

EXECUTIVE SUMMARY

The Orange County Stormwater Program (Program) is a cooperative municipal regulatory compliance initiative focused on the management of urban and stormwater runoff for the protection and enhancement of Orange County's creeks, rivers, streams, and coastal waters. The primary objective of the Program is to fulfill the commitment of the County of Orange, the Orange County Flood Control District and the cities of Orange County (collectively, "Permittees"), to develop and implement a program that satisfies the requirements of area-wide municipal National Pollutant Discharge Elimination System (NPDES) permits, specifically, Regional Water Quality Control Board Order R8-2009-0030 (Santa Ana Regional Board) and R9-2013-0001 as amended by Orders R9-2015-0001 and R9-2-150100 (San Diego Regional Board).

The purpose of this document is to comply with the requirement for an annual submittal of a progress report. This report discusses the Permittees' NPDES Permit compliance activities over the period July 1, 2015 to June 30, 2016. It includes a description of all activities that were conducted during the reporting period and an assessment of program effectiveness. These compliance activities include countywide implementation of Low Impact Development (LID) and hydromodification control strategies as part of local land development regulation, implementation of an innovative public education and outreach campaign and continued regulatory oversight of construction activities, municipal infrastructure management and the built environment. All of these activities have been informed by an extensive countywide environmental quality monitoring program.

Programmatic accomplishments in 2015-16 include:

- Coordination with Orange County Transportation Authority (OCTA) to support disbursement of Measure M2 (M2) funding for water quality protection projects. To date, Tier 1 funding of \$14 million has been awarded to 122 projects and Tier 2 funding of \$28 million has been awarded to 22 projects (**Section C-2.0**);
- Regional collaboration to improve the science and management of stormwater and further development and implementation of watershed management initiatives (**Section C-3.0**);
- Continuing implementation of *Baseline BMPs* and further development and implementation of the Program's Integrated Pest Management (IPM) policy (**Section C-5.0**);
- Over 135,000,000 million public education impressions produced and application of community based social marketing principles to an innovative campaign focused on eliminating irrigation overwatering (**Section C-6.0**);
- Award in October, 2015, of CASQA's *Outstanding Stormwater News, Information, Outreach and Media Project* to the Program's *Overwatering Is Out* public education campaign;
- Continuing implementation of the Low Impact Development (LID) based Model Water Quality Management Plan (WQMP) and supporting Technical Guidance Document (TGD) on a countywide basis (**Section C-7.0**);
- Processing of 371 Project WQMPs incorporating LID practices covering 2,069 acres of development (**Section C-7.0**);

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- Inspection of 8,189 construction sites with 943 formal enforcement actions taken (**Section C-8.0**);
- Completion of 7,953 commercial/industrial facility inspections with 613 formal enforcement actions (**Section C-9.0**);
- Completion of 10,048 Food Service Establishment (FSE) inspections and 1,831 follow-up investigations/actions for water quality concerns (**Section C-9.0**);
- Development and implementation of a Food Facility Report Map identifying the food facilities that were inspected by the Orange County Health Care Agency (HCA), and were observed to have water quality issues that may be of concern, (**Section C-9.0**);
- Implementation of an updated countywide mobile business database (**Section C-9.0**);
- Investigation of 4,633 complaints and 6,870 enforcement actions regarding illegal discharges or illicit connections (**Section C-10.0**);
- Continued implementation of innovative water quality monitoring programs and the development of new insights regarding the chemical, biological and physical impacts of urban dry and wet weather runoff (**Section C-11.0**);
- Full implementation of the Dry Weather Reconnaissance Monitoring Program in North Orange County (**Section C-11.0**);
- Continued implementation of metals, sediment, selenium, nutrients, toxics and bacteria Total Maximum Daily Load (TMDL) programs as applicable to Dana Point Harbor and the Newport Bay, San Gabriel River-Coyote Creek, Aliso Creek and San Juan Creek watersheds (**Section C-12.0**).

The development of the Program is principally informed by the findings of the environmental quality monitoring program (see **Section C-11.0**). Using a prioritization analysis developed by the Canadian Council of Ministers of the Environment (CCME), water quality samples from several components of the monitoring programs were evaluated in combination to provide an overview of patterns across the region. This analysis, which considers frequency and magnitude of benchmark exceedances, identifies the priority constituents of concern for the Program. In ranked order of significance, these constituents of concern are:

1. Fecal Indicator Bacteria.
2. Nutrients, primarily inorganic nitrogen and phosphorus.
3. Pesticides and toxicity, primarily synthetic pyrethroids.
4. Metals/trace elements and toxicity, primarily selenium and copper.

The Permittees also consider a series of performance metrics termed Headline Indicators to further enable the effectiveness of the Program's elements to be evaluated (see **Table C-1.2**). These measures are intended to confirm program implementation and validate achievement of outcomes. The basis of this approach draws on the hierarchical taxonomy of programmatic outcomes, being advocated by the California Stormwater Quality Association (CASQA), which creates a framework for defining the relationships between compliance actions and, ultimately, positive changes in water quality.

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The assessment of both the chemical, biological impacts of urban dry and wet weather runoff on the quality of the surface water environment in Orange County and the Program's Headline Measures are the basis for identifying the specific program development initiatives that are identified as *2016-17 Program Focus* initiatives. These initiatives are noted in each section of the report and summarized in **Section C-13.0**.

The Permittees believe that the surface water environment is responding to the management actions of the Permittees and the progress made with pathogen indicator bacteria in recreational waters during dry weather and nutrient reduction in the Newport Bay Watershed represent significant successes for the Program. More research is needed with respect to nutrients and total dissolved solids, both for understanding the environmental significance of these constituents and informing future management actions. The principal challenge in 2016-17 is anticipated to be adaptation to the Fifth Term Permits and new mandates for a more rigorous watershed-based approach to surface water protection.