

US EPA ARCHIVE DOCUMENT

Program Evaluation Report

San Diego County Stormwater Program (NPDES Permit No. CAS0108758)

Executive Summary

Tetra Tech, Inc., with assistance from U.S. EPA Region 9 and the California Regional Water Quality Control Board, San Diego Region (Regional Board), conducted a program evaluation of San Diego County's Stormwater Program (Program) in October 2002. The purpose of the program evaluation was to determine the permittee's compliance with the National Pollutant Discharge Elimination System (NPDES) permit (CAS0108758 and Board Order No. 2001-01) and to evaluate the current implementation status of the permittee's Jurisdictional Urban Runoff Management Program (JURMP) with respect to EPA's stormwater regulations. The program evaluation included an in-field verification of program implementation.

This program evaluation report identifies potential permit violations, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate overall progress in implementing the program.

The following potential permit violations and program deficiencies are considered the most significant:

- The Facility Pollution Prevention Plans (FPPPs) are not site-specific.
- The County has not yet fully implemented an adequate inspection program for high-priority industrial and commercial sources.
- The County does not have a consistent, systematic approach regarding tracking and prioritization of inspections, follow-up, and enforcement.

Several elements of the permittees' program were particularly notable:

- The County has adopted a stormwater ordinance and stormwater standards manual to provide the authority to implement the requirements in the stormwater permit.
- The County coordinates the stormwater program through a cross-departmental Water Issues Core Group
- The County uses inspectors from both the Department of Public Works and the Department of Planning and Land Use to conduct erosion and sediment control inspections.

- The County has developed stormwater complaint investigation guidelines to provide inspection staff with detailed guidance on how to conduct a complaint investigation.

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1.0 Introduction

1.1 Program Evaluation Purpose

The purpose of the program evaluation was to determine the permittee's compliance with the National Pollutant Discharge Elimination System (NPDES) permit (CAS0108758 and Board Order No. 2001-01) and to evaluate the current implementation status of the permittee's Jurisdictional Urban Runoff Management Program (JURMP) with respect to EPA's stormwater regulations. Secondary goals included the following:

- Review the overall effectiveness of the Program.
- Identify and document positive elements of the Program that could benefit other Phase I and Phase II municipalities.
- Acquire data to assist in reissuance of the permit.

40 CFR 122.41(i) provides the authority to conduct the program evaluation.

1.2 Permit History

The NPDES stormwater permit was issued on February 21, 2001, and is scheduled to expire on February 21, 2006. San Diego County is one of 20 copermittees covered by this permit. The current permit, the second issued to the permittee, requires each copermittee to develop and implement a JURMP.

1.3 Logistics and Program Evaluation Preparation

Before initiating the on-site program evaluation, Tetra Tech, Inc., reviewed the following Program materials:

- NPDES Permit No. CAS0108758
- County of San Diego Jurisdictional Urban Runoff Management Program, February 2002
- Regional Board comments regarding the JURMP (June 21, 2002) and the County's response letter (July 16, 2002)
- Permittee web sites
- Various documents, guidance, and forms provided by the County during the evaluation

On October 15–18, 2002, Tetra Tech, Inc., with assistance from the Regional Board, conducted the program evaluation. The evaluation schedule was as follows:

Tuesday, October 15	Wednesday, October 16	Thursday, October 17	Friday, October 18
<ul style="list-style-type: none"> • Program evaluation kickoff meeting • Municipal Maintenance Activities • Industrial and Commercial Components 	<ul style="list-style-type: none"> • Land Use Planning and Construction • Public Construction field visits 	<ul style="list-style-type: none"> • Private Construction field visits • Illicit Discharge Component • Residential, Education and Public Participation Components 	<ul style="list-style-type: none"> • Program Management • Program Effectiveness • Exit interview and presentation of preliminary findings

Upon completion of the evaluation, an exit interview was held with the permittee to discuss the preliminary findings. During the exit interview, the attendees were informed that the findings were to be considered preliminary pending further review by EPA and the Regional Board.

1.4 Program Areas Evaluated

The following program areas were evaluated:

- Program management, including the permittee's Assessment of JURMP Effectiveness
- Municipal Component
- Industrial Component
- Commercial Component
- Residential Component
- Land Use Planning for New Development and Redevelopment Component
- Construction Component
- Illicit Discharge Detection and Elimination Component
- Education and Public Participation Components

1.5 Program Areas Not Evaluated

The following areas were not evaluated in detail as part of the program evaluation:

- Wet-weather monitoring program and monitoring program details (e.g., sample location, types, frequency, parameters).
- Other NPDES permits issued to the copermitees (e.g., industrial or construction NPDES stormwater permits).
- Inspection reports, plan review reports, and other relevant files. The program evaluation team did not conduct a detailed file review to verify that all elements of the Program were being implemented as described. Instead, observations by the evaluation team and statements from the copermitees' representatives were used to assess overall compliance with permit requirements. A detailed file review of specific program areas could be included in a subsequent evaluation.

1.6 Program Areas Recommended for Evaluation

The evaluation team recommends the following additional assessments:

- An evaluation of the other copermittees not evaluated.
- Detailed review of the permittee's program(s) to address post-construction runoff once the local Standard Urban Stormwater Management Plans (SUSMPs) are enacted. The County had prepared a draft SUSMP guidance manual (October 2002), but this manual was not reviewed extensively during the evaluation.
- A follow-up on the implementation progress of the industrial and commercial inspection programs.

2.0 Program Evaluation Results

This program evaluation report identifies potential permit violations, program deficiencies, and positive attributes and is not a formal finding of violation. Program deficiencies are areas of concern for successful program implementation. Positive attributes indicate a copermittee's overall progress in implementing the Program. The evaluation team identified only positive attributes that were innovative (beyond minimum requirements). Some areas were found to be simply adequate; that is, not particularly deficient or innovative.

The evaluation team did not evaluate all components of each permittee's Program. Therefore, the permittee should not consider the enclosed list of program deficiencies a comprehensive evaluation of individual program elements.

The most significant potential permit violations, program deficiencies, and positive attributes identified during the evaluation are noted in the Executive Summary and are identified with *text boxes* in the following subsections.

2.1 Evaluation of Program Management and Effectiveness

Positive Attributes:

- *The County has adopted a stormwater ordinance and stormwater standards manual to provide the authority to implement the requirements in the stormwater permit.*

The County Board of Supervisors adopted the County of San Diego Watershed Protection, Stormwater Management, and Discharge Control Ordinance (WPO) on January 16, 2002. Although the evaluation team did not conduct a legal review of the WPO, the team generally found the ordinance to be much more detailed than a typical stormwater ordinance. The 46-page ordinance describes BMP requirements applicable to all dischargers and additional minimum BMP requirements for residential, commercial, industrial, agricultural, and municipal activities and facilities. Requirements for land disturbance activities and planning, design, and post-construction are also described. The ordinance also requires maintenance of BMPs and provides the County with inspection and enforcement authority.

Appendix A to the WPO is the 107-page *Stormwater Standards Manual*, which sets out in more detail, by project category, what discharges must do to comply with the ordinance and to receive permits for projects and activities subject to the ordinance. A copy of both the WPO and Stormwater Standards Manual can be found on the Project Clean Water website (http://www.projectcleanwater.org/html/model_ordinance.html).

- *The County coordinates the stormwater program through a cross-departmental Water Issues Core Group.*

The Water Issues Core Group, made up of various County departments, meets weekly to discuss and coordinate on water issues. County representatives stated that stormwater issues occupy most of the agenda at these meetings. The Water Issues Core Group provides an excellent forum for the County to coordinate the stormwater program and communicate recent developments to relevant departments.

- *The County and City have developed a preliminary JURMP Assessment Strategy that includes four levels of assessment.*
The JURMP Assessment Strategy includes an annual program assessment based on measurable goals, objectives, tasks, and performance measures to evaluate the effectiveness of the program outlined in the JURMP. In addition, the City and County propose conducting an annual water quality assessment using monitoring, screening, and analysis. Performance measures will be refined based on the annual assessments. Finally, the City and County are developing a longer-term assessment strategy for the 5-year planning period.
- *The County is developing specific program measures to track program effectiveness.*
Building on the JURMP Assessment Strategy described above, the County is beginning the process to develop a program planning framework with more specific goals and objectives for each stormwater program component. Each component would consist of several goals, to be achieved through County-specific objectives. These objectives would be met through individual, measurable tasks. This approach would allow the County to track specific activities in relation to program goals and would provide program accountability.

Deficiency Noted:

- *The program could benefit from additional training of staff.*
In general, the management and legal staff were much more knowledgeable about the program requirements than technical staff. For example, legal staff explained how the County ramps up construction inspections during the rainy season yet a County inspector had not heard of this and did not know when the rainy season started. Additional training on the program requirements should be provided to all relevant field-level staff to ensure consistent application of requirements.

2.2 Evaluation of Municipal Component

Positive Attributes:

- *All County employees receive some type of basic stormwater awareness training.*
Some 200 to 300 new employees receive training per month. The training covers the differences between storm sewers and sanitary sewers, identification of primary pollutants, the in-house illicit discharge awareness “Eyes and Ears” program, and the County’s stormwater policies, as well as each employee’s responsibilities at work and at home. In addition, employees in the Land Use and Environment Group (LUEG) receive more detailed training regarding stormwater and policy, and permit requirements.
- *The County uses paycheck inserts to inform employees about illegal dumping and discharge, pet waste, and so forth.*
Inserts with various stormwater-related messages are included in the paycheck envelopes. Approximately 18,000 employees are educated in this manner.
- *Maintenance Management Guidelines have been developed for the Department of Public Works’ Transportation Division.*
The DPW’s Transportation Division has developed Maintenance Management Guidelines (Version 3.0, August 2002) for more than 70 common tasks. Each task describes, where appropriate, the typical work method, crew size, equipment and materials needed, and associated BMPs to be used during that task. The referenced BMPs are from the 1998 *Caltrans Maintenance Staff Guide*. These Guidelines provide maintenance staff with clear guidance on which BMPs are appropriate for various maintenance tasks.

Deficiency Noted:

- *The Facility Pollution Prevention Plans (FPPPs) are not site-specific.*

The evaluation team reviewed a collection of FPPPs at the DPW’s Spring Valley Operations Center. These plans consisted primarily of inspection reports and facility maps. The plans were not site-specific, and they did not include potential pollutant sources, BMPs to be implemented, frequency of BMP implementation, or a responsibility matrix. In addition, the evaluation team reviewed the FPPP for the County Operations Center, a 35-acre complex of County administrative and maintenance buildings. This FPPP was also not very site-specific. For example, the potential pollutant sources section described general stormwater pollutants of concern and did not list which pollutants were found on-site. The plan listed BMPs to be implemented at the site but did not describe exactly where on the 35-acre, 34-building site the BMPs will be implemented. The FPPPs developed for municipal facilities should be similar to stormwater pollution prevention plans developed for industrial facilities.

2.3 Evaluation of Industrial and Commercial Components

Positive Attributes:

- The draft County of San Diego Industrial Facility Stormwater Inspection Report is a very complete and thorough checklist and information form.*
This checklist is currently being used for pilot inspections only; however, a version will be used during regular industrial/commercial inspections in the future. The checklist includes information regarding the industrial facility's records, SWPPP, monitoring, site inspection, and BMPs.
- The County has included "mobile" sources on its high-priority commercial facility list.*
Although mobile sources (e.g., mobile vehicle washing businesses) will not be inspected, the County included them on the high-priority list and is providing education and information to these facilities on appropriate BMPs and pollution prevention practices.
- The County Department of Health presents 16 regional workshops for businesses each year, educating specific sources on the stormwater ordinance and appropriate BMPs.*
To date, four source-specific workshops have been completed for automotive facilities. Four workshops each are to be presented for landscapers/horticulturists, mobile contractors, and food facilities.
- The County has developed two guidebooks targeted at specific industries to educate them on stormwater pollution prevention.*
The *Green Wrench Guide* and *What's Cookin' with Stormwater* are in draft form. The guidebooks outline basic stormwater information, guidance for training and education, and BMPs necessary in the automotive and food industries, respectively.

Potential Permit Violations:

- The County has not yet implemented an adequate inspection program for high-priority industrial and commercial sources.*

Parts F.3.b and F.3.c of the permit require the County to implement industrial and commercial components of the JURMP. These components require the County to develop a watershed-based inventory of sites; establish priorities based on threat to water quality; designate and require the implementation of minimum BMPs; monitor, inspect, and enforce the County's ordinance at sites; and report noncompliant sites to the Regional Water Quality Control Board (RWQCB). The County was required to implement all requirements of the Industrial and Commercial Components of the JURMP within "365 days after adoption of Order," or February 21, 2002.

At the time of the evaluation, the County's industrial and commercial program was only partially established. The County had created and verified an inventory of high-priority industrial facilities and had created a draft inspector checklist but has yet to

verify the list of high-priority commercial facilities, notify all facilities of BMP requirements, initiate official inspections, train inspection staff, and develop administrative enforcement procedures.

The lack of an adequate inspection program for high-priority industrial sites is a potential permit violation; however, the lack of such a program for commercial sites is better classified as a program deficiency as the permittee is only required to inspect these sites on an as-needed basis.

- *The County has begun, but not completed, the required notification of industrial and commercial facilities regarding the stormwater requirements and appropriate BMPs for implementation.*

Part F.3.b.(4) of the permit requires the permittee to implement, or require the implementation of, designated minimum BMPs (based on the site's threat to water quality rating) at each industrial site within its jurisdiction. BMP implementation was to occur no later than 365 days after the permit was adopted (i.e., by February 21, 2002). At the time of this evaluation, the County had not informed all applicable industrial and commercial sites of their responsibility to implement appropriate BMPs. The County needs to inform all applicable industrial and commercial sites of their responsibility to allow enough time for them to comply and also needs to provide them with information on the minimum BMPs as outlined in the JURMP. According to information obtained during the evaluation, all facilities are to be notified by letter by no later than November 15, 2002.

- *The County has not provided focused training to all County inspectors regarding how to readily identify potential ordinance or permit violations and require BMPs where appropriate.*

Section F.4.b. of the permit requires that inspectors be trained in how to perform a stormwater inspection. This inspection could include notification, introduction, walk-through, discussion of findings, and follow-up. This type of training would help to ensure consistency among inspections. According to County Staff, by December 31, 2002, all County employees with stormwater implementation responsibilities will have received this focused training.

- *The County does not have a consistent, systematic approach regarding tracking and prioritization of inspections, follow-up, and enforcement.*

Currently, the County is relying on existing hazardous materials and food inspection staff to inspect for general stormwater noncompliance. These two groups have been considering stormwater in their regular inspections (i.e., illicit connections and illicit discharges) since January 1998. However, these inspectors cannot issue a notice of violation regarding stormwater on-site during the inspection unless the violation is related to a hazardous materials issue. The inspector must refer stormwater issues to Department of Environmental Health (DEH) staff for follow-up. Notices are then sent to the facility by mail. At the time of the evaluation, however, administrative citations were not possible for stormwater and civil penalties had never been pursued. DEH is in the process of finalizing procedures and contracting with an arbitrator. These

procedures will be used for any residential, commercial, or industrial violator of the County's WPO. According to County staff, administrative citations should be possible within the next 6 months. In addition, a coordinated tracking system does not exist for stormwater inspections or noncompliance. Currently, minimal information is being logged into existing hazardous materials and food permit databases. According to County staff, however, a new stormwater inspection database is being developed in concert with an overall database update. It will include types of violations and will assist in reminding inspectors to perform follow-up.

Deficiencies Noted:

- Educational materials being distributed by inspectors to facilities are not targeted to the BMPs and issues specific to various business types.*

The educational material distributed does not address the specific pollutant sources and BMPs at various business types. For example, food service facilities and automotive repair facilities each have different pollutant sources and BMPs that can be implemented to minimize stormwater runoff, but currently the educational material does not distinguish between these sources. According to County staff, a general business guide to stormwater is being developed with specific inserts for certain businesses and sources.
- The County is in jeopardy of violating Part F.3.b.(6) of the permit, which requires the County to inspect high-priority industrial sites annually.*

The County has a large number of high-priority facilities (137 industrial and 1,710 non-mobile commercial) to be inspected. The Department of Agricultural Weights and Measures (AWM) will perform inspections of commercial facilities as well. Given the number of facilities and the complexity of coordinating multiple departments, it does not appear that the County will be able to complete the first annual round of high-priority inspections. This assumes the following: the permit requires that the implementation of the program was to begin by February 2002 and the first annual round of inspections are to be completed within 1 year after implementation of the program, or February 2003. Currently, the County is relying on existing Hazardous Materials Division (HMD) and food inspection staff to inspect for IC/ID and general stormwater noncompliance during regular inspections (every 12 to 15 months). These inspections are not prioritized according to stormwater issues; however, the County contends that most of the facilities already inspected under the existing programs are high-priority facilities (i.e., all food establishments and all hazmat facilities are high-priority). The County stated that inspecting only the sites specifically listed as high-priority would actually mean a decrease in the number of facilities inspected. The County plans to cross-train these staff to perform more comprehensive stormwater inspections in the future. At the time of the evaluation, three such pilot inspections had been completed.

2.4 Evaluation of Residential Component

Positive Attribute:

- *The County has developed a variety of tools to educate the public about stormwater issues.*

The County has developed an extensive and broad program to educate the public. This program includes operation of a bilingual stormwater hotline, operated for all of the copermitees, to answer questions and take complaints from residents. The County also developed the “Project Clean Water” Web site, which can also receive complaints and questions. (Approximately 500 have been received this year.) In addition, County staff have attended more than 90 community events in the past year to educate the public about stormwater and pollution prevention. Other innovative mechanisms to educate the public include stormwater advertisements in the County *Voters Guide* and a regional education campaign using movie theater advertising.

Deficiency Noted:

- *The County is not using demographic or illicit discharge or spill data to target high-priority residential areas or specific neighborhoods with pollutant-specific educational campaigns, messages, or technical guidance.*

According to the permit (Section F.3.d.), the County is required to identify high-priority residential areas and activities and develop BMPs specific to those areas and activities.

2.5 Evaluation of Land-use Planning for New Development and Redevelopment Component

Positive Attribute:

- *The County is developing a system to link GIS-based building information to a permit tracking database.*

The County is developing a permit tracking database and linking it to a GIS-based system of building information. To assist planners in complying with the permit, this system allows planners to identify nearby 303(d)-listed waterbodies impaired by sediment and environmentally sensitive areas, in addition to other important parameters.

Deficiency Noted:

- *Additional guidance is needed for planners and engineers regarding downstream erosion and selection of pollutant-based structural controls.*

Engineers and planners who will be reviewing both private and CIP projects for SUSMPs applicability and conditioning have not yet received sufficient training and guidance on how to ensure that a project will not cause downstream erosion. They also need additional training on matching effective post-development structural controls with targeted pollutants. As an example, the City may wish to review the 2000 Maryland Stormwater Design Manual's channel protection storage volume

requirement. To protect channels from erosion in Maryland, the State requires that 24-hour extended detention of the one-year, 24-hour storm event be provided. Copies of this manual are available at www.mde.state.md.us/environment/wma/stormwatermanual.

2.6 Evaluation of Construction Component

Positive Attributes:

- *The County uses inspectors from both the Department of Public Works and the Department of Planning and Land Use to conduct erosion and sediment control inspections.*

The County employs inspectors from both the DPW and the DPLU for erosion and sediment control inspections. DPW inspectors are on-site for the grading permit, while DPLU inspectors are on-site for building permit inspections. Both sets of inspectors review and inspect erosion and sediment control BMPs, providing the County two “sets of eyes” in the field to ensure compliance.

The evaluation team accompanied inspectors from both DPW and DPLU on inspections of at least six different construction projects. The County inspectors appeared to be knowledgeable about erosion and sediment control BMPs and requirements. An administrative citation form, with penalties ranging from a warning to \$1,000 for a fourth and subsequent citation, is also used.

- *The County requires all construction inspectors to be trained in BMP compliance annually.*
Construction site erosion and sediment control training is provided for all construction inspectors in the DPW and the DEH for both municipal and private projects. To date, 98 percent of County inspectors have been trained. In addition, all inspectors are required to attend a more formal, out-of-house training once during their career.
- *The County distributes a copy of the document Stormwater Management Requirements for Construction and Grading to each land disturbing permit applicant.*
The 20-page Stormwater Management Requirements for Construction and Grading describes the steps a construction site operator should take to develop an effective stormwater management plan. These steps include planning and scheduling; erosion, flow, and sediment control; site management; and materials and waste management. In addition, an example plan for a single-family residential lot is included, along with common questions and answers and relevant phone numbers for more information.

Deficiency Noted:

- *The County erosion and sediment control inspectors need to continue to ensure compliance with stormwater requirements.*
Although the County uses both DPLU and DPW inspectors for erosion and sediment control, as described above, these inspectors need to continue to ensure that construction projects comply with the County’s stormwater ordinance. Examples of

noncompliance observed during the evaluation included sediment tracking on adjacent paved streets, stucco wash water spills, lack of curb-side sediment controls, and disturbed soil areas without stabilization.

2.7 Evaluation of Illicit Discharge Detection and Elimination Component

Positive Attributes:

- *The County has developed stormwater complaint investigation guidelines to provide inspection staff with detailed guidance on how to conduct a complaint investigation.*

The stormwater complaint investigation guidelines (revised April 2002) provide staff with the specific activities to be completed during the four typical stages of an investigation: office preparation, site visit, documentation of results, and follow-up/resolution. The guidelines include a referral list with specific County contacts for different issues. These guidelines, combined with the draft *Stormwater Conveyance System Inspection and Investigation Guidelines*, provide County staff with detailed instructions on how to investigate and resolve illicit discharges.

- *The County has developed a comprehensive dry weather screening program.* The County has developed a comprehensive dry weather screening program to characterize the quality of flow in the storm drain system and identify illicit discharges. The County screened 80 sites three times each during the 2002 dry weather season. During each field screening, County staff completed a monitoring data sheet that documented site conditions and monitoring results. The screening resulted in approximately 20 IC/ID investigations, about half of which are unresolved or inconclusive.

The County is also proactive when specific sources of illicit discharges cannot be identified. For example, the County found elevated levels of bacteria and phosphate during a dry weather screening in a residential neighborhood. A two-page letter was sent to residents in the area describing the stormwater program, what the problems were, what the County stormwater requirements were, and what residents could do to prevent stormwater pollution.

2.8 Evaluation of Public Participation Components

Note: The Education Component of the JURMP has been evaluated in relation to and documented under other components—Industrial/Commercial, Construction, Residential, and Municipal.

Positive Attribute:

- *The County established “Project Clean Water” as a way to address stormwater issues at a regional level and provide coordination among the public, copermittees, and other stakeholders.* “Project Clean Water” includes advisory and technical copermittee meetings that are open to the public. Currently, these committees are being used to develop watershed URMPs. More than 700 contacts are maintained in a database and kept informed of

regional issues and initiatives. The project has a Web site with more than 160 pages, and more than 36,000 visitors have been recorded to date. The Project also hosts workshops and conferences, the most recent of which was a Clean Water Summit held in June 2002.