SECTION C-2

PROGRAM MANAGEMENT

PROGRAM EFFECTIVENESS ASSESSMENT
2009-10

C-2.0 PROGRAM MANAGEMENT

C-2.1 Introduction (LIP Section A-2.1)

Program management activities conducted by the County on an annual basis to implement the Stormwater Program involve the following:

- Coordination with the other Permittees on program development through the 2003 DAMP (and subsequent update, likely as the 2011 DAMP); common program implementation (such as monitoring, public education and watershed programs); and a commitment of funding shared budgets under the Implementation Agreement;
- Coordination with internal County departments;
- Preparing, approving and tracking shared and County cost budgets; and,
- Effectiveness assessment of program elements following the ***Municipal Stormwater Program Effectiveness Assessment Guidance*** document developed by CASQA.

This section describes the County's implementation of the program management elements of its LIP and the approach taken on effectiveness assessment. The County utilizes the CASQA method of effectiveness assessment in order to demonstrate if program elements, activities, BMPs, etc., are resulting in desired outcomes. CASQA identifies six Outcome Levels and for each measure the County reports, the associated Outcome Level (more than one level may apply) is indicated by a colored triangle with a number (See **Section C-2.5** for detailed discussion on this approach).

C-2.2 Countywide Coordination (LIP Section A-2.2)

Due to its role as Principal Permittee, each General Permittee Committee meeting is attended by several County representatives. For the purpose of coordination as a Permittee, the following contacts represent the County's Stormwater Program:

Primary Contacts	**County of Orange OC Public Works**	
Name	Grant Sharp, County Stormwater Program Manager	Ruby Maldonado
Division	OC Watersheds	OC Planning/Advance Planning & Sustainable Development
Address	2301 N. Glassell St., Orange 92865	300 N. Flower St., Santa Ana 92703
E-mail Address	grant.sharp@ocpw.ocgov.com	ruby.maldonado@ocpw.ocgov.com
Alternate Contacts	**County of Orange OC Public Works**	
Name	Chris Crompton	Greg Yi
Division	OC Watersheds	OC Flood
Address	2301 N. Glassell St., Orange 92865	300 N. Flower St., Santa Ana 92703
E-mail Address	chris.crompton@ocpw.ocgov.com	greg.yi@ocpw.ocgov.com

For the purpose of coordination as the Principal Permittee, the following contacts represent the County:

Primary Contacts	County of Orange OC Public Works	
Name	Richard Boon	Chris Crompton
Division	OC Watersheds	OC Watersheds
Address	2301 N. Glassell St., Orange 92865	2301 N. Glassell St., Orange 92865
E-mail Address	richard.boon@ocpw.ocgov.com	chris.crompton@ocpw.ocgov.com

The General Permittee Committee met 11 times during the reporting period. The County had representatives at the following meetings:

Meeting Date	Attended
July 23, 2009	X
August 27, 2009	X
September 24, 2009	X
October 29, 2009	X
December 17, 2009	X
January 28, 2010	X
February 25, 2010	X
March 25, 2010	X
April 22, 2010	X
May 27, 2010	X
June 24, 2010	X

In addition, County representatives coordinated and participated in the following committees and task forces:

Committee/Task Force	Attended
LIP/PEA	All Meetings
Inspection	All Meetings
Trash & Debris	All Meetings
Legal/Regulatory Authority	All Meetings
Public Education	All Meetings
Water Quality	All Meetings
Ad Hoc Vector Control	All Meetings

C-2.3 County Internal Coordination (LIP Section A-2.3)

The NPDES Internal Committee, comprised of designated representatives from most County departments, was formed in August 2003 and strives to meet on a quarterly basis or as needed during the year. Meetings were held on the following dates for 2009-10:

Meeting Dates
July 15, 2009
April 14, 2010

Table A- 2.2 within **Section A-2** of the LIP details the roles and responsibilities of individual County departments with respect to implementation of the County's Stormwater Program.

C-2.4 Fiscal Analysis (LIP Section A-2.4)

The Fiscal Analysis includes the following:

- The County's expenditures for the previous fiscal year;
- The County's projected costs for the current fiscal year; and
- A description of the source of funds.

The Fiscal Analysis is intended to depict all NPDES compliance related costs for the County. The tables on the following pages report costs that include both County operations and contracted services and are broken down into the following categories:

Capital Costs

Capital costs include any capital expenditure for each one of the DAMP elements. This would consist of any land, large equipment, and structures, public project BMPs, and construction BMPs for public projects (see table below). The County's capital costs totaled $2,237,875 for the 2009-10 reporting period.

Operations and Maintenance Costs

Operations and maintenance costs refer to normal costs of operation including the cost of keeping equipment and facilities in working order (see table below). The County's operations and maintenance costs totaled $21,226,565 for the 2009-10 reporting period.

Funding Sources

The funding sources describe the origin of the combined capital and operations and maintenance expenditures (see the following tables).

CAPITAL COSTS
(Land, Large Equipment and Structures)

LIP Program Elements		FY2009-10 Costs	Projected FY 2010-11 Costs
Public Project - BMPs	BMPs, retrofits, facilities constructed as a component of some other facility	$2,120,875	$140,000
Construction BMPs for Public Construction Projects	Cost for water quality BMPs used during construction	Not Reported	$80,000
Other Capital Projects/Major Equipment Purchases	Capital improvements related to the program that are not strictly BMPs and costs for purchase of major equipment	$117,000	$23,000
	Totals	$2,237,875	$243,000

OPERATION AND MAINTENANCE COSTS

1

IP Program Elements			FY2009-10 Costs	Projected FY 2010-11 Costs
Supportive of Program Administration (LIP Section A-2.0)	Meetings/Committees/Training/Reporting		$853,147	$891,337
Plan Development (LIP Section A-3.0)	New Program Development/BMP Effectiveness Studies		$815,845	$840,320
Municipal Activities (LIP Section A- 5.0)	Trash & Debris Control (Public Works O&M) Litter Ordinance, Clean-up Programs, Specialty/bulky Pickups, Public Trash Receptacles		$999,276	$1,100,000
	Household Hazardous Waste Collection		$4,211,065	$5,200,000
	Drainage Facility Maintenance(Public Works O&M) Includes Catch basin Stenciling		$727,125	$1,000,000
	Street Sweeping(Public Works O&M)		$232,582	$240,000
	Environmental Performance Reporting Program	Litter/Trash Control	$4,551,944	$4,510,706
		Parking Lot Sweeping	$806,096	$679,666
		Facility Drain Maintenance	$715,025	$755,728
		Inspections	$191,941	$194,925
		BMP Maintenance	$712,421	$720,190
	Pesticide & Fertilizer Management		$1,861,282	$2,051,865
Public Information (LIP Section A-6.0)	Non-Point Source Pollution Awareness		$0	$0
	Household Hazardous Waste Collection		$62,642	$58,000
New Development/Significant Redevelopment (LIP Section A-7.0)	Requiring New Development BMPs (Supportive of Planning, etc.)		$308,916	$317,856
Construction (LIP Section A-8.0)	Requiring Construction BMPs (Supportive of Plan Check & Inspection) – Private Projects		$475,292	$506,169
	Requiring Construction BMPs (Supportive of Plan Check & Inspection) – Public Projects		$476,719	$615,979
Existing Development (LIP Section A-9.0)	Industrial/Commercial/HOA Facility Inspections		$6,199	$7,198
Illegal Discharge/Illicit Connection (LIP Section A-10.0)	Illicit Connection Inspections		$4,000	$6,000
	Illegal Discharge Investigations, Spill Response		$1,757,994	$482,139
County Contribution to Countywide NPDES Program			$1,457,054	$1,500,760
Totals			$21,226,565	$21,678,837

FUNDING SOURCES

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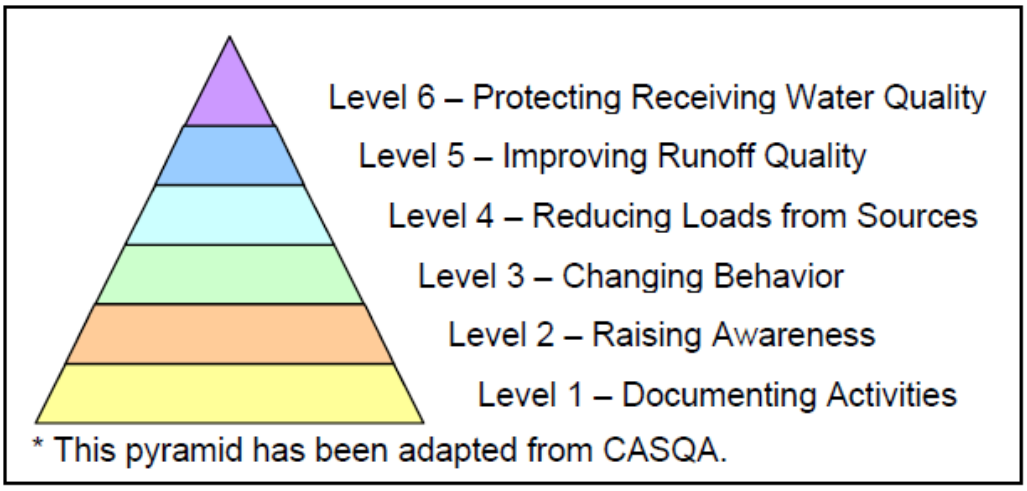
LIP FUNDING SOURCES	FY2009-10 Costs	Projected FY 2010-11 Costs
GENERAL FUND	5.6	6.2
UTILITY TAX/CHARGES	0	0
SEPARATE UTILITY BILLING ITEM	0.6	0.3
GAS TAX	2.3	3.8
SPECIAL DISTRICT FUND	35.9	38
Other		
• **Prop 172**	0.24	0.24
• **Sanitation Fee**	30.23	37
• **Service Fees**	0.17	0.17
• **Fleet Maintenance Fund**	0.06	0.07
• **Community Services Fund**	0	0
• **Water Fund**	0	0
• **Sewer & Storm Drain Maintenance Fee**	0	0
• **Grants**	15.5	10
• **Time and Materials Ordinance and Permit Fees**	2.7	3
• **Pollution Response Cost Recovery**	6.7	1.5
TOTALS	100%	100%

C-2.5 Program Effectiveness Assessment Approach

Beginning with the 2004-05 reporting period, the Orange County Stormwater Program Permittees adopted the CASQA approach to program effectiveness assessment first articulated in a white paper. In April 2008, the Orange County Stormwater Program became the first municipal stormwater program in the State to receive training directly from CASQA on program effectiveness assessment. The approach is based on outcomes and outcome levels depicted in the figure below and defined in CASQA's ***Municipal Stormwater Program Effectiveness Assessment Guidance Manual*** (May, 2007), as follows:

"Outcomes are the results of implementing a stormwater control measure, program element or overall program. Outcomes are characterized in terms of six Outcome Levels, which can have implementation or water quality endpoints. Outcome Levels help to categorize and describe the desired results or goals of programs and control measures."

CASQA Classification of Outcome Levels



The six CASQA Outcome Levels are defined as follows:

Level 1 – Documenting Activities

These are Outcomes which provide direct feedback to Orange County Stormwater Program management on whether measures are being implemented as planned and on schedule. They include numbers and percentages reported throughout the various sections of this PEA documenting budget costs, inspections, trainings, meetings attended, etc. Level 1 Outcomes are assumed to be beneficial to water quality and reflect general program implementation and compliance. They are not direct indicators of the impact of implementation on the environment.

Level 1 Outcomes reported within this PEA will be identified by the following symbol: 

Level 2 – Raising Awareness

The County recognizes that an important goal of its Stormwater Program is to increase the level of knowledge and awareness among residents, businesses, and its own municipal staff. Level 2 Outcomes provide excellent feedback on how effective implementation of the public education program (see Section **C-6, Public Education** for details) has been. For example, the County has documented an increase in the number of calls to its 24 Hr. Water Pollution Problem Hotline over the last several years (See Section **C-10, Illegal Discharges/Illicit Connections** for details). The Hotline number is included on all public education material, indicating an increased level of awareness among residents as a result. Similar to Level 1, raising awareness is generally assumed to be beneficial to water quality.

Level 2 Outcomes reported within this PEA will be identified by the following symbol: 

Level 3 – Changing Behavior

One of the goals of increasing knowledge and awareness (Level 2) is that by doing so, you begin to see changes in behavior. Level 3 Outcomes provide feedback on how effective program elements designed to increase knowledge and awareness have been in motivating change in behavior and implementation of best management practices (BMPs). Examples of this Outcome are documented within **Section C-8** (Construction) and **C-9** (Existing Development) of this PEA. As awareness has increased that BMPs are required (Level 2), it has in turn helped operators of construction sites and commercial/industrial businesses do a better job of implementing appropriate BMPs (Level 3). The result is that less corrective and enforcement actions are needed to be taken by County inspection staff. Both quantitative and qualitative methods are used by the County to measure changes in behavior.

Level 3 Outcomes reported within this PEA will be identified by the following symbol: 

Level 4 – Reducing Loads from Sources

These Outcomes provide feedback regarding reductions in the amounts of pollutants associated with specific sources resulting from the implementation of BMPs and activities designed to prevent the discharge of pollutants. Changes in behavior (Level 3 Outcomes) can reduce potential loads from pollutant sources, creating a Level 4 Outcome.

For example, in **Attachment C-5.1** (Traditional Municipal BMP Programs) of this PEA, data is reported on the amount of household hazardous waste items disposed of by residents at County collection centers. The total pounds have increased for the last several years, indicating a change in people's behavior (Level 3 Outcome). As more residents take the appropriate action with their household hazardous waste, there is less potential for material to be dumped illegally. This results in a reduction of pollutant loads to the stormdrain system (Level 4 Outcome).

Level 4 Outcomes reported within this PEA will be identified by the following symbol: 

Level 5 – Improving Runoff Quality

A primary goal of the County's Stormwater Program is to reduce pollutants in urban runoff to the maximum extent practicable (MEP) performance standard, and to ensure that discharges from the stormdrain system do not cause or contribute to exceedances of water quality

standards in receiving waters. Level 5 Outcomes may be reflected as a reduction in one (or more) specific pollutant, and may demonstrate effectiveness on a variety of scales ranging from site-specific to programmatic.

A site-specific example of a Level 5 Outcome is the Clear Creek System installed at the County's J01P28 drain at Aliso Creek, which utilizes ultraviolet light to kill bacteria in runoff (See **Section C-3, Plan Development**, of this PEA for more details). Programmatic examples can be found in **Section C-10, Illegal Discharges/Illicit Connections**, where the efforts of the County to respond to pollutant discharges throughout the region are detailed.

Level 5 Outcomes may be difficult to distinguish from Outcomes at Level 4 (Reducing Loads from Sources). For example, the amount of solid debris that does not reach the stormdrain system due to BMPs implemented by the County such as catch-basin screens and street sweeping (level 4), may only be measured by a decrease in the total amount of debris collected at in-stream trash and debris barriers (See **Attachment C-5.1, Traditional Municipal BMP Programs** for details).

Level 5 Outcomes reported within this PEA will be identified by the following symbol: 

Level 6 – Protecting Receiving Water Quality

The ultimate goal of a stormwater management program is the protection of receiving water bodies and their designated beneficial uses. A Level 6 Outcome is related to compliance with water quality standards, protection of biological integrity, and beneficial use attainment. These are the most challenging Outcomes to document as measurable changes in receiving water quality sometimes may only be seen over long periods of time that allow the cumulative impacts of multiple program elements to take effect.

One Level 6 Outcome that is of particular importance to Orange County is the number of beach closure days. When bacteria levels exceed the State's AB411 health standard for recreational contact, it can cause a beach to be posted or in extreme conditions closed. Many of the BMPs and program element implemented by the County through its Stormwater Program target bacteria. An example of this can be found in **Attachment C-5.1, Traditional Municipal BMP**

Programs, of this PEA. The runoff diversions that the County has installed in several of its flood control channels have helped reduce the number of beach closure days significantly. Similarly, treatment systems, such as the UV system at Poche Beach have a direct impact on Receiving Waters. In its ***2009-10 Beach Report Card***, Heal the Bay reported the following on page 17:

"Orange County displayed quite easily the best dry weather water quality it has seen in the last six years. For both AB411 and year-round dry weather conditions, this year's water quality was markedly better than the County's six-year average."

Level 6 Outcomes reported within this PEA will be identified by the following symbol: 

The CASQA ***Municipal Stormwater Program Effectiveness Assessment Guidance Manual*** differentiates between three types of assessment:

Implementation Assessment (Outcome Levels 1-4)

The analysis of the effectiveness of a program element or control measure at meeting desired programmatic Outcomes or goals. Implementation assessments typically focus on specific BMPs such as inspections, street sweeping, debris collection, or the development/implementation of BMPs.

Water Quality Assessment (Outcome Levels 5-6)

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 (Combines both Implementation and Water Quality Assessment)

Integrated assessment is the process of evaluating whether stormwater program implementation is resulting in the protection of improvement of water quality. In this process, relationships between program activities and water quality improvements are explored and refined.

The County's 2009-10 PEA reflects a continued effort toward performing a meaningful *Integrated Assessment* of its BMPs and program elements and resultant impacts on water quality.

C-2.6 Program Management Training

The County conducted and/or participated in the following trainings to assist responsible municipal staff in better understanding program management/effectiveness assessment during the 2009-10 reporting period:

1. **Title of Workshop or Training:** California Stormwater Quality Association 2009 Conference
   Date Attended: Nov. 2-4, 2009
   Training Conducted By: Various presenters

Name	Department
Chris Crompton	OCPW/OC Watersheds
Richard Boon	
Grant Sharp	

In addition, County staff attended or viewed web casts of the following quarterly CASQA meetings:

- September 9, 2009 (Sacramento)
- January 14, 2010 (Ventura)
- May 13, 2010 (Sacramento)

C-2.7 Program Management Modifications

In assessing effectiveness of the County's stormwater program management, one area that has been identified as needing improvement is data management. The complexity of the Fourth Term MS4 Permits and the amount of data that must be tracked, managed, and reported, has necessitated a shift to a GIS integrated, enterprise data management system. The County has evaluated several options and elected to use a web-based, GIS integrated proprietary software system. This software system should greatly increase efficiency while allowing broad access in real time to inventories, inspection data, etc. Deployment of the system will occur during the 2010-11 reporting period.