

## Jurisdictional Urban Runoff Management Plan

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<b>10.0</b>	<b>EDUCATION COMPONENT.....</b>	<b>1</b>
<b>10.1</b>	<b>Introduction.....</b>	<b>1</b>
<b>10.2</b>	<b>Staff Training Element .....</b>	<b>1</b>
10.2.1	Training Objectives .....	1
10.2.2	General Requirements .....	2
10.2.3	Training Content.....	5
10.2.4	Training Methods .....	10
<b>10.3</b>	<b>Educational Outreach Element.....</b>	<b>12</b>
10.3.1	Target Audiences .....	12
<b>10.4</b>	<b>Program Review and Modification.....</b>	<b>15</b>
<b>Table 10.1:</b>	<b>Minimum Training Frequencies.....</b>	<b>4</b>
<b>Table 10.2:</b>	<b>Overview of Required Training Elements by Responsibility Type .....</b>	<b>6</b>
<b>Table 10.3:</b>	<b>Preferred Training Methods by Target Audience .....</b>	<b>11</b>
<b>Table 10.4:</b>	<b>Modifications to the Education Component.....</b>	<b>15</b>



### 10.0 EDUCATION COMPONENT

#### 10.1 Introduction

Education is an important aspect of every effective program and the basis for changes in behavior. Education for both municipal staff and the public will strive to inform the respective audience about how certain activities can have a negative impact on water quality, how they can accomplish activities while protecting water quality, and their specific roles and responsibilities. At a minimum, education efforts will target the following communities: municipal facilities and personnel; construction site owners and developers; industrial and commercial business owners and operators; and the general public, school children, and residential communities.

#### 10.2 Staff Training Element

Stormwater training is required for municipal staff with defined responsibilities in developing, administering, and implementing the various elements of the County's Jurisdictional Urban Runoff Management Program (JURMP). The responsibility for reviewing, updating, and conducting staff training lies with each of the respective County Departments and groups that are identified in this section and throughout the JURMP. In addition to sharing those general responsibilities, the Department of Public Works (DPW) Watershed Protection Program (WPP) is responsible for developing general guidance and standards as necessary to ensure successful implementation of the training program element.

##### 10.2.1 Training Objectives

For each training element, training will be guided by two general objectives:

1. **Knowledge and Awareness** – Training will provide an understanding of the impacts of urban runoff on receiving waters, the general concepts underlying urban runoff management, and individual staff responsibilities for managing those impacts. All training will reinforce the fact that storm drains discharge directly to waterways without treatment.
2. **Behavior** – Training is one of many components that will facilitate the proper implementation of Best Management Practices (BMPs) by staff. Increasing knowledge, awareness, and changing attitudes provide a foundation for changing behavior.

### 10.2.2 General Requirements

Many departments and department divisions share responsibility for implementing the County's JURMP. For training purposes, staff is divided into three main groups, each reflecting the primary responsibilities of the individuals comprising it:

- Program Administration;
- Program Implementation; and
- Pollution Awareness and Reporting.

County employees that are not included within any of the three groups do not require stormwater training; instead, they are addressed as a specific audience population in the County's Outreach Program (Section 10.3).

#### 10.2.2.1 Program Administration (Administrators)

Administrators include management with planning, development, administration, reporting, or assessment responsibilities related to any program or activity described in the County's JURMP. Examples of staff with program administration responsibilities include, but are not limited to, the following:

- Land Use & Environment Group (LUEG) upper management;
- General Services upper management;
- Staff providing legal advice or counsel on stormwater issues; and
- Staff responsible for developing or providing training.

Program Administration does not include staff with any of the specific responsibilities identified in section 10.2.2.2 (Program Implementation) because this staff must meet a stricter training standard. If staff has both Program Administration and Pollution Awareness and Reporting responsibilities (section 10.2.2.3), the training type that most closely fits their specific job responsibilities applies.

#### 10.2.2.2 Program Implementation (Implementers)

This category includes all County employees with direct stormwater implementation responsibilities. Implementers include employees who work outdoors and may implement BMPs, those that perform stormwater self-inspections and maintenance, and those employees that create or review stormwater management plans (SWMPs), stormwater pollution prevention plans (SWPPPs), facility pollution prevention plans (F3Ps), or inspect/enforce for stormwater regulations. Examples of staff with program implementation responsibilities include, but are not limited to, the following:

- Land Development planners and engineers;

## Jurisdictional Urban Runoff Management Plan

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- Construction inspectors;
- Code enforcement;
- Facility maintenance personnel;
- Site supervisors and facility staff;
- Road maintenance crews;
- Flood control maintenance crews;
- Fleet technicians;
- Park rangers;
- Pesticide/Fertilizer applicators; and
- Vendors, Contractors, and Lessees.

### 10.2.2.3 Pollution Awareness and Reporting (Awareness)

Many County employees spend a significant amount of time outdoors and therefore have the opportunity to observe and refer potential stormwater violations. This group differs from staff with implementation responsibilities in that their sole stormwater responsibility is to recognize and report potential violations. Employees, who are likely to observe stormwater violations, must receive training focused specifically on recognizing and reporting potential stormwater violations. This training type only applies to employees who work outdoors and are not already included in one of the other categories above.

Examples of County employees with Pollution Awareness and Reporting responsibilities include, but are not limited to:

- Hazardous materials inspectors;
- Emergency responders;
- Restaurant inspectors;
- Vector control technicians;
- Air quality inspectors;
- Flood control field staff; and
- Watercourse staff.

## Jurisdictional Urban Runoff Management Plan

### 10.2.2.4 Minimum Training Frequencies

Table 10.1 summarizes the minimum training frequencies. Implementers training and Awareness training is required at least annually. Employees in the Administrators category must receive training at least twice per Permit cycle. Administrators training will generally occur once within the first two years of the Permit cycle, and once again within the last two years of the Permit cycle. Based on job title, all employees whose job duties include stormwater awareness, administration, or implementation are identified in the Learning Management System (LMS) as a respective audience. Annually, these audiences are “refreshed” to include only those current staff with these stormwater responsibilities. All new staff being hired, promoted, or transferred into a position which falls within one of the training categories will be trained to those specifications within the same fiscal year. Supplemental training will be provided as needed for any significant programmatic changes that occur such as Permit or Ordinance revisions.

The training frequencies and requirements described in this section are considered minimum training requirements. Departments are encouraged to pursue supplemental training opportunities that will further enhance employee’s skill sets or otherwise improve their ability to carry out stormwater responsibilities. Although supplemental training is not generally required, it may be required should significant programmatic changes occur (e.g., permit, policy, or ordinance revisions), or in response to the results of program audits or evaluations which may necessitate corrective actions and additional training.

**Table 10.1: Minimum Training Frequencies**

Frequency	Annual	Twice per Permit Cycle	Upon Hire or Change in Job Class
Administrators		○	○
Implementers	○		○
Awareness and Reporting	○		○

### 10.2.2.5 General Training Responsibilities

The DPW Watershed Protection Program (WPP) has the following training responsibilities:

- Developing, annually reviewing, and updating standardized training content (Table 10.2) for enhancement and use by implementing Departments and Groups;
- Providing general assistance in developing specific training content;

## Jurisdictional Urban Runoff Management Plan

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- Pre-approving any training substitutions to the WPP provided training; and
- Requesting training data and information from implementing Departments and Groups for inclusion in annual reports to the RWQCB, and for program assessment purposes.

Departments and Groups are responsible for the following:

- Assigning staff to a specific training category;
- Arranging training in accordance with Table 10.1;
- Annually reviewing and updating training content with specific information appropriate to the specific roles and responsibilities of the audience;
- Ensuring that staff attends scheduled trainings, and arranging alternate (make-up) trainings as needed;
- Maintaining training records for a minimum of three years; and
- Reporting training data and information annually, as requested by the DPW WPP.

Departments or groups who contract work (consultants, contractors, service providers, etc.) or maintain County leased property where outdoor activities occur are also responsible to determine how the requirements of this section apply to the contractor(s)/lessees conducting activities and provide the appropriate training. In general, any contractor/lessee providing broad oversight of potential pollutant-generating activities or BMP implementation should be provided or required to obtain the level of stormwater training that would be required for County staff performing the same functions. However, for those contractors/lessees who are only conducting specific (focused to one activity) tasks, such as landscaping or street sweeping, may only be required to receive training that is focused on those activities that the contractor will conduct.

### 10.2.3 Training Content

Core watershed concepts and stormwater information should be included within the stormwater training (background, pollutant sources, BMPs, responsibilities, updates) (Permit section D.5.). This core information provides the structure for the stormwater training content. Table 10.2 summarizes the applicability of specific content to each of the three training types. The specific content options are also described below. Table 10.2 lays out a general road map; however, the actual content of any training should be appropriate to the specific roles and responsibilities of the audience. Respective Departments/Groups will identify and incorporate additional training content beyond that shown in Table 10.2 as they determine necessary to ensure the proper

## Jurisdictional Urban Runoff Management Plan

implementation of stormwater responsibilities. Additional content may also be required in response to significant programmatic changes or the results of program audits or evaluations.

Training content is dynamic, and will reflect the experience and knowledge gained by respective Department/Group staff over the Permit cycle. The specific content and relative emphasis of particular elements is therefore expected to evolve over time. For instance, first year training of inspectors might include a detailed review of procedures and forms, but less emphasis might be provided in subsequent years as staff gains experience in their use.

Feedback and verification of the training program's effectiveness is one of many assessment components that will be used to ensure overall stormwater program compliance. It is necessary to regularly evaluate the effectiveness by verifying whether or not there is a change in stormwater knowledge over time. To identify these types of changes, pre- and post- quizzes are required as part of the stormwater training programs (Administrators, Implementers, and Awareness). Core stormwater questions are asked across all training components, and specific content related questions will also be included.

**Table 10.2: Overview of Required Training Elements by Responsibility Type**

Stormwater Training Elements	Principal Responsibilities		
	Program Implementation	Program Administration	Pollution Awareness & Reporting
<b>I. Background</b>	<b>Required</b>		
A. General Concepts		X	X
B. Regulatory Framework		X	
C. Program Updates		X	
<b>II. Pollutant Sources</b>			
A. Pollutants and Impacts		X	X
B. Pollutant-Generating Activities (PGAs)			
<b>III. Best Management Practices</b>			
A. Discharge Prohibitions		X	X
B. BMP Requirements (Planning / Implementation / Maintenance)			
C. Pollution Prevention (P2) Practices			
D. Additional Controls for Sources Tributary to Envir. Sensitive Areas			
<b>IV. Staff Responsibilities</b>			
A. Pollution Reporting		X	X
B. Documentation & Reporting		X	

### 10.2.3.1 Background Information

#### *General Concepts*

A review of general concepts is necessary to provide an informational basis for other, more specific topics to be covered throughout the training. Examples of general concepts include, but are not limited to the following:

- Watershed concepts;
- Definition and description of stormwater vs. urban runoff;
- Explanation of stormwater conveyance systems (MS4), how they work, and how they are not connected to the sanitary sewer system;
- Explanation of short- and long-term water quality impacts on waterways associated with urbanization; and
- Identification of impaired water bodies and a description of pollutants of concern for the San Diego region.

#### *Regulatory Framework*

As applicable to their job responsibilities, employees may be provided training on the following topics:

- Federal, state, and local water quality laws and regulations;
- General requirements of NPDES Order No. R9-2007-0001;
- The County's Watershed Protection Ordinance (WPO) and other relevant authorities; and
- Penalties and liability associated with non-compliance.

#### *Program Updates*

Training programs will be updated as internal programmatic changes occur, as new programs are implemented (e.g.: LID and Hydromodification), or as changes to the Permit or Ordinance occur. Additionally, any issues or concerns that may be addressed through the Copermittee workgroups, or Annual Report feedback, etc., will also be incorporated into training program revisions. Training programs will be evaluated and updated annually, as needed.

### 10.2.3.2 Pollutant Sources

As applicable to the audience's job responsibilities, training may include any of the following:

#### *Pollutants and Impacts*

- Identification of common pollutants and their associated impacts on water quality, human health, and natural habitats; and
- Identification of impaired water bodies and a description of pollutants of concern for the San Diego region.

#### *Pollutant-Generating Activities (PGAs)*

- Identification of land development and construction activities that generate pollutants;
- Identification of municipal operations (fixed facility and field activities) that generate pollutants;
- Identification of both job-related and at-home (residential) activities that typically generate pollutants; and
- Identification of PGAs related to special events, emergency response, and pesticide, herbicide and fertilizer use.

### 10.2.3.3 Best Management Practices

As applicable to the audience's job responsibilities, training may include any of the following:

#### *Discharge Prohibitions*

- The County's obligation to reduce pollutant containing discharges to the MS4;
- The County's obligation to prevent urban runoff discharges from causing a violation of water quality standards;
- Examples of water discharge prohibitions and exemptions; and
- Illicit connection identification.

#### *BMP Requirements*

Employees should be trained on the planning, implementation, and maintenance of BMPs available to them.

- Source Control BMPs, Erosion and Sediment Control BMPs, Treatment Control BMPs,
- Structural vs. non-structural BMPs;
- BMP applicability, selection, and implementation based on on-site conditions and activities;

## Jurisdictional Urban Runoff Management Plan

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- BMP vector concerns;
- BMP maintenance requirements;
- Process for verification and tracking of Treatment Control BMPs; and
- Procedures to inspect and evaluate BMP effectiveness;

### *Pollution Prevention (P2) Practices*

- The definition and purpose of pollution prevention (as related to stormwater or urban runoff) and source control;
- Pollution prevention BMPs on the job and at home;
- Identification of minimum pollution prevention BMPs that should be implemented based upon each activity type or area; and
- Consideration of Integrated Pest Management (IPM) techniques.

### *Additional Controls for Sources Tributary to Environmentally Sensitive Areas (ESA)*

- Identification of impaired water bodies, TMDLs, ESAs, and setting priorities for inspection, review, or approval of facilities/projects based on their threat to water quality.

#### 10.2.3.4 Staff Responsibilities

County personnel should be made aware of their explicit stormwater responsibilities during stormwater training. Staff responsibilities vary greatly (some review stormwater plans, others install stormwater BMPs, while others sweep county roads, etc.). However, at a minimum, staff should know how to report stormwater violations and stormwater annual report data to the WPP.

### *Pollution Reporting*

Employees should be trained on how to report potential stormwater violations. Training should include reference to the County's Stormwater Hotline (888-846-0800), the Project Clean Water website ([www.projectcleanwater.org/html/complaints.html](http://www.projectcleanwater.org/html/complaints.html)), and WPP's email address ([watersheds@sdcounty.ca.gov](mailto:watersheds@sdcounty.ca.gov)) for easy reporting. The County's stormwater violation referral sheet should also be made accessible wherever possible.

### *Documentation and Reporting*

Employees should be familiar with stormwater documentation which guides their program and identifies any stormwater obligations or responsibilities. Stormwater program documentation may include pollution prevention plans (SWMPs, SWPPPs, F3Ps), self-inspections, spill reports, stormwater training sign-in sheets, procedures, policies, contracts, leases, agreements, etc. Any applicable stormwater documents should be provided to employees and reviewed as part of their

training program. Employees should also be provided an opportunity to identify ways in which departmental data collection and documentation can be improved. Any updates to stormwater data collection and documentation should be reported to the WPP at least annually for the JURMP annual reports.

The means of documenting the training program should occur either by training sign-in sheets or through the County's on-line LMS. Training documentation should be sent to the departmental training coordinator and, where applicable, kept within SWPPPs and F3Ps for on-site documentation of annual training.

Annual reporting of training will be done by each department's training coordinators. Information to be reported will include staff requiring training vs. staff receiving training. Reporting information will be utilized not only to prepare Annual Reports to the RWQCB, but will also provide a means for making program improvements.

### **10.2.4 Training Methods**

Depending on the particular audience and content, training may be provided to municipal employees via a number of approaches. Examples include classroom training; presentations at staff meetings; on-line using the LMS, and external training opportunities (vendor training, workshops, etc.). Table 10.3 provides an overview of available training methods, and shows their applicability to each category of training. Program Implementation training should be provided in-person via a classroom or through the LMS. Stormwater certifications can be applied towards the annual implementer requirement, however only once per permit cycle (acceptable certifications listed in table 10.3). Other training courses may also be used in place of the implementers training as long as all applicable elements are covered and pre-approval is acquired by WPP. Proof of attendance of outside course/certification will be required. Combinations of classroom and other methods are encouraged. Program Administration and Pollution Reporting training will most often be conducted via staff meetings or the LMS. All of the methods listed are potentially applicable to Supplemental Training; each Department or group providing the training is responsible to determine their applicability. Training methods not listed in Table 10.3 may also be used, but will require the approval of the DPW WPP prior to their use.

Training content is generally conveyed using a variety of tools such as videos, brochures, manuals, fact sheets, posters, and other written materials. In many cases, a combination of tools is used.

## Jurisdictional Urban Runoff Management Plan

**Table 10.3: Preferred Training Methods by Target Audience**

Method	Core Training			Supplemental Training
	Program Implementation	Program Administration	Pollution Reporting	
Classroom training	○	○	○	○
On-line (LMS) or written training modules	○	○	○	○
Staff meetings	○	○	○	○
Stormwater Certifications* (CPESC, CPSWQ, CESSWI, SWQCB/CASQA-QSD/QSP). *One substitution per permit cycle.	○	○		○
External training courses* (CASQA, RWQCB, etc.) *Per WPP pre-approval	○	○		○
On-the-job, field training				○
Workshops and demonstrations				○
Material distribution (email updates pamphlets, brochures, promotional incentives, etc.)				○

### **10.3 Educational Outreach Element**

Educational outreach will be developed and implemented based on the following four objectives:

1. Teaching basic awareness;
2. Adapting education to specific target audiences;
3. Clearly describing specific responsibilities under the Watershed Protection, Stormwater Management and Discharge Control Ordinance (WPO); and
4. Providing instruction to successfully implement best management practices (BMPs), with an emphasis on pollution prevention.

#### **10.3.1 Target Audiences**

At a minimum, educational outreach will be tailored to each of the following target communities:

- Municipal departments and personnel;
- New development and construction education;
- Industrial and commercial owners and operators and mobile businesses; and
- Residential, general public, and school children communities.

Where appropriate, the County will emphasize underserved target audiences, high-risk behaviors, and “allowable” behaviors and discharges, including various ethnic and socioeconomic groups.

##### **10.3.1.1 Municipal Departments and Personnel**

County staff that does not fit into the training categories described in Section 10.2.2 will receive general awareness outreach. Municipal educational efforts will inform staff at a basic level about the Stormwater Permit, the differences between stormwater and urban runoff, non-point source pollution, common pollutants and their effects on water quality, and best management practices. Outreach efforts will typically target common behaviors associated with residential activities. Methods that will be utilized to reach this target population include email announcements, newsletters, paycheck inserts, and employee fairs.

##### **10.3.1.2 New Development and Construction Education**

The County offers applicants, contractors, developers, property owners, and other new development/construction related parties a number of educational resources. A particularly important interaction is the formal pre-intake assistance offered to project applicants. DPW and DPLU inspection staff facilitates pre-construction meetings prior to the commencement of many projects. Efforts typically focus on compliance requirements, while explaining the importance of proper selection, placement and maintenance of best management practices. The County also encourages applicants to take advantage of the educational materials and tools it makes available through its many websites. Community planning groups and planning commissions are also

## Jurisdictional Urban Runoff Management Plan

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included in educational outreach efforts, and are frequently included within municipal training opportunities.

### 10.3.1.3 Industrial and Commercial Business Owners and Operators

The County provides educational outreach to all commercial and industrial audiences, as identified in the Permit. Education is provided through a variety of means, primarily inspections, permitting, and workshops. Depending on the situation and venue, County staff may provide information on regulatory requirements, discharge prohibitions, BMPs, and pollution prevention.

Many County departments collaborate to provide stormwater outreach to this target population. The departments that assist with educational outreach include the following: Department of Public Works, Department of Agriculture, Weights and Measures, Department of Planning and Land Use, Department of Environmental Health, Department of General Services, and the Department of Parks and Recreation.

Outreach to mobile businesses will be a focus for the County's stormwater program during the Permit cycle. Mobile businesses that will be targeted include pesticide applicators, pest control operators, gardeners, landscape maintenance providers, auto detailers, and pressure washing services.

### 10.3.1.4 Residential, General Public, and School Children Education

#### *10.3.1.4.1 Residential and General Public*

The County's educational outreach program utilizes a multi-media approach for reaching residential, general public, and school children. Media venues include print materials (fact sheets, hand books), television, radio, websites, billboards, and promotional items. Educational efforts typically target the common pollutants of concern and their associated activities for the San Diego region. Location or audience specific events provide an opportunity for tailoring both the presentation materials and focusing in on the pollutants of concern for a particular watershed. Given that bacteria is one of the most common pollutants within San Diego's watersheds, the educational outreach program focuses on bacteria pollutant generating activities, including pet waste management, manure management, and landscape management. Joining efforts with the County Water Authority, the County has been working to collaborate on efforts to reduce water use and over-irrigation. Messages and promotional materials have been tailored to include these messages and to promote the use of native or low maintenance plants.

Educational outreach activities for this target population will include community events, fairs, and festivals; clean-up events; and special events. With the County's education first philosophy, residential complaint investigations provide an opportunity to provide direct interaction and explanation about water quality concerns, pollutants, and best management practices.

### *10.3.1.4.2 School Children*

Outreach to school children continues to be a priority for the County. Presently, the County contracts with the San Diego County Office of Education's Splash Science Mobile Lab (Splash Lab) and Green Machine. The Splash Lab is a completely self-contained mobile laboratory that brings simulated environmental conditions to school sites for ease and convenience. This enables schools with limited funding and schools within disadvantaged communities to have easy access to water science education. These presentations provide an interactive opportunity to children to learn about stormwater, water quality, bioassessment, watersheds, pollution, and best management practices.

## Jurisdictional Urban Runoff Management Plan

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### **10.4    Program Review and Modification**

Table 10.4 identifies modifications made to the Education Component since its March 24, 2008 submittal.

**Table 10.4: Modifications to the Education Component**

Date	Section(s)	Modification(s)
05-20-08	10.4	Addition of section 10.4 for tracking JURMP modifications.
05-20-08	Multiple	Various non-substantive corrections including: formatting, punctuation, and grammar.
6/30/10	Multiple	Various non-substantive corrections including: formatting, punctuation, and grammar. Deleted information unrelated to training responsibilities and reorganized text. Updated Table 10.2, 10.3, and related text. Included example list of Implementer staff.