓ Tracking post development controls in Construction Project Database
2.	Knowledge and Awareness	✓ Number of projects approved ✓ Number and types of BMPs approved
3.	Behavior	✓ Number and types of BMPs implemented year to year
PLAN3 - Maintenance Agreement and Transfer		
1.	Document Activities	✓ Reviewed/Revised or new maintenance agreement requirements ✓ Reviewed/Revised or new maintenance agreements
2.	Knowledge and Awareness	✓ Number of agreements implemented.
PLAN4 - Training		
1.	Document Activities	✓ Reviewed/Revised plan review training program ✓ Identified/developed plan review training ✓ Documented training program (topics, agenda)
2.	Knowledge and Awareness	✓ Number and types of training sessions held, topics, and attendees
3.	Behavior	✓ Increased knowledge on plan review and BMPs requirements, based on training feedback.

Program Effectiveness and Assessment

Responsible Parties

Measurable Goal	Assessment Data and Information	City													County									
		Water	Streets	Operations	Wastewater	Construction	Subdivisions	Building	GIS	Design Engr.	Solid Waste	Planning	Fire	Parks	ESPS	Roads	General Services	Planning	Waste	Waste-KSA	GIS	Fire	Parks	Env. Health
Conduct effectiveness assessment (annually).		●													●									
Determine program modifications based on effectiveness assessment.		●													●									
Revise effectiveness assessment approach/strategy (as needed).		●													●									

Schedule

Measurable Goal	2013-2014				2014-2015				2015-2016				2016-2017				2017-2018			
	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.	Jul.-Sept.	Oct-Dec.	Jan.- Mar.	Apr-Jun.
Conduct effectiveness assessment (annually).					■				■				■				■			
Determine program modifications based on effectiveness assessment.					■				■				■				■			
Revise effectiveness assessment approach/strategy (as needed).									■				■				■			

Notes:

(1) Text Format: Existing, *Modified*, *New*

(2) Solid Circle = Primary responsibility, Open Circle = Secondary responsibility

APPENDIX A – 2012 AGREEMENT BETWEEN CITY AND COUNTY

Kern County
Agt. # 532-2012

AGREEMENT NO. 12-105

CITY-COUNTY AGREEMENT

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

THIS AGREEMENT, is made and entered into on AUG 15 2012, by and between **COUNTY OF KERN,** a political subdivision of the State of California (hereinafter referred to as "COUNTY"), and the **CITY OF BAKERSFIELD,** a municipal corporation organized under the laws of the State of California (hereinafter referred to as "CITY").

RECITALS

WHEREAS, under the Clean Water Act, an Environmental Protection Agency ("EPA") permit program for discharge of storm waters into waters of the United States has been formulated and regulations adopted by 40 CFR 122; and

WHEREAS, the EPA permit program is known as the National Pollutant Discharge Elimination System, hereafter called "NPDES"; and

WHEREAS, the CITY and the COUNTY have been identified by EPA as being subject to the NPDES; and

WHEREAS, the CITY and the COUNTY each have drainage watersheds in the metropolitan Bakersfield area that discharge into the Kern River or its tributary canals; and

WHEREAS, the NPDES permit process is comprised of two parts: Part 1 - general information, mapping and characterization information which was filed with California Regional Water Quality Control Board in May, 1992; and Part 2 - Additional characterization and storm water management program preparation which was filed in May, 1993, and has resulted in issuance of a storm water permit; and

WHEREAS, a joint CITY-COUNTY NPDES permit operation effort is desirous and necessary due to shared drainage watersheds; and

WHEREAS, the NPDES permit waste discharge requirements, Storm Water Management Plan ("SWMP"), and the Monitoring and Reporting Program will require joint CITY-COUNTY staff efforts; and

WHEREAS, the CITY and the COUNTY desire to set out the duties, obligations and responsibilities of each party in completing the NPDES permit requirements.

CITY OF BAKERSFIELD
ORIGINAL

NOW, THEREFORE, incorporating the foregoing herein, it is agreed as follows:

1. CITY staff and COUNTY staff shall cooperate on all efforts and tasks required to comply with the permit waste discharge requirements, Storm Water Management Plan ("SWMP"), and the permit Monitoring and Reporting Program.

2. CITY or COUNTY may contract with consultants to provide specialized services as required to satisfy the NPDES permit requirements. Prior to entering into the Agreement with consultants, the CITY or COUNTY shall consult with and obtain the approval of the other party.

3. CITY and COUNTY shall equally share in the joint costs associated with complying with the NPDES permit requirements of the respective drainage areas. Such joint costs shall include, but not be limited to, laboratory testing, consultant cost, permit cost, reproduction cost, and other miscellaneous joint costs. Staff costs, including but not limited to, the collection of samples, annual report preparation and managing the program, and equipment costs shall be borne by the respective parties. All joint costs shall be agreed upon by CITY and COUNTY staff prior to the actual work. Reconciliation of eligible costs for each year shall be accounted for and resolved between CITY and COUNTY within sixty (60) days after completion and transmittal of annual report for that year. Maximum annual contribution to joint costs by either party hereunder shall not exceed SEVENTY-FIVE-THOUSAND DOLLARS ($75,000).

4. Unless terminated in a manner hereinafter provided, this Agreement shall be for a term of six (6) years commencing July 1, 2012.

5. This Agreement shall not be assigned by any party, or any party substituted, without prior written consent of all the parties as noted above.

6. The rights and obligations of this Agreement shall inure to the benefit of, and be binding upon, the parties to the Agreement and their heirs, administrators, executors, personal representative's successors and assigns.

7. INDEMNITY. No party hereto or any officer or employee thereof shall be responsible for any damage or liability occurring by reason of anything done or omitted to be done by any other party hereto under or in connection with any work, authority, or jurisdiction delegated to such other party under this agreement. Pursuant to Government Code section 895.4, each party shall fully indemnify and hold the other party harmless from any liability imposed for injury (as defined by Government Code section 810.8), occurring by reason of anything done or omitted to be done by such party under or in connection with any work, authority, or jurisdiction delegated to such party under this agreement.

8. This Agreement sets forth the entire Agreement between the parties, and supersedes all other oral or written representations. This Agreement may be modified only in writing approved by the CITY Council and the COUNTY Board of Supervisors and signed by all parties.

9. Each individual executing this Agreement represents and warrants that he/she is duly authorized to execute and deliver this Agreement on behalf of his/her agency and that this Agreement is binding upon that agency in accordance with its terms and conditions.

10. COUNTY or CITY may terminate this Agreement ninety (90) days after giving written notice to the other party.

11. This Agreement is effective upon execution. It is the product of negotiation and all parties are equally responsible for authorship of this Agreement. Section 1654 of the California Civil Code shall not apply to the interpretation of this Agreement.

12. Any notice to be given pursuant to this Agreement by either party to the other may be affected by personal delivery or by mailing the Notice via the U.S. Postal Service postage prepaid addressed as follows:

COUNTY: COUNTY OF KERN
Engineering, Surveying & Permit Services Department
2700 "M" Street, Suite 570
Bakersfield, California 93301

CITY: CITY OF BAKERSFIELD
Water Resources Department
1000 Buena Vista Road
Bakersfield, California 93311

IN WITNESS WHEREOF, the parties to this Agreement have executed the same on the day and year first mentioned herein.

"CITY"

CITY OF BAKERSFIELD

By:_____
HARVEY HALL, Mayor

"COUNTY"

COUNTY OF KERN

By:_____
Chair, Board of Supervisors

ZACK SCRIVNER

More signatures on next page

APPROVED AS TO FORM:

By: _____
VIRGINIA GENNARO
City Attorney

APPROVED AS TO FORM:

By: _____
County Counsel

APPROVED AS TO CONTENT:
WATER RESOURCES DEPARTMENT

By: _____
ART CHIANELLO
Water Resources Manager

APPROVED AS TO CONTENT:

By: _____
CHARLES LACKEY
Director of Engineering,
Surveying & Permit Services
Department

COUNTERSIGNED:

By: _____
NELSON SMITH
Finance Director

Insurance _____

APPENDIX B – LETTER TO THE CVRWQCB REGARDING CITY AND COUNTY AGREEMENT REVIEW

ENGINEERING, SURVEYING & PERMIT SERVICES
GREG FENTON, CBO, P.E., INTERIM DIRECTOR
2700 "M" STREET, SUITE 570
BAKERSFIELD, CA 93301-2370
Phone: (661) 862-5100 FAX: (661) 862-5101
E-mail: esps@co.kern.ca.us
Website: www.co.kern.ca.us/ess

DEVELOPMENT SERVICES AGENCY
Engineering, Surveying & Permit Services Department
Planning & Community Development Department
Roads Department

WATER RESOURCES DEPARTMENT
Art R. Chianello, P.E. • Water Resources Manager
1000 Buena Vista Rd., Bakersfield, CA 93311
(661) 326-3715

May 30, 2014

Pamela C. Creedon, Executive Officer
Regional Water Quality Control Board—Central Valley Region
1685 'E' Street
Fresno, CA 93706

Re: Waste Discharge Requirements, Order No. R5-2013-0153, NPDES No. CA0083399, City-County Agreement Review, Compliance Provision, Section D. Provisions (3)(c)(i)

Dear Ms Creedon,

On 6 December 2013 the Regional Water Quality Control Board—Central Valley Region rescinded Waste Discharge Requirement (WDR) Order No. 5-01-130 and WDR Order No. R5-2013-0153 was adopted.

The new Order has several compliance dates which the City of Bakersfield and County of Kern (Permittees) are required to address. Section D. Provisions (3)(c)(i) requests the Permittees, by 6 June 2014, to review their existing City-County Agreement (Agreement) to ensure it provides for a management structure that addresses the following:

a. Designation of Joint Responsibilities;
b. Decision making;
c. Information management of data and reports, including the requirements of the new Order; and
d. Any and all other collaborative arrangements for compliance with the Order.

The Permittees are to either submit a letter stating the Agreement is adequate or submit an updated agreement by the compliance date of 6 June 2014.

On 15 August 2012 the County of Kern and City of Bakersfield entered into a City-County Agreement. The Permittees have reviewed this Agreement and have concluded the Agreement is adequate and complies with the provisions of our current WDR Order No. R5-2013-0153.

Very truly yours,

Greg Fenton, CBO, PE, Interim Director
County of Kern
Engineering, Surveying & Permit Services Department

Art Chianello, PE, Manager
City of Bakersfield
Water Resources Department

cc: City Water Resources Dept., City Public Works Dept., County DSA, File

APPENDIX C – CITY INSPECTION AND MAINTENANCE LOG SHEETS

CITY OF BAKERSFIELD
WATER RESOURCES DEPARTMENT
BASIN INSPECTION RECORD

Basin No. _____ **Inspected By:** _____ Date _____

PICTURES ☐ Before ☐ After

ENVIRONMENTAL ☐ Kit Fox Dens ☐ Burroughing Owls ☐ Other

EXTERIOR

	Comments
☐ Outside Landscaping	_____
☐ Fence Condition	_____
☐ Blockwall	_____
☐ Gate	_____
☐ Slates	_____
☐ Signs	_____

INTERIOR

☐ Ramp	_____
☐ Road Pad	_____
☐ Slopes	_____
☐ Woody Vegitation	_____
☐ Weeds	_____
☐ Trash/Greenwaste	_____

☐ Water ☐ Dry ☐ 1-3 Feet ☐ Over 3 Feet

BOTTOM SOIL ☐ Sediment/fines ☐ Organics/Debris

☐ Sandy ☐ Silt ☐ Clay Check all that apply

CITY OF BAKERSFIELD
WATER RESOURCES DEPARTMENT
BASIN MAINTENANCE RECORD

BASIN NO. _____ **SUPERVISOR** _____ **DATE** _____

PICTURES ☐ Before ☐ After

ENVIRONMENTAL ☐ Kit Fox Dens ☐ Burroughing Owls ☐ Other

MAINTENANCE PERFORMED

Comments

☐ Outside Landscaping
☐ Fence/Gate Repaired
☐ Block wall Repaired
☐ Slates Replaced
☐ Signs Replaced
☐ Road Pad Cleaned/Repaired
☐ Erosion Repaired
☐ Woody Vegetation Removed
☐ Weeds Removed
☐ Trash/Green waste Removed

☐ Water ☐ Dry ☐ 1-3 Feet ☐ Over 3 Feet
☐ Pumped ☐ Sewer ☐ Canal ☐ Other Location _____

Number of Pumps used and size:

CITY EQUIPMENT UTILIZED

☐ Hand Crew ☐ Excavator
☐ Loader ☐ Trucks
☐ D6 Dozer ☐ Back Hoe
☐ D8 Dozer ☐ Other _____

CONTRACT EQUIPMENT UTILIZED

☐ Hand Crew ☐ Excavator
☐ Loader ☐ Trucks
☐ D6 Dozer ☐ Back Hoe
☐ D8 Dozer ☐ Other _____

MATERIAL REMOVED

Amount Removed

	Trucks	Yards
☐ Soil		
☐ Woody Vegetation Removed		
☐ Weeds Removed		
☐ Trash/Green waste Removed		

SOIL TEST ☐ Yes ☐ No

PARKS NOTIFIED FOR SPRAYING ☐ Yes ☐ No

APPENDIX D – COUNTY INSPECTION LOG SHEETS

DRAINAGE FACILITY INSPECTION REPORT

CSA? YES / NO

FACILITY NAME OR NUMBER:_____

DATE:_____ SU M T W TH F S

LOCATION DESCRIPTION:_____CHECKED BY: HAMILTON / HILL /

WEED CONTROL (UNDER 6" = ACCEPTABLE; 6" TO 2' = MODERATE; OVER 2' = HEAVY)

TOP **BANK:**	ACCEPTABLE	MODERATE	HEAVY
SLOPE :	ACCEPTABLE	MODERATE	HEAVY
BOTTOM	ACCEPTABLE	MODERATE	HEAVY

FENCE STRUCTURE CONDITION

CURB:	ACCEPTABLE	/ OR DESCRIBE DAMAGE
POST :	ACCEPTABLE	/ OR DESCRIBE DAMAGE
FABRIC:	ACCEPTABLE	/ OR DESCRIBE DAMAGE
SLATS:	ACCEPTABLE	/ OR # OF MISSING SLAT =
GATE :	ACCEPTABLE	/ MISSING / OR DESCRIBE DAMAGE

EROSION CONTROL

TOP:	ACCEPTABLE	/ OR DESCRIBE DAMAGE
SLOPE:	ACCEPTABLE	/ OR DESCRIBE DAMAGE
BOTTOM:	ACCEPTABLE	/ OR DESCRIBE DAMAGE
RAMP:	ACCEPTABLE	/ OR DESCRIBE DAMAGE

SILTATION: YES / NO

CONCRETE STRUCTURES: (UNDER WATER ? YES / NO) IF YES, FT. UNDER WATER

OUTLET:	**NOT VISIBLE**	/ ACCEPTABLE	/ OR DESCRIBE DAMAGE
INLET:	**NOT VISIBLE**	/ ACCEPTABLE	/ OR DESCRIBE DAMAGE
PIPE:	**NOT VISIBLE**	/ ACCEPTABLE	/ OR DESCRIBE DAMAGE

TRASH PICK UP ? YES / NO IF YES, # OF BAGS (30 GALLON SIZE) =

RODENT CONTROL:

HOLES:	ACCEPTABLE	/ BURROWS EVERYWHERE	/ OR DESCRIBE DAMAGE

REMARKS:

_____

_____

EVIDENCE OF RECENT HERBICIDE APPLICATION? YES / NO

APRON CONDITION: (WEED GROWTH IN APRON AREA? YES / NO)

DRIVEWAY APPROACH:	**NONE EXISTED**	/ ACCEPTABLE	/ OR DESCRIBE DAMAGE
SIDEWALK:	**NONE EXISTED**	/ ACCEPTABLE	/ OR DESCRIBE DAMAGE
ASPHALT CONCRETE (GREEN):	**NONE EXISTED**	/ ACCEPTABLE	/ OR DESCRIBE DAMAGE

APPENDIX E – NFPA ANNEX F: FOAM ENVIRONMENTAL ISSUES

Annex F Foam Environmental Issues

Annex F Foam Environmental Issues

This annex is not a part of the requirements of this NFPA document but is included for informational purposes only.

F.1 Overview. Fire-fighting foams as addressed in this standard serve a vital role in fire protection throughout the world. Their use has proven to be essential for the control of flammable liquid fire threats inherent in airport operations, fuel farms and petroleum processing, highway and rail transportation, marine applications, and industrial facilities. The ability of foam to rapidly extinguish flammable liquid spill fires has undoubtedly saved lives, reduced property loss, and helped minimize the global pollution that can result from the uncontrolled burning of flammable fuels, solvents, and industrial liquids.

However, with the ever-increasing environmental awareness, recent concern has focused on the potential adverse environmental impact of foam solution discharges. The primary concerns are toxicity, biodegradability, persistence, treatability in wastewater treatment plants, and nutrient loading. All of these are of concern when the end-use foam solutions reach natural or domestic water systems.

F.1.1 The purpose of this annex is to address the following:

(1) Provide foam users with summary information on foam environmental issues
(2) Highlight applicable regulatory status
(3) Offer guidelines for coping with regulations, and provide suggested sources for additional information
(4) Encourage planning for foam discharge scenarios (including prior contact with local wastewater treatment plant operators)

F.1.2 It should be emphasized that it is not the intent of this annex to limit or restrict the use of fire-fighting foams. The foam committee believes that the fire safety advantages of using foam are greater than the risks of potential environmental problems. The ultimate goal of this section is to foster use of foam in an environmentally responsible manner so as to minimize risk from its use.

F.2 Scope. The information provided in this section covers foams for Class B combustible and flammable liquid fuel fires. Foams for this purpose include protein foam, fluoroprotein foam, film-forming fluoroprotein foam (FFFP), and synthetic foams such as aqueous film-forming foam (AFFF). This section is primarily concerned with the discharge of foam solutions to wastewater treatment facilities and to the environment. The discharge of foam concentrates, while a related subject, is a much less common occurrence. All manufacturers of foam concentrate deal with clean-up and disposal of spilled concentrate in their MSDS sheets and product literature.

F.3 Discharge Scenarios. A discharge of foam water solution is most likely to be the result of one of four scenarios:

(1) Manual fire-fighting or fuel-blanketing operations
(2) Training
(3) Foam equipment system tests
(4) Fixed system releases

These four scenarios include events occurring at such places as aircraft facilities, fire fighter training facilities, and special hazards facilities (such as flammable/hazardous warehouses, bulk flammable liquid storage facilities, and hazardous waste storage facilities). Each scenario is considered separately in F.3.1 through F.3.4.

F.3.1 Fire-Fighting Operations. Fires occur in many types of locations and under many different circumstances. In some cases, it is possible to collect the foam solution used; and in others, such as in marine fire fighting, it is not. These types of incidents include aircraft rescue and fire-fighting operations, vehicular fires (i.e., cars, boats, train cars), structural fires with hazardous materials, and flammable liquid fires. Foam water solution that has been used in fire-fighting operations will probably be heavily contaminated with the fuel or fuels involved in the fire. It is also likely to have been diluted with water discharged for cooling purposes.

In some cases, the foam solution used during fire department operations can be collected. However, it is not always possible to control or contain the foam. This can be a consequence of the location of the incident or the circumstances surrounding it.

Event-initiated manual containment measures are the operations usually executed by the responding fire department to contain the flow of foam water solution when conditions and manpower permit. Those operations include the following measures:

(1) Blocking sewer drains: this is a common practice used to prevent contaminated foam water solution from entering the sewer system unchecked. It is then diverted to an area suitable for containment.

(2) Portable dikes: these are generally used for land-based operations. They can be set up by the fire department personnel during or after extinguishment to collect run-off.

(3) Portable booms: these are used for marine-based operations, which are set up to contain foam in a defined area. These generally involve the use of floating booms within a natural body of water.

F.3.2 Training. Training is normally conducted under circumstances conducive to the collection of spent foam. Some fire training facilities have had elaborate systems designed and constructed to collect foam solution, separate it from the fuel, treat it, and — in some cases — re-use the treated water. At a minimum, most fire training facilities collect the foam solution for discharge to a wastewater treatment facility. Training can include the use of special training foams or actual fire-fighting foams. Training facility design should include a containment system. The wastewater treatment facility should first be notified and should give permission for the agent to be released at a prescribed rate.

F.3.3 System Tests. Testing primarily involves engineered, fixed foam fire-extinguishing systems. Two types of tests are conducted on foam systems: acceptance tests, conducted pursuant to installation of the system; and maintenance tests, usually conducted annually to ensure the operability of the system. These tests can be arranged to pose no hazard to the environment. It is possible to test some systems using water or other nonfoaming, environmentally acceptable liquids in the place of foam concentrates if the AHJ permits such substitutions.

In the execution of both acceptance and maintenance tests, only a small amount of foam concentrate should be discharged to verify the correct concentration of foam in the foam water solution. Designated foam water test ports can be designed into the piping system so that the discharge of foam water solution can be directed to a controlled location. The controlled location can consist of a portable tank that would be transported to an approved disposal site by a licensed contractor. The remainder of the acceptance test and maintenance test should be conducted using only water.

F.3.4 Fixed System Releases. This type of release is generally uncontrolled, whether the result of a fire incident or a malfunction in the system. The foam solution discharge in this type of scenario can be dealt with by event-initiated operations or by engineered containment systems. Event-initiated operations encompass the same temporary measures that would be taken during fire department operations: portable dikes, floating booms, and so forth. Engineered containment would be based mainly on the location and type of facility, and would consist of holding tanks or areas where the contaminated foam water solution would be collected, treated, and sent to a wastewater treatment facility at a prescribed rate.

F.4 Fixed Systems. Facilities can be divided into those without an engineered containment system and those with an engineered containment system.

F.4.1 Facilities Without Engineered Containment. Given the absence of any past requirements to provide containment, many existing facilities simply allow the foam water solution to flow out of the building and evaporate into the atmosphere or percolate into the ground. The choices for containment of foam water solution at such facilities fall into two categories: event-initiated manual containment measures and installation of engineered containment systems.

Selection of the appropriate choice is dependent on the location of the facility, the risk to the environment, the risk of an automatic system discharge, the frequency of automatic system discharges, and any applicable rules or regulations.

"Event-initiated manual containment measures" will be the most likely course of action for existing facilities without engineered containment systems. This can fall under the responsibility of the responding fire department and include such measures as blocking storm sewers, constructing temporary dikes, and deploying floating booms. The degree of such measures will primarily be dictated by location as well as available resources and manpower.

The "installation of engineered containment systems" is a possible choice for existing facilities. Retrofitting an engineered containment system is costly and can adversely affect facility operations. There are special cases, however, that can warrant the design and installation of such systems. Such action is a consideration where an existing facility is immediately adjacent to a natural body of water and has a high frequency of activation.

F.4.2 Facilities with Engineered Containment. Any engineered containment system will usually incorporate an oil/water separator. During normal drainage conditions (i.e., no foam solution runoff), the separator functions to remove any fuel particles from drainage water. However, when foam water solution is flowing, the oil/water separator must be bypassed so that the solution is diverted directly to storage tanks. This can be accomplished automatically by the installation of motorized valves set to open the bypass line upon activation of the fixed fire-extinguishing systems at the protected property.

The size of the containment system is dependent on the duration of the foam water flow, the flow rate, and the maximum anticipated rainfall in a 24-hour period. Most new containment systems will probably only accommodate individual buildings. However, some containment systems can be designed to accommodate multiple buildings, depending upon the topography of the land and early identification in the overall site planning process.

The specific type of containment system selected will also depend upon location, desired capacity, and function of facilities in question. The systems include earthen retention systems, belowground tanks, open-top inground tanks, and sump and pump designs (i.e., lift stations) piped to aboveground or inground tanks.

The earthen retention designs consist of open-top earthen berms, which usually rely upon gravity-fed drainage piping from the protected building. They can simply allow the foam water solution to percolate into the ground or can include an impermeable liner. Those containing an impermeable liner can be connected to a wastewater treatment facility or can be suction pumped out by a licensed contractor.

Closed-top, belowground storage tanks can be the least environmentally acceptable design approach. They usually consist of a gravity-fed piping arrangement and can be suction pumped out or piped to a wastewater treatment facility. A potential and frequent problem associated with this design is the

leakage of groundwater or unknown liquids into the storage tank.
Open-top, belowground storage tanks are usually lined concrete tanks that can rely on gravity-fed drainage piping or a sump and pump arrangement. These can accommodate individual or multiple buildings. They must also accommodate the maximum anticipated rainfall in a 24-hour period. These are usually piped to a wastewater treatment facility.
Aboveground tanks incorporate a sump and pump arrangement to closed, aboveground tanks. Such designs usually incorporate the use of one or more submersible or vertical shaft, large-capacity pumps. These can accommodate individual or multiple buildings.

F.4.3 New Facilities. The decision to design and install a fixed foam water solution containment system is dependent on the location of the facility, the risk to the environment, possible impairment of facility operations, the design of the fixed foam system (i.e., automatically or manually activated), the ability of the responding fire department to execute event-initiated containment measures, and any pertinent regulations.
New facilities might not warrant the expense and problems associated with containment systems. Where the location of a facility does not endanger groundwater or any natural bodies of water, this can be an acceptable choice, provided the fire department has planned emergency manual containment measures.
Where conditions warrant the installation of engineered containment systems, there are a number of considerations. They include size of containment, design and type of containment system, and the capability of the containment system to handle individual or multiple buildings. Engineered containment systems can be a recommended protective measure where foam extinguishing systems are installed in facilities that are immediately adjacent to a natural body of water. These systems can also be prudent at new facilities, where site conditions permit, to avoid impairment of facility operations.

F.5 Disposal Alternatives. The uncontrolled release of foam solutions to the environment should be avoided. Alternative disposal options are as follows:

(1) Discharge to a wastewater treatment plant with or without pretreatment
(2) Discharge to the environment after pretreatment
(3) Solar evaporation
(4) Transportation to a wastewater treatment plant or hazardous waste facility

Foam users, as part of their planning process, should make provisions to take the actions necessary to utilize whichever of these alternatives is appropriate for their situation. Section F.6 describes the actions that can be taken, depending on the disposal alternative that is chosen.

F.6 Collection and Pretreatment of Foam Solutions Prior to Disposal.

F.6.1 Collection and Containment. The essential first step in employing any of these alternatives is collection of the foam solution. As noted above, facilities that are protected by foam systems normally have systems to collect and hold fuel spills. These systems can also be used to collect and hold foam solution. Training facilities are, in general, designed so that foam solution can be collected and held. Fire fighters responding to fires that are at other locations should attempt, insofar as is practical, to collect foam solution run-off with temporary dikes or other means.

F.6.2 Fuel Separation. Foam solution that has been discharged on a fire and subsequently collected will usually be heavily contaminated with fuel. Since most fuels present their own environmental hazards and will interfere with foam solution pretreatment, an attempt should be made to separate as much fuel as possible from the foam solution. As noted in F.4.2, the tendency of foam solutions to form emulsions with hydrocarbon fuels will interfere with the operation of conventional fuel–water separators. An alternative is to hold the collected foam solution in a pond or lagoon until the emulsion

breaks and the fuel can be separated by skimming. This can take from several hours to several days. During this time, agitation should be avoided to prevent the emulsion from reforming.

F.6.3 Pretreatment Prior to Discharge.

F.6.3.1 Dilution. Foam manufacturers and foam users recommend dilution of foam solution before it enters a wastewater treatment plant. There is a range of opinion on the optimum degree of dilution. It is generally considered that the concentration of foam solution in the plant influent should not exceed 1700 ppm (588 gal of plant influent per gallon of foam solution). This degree of dilution is normally sufficient to prevent shock loading and foaming in the plant. However, each wastewater treatment plant must be considered as a special case, and those planning a discharge of foam solution to a wastewater treatment facility should discuss this subject with the operator of the facility in advance.

Diluting waste foam solution 588:1 with water is an impractical task for most facilities, especially when large quantities of foam solution are involved. The recommended procedure is to dilute the foam solution to the maximum amount practical and then meter the diluted solution into the sewer at a rate which, based on the total volume of plant influent, will produce a foam solution concentration of 1700 ppm or less.

For example, if the discharge is to be made to a 6 million gal/day treatment plant, foam solution could be discharged at the rate of 7 gpm (6,000,000 gal/day divided by 1440 minutes/day divided by 588 equals 7 gpm). The difficulties of metering such a low rate of discharge can be overcome by first diluting the foam solution by 10:1 or 20:1, permitting discharge rates of 70 gpm or 140 gpm respectively. Dilution should also be considered if the foam solution is to be discharged to the environment in order to minimize its impact.

F.6.3.2 Defoamers. The use of defoamers will decrease, but not eliminate, foaming of the foam solution during pumping, dilution, and treatment. The foam manufacturer should be consulted for recommendations as to the choice of effective defoamers for use with a particular foam concentrate.

F.6.3.3 Method for Determining the Effective Amount of Antifoam Apparatus. The effective amount of antifoam is determined by using the following apparatus:

(1) Balance — 1600 g capacity minimum — readability 0.2 g maximum
(2) One 2 L beaker or similar container
(3) One 1 gal plastic or glass jug with cap
(4) Eyedropper
(5) Optional — 10 mL pipette

F.6.3.3.1 Procedure. Proceed with the following instructions to determine the effective amount of antifoam:

(1) In the 2 L beaker, weigh out 1 g (1 mL) of antifoam using an eyedropper or the pipette.
(2) Add 999 g of water.
(3) Mix well.
(4) Weigh out 1000 g of the solution to be defoamed and place it in the gallon jug.
(5) Add 10 g (10 mL) of the diluted antifoam to the gallon jug using the eyedropper or pipette, cap it, and shake vigorously.
(6) If the solution in the jug foams, go back to step 5 and repeat this step until little or no foam is

generated by shaking the jug; keep a record of the number of grams (mL) that are required to eliminate the foaming.

(7) The number of grams (mL) of diluted antifoam required to eliminate foaming is equal to the number of parts per million (ppm) of the antifoam as supplied that must be added to the solution to be defoamed.

(8) Calculate the amount of neat antifoam to be added as follows:

$$W = 8.32\ V \times D \div 1{,}000{,}000$$

where:

W = lb of antifoam required

V = Volume of solution to be defoamed in U.S. gal

D = ppm of antifoam required

Example: 10,000 gal of foam solution require defoaming. The procedure above has determined that 150 ppm of antifoam are needed to defoam this solution: 8.32 × 10,000 × 150 ÷ 1,000,000 = 12.48 lb.

(9) The amount of antifoam to be added will normally be quite small compared to volume of the solution to be defoamed. The antifoam must be uniformly mixed with the solution to be defoamed. It will aid in the achievement of this objective if the antifoam is diluted as much as is practical with water or the solution to be defoamed prior to addition to the solution containment area. The solution in the containment area must then be agitated to disperse the antifoam uniformly. One method of doing this is to use a fire pump to draft out of the containment area and discharge back into it using a water nozzle set on straight stream. Alternatively, if suitable metering equipment is available, antifoam as supplied or diluted antifoam can be metered into the solution discharge line at the proper concentration.

F.7 Discharge of Foam Solution to Wastewater Treatment Facilities. Biological treatment of foam solution in a wastewater treatment facility is an acceptable method of disposal. However, foam solutions have the potential to cause plant upsets and other problems if not carefully handled. The reasons for this are explained in F.7.1 through F.7.4.

F.7.1 Fuel Contamination. Foam solutions have a tendency to emulsify hydrocarbon fuels and some polar fuels that are only slightly soluble in water. Water-soluble polar fuels will mix with foam solutions. The formation of emulsions will upset the operation of fuel/water separators and potentially cause the carryover of fuel into the waste stream. Many fuels are toxic to the bacteria in wastewater treatment plants.

F.7.2 Foaming. The active ingredients in foam solutions will cause copious foaming in aeration ponds, even at very low concentrations. Aside from the nuisance value of this foaming, the foaming process tends to suspend activated sludge solids in the foam. These solids can be carried over to the outfall of the plant. Loss of activated sludge solids can also reduce the effectiveness of the wastewater treatment. This could cause water quality problems such as nutrient loading in the waterway to which the outfall is discharged. Because some surfactants in foam solutions are highly resistant to biodegradation, nuisance foaming can occur in the outfall waterway.

F.7.3 BOD (Biological Oxygen Demand). Foam solutions have high BODs compared to the normal

influent of a wastewater treatment plant. If large quantities of foam solution are discharged to a wastewater treatment plant, shock loading can occur, causing a plant upset.
Before discharging foam solutions to a wastewater treatment plant, the plant operator should be contacted. This should be done as part of the emergency planning process. The plant operator will require, at a minimum, a Material Safety Data Sheet (MSDS) on the foam concentrate, an estimate of the five-day BOD content of the foam solution, an estimate of the total volume of foam solution to be discharged, the time period over which it will be discharged, and, if the foam concentrate is protein-based, an estimate of the ammonia nitrogen content of the foam solution.
The foam manufacturer will be able to provide BOD and ammonia nitrogen data for the foam concentrate, from which the values for foam solution can be calculated. The other required information is site-specific and should be developed by the operator of the facility from which the discharge will occur.

F.7.4 Treatment Facilities. Foam concentrates or solutions can have an adverse effect on microbiologically based oily water treatment facilities. The end user should take due account of this before discharging foam systems during testing or training.

F.8 Foam Product Use Reporting. Federal (U.S.), state, and local environmental jurisdictions have certain chemical reporting requirements that apply to chemical constituents within foam concentrates. In addition, there are also requirements that apply to the flammable liquids to which the foams are being applied. For example, according to the U.S. Environmental Protection Agency (EPA), the guidelines in F.8.1 through F.8.4 must be adhered to.

F.8.1 Releases of ethylene glycol in excess of 5000 lb are reportable under Sections 102(b) and 103 (a) of U.S. EPA Comprehensive Environmental Response Compensation & Liability Act (CERCLA). Ethylene glycol is generally used as a freeze-point suppressant in foam concentrates.

F.8.2 As of June 12, 1995, the EPA issued a final rule 60 CFR 30926 on several broad categories of chemicals, including the glycol ethers. The EPA has no reportable quantity for any of the glycol ethers. Thus foams containing glycol ethers are not subject to EPA reporting. Consult the foam manufacturer's MSDS to determine if glycol ethers are contained in a particular foam concentrate.

F.8.3 The EPA does state that CERCLA liability continues to apply to releases of all compounds within the glycol ether category, even if reporting is not required. Parties responsible for releases of glycol ethers are liable for the costs associated with cleanup and any natural resource damages resulting from the release.

F.8.4 The end user should contact the relevant local regulating authority regarding specific current regulations.

F.9 Environmental Properties of Hydrocarbon Surfactants and Fluorochemical Surfactants.
Fire-fighting foam agents contain surfactants. Surfactants or surface active agents are compounds that reduce the surface tension of water. They have both a strongly "water-loving" portion and a strongly "water-avoiding" portion.
Dish soaps, laundry detergents, and personal health care products such as shampoos are common household products that contain hydrocarbon surfactants.

Fluorochemical surfactants are similar in composition to hydrocarbon surfactants; however, a portion of the hydrogen atoms have been replaced by fluorine atoms. Unlike chlorofluorocarbons (CFCs) and some other volatile fluorocarbons, fluorochemical surfactants are not ozone depleting and are not restricted by the Montreal Protocol or related regulations. Fluorochemical surfactants also have no effect on global warming or climate change. AFFF, fluoroprotein foam, and FFFP are foam liquid concentrates that contain fluorochemical surfactants.
There are environmental concerns with use of surfactants that should be kept in mind when these products are used for extinguishing fires or for fire training. These concerns are as follows:

(1) All surfactants have a certain level of toxicity.
(2) Surfactants used in fire-fighting foams cause foaming.
(3) Surfactants used in fire-fighting foams can be persistent. (This is especially true of the fluorine-containing portion of fluorochemical surfactants.)
(4) Surfactants can be mobile in the environment. They can move with water in aquatic ecosystems and leach through soil in terrestrial ecosystems.

F.9.1 through F.9.5 explain what each of these properties mean and what the properties mean in terms of how these compounds should be handled.

F.9.1 Toxicity of Surfactants. Fire-fighting agents, used responsibly and following Material Safety Data Sheet instructions, pose little toxicity risk to people. However, some toxicity does exist. The toxicity of the surfactants in fire-fighting foams, including the fluorochemical surfactants, is a reason to prevent unnecessary exposure to people and to the environment. It is a reason to contain and treat all fire-fighting foam wastes whenever feasible. One should always make plans to contain wastes from training exercises and to treat them following the suppliers' disposal recommendations as well as the requirements of local authorities.
Water that foams when shaken due to contamination from fire-fighting foam should not be ingested. Even when foaming is not present, it is prudent to evaluate the likelihood of drinking water supply contamination and to use alternate water sources until one is certain that surfactant concentrations of concern no longer exist. Suppliers of fire-fighting foams should be able to assist in evaluating the hazard and in recommending laboratories that can do appropriate analysis when necessary.

F.9.2 Surfactants and Foaming. Many surfactants can cause foaming at very low concentrations. This can cause aesthetic problems in rivers and streams, and both aesthetic and operational problems in sewers and wastewater treatment systems. When too much fire-fighting foam is discharged at one time to a wastewater treatment system, serious foaming can occur. The bubbles of foam that form in the treatment system can trap and bring flocks of the activated sludge that treat the water in the treatment system to the surface. If the foam blows off the surface of the treatment system, it leaves a black or brown sludge residue where the foam lands and breaks down.
If too much of the activated sludge is physically removed from the treatment system in foam, the operation of the treatment system can be impaired. Other waste passing through the system will then be incompletely treated until the activated sludge concentration again accumulates. For this reason, the rate of fire-fighting foam solution discharged to a treatment system has to be controlled. Somewhat higher discharge rates can be possible when antifoaming or defoaming agents are used. Foam concentrate suppliers can be contacted for guidance on discharge rates and effective antifoaming or defoaming agents.

F.9.3 Persistence of Surfactants. Surfactants can biodegrade slowly and/or only partially biodegrade. The fluorochemical surfactants are known to be very resistant to chemical and biochemical degradation. This means that, while the non-fluorochemical portion of these surfactants can break down, the fluorine-containing portion can likely remain. This means that after fire-fighting foam wastes

are fully treated, the waste residual could still form some foam when shaken. It could also still have some toxicity to aquatic organisms if not sufficiently diluted.

F.9.4 Mobility of Surfactants. Tests and experience have shown that some surfactants or their residues can leach through at least some soil types. The resistance of some surfactants to biodegradation makes the mobility of such surfactants a potential concern. While a readily degradable compound is likely to degrade as it leaches through soil, this won't happen to all surfactants. Thus, if allowed to soak into the ground, surfactants that don't become bound to soil components can eventually reach groundwater or flow out of the ground into surface water. If adequate dilution has not occurred, surfactants can cause foaming or concerns about toxicity. Therefore, it is inappropriate to allow training waste to continually seep into soil, especially in areas where water resources could be contaminated.

F.9.5 Environmental Regulation of Fluorochemical Surfactants. Fluorochemical surfactants and related fluorochemical polymers are used in many applications besides fire-fighting foams, including paper and packaging, textiles, leather and carpet treatment, and coatings. Some of these fluorochemicals and/or their persistent degradation products have been found in living organisms, which has drawn the concern of environmental authorities worldwide and led to both regulatory and nonregulatory actions to reduce emissions. The focus of these actions has been on fluorochemicals that contain eight carbons (C8) or more, such as PFOS (perfluorooctane sulfonate) and PFOA (perfluorooctanoic acid).

3M used a unique process to manufacture the fluorochemical surfactants contained in its fire-fighting foams. This process is called electrochemical fluorination (ECF), and fluorochemicals produced by this process both contain and degrade into PFOS. 3M stopped the manufacture of PFOS-based foams in 2002, and regulations in the United States (U.S.), Canada, and the European Union (EU) act as a ban on new production. EPA regulations do not restrict the use of old stocks of PFOS foam in the U.S. Regulations in the EU and Canada require old stocks of PFOS foam to be removed from service in 2011 and 2013, respectively. Excess stocks of PFOS foam concentrate can be destroyed by high-temperature incineration at any approved hazardous waste destruction facility.

All current manufacturers use a process called telomerization to produce the fluorochemical surfactants contained in their fire-fighting foams. Chemicals produced by this process are generally referred to as telomers. Telomer-based foams do not contain or degrade into PFOS. They are not made with PFOA but can contain trace levels as a contaminant of the manufacturing process.

Rather than regulate emissions of PFOA, EPA developed a global stewardship program where fluorochemical manufacturers have voluntarily agreed to reduce 95 percent by year-end 2010 and work to eliminate by year-end 2015 emissions of PFOA, PFOA precursors, and higher homologue chemicals. As a result, telomer-based fluorochemicals that are used in fire-fighting foams after 2015 are likely to contain only six carbons (C6) or less in order to comply with the EPA program. This will require some reformulation and likely some type of re-approval of most current foam products between 2010 and 2015.

Regulatory authorities will continue to evaluate the environmental impacts of fluorochemicals, and it is possible that regulations could change in the future.

F.9.6 Minimizing Emissions of Fluorochemical Surfactants. Because of their persistent nature, emissions of fluorochemical surfactants to the environment should be minimized whenever possible using the following techniques:

(1) Use training foams that do not contain fluorochemical surfactants
(2) Provide for containment, treatment, and proper disposal of foam discharges
(3) Follow applicable industry standards on the design, installation, and maintenance of foam systems and extinguishers

(4) Minimize false discharges from fixed foam systems by using approved detection, actuation, and control systems as required by industry standards

(5) Where appropriate, consider treating collected wastewater with granular activated carbon (GAC) or a membrane process such as reverse osmosis to remove the fluorochemical surfactants prior to disposal

APPENDIX F – RELEASE REPORTING REQUIREMENTS MATRIX

RELEASE REPORTING REQUIREMENTS MATRIX

This matrix summarizes pertinent emergency notification requirements and may not be all inclusive.
For precise legal requirements, review specific laws and regulations.

OIL SPILLS

TYPES OF RELEASES	AMOUNT	WHO REPORTS?	TO WHOM	WHEN	LEGAL AUTHORITY
(Federal) Navigable Waters*	Any Amount "Harmful quantity"***	Any person in charge of a vessel or facility (offshore or onshore)	NRC *(800) 424-8802 or (202) 267-2675*	Immediately, when it can be done safely	Federal Water Pollution Control Act (FWPCA) §311 33 CFR 153.203 40 CFR 110.6
(State of California) Marine Waters*	Any amount	Any party responsible for the discharge/threatened discharge; Responding local or state agency	Cal OES *(800) 852-7550* *NRC*	Immediately, but not later than 15 minutes after discovery of the spill or threatened release	California Government Code CGC 8670.25.5; 8670.26 *California State Oil Spill Contingency Plan* FWPCA §311 33 CFR 153.203 40 CFR 302.6
(State of California) State Waters*	Any amount of oil or petroleum product	Any person	Cal OES or RWQCB	Immediately upon knowledge of a release.	California Water Code CWC 13272 (a) CGC 8670.25.5; 8670.26 *California State Oil Spill Contingency Plan*
Oil Discharges to Land (Including Onshore drilling, exploration, or production operation)	≥ 1 barrel (42 gallons) 5 barrels or more uncontained in certain San Joaquin Valley oil fields - if no threat to state waters; 10 barrels or more contained in certain San Joaquin Valley oil fields if identified in spill contingency plan - if no threat to state waters.	Facility owner or operator	Cal OES	Immediately upon knowledge of a release.	Public Resources Code (PRC) 3233 San Joaquin Valley Field Rule (August 1998) CWC 13272 (f) *California State Oil Spill Contingency Plan*
Aboveground Storage Tanks (ASTs)	≥ 1 barrel (42 gallons)	Facility owner or operator of a tank facility	Cal OES, CUPA, and/or 911	Immediately upon knowledge of a release.	HSC 25270.8

RELEASE REPORTING REQUIREMENTS MATRIX

HAZARDOUS MATERIALS INCIDENTS (*may include oil & radioactive materials*)					
TYPES OF RELEASES	**AMOUNT**	**WHO REPORTS?**	**TO WHOM**	**WHEN**	**LEGAL AUTHORITY**
CERCLA HS Release	≥ RQ	Person in charge of a facility	NRC	Immediately upon knowledge of a release. Written report to follow.	CERCLA §103 (a) 40 CFR 302.6
EPCRA EHS Release	≥ RQ	Owner/Operator of facility	NRC SERC and LEPC CUPA/FD (In CA)	Immediately upon knowledge of a release. Written report to follow.	EPCRA §304 40 CFR 355
Release or Threatened Release (except transporting on highway)	If there is a reasonable belief that the release poses a significant hazard to human health & safety, property, or environment.**	Handler	Cal OES, CUPA, and/or 911	Immediately upon knowledge of a release.	HSC 25510
Illegal Discharges or Threatened Discharges of Hazardous Waste	Any amount that is observed or has knowledge of likely to cause injury to public health and safety.	Designated Government Employee	Local Health Officer or local Board of Supervisors	Within 72 hours	HSC 25180.7(b)
Highways	Any transportation release.	Any person who causes the spill.	CHP (who then notifies Cal OES)	Immediately upon knowledge of a release.	California Vehicle Code (CVC) 23112.5
Railroads	Release/threatened release that may harm person, property, or environment.**	Railroads regulated by the State PUC & FRA	Appropriate emergency response agency and Cal OES	Immediately upon knowledge of a release.	PUC General Order No. 161, Rule #3, 8-7-91
Hazardous Waste Discharge Transporters	Any spill in CA Federal notification: A situation carrier deems appropriate; person hospitalized or killed; public evacuation ≥ 1hr; operational flight pattern or route of aircraft is altered; major transp. artery or facility closed ≥ 1 hr; infectious or radioactive materials involved; marine pollutant > 119 gals or > 882 lbs	Transporter who discharged waste	CHP NRC	Immediately upon knowledge of a release. As soon as practical, but no later than 12 hours after accident occurs Written Report: to DTSC and DOT within 30 days.	CVC 23112.5; 2453 22 CCR 66263.15 22 CCR 66263.30 49 CFR 171.15 49 CFR 171.16

RELEASE REPORTING REQUIREMENTS MATRIX

HAZARDOUS MATERIALS INCIDENTS (CONTINUED) (*may include oil & radioactive materials*)					
TYPES OF RELEASES	**AMOUNT**	**WHO REPORTS?**	**TO WHOM**	**WHEN**	**LEGAL AUTHORITY**
Pipelines	Every rupture, explosion or fire ≥ 5 barrels	Pipeline operator	Fire Dept Cal OES	Immediately Written report: to State Fire Marshal within 30 days	CGC 51018(c)
ASTs	Any release or threatened release	Facility owner or operator	Cal OES, CUPA	Immediately upon knowledge of a release.	HSC 25510
Underground Storage Tanks (USTs)	Any release, if it poses significant hazard	Facility owner or operator	Cal OES, CUPA	Immediately upon knowledge of a release.	HSC 25510
	Into secondary containment – no fire or explosion hazard and no deterioration	Facility owner or operator	Cal OES, CUPA	Do not have to report BUT do need to record on the *Operator's Monitoring Report*.	HSC 25294
	Escapes from secondary containment; **or** from a primary containment if no secondary containment; **or** if there's a fire or explosion hazard or deterioration	Facility owner or operator	Cal OES, CUPA	Within 24 hours after the release has been detected Full written report within 5 working days	HSC 25295 HSC 25510
Releases beyond TSD Facility Boundary	A harmful quantity that could threaten human health or environment.	Facility owner or operator; TSDF Emergency Coordinator	Cal OES NRC	Immediately upon knowledge of a release.	CERCLA §103 (b) 22 CCR 66264.56(d) HSC 25510
Releases within TSD Facility Boundary	Any release that poses a significant hazard. Imminent or actual emergency situation that could threaten human health or environment.	Owner/Operator of facility TSDF Emergency Coordinator (designated in the Contingency Plan).	Cal OES, CUPA Local ER agencies	Immediately upon knowledge of a release. Written report: to DTSC within 15 days.	HSC 25510 22 CCR 66264.51 22 CCR 66264.52 22 CCR 66264.56

RELEASE REPORTING REQUIREMENTS MATRIX

AIR INCIDENTS					
TYPES OF RELEASES	**AMOUNT**	**WHO REPORTS?**	**TO WHOM**	**WHEN**	**LEGAL AUTHORITY**
Stationary Sources	Any release that poses a significant hazard. Exceeds emission standards	Operator of the source	Cal OES Air Pollution Control District's (APCD) or Air Quality Management District's (AQMD)	Immediately upon knowledge of a release. Within 96 hours	HSC 25510 HSC 42706
Proximity to Schools	A release within ½ mile of a school.	Emergency rescue personnel	Superintendent of affected school district	Immediately upon knowledge of a release.	HSC 25510.3
	A threat of an air contaminant within 1000 feet of a school.	Air Pollution Control Officer	CUPA, Local Fire Dept	Within 24 hours	HSC 42301.7
SEWAGE SPILLS					
Sewage to Waters and Other Sewage and Hazardous Substances	1000 Gallons unauthorized discharge into State waters. * Any hazardous substance and sewage that needs to be reported. If not in compliance with the Waste Discharge Requirements CWC 13271(b) **	Any person	Cal OES	Immediately upon knowledge of a release.	23 CCR 2250 (a) HSC 5411 CWC 13271 (a)

* **NOTE:** The terms navigable waters, state waters, and marine waters are used according to the applicable laws & regulations. Navigable waters could also include state waters and marine waters; State waters could include navigable and marine waters; and marine waters could include navigable and state waters.

** **NOTE:** Even if the quantities or situations that are outlined above have not been met, and you still believe that the release poses a significant hazard to human health & safety, or the environment -- then report it to Cal OES Warning Center.

*** **NOTE:** "Harmful quantity" is any quantity of discharged oil that violates state water quality standards, causes a film or sheen on the water's surface, or leaves sludge or emulsion beneath the surface.

Finally, it should be noted that intentionally false or misleading reports are a crime and legal matters may be enforced. (PC §148.3; HSC §25515.3; GC §8670.64)

RELEASE REPORTING REQUIREMENTS MATRIX

Federal Contact Numbers

National Response Center (NRC)*	(800) 424-8802 or (202) 267-2675
United States Environmental Protection Agency (USEPA), Regional Response Center http://www.epa.gov/osweroe1/content/reporting/index.htm	(800) 321-7349 or (415) 947-8000 *(General number)* (415) 947-4400 *(Spill Phone)* (800) 424-9346 *(SARA Title III Hotline)* (800) 300-2193 *(Region IX Duty Officer)*
Occupational Safety & Health Administration (OSHA)	(800) 321-OSHA (415) 625-2547 *(main public number – Region IX)*
United States Coast Guard (USCG) Captain of the Port/Federal On-Scene Coordinator (FOSC)	(310) 521-3805 (Sector *Los Angeles/Long Beach*) (619) 278-7033 (Sector *San Diego*) (415) 399-3547 (*Sector San Francisco*)
United States Department of Transportation (USDOT)	Contact -via- National Response Center (NRC)

* **Note:** One call to the NRC fulfills the requirement to report releases of hazardous substances under CERCLA and several other regulatory programs, including those under CWA § 311, RCRA, and the USDOT's Hazardous Materials Transportation Act (HMTA). Anybody who discovers a hazardous substance release or oil spill is encouraged to contact the federal government, regardless of whether they are the responsible party.

State Contact Numbers

California Governor's Office of Emergency Services (Cal OES) Warning Center	(800) 852-7550 or (916) 845-8911
California Highway Patrol (CHP)	**911**
State Fire Marshall (SFM)	(916) 323-7390 *(Emergencies only)*
CA Dept. of Conservation, Division of Oil, Gas & Geothermal Resources (DOGGR)	See attached list (Page 7) San Joaquin Valley Field Rule ftp://ftp.consrv.ca.gov/pub/oil/regulations/field_rule.pdf

RELEASE REPORTING REQUIREMENTS MATRIX

Department of Fish & Wildlife - Office Of Spill Prevention and Response (OSPR)	(800) OILS-911 ((800) 645-7911) (916) 445-9338 (Office of Spill Prevention and Response – Sacramento)
Regional Water Quality Control Board (RWQCB)	See attached list (Page 8)

Local Contact Numbers

ALL SPILLS SHOULD FIRST BE REPORTED to 911

CUPA	**For up-to-date contacts, refer to the Cal/EPA Unified Program website directory at:** www.calepa.ca.gov/CUPA/Directory/default.aspx
Local Sheriff/Police	
Local Fire Department	
Local Health Department	

Department of Conservation/Division of Oil, Gas & Geothermal Resources (DOGGR)

- California Regional Offices -

Region	Location	Contact #
District #1	(Cypress)	(714) 816-6847
District #2	(Ventura)	(805) 654-4761
District #3	(Santa Maria)	(805) 937-7246
District #4	(Bakersfield)	(661) 322-4031
District #5	(Coalinga)	(559) 935-2941
District #6	(Sacramento - Headquarters)	(916) 322-1110

RELEASE REPORTING REQUIREMENTS MATRIX

These numbers are included for reference purposes only. The RWQCB is contacted through the local CUPA and/or Cal OES, when these offices determine that it is necessary.

Regional Water Quality Control Boards - California Regional Offices -		
Region	**Location**	**Contact #**
Region 1 – North Coast	(Santa Rosa)	(707) 576-2220
Region 2 – San Francisco Bay	(Oakland)	(510) 622-2300
Region 3 – Central Coast	(San Luis Obispo)	(805) 549-3147
Region 4 – Los Angeles	(Los Angeles)	(213) 576-6600
Region 5a – Central Valley	(Rancho Cordova)	(916) 464-3291
Region 5b – Central Valley	(Fresno)	(559) 445-5116
Region 5c – Central Valley	(Redding)	(530) 224-4845
Region 6a – Lahontan	(South Lake Tahoe)	(530) 542-5400
Region 6b – Lahontan	(Victorville)	(760) 241-6583
Region 7 – Colorado River	(Palm Desert)	(760) 346-7491
Region 8 – Santa Ana	(Riverside)	(951) 782-4130
Region 9 – San Diego	(San Diego)	(858) 467-2952