

SECTION C-5

MUNICIPAL ACTIVITIES

**PROGRAM EFFECTIVENESS ASSESSMENT
2013-14**





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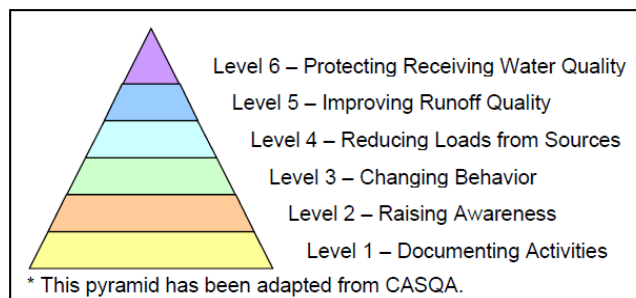
C-5.0 MUNICIPAL ACTIVITIES

C-5.1 Introduction (LIP Section A-5.1)

This section of the PEA discusses the implementation of the inventory, prioritization, inspection, BMP implementation and reporting program for County fixed facilities and field programs during the 2013-14 reporting period.

The County has incorporated the Model Municipal Activities Program described in **DAMP Section 5.4** as the basis for **Section A-5** of its LIP. This section, as well as its related **Attachments C-5.1 through C-5.4**, present the results of the Municipal Activities Program carried out by the County to reduce discharges of pollutants during this reporting period.

As described in **Section C-2.5** of this report, 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 is indicated by a colored triangle with a corresponding number (note: more than one level may apply).



C-5.1.1 Overall Municipal Activities Program Management

The County has identified which County departments are responsible for the management and implementation of this stormwater program element in Section A-5.0 of the LIP.

C-5.2 Inventory of County Fixed Facilities, Field Programs and Drainage Facilities (LIP Section A-5.2.1)

Fixed Facilities

The County has developed a watershed based inventory of its fixed facilities, which is updated on an on-going basis and submitted annually to the Regional Board. The inventory of fixed facilities may change annually with the acquisition or sale of County property. No additions or removals occurred to the inventory of fixed facilities during this reporting period. A total of **136 fixed facilities** situated across 11 watersheds currently make up the 2013-14 County's fixed facility inventory: 55 high priority sites, 2 medium priority sites, and 79 low priority sites. Figures displaying a geographical inventory of the County's 2013-14 municipal fixed facilities by watershed are included in **Attachment C-5.3** of this PEA.



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Inventory of Field Programs

The County's inventory of municipal field programs includes the following: 1) Graffiti removal, 2) Solid waste handling, 3) Drainage facility maintenance, 4) Street maintenance, 5) Rodent control, and 6) Landscape maintenance.

Inventory of Drainage Facilities

The inventory of drainage facilities includes all stormdrains, catch basins, retention basins and related appurtenances within the County's jurisdiction. This inventory is updated on a regular basis and is managed through the County's GIS-integrated CBIMS4Web database, which can be accessed by clicking on the following web link:

Website: http://www.ms4web.com/mapsites/MS4_CA_OC/

User Name: PEA

Password: ocMS4!

C-5.3 Prioritization (LIP Section A-5.2.2)

The County has prioritized its fixed facilities as high, medium or low based on their respective threat to water quality. Prioritization is updated on an ongoing basis and provided to the Regional Boards as a part of the PEA. Prioritization categories may change based on information acquired during inspections. Prioritization of each of the County's fixed facilities is summarized in the table below:

2013-14 Summary of County Municipal Fixed Facility Prioritization

Municipal Fixed Facility Prioritizations	Total Number of Fixed Facilities	
	Santa Ana Region	San Diego Region
Mandatory high priority facilities	37	18
Number of medium priority facilities	2	0
Number of low priority facilities	65	14
Total Number of Fixed Facilities	104	32

All County field programs are prioritized as high. Field programs include the maintenance and inspection of County-owned drainage facilities, roads, streets, and highways.

C-5.4 Model Maintenance Procedures (LIP Section A-5.2.3)

Model Maintenance Procedures (MMP) fact sheets were developed as a part of the Municipal Activities program. The fact sheets include a description of specific BMPs for common municipal activities that may cause pollutant discharges, and provide pollution prevention



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measures that the facility and/or program should implement. The Orange County Stormwater Program regularly updates the fact sheets to keep in line with current permit conditions. The BMP fact sheets can be found on the County’s web site: <http://ocwatersheds.com/documents/bmp/>. The activity-based MMP fact sheets are included as **Exhibit A-5.III** of the County’s LIP. A summary of municipal activities BMP programs implemented during this reporting period is provided in **Attachment C-5.1** of this PEA.

C-5.5 Inspection (LIP Section A-5.2.4)

Municipal facility inspections continue to be conducted at the frequencies listed in **Table A-5.2** of the LIP as part of the County’s stormwater program, and are noted below:

Municipal Fixed Facility/Field Program Inspection Frequencies

Inspection Frequencies	
Facility/Program	Inspection Frequency
Fixed Facilities	
County Corporation Yards	Quarterly
High Priority Fixed Facility	Annually
Medium Priority Fixed Facility	Biennially
Low Priority Fixed Facility	Once during first year of program implementation
Field Programs	
High Priority Field Programs	Annually
Drainage Facilities	
Drainage Facilities	Annually before the wet season, with additional inspections as needed during the wet season

Inspections generally include a review of material and waste handling practices, BMP implementation, and identification of any visual evidence of past or present unauthorized non-stormwater discharges. Municipal Facility Program Assessment Forms, as discussed in **Section C-5.8**, are completed annually for each facility, summarizing the findings of inspections conducted throughout the year; any issues that require follow-up are identified as “actionable issues”.

Inspections of drainage facilities and roads are conducted by OC Public Works/Operations and Maintenance inspectors. Fixed facility and field program inspections are carried out by the



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facility site manager, the field supervisor and/or an inspector from OC Environmental Resources. Inspections of fixed facilities by an OC Environmental Resources inspector provide an opportunity for additional training of the facility manager. OC Environmental Resources inspectors also conduct follow up inspections as necessary.

A total of 60 municipal facilities were inspected during the reporting year. During the previous reporting period, the total number of facilities inspected was 80. Although not included in the total number of facilities inspected this reporting period, all OC Public Library (Low Priority sites) gutters and stormdrains were cleaned during the 2013-14 reporting period. Including quarterly corporate yard inspections a total of 123 facility NPDES inspections were conducted during the reporting period.

As part of its municipal facility inspections County inspectors also determine the level of BMP implementation and assess the effectiveness of the implemented BMPs. For each of the facility's areas of activity, the inspector observes whether BMPs are in place and effective. The inspector may encounter situations where BMPs are in place but are not effectively applied; in such cases the inspector uses his or her best professional judgment in deciding how much time to allow the site manager to correct the problem and schedules a re-inspection to ensure the BMP is being properly implemented. During the reporting period, 132 facilities were identified as having full BMP implementation upon inspection and four facilities were noted as having only partially implemented BMPs, each of which was addressed upon follow-up inspections. Facility staff is now shifting from implementation of BMPs to focusing on routine BMP maintenance.

C-5.5.1 Enforcement



The County may take various actions when an inspection highlights a problem at a municipal facility. Possible actions include the issuance of verbal and written instructions or additional training of County personnel. In the instance of contracted services, action under the ordinance or termination of the contract or lease could occur.

During the 2013-14 reporting period OC Construction received a verbal notice from the City of Huntington Beach regarding sediment tracking related to an Orange County Flood Control District (OCFCD) project. The project was being carried out in conjunction with an adjacent private development project which was utilizing sediment from the OCFCD project to augment its activities. OC Construction and the developer worked together to address the tracking issues by incorporating additional BMPs at both sites which lead to a resolution of the problem and avoided enforcement action by the City. No other enforcement actions beyond verbal or written warnings occurred during the reporting period at County municipal sites.

C-5.5.2 Reporting

The incident discussed above was reported to the Santa Ana Regional Board as part of the Quarterly Notification of General Permit Site Violations (April through June, 2014). No other reports of inspection violations occurring at County municipal facilities were made during the 2013-14 reporting period, with the exception of minor BMP deficiencies noted in the quarterly reports to the Santa Ana Regional Board.



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C-5.6 Municipal Retrofitting (LIP Section A-5.2.4.4)

The County examines opportunities to retrofit existing MS4 conveyance systems, parks and other recreational areas where feasible. During past reporting periods, the County received funding on retrofit projects through Tier 1 of the Orange County Transportation Agency's (OCTA) Environmental Cleanup Program (ECP). During the 2011-12 reporting period the County's Operation and Maintenance Division retrofitted 178 stormdrain catch basins with connector pipe screens (CPSs) using funds received from the OCTA ECP. The units were installed throughout unincorporated portions of the County which included portions of Anaheim, Midway City, Rossmoor and Tustin. Subsequent funding was received during the 2013-14 reporting period as part of Phase III of the Renewed Measure M (M2) Program which allowed for the retrofitting of 175 additional catch basins as well as the purchase of two skid-mounted vacuum systems which are used for catch basin and vault cleaning. During this reporting period, OC Road Programs submitted a grant application for the FY2013-14 Tier 1 Call for Phase IV Projects. The Phase IV application included the retrofitting of 350 catch basins with CPSs within the unincorporated communities of Ladera Ranch and Las Flores. Project funding was approved on September 22, 2014 and will be carried out during the 2014-15 reporting period. An application for the retrofitting of an additional 190 catch basins will be submitted in response to the Phase V call for projects, expected in the Spring of 2015.

C-5.7 Integrated Pest Management (LIP Section A-5.3)

During 2013-14, the County continued to implement its Integrated Pest Management (IPM) program, which is **Exhibit A-5.V** of the County LIP. Data generated from the County's IPM program during this reporting period is presented in **Attachment C-5.2** of this report.

C-5.8 Education and Training (LIP Section A-5.4)

C-5.8.1 Education

The County's website, www.ocwatersheds.com, is identified as a resource on all training material for County personnel. Municipal staff are directed to the BMP Fact Sheets found on the website or are provided with the appropriate BMP guidance by Stormwater Program Managers on a regular basis. Associated training materials are also available on the website for use by supervisors for training County personnel. The website continues to be the primary method for providing County personnel with pertinent stormwater education materials.

C-5.8.2 Training

The County has developed and implemented internal job-specific training for its employees. During the 2013-14 reporting period general stormwater pollution prevention training continued to be provided for all new OC Public Works employees during the New Employee Orientation. The introductory training consists of a presentation of the "Stormwater 101" video and new employees are provided BMP Fact Sheets pertinent to their new role with the County. In most cases, stormwater program training, including a review of site-specific BMP implementation, has become a component of "tailgate" trainings held in conjunction with safety



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training at municipal facilities and on municipal projects. Both formal and routine training sessions were attended by County staff throughout the reporting period; a sampling of this training is provided below:

2013-14 Summary of County Stormwater Program Training

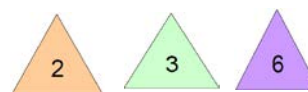
Title	Date	Agency	Number of Attendees	Location
Pre-Wet Season Construction Training	September 24 & 25, 2013	Various County Agencies (provided by RBF Consulting)	57	City of Cypress - Council Chambers
Model WQMP & Technical Guidance Document (TGD) Refresher Training for Program Managers	October 2, 2013	OC Public Works (provided by Geosyntec)	3	City of Laguna Niguel Community Center
Model WQMP and TGD Training for Implementation Staff (SDR)	October 16, 2013	OC Public Works (provided by Geosyntec)	1	City of Laguna Niguel Community Center
Model WQMP and TGD Training for Implementation Staff (SDR)	October 8 and 15, 2013	OC Public Works (provided by Geosyntec)	2	City of Laguna Niguel Community Center
QSP/QSD Training Course	April 2, 9 and 16, 2014	OC Public Works; (provided by RBF Consulting and Larry Walker Associates)	13	City of Tustin Community Center
Southern California Coastal Water Research Project Annual Symposium	January 24, 2013	OC Public Works	6	SCCWRP
Floodplain Managers Conference	September 5, 2013	OC Public Works	1	Anaheim, CA
Beach Water Quality Workgroup Quarterly Meetings	August 14, November 13, 2013; February 19, and May 21, 2014	OC Public Works	1	Costa Mesa, CA
Spill Response BMPs	June 2014	OC Parks (provided by OC Parks NPDES Coordinator)	56	Various OC Parks Locations
Quarterly NPDES Permit Compliance Training	Quarterly	OC Parks	155 (averaged per quarter)	Various OC Parks Locations



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CalEPA Basic Inspector Academy	October 2013	OC Parks	1	Riverside, CA
Sewer Spill Estimating	March 20 and May 15, 2014	OC Parks (provided by Orange County Sanitation District)	1	Garden Grove and Fountain Valley, CA
Forester University Stream Restoration Basics and Techniques Parts 1 & 2	April 2014	OC Parks	1	On-line training
Annual NPDES Refresher Training	August 29, 2013	OCW&R (provided by Geosyntec)	24	OCW&R Headquarters

C-5.9 Municipal Activities Program Assessment



The Municipal Facility Program Assessment provides information on facility activities during the year for use in evaluating the municipal activity efforts and preparing the annual PEA. The assessment demonstrates a commitment to pollution prevention and source reduction by providing an iterative evaluation and corrective action management process. This process emphasizes:

- Program elements with past and present problems in need of improvement
- Improvements that occurred during the reporting year
- Program elements that are currently in need of improvement
- Specific action plans and timeframes for implementing necessary improvements

Each year Stormwater Program Managers rely on the previous Program Assessment to serve as the benchmark for the next year's resource effort and program evaluation.

C-5.10 Municipal Activities Program Highlights and Updates

The following are highlights of the County's municipal stormwater program accomplishments during the reporting period:

- An internship program continues to be very successful within the Orange County Stormwater Program. Interns assist with the maintenance and fine tuning of the large volumes of data generated by the program, field monitoring activities, day to day administration and the incorporation of GIS capabilities.
- As noted in the above *Summary of County Stormwater Program Training*, several County departments have provided additional stormwater management training to their staff which they find pertinent to their specific programs. This training can be directly correlated to the increased understanding and implementation of the municipal stormwater program across the County as mentioned earlier in **Section C-2.3** of this report.
- In addition to implementing the requirements of the municipal program within their respective department, County staff continues to involve themselves in various



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community based out reach efforts, as well. See **Section C-6.3.7** of this PEA for more information regarding these beneficial public outreach events.

- In October 2012 OC Public Works received funding from the State Water Resources Control Board's *Prop 84 Stormwater Grant Program* for the *Glassell Yard Campus Low Impact Development (LID) Retrofit Project*. The project will include retrofitting the County's 9.4 acre Glassell Yard Campus with a combination of landscaped, infiltration strips and bioretention LID BMPs including: permeable paving, flow-through planters, bioswales, modular wetlands, and subsurface cistern. The objective of the retrofit project is to filter and remove pollutants, infiltrate and reduce stormwater runoff, and achieve 100% stormwater treatment and 85% on-site retention. Design took place during the 2013-14 reporting period with the anticipated completion of the design plans and Special Provisions by the end of 2014 construction will commence in 2015 in seven subphases to minimize disruption of normal business operation.
- As discussed in the 2011-12 County PEA report, the County Board of Supervisors approved an agreement on June 19, 2012 between the Orange County Flood Control District (OCFCD) and Disneyland Resort for the Pilot Adoption of Anaheim-Barber City Channel by Disneyland. The Disneyland Resort discharges runoff to this reach of channel, which flows ultimately to Huntington Harbour and Anaheim Bay. Since the pilot adoption program began, Disneyland Resort has removed and properly disposed of approximately 1,800 pounds of trash and debris and covered 18,900 square feet of graffiti from a 2-mile portion of this channel. In September 2013 an announcement of a planned county-wide Adopt A Channel Program was made. Approval of the Adopt A Channel Program by the County Board of Supervisors in late 2014 is expected to result in the adoption of several miles of additional OCFCD channels in early 2015.

The following is a Progress Report for East Bluff Upper Newport Bay Drainage Repair:

- The County continues to work towards a solution to rehabilitate a deteriorated stormdrain line that discharges into Upper Newport Bay. During the reporting period OC Parks and the City of Newport Beach decided on the most appropriate design alternative for the repair taking into consideration the least impact to the surrounding conditions. It is anticipated that a project regulatory permitting package will be ready by the end of the November 2014 leading to the issuance of necessary permits in April 2015. OC Parks staff continues to maintain temporary BMPs placed at the top of bluff to prevent erosion and to direct runoff from the broken section of the 36" corrugated metal pipe into an existing 30" concrete lined corrugated metal pipe. Following each rain event, staff also cleans out behind check dams, sandbags and at the inlet/outlet of the existing pipe to ensure there is no accumulation of sediment. These efforts have effectively stopped all but infrequent natural erosion from occurring until repairs can be made.



C-5.11 Municipal Activities Program Modifications

On October 3, 2013, the County of Orange, Orange County Flood Control District and Santa Ana Region Permittees submitted the Report of Waste Discharge (ROWD) to both the US EPA and Santa Ana Regional Water Quality Control Board pursuant to the requirements of Section XXIII of Order No. R8-2009-0030 NPDES No. CAS618030. On May 20, 2014, the County of Orange, Orange County Flood Control District and San Diego Region Permittees submitted the Report of Waste Discharge (ROWD) to both the US EPA and San Diego Regional Water Quality Control Board pursuant to the requirements of Section K.2.b of Order No. R9-2009-0002 NPDES No. CAS0108740. Both the Santa Ana Region and San Diego Region ROWDs presented specific recommendations for the continuation and future development of the Orange County Stormwater Program based upon a consideration of the effectiveness of the Program and need for additional pollutant control initiatives.

Municipal Activities Program recommendations included in both the Santa Ana Region and San Diego Region ROWDs include:

- **Enhance municipal training** to address common issues encountered through municipal related complaints and to utilize innovative education formats to encourage discussion-based learning. The four most common types of issues that occur most frequently include those related to: trash/debris, pathogen/bacteria, hydrocarbons and exempt discharges. Training would focus on in-classroom engagement of concepts learned prior to the training session and focus on reducing issues and pollutants of concern through specific actions (e.g. runoff reduction to reduce bacteria loading).
- **Develop a municipal green infrastructure program** that could include evaluation of opportunities for pilot green street projects of different land use/density configurations and development of a green street guidance manual.
- **Examine municipal retrofit opportunities** for regional BMPs and propose a program to evaluate previously identified retrofit opportunities for use in TMDL compliance and LID and/or hydromodification management alternative compliance. This would involve the development of watershed models and evaluation of the previously identified potential BMP retrofit sites.
- **Develop and initiate the implementation of individualized IPM Guidelines for each Permittee** with the goal of demonstrating significant and consistent reductions in fertilizer and pesticide applications based on the mission and goals outlined in jurisdictional IPM Policies.
- **Conduct pilot soil and/or leaf tissue analysis to guide fertilizer use** to ensure nitrogen is not applied at annual rates above those recommended by UCCE research. The Permittees would identify the most fertilizer-intensive area by type (e.g. sports fields) and select one site for analysis. The analysis would assist Permittees in fine-tuning nitrogen application based on the needs of plants at the highest use areas.



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- **Improve methods for documenting usage of fertilizer and active ingredient of pesticide on an annual basis** to allow for more reliable data on the acreage receiving fertilizer applications. In collaboration with the UCCE, a standardized reporting method would be developed, improving reporting accuracy on both the amount of nitrogen and pesticides applied by Permittees on an annual basis. Though data shows a decrease in the amount of nitrogen applied, the acreage reported suggests that Permittees are under-fertilizing. The objective would be to minimize fertilizer applications where annual rates exceed those recommended by UC research (174 -261 lbs. N/acre) while more accurately capturing the acreage to which fertilizer is applied.
- **Expand training to include peer-reviewed online training courses offered by University of California IPM (UC IPM) and UCCE** to ensure the IPM and water quality message reaches as many field staff as possible. Possible options include the UC IPM Urban Pesticide Runoff and Mitigation online training series developed by UC academics across the state to provide a more suitable method to reach field staff unable to attend in-person training. The online training consists of a series of courses directly addressing the impacts of pesticides on water quality as well as practices to mitigate these impacts (<http://www.ipm.ucdavis.edu/training/upr-mitigation.html>).

Additional recommendations from the Santa Ana Region ROWD relating to Municipal Activities Program:

- **Investigate developing a prioritization process for drainage facilities** based on historical data establishing high, medium and low priority drainage facilities similar to the current structure for fixed facilities. Criteria should be established based on maintenance records to trigger cleaning upon inspection (e.g. requiring cleaning of catch basins with accumulated trash and debris greater than a specified percentage of design capacity).
- **Investigate developing an inspection regime for drainage facilities based on re-prioritization scheme** resulting in the inspection of all sites once per permit term. High, medium and low priority facilities would be inspected and cleaned, as necessary at least annually prior to the wet season, every other year and once per permit term, respectively.
- **Conduct a sewage system seepage pilot study** to evaluate the potential for seepage into the MS4 based on available data, and focused on a limited geographic area. The pilot program may consist of a desktop analysis using GIS and water quality data to locate areas where exfiltration from sanitary sewers has the potential to influence water quality in the MS4. This exercise may also be used to rule out areas where there is no potential for cross contamination, allowing the Permittees to focus resources in areas with the most potential for improvements.