CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

IN THE MATTER OF:	)	
	)	**COMPLAINT NO. R9-2009-0026**
COUNTY OF RIVERSIDE	)	**FOR**
MUNICIPAL SEPARATE STORM	)	**ADMINISTRATIVE CIVIL LIABILITY**
SEWER SYSTEM	)	
4080 Lemon Street - 4th Floor	)	**VIOLATION OF**
Riverside, CA 92501	)	**ORDER NO. R9-2004-001**
	)	
		December 10, 2009

Place ID: 252901

COUNTY OF RIVERSIDE, MUNICIPAL SEPARATE STORM SEWER SYSTEM, HEREBY GIVEN NOTICE THAT:

1. The County of Riverside (Discharger) is alleged to have violated provisions of law for which the California Regional Water Quality Control Board, San Diego Region (Regional Board) may impose civil liability pursuant to the Porter-Cologne Water Quality Control Act, Section 13385 of the California Water Code (CWC). The violations alleged herein are violations of the Standard Urban Storm Water Mitigation Plan (SUSMP) requirements and the prohibition of discharge from municipal separate storm sewer systems (MS4s) containing pollutants which have not been reduced to the maximum extent practicable (MEP).

2. This Administrative Civil Liability Complaint is issued under authority of CWC Section 13323.

3. The Discharger owns and operates a MS4 system within the Santa Margarita Watershed regulated by Regional Board Order No. R9-2004-001, *Waste Discharge Requirements for Discharges of Urban Runoff From the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of Riverside, the City of Murrieta, the City of Temecula and the Riverside County Flood Control and Water Conservation District within the San Diego Region.*

ALLEGATIONS

4. The Discharger violated permit provision F, Development Planning, of Order No. R9-2004-001 by failing to adequately implement a SUSMP for projects in the area of Riverside County regulated by the San Diego Regional Board. A SUSMP was required within 365 days of adoption of Order No. R9-2004-001,

July 14, 2004, and its implementation is necessary to reduce pollutants to the maximum extent practicable (MEP).

Pursuant to CWC §13385 subdivision (c), the maximum liability for failure to develop, adopt, and implement a SUSMP is $10,000 per day. The maximum liability that can be assessed for 1095 days[1] of violation is $10,960,000.

5. The Discharger violated permit provision F, Development Planning of Order No. 2004-001 by failing to (1) adequately implement BMPs at the Scott Road Improvement Project to ensure that the discharge of pollutants are reduced to the MEP and (2) failure to review and ensure that Scott Road Improvement Project meets SUSMP prior to building or grading permit issuance for the Scott Road Reconstruction. The Discharger approved the plans, specifications and estimates without a SUSMP on October 2, 2007. The Discharger completed construction of the project on November 27, 2008.

   Pursuant to CWC §13385 subdivision (c), the maximum liability for failure to require a SUSMP at a priority development project is $10,000 per day. The maximum liability that can be assessed for 799 days of violation is $7,990,000.

6. The Discharger violated prohibition A.3 of Order No. 2004-001 by failing to reduce pollutants to the MEP in the discharge from their MS4. By not implementing a SUSMP at the Scott Road Reconstruction, any post-construction runoff would contain pollutants from the project that were not reduced to the MEP and ultimately discharged from the MS4 system. From the completion of construction to date, a total of 12 days of rainstorm resulted in discharge from the Scott Road Reconstruction Project.

   Pursuant to CWC §13385 subdivision (c), the maximum liability for discharging pollutants not reduced to the MEP is $10,000 per day. The maximum liability that can be assessed for 12 days of violation is $120,000.

7. Details of these violations are set forth in full in the accompanying Staff Report, which is incorporated herein by reference as if set forth in full.

[1] Staff determined that the actual number of days of violation is 1608 days. After taking into consideration California Code of Civil Procedure section 338(i), though not binding on administrative proceedings, (see *City of Oakland v. Public Employees' Retirement System* (2002) 95 Cal.App. 4th, 29, 48) staff is calculating the number of days of violation based on a three year time period of 1095 days.

PROPOSED CIVIL LIABILITY

8. Based on consideration of the factors in CWC § 13385 subdivision (e), it is recommended that the Regional Board impose a civil liability of $612,591 for the violations alleged above.

Dated this 10th day of December, 2009

MICHAEL P. McCANN
Assistant Executive Officer

Signed pursuant to the authority delegated by the Executive Officer to the Assistant Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

STAFF REPORT

Proposed Administrative Civil Liability
Contained in Complaint No. R9-2009-0026
For the County of Riverside
Regarding their Municipal Separate Storm Sewer System

Noncompliance with
Order No. R9-2004-001
Waste Discharge Requirements for
Discharges of Urban Runoff from the
Municipal Separate Storm Sewer Systems (MS4s)
Draining the County of Riverside,
the City of Murrieta, the City of Temecula and the
Riverside County Flood Control and Water Conservation District
within the San Diego Region

December 10, 2009

By

Christina Arias, Water Resource Control Engineer

Under the Direction of
James Smith, Senior Environmental Scientist
and
David Barker, Supervising Water Resource Control Engineer

1. INTRODUCTION

This report provides a summary of factual and analytical evidence of findings that support an administrative assessment of civil liability in the amount of $612, 591 against the County of Riverside (Discharger) for violations of Order No. R9-2004-001, *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of Riverside, the City of Murrieta, the City of Temecula and the Riverside County Flood Control and Water Conservation District within the San Diego Region* (hereafter "Permit"), as alleged in Complaint No. R9-2009-0026. Order No. R9-2004-001 was adopted by the California Regional Water Quality Control Board, San Diego Region (Regional Board) on July 14, 2004. A map of the Permit's jurisdictional area is included in Attachment 1.

The Discharger owns and operates a municipal separate storm sewer system (MS4) within Riverside County regulated by the Permit. Section F of the Permit requires the Discharger to develop, adopt, and implement a Standard Urban Storm Water Mitigation Plan (SUSMP). In addition, the Discharger is required to review and ensure that all construction projects qualifying as Priority Development Projects (PDPs) meet the requirements contained in the SUSMP. The Regional Board has identified at least two Capitol Improvement Projects (CIPs) qualifying as PDPs where the Discharger failed to implement SUSMP.

The rapid pace of development within the Santa Margarita Watershed portion of Riverside County over the last several years exacerbates the need for implementing SUSMP requirements designed to protect receiving water quality. The US Census reported in 2000 that the total housing units in Riverside County was 584,674. In 2007, the US Census estimate was 729,148 housing units in Riverside County, resulting in an increase of 144,474 (~25 percent) housing units over seven years (Attachment 2). Although these numbers reflect growth in all of Riverside County (not just the Santa Margarita Watershed, which is under the Regional Board's jurisdiction), the rate of growth is indicative of potential impacts to receiving waters because land development introduces pollutant sources such as metals, hydrocarbons, pesticides, bacteria, and modification to the natural hydrograph by creation of impervious surfaces. Impacts to beneficial uses from these pollutants and altercations must be mitigated by implementation of permanent post-construction BMPs.

2. BACKGROUND TO ASSESSMENT OF CIVIL LIABILITY

2.1 Permit Requirements

Section F of the Permit requires the Discharger to develop, adopt, and implement a SUSMP. The SUSMP is a development requirement to reduce pollutants from

all PDPs to the maximum extent practicable (MEP). The Permit defines a PDP in 11 specific categories of development such as "streets, roads, highways, and freeways" or "parking lots 5,000 square feet or more" regardless if the project is a public or a private development project. The Permit requires all PDPs to implement a combination of on-site source controls and on-site/shared treatment control BMPs (collectively termed "post-construction BMPs") to treat the runoff specifically generated from each project. Examples of post-construction BMPs include signage on storm drain inlets, infiltration basins, detention basins, covered trash areas, and rain gardens. Program and site specific inspections by the Regional Board reveal that, several years after the Permit was adopted, the Discharger fails to adequately implement a SUSMP.

Section F.2.a of the Permit requires that "[d]uring the planning process, prior to the issuance of permits, Permittees shall require all proposed development projects to implement BMPs to ensure that the discharge of pollutants from the development will be reduced to the MEP and will comply with this Order [No. R9-2004-001]." The Permit further requires the Discharger to "review and ensure that all Priority Development Projects meet SUSMP requirements." The PDP review process is accomplished through the project plan check, which occurs prior to issuance of permits (grading or construction), which in turn occurs prior to project construction.

The Permit requires that within 365 days of its adoption, the Discharger shall develop, adopt and implement a SUSMP. Therefore, by July 15, 2005, the Discharger should have developed, adopted, and implemented a SUSMP. To comply with the Permit's provisions, the Discharger submitted the Santa Margarita Region Storm Water Management Plan (SWMP) on July 13, 2005. As part of the report of waste discharge, the Discharger updated and modified the Drainage Area Management Plan (DAMP) to incorporate new programs and requirements. The updated DAMP satisfied the SWMP requirement and functioned as a framework providing a written description of the specific urban runoff management measures and programs that it would implement to fulfill its individual responsibility and the area-wide and watershed-based activities. This document describes a process to review, approve, and permit PDPs, including a requirement for project-specific water quality management plans. Project specific water quality management plans are to conform to requirements described in the Riverside County Water Quality Management Plan for Urban Runoff (WQMP)[1] dated September 17, 2004.

[1] The Riverside County Copermittees have chosen to name their "Standard Urban Storm Water Mitigation Plan" (SUSMP) as "Water Quality Management Plan" (WQMP). This report uses SUSMP when referring to the requirements within the Permit and as WQMP when referring to the County's plans and procedures to comply with the Order. Furthermore, WQMP refers to the planning document that describes the requirements of PDPs throughout Riverside County. In contrast, a "project specific" WQMP is a localized plan for a specific PDP that describes, among other things, the post-construction BMPs that are to be built at that specific site.

Although the WQMP contained the necessary specifications to comply with the Permit requirements for Development Planning, subsequent program inspections revealed that the SUSMP program was not being *implemented* as described in the WQMP, as discussed in the following section.

2.2 MS4 Program Inspections

On September 20, 2007 and again on January 15 through 17, 2008, PG Environmental, LLC, a United States Environmental Protection Agency contractor, accompanied by the Regional Board, conducted an audit of the Discharger's storm water program including compliance with the SUSMP provisions. On March 31, 2008, PG Environmental released a report of their findings from the audit (Attachment 3). The report described several Permit violations including a failure to adopt and implement a SUSMP. Though the Discharger may have established WQMP/SUSMP requirements as early as September 17, 2004, the Discharger, through its departments, failed to implement the programs according to its county-wide WQMP. Specifically, the audit found that the County of Riverside's Economic Development Agency and Facilities Management Department failed to implement the requirements of the WQMP. According to the audit report, some County employees in these departments were not even aware of the existence of the county-wide WQMP document.

Based on the audit report, on June 13, 2008, the Regional Board's Assistant Executive Officer issued Notice of Violation (NOV) No. R9-2008-0073 (Attachment 4). The violations were:

1. Failure to Adopt and Implement a SUSMP;
2. Failure to Develop a Process by which SUSMP Requirements will be Implemented;
3. Failure to Identify SUSMP Applicable Projects;
4. Failure to Ensure BMPs are Effective; and
5. Failure to Ensure Ongoing Maintenance.

Additionally, the Regional Board required the Discharger to submit a technical report pursuant to California Water Code (CWC) §13267. The technical report required a description of the County's efforts to ensure compliance with the Permit's SUSMP requirements. Also required was an inventory of all County Capital Improvement Projects (CIP) that started construction post July 15, 2005.

On July 16, 2008, the Discharger submitted the Required Technical Report (RTR; Attachment 5). The report described steps that the Discharger was taking to improve accountability including:

1. Internal department incorporation of WQMP requirements;

2. A Directive Memorandum issued to the Directors of Facilities Management Department and Economic Development Agency;
3. Additional trainings for Facilities Management and Economic Development Agency project managers; and
4. Increased inter-departmental coordination meetings.

The RTR did not include an inventory of the Discharger's projects that started construction after July 15, 2005. The Regional Board had requested this information because any construction projects approved after July 15, 2005 would have been subject to the Permit's SUSMP requirements. This inventory of projects was therefore necessary to review the County's compliance with the Permit's SUSMP requirements.

On September 4, 2008, the Regional Board sent the Discharger comments on the RTR (Attachment 6). The letter specifically requested clarification on how the Facilities Management Department and Economic Development Agency would be notified of the deficiencies of their WQMP implementation and their obligation to comply with the WQMP and Permit. The letter requested, again, a determination of CIP projects requiring a WQMP built between 2005 to the present.

On October 7, 2008, the Discharger submitted a letter to the Regional Board providing information on the above-mentioned items (Attachment 7). The letter included copies of memoranda issued to the Directors of the Facilities Management Department and Economic Development Agency notifying them of the outstanding NOV and directing them to immediately take measures to properly implement the WQMP. The letter also stated, "After an exhaustive search of the Facilities Management and Economic Development Agency capital improvement projects (CIP) within the Santa Margarita Watershed; no CIP projects were built since the 2005 date." This search of the these two departments was not sufficient to satisfy the request in the Regional Board's letter dated September 4, 2008, which asked for an update on *all* CIP projects qualifying as PDPs, not just ones residing in the two departments.

2.3 Site Specific Inspections

On October 9, 2008, the Regional Board conducted an unannounced inspection of the Discharger's Scott Road Improvement Project, WDID No. 8 33C353762. This project spans the jurisdictional boundary between the Santa Ana and San Diego Regional Water Quality Control Boards. During the inspection, the Regional Board inspector determined that the Scott Road Improvement Project qualified for coverage under the General Construction Storm Water Permit, Order No. 99-08-DWQ, yet a Notice of Intent (NOI) was never filed by the Discharger.

On October 17, 2008, the Discharger retroactively submitted an NOI in response to the Regional Board inspector's instruction[2].

Additionally, the Regional Board inspector determined that the project included the replacement and/or addition of at least 5,000 square feet of paved surface. Therefore, the project was a PDP according to Permit section F.2.(b)(1)(h) "Street, roads, highways, and freeways," which states, "[t]his category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles." Since the project was a PDP, the project was required to develop and implement a project specific WQMP. When asked for the project specific WQMP, the Discharger stated that the project managers had not developed nor implemented a project specific WQMP prior to building or grading permit issuance (See inspection report in Attachment 8). This finding appeared in conflict with the Discharger's October 7, 2008 letter, just two days prior to the inspection, which stated no new CIP projects had been built since 2005. This finding demonstrates that the programmatic failures discovered in the audits extended beyond the two departments that were discussed in the audit report.

Following the Scott Road inspection, Regional Board staff reviewed the California Integrated Water Quality System (CIWQS) construction storm water database to identify County of Riverside CIP projects constructed after the SUSMP implementation date of July 15, 2005. This was done because the Discharger's October 7, 2008 letter stating that no new projects were built since 2005 was now known to be incorrect. Regional Board staff identified three additional PDPs where NOIs were submitted after the SUSMP implementation date of July 15, 2005: the Marna O'Brien Park Project, Murrieta Regional Learning Center Project, and the Southwest Justice Center Project.

On October 31, 2008, Regional Board staff conducted an inspection of the three sites to determine if post-construction BMPs, as required by the Permit, were in fact implemented on site, after construction was complete. Both the Murrieta Regional Learning Center and the Southwest Justice Center had not yet started construction; therefore no Permit violations were noted (the Permit requires completion of a project specific WQMP before construction begins). Findings at the Marna O'Brien Park (WDID No. 9 33C343785) further illustrate, however, the Discharger's failure to implement SUSMP.

At the time of the site visit, construction on the Marna O'Brien Park was complete and it had a new parking lot. The parking lot was at least 5,000 square feet and therefore qualified as a PDP according to Permit section F.2(b)(1)(g) Parking lots

[2] Although an NOI for Scott Road Improvement Project was eventually submitted, the Discharger failed to notify the State Water Resources Control Board that the project spanned the jurisdictions of two Regional Boards, as required in Order No. 99-08-DWQ. Because the project spans the jurisdictions of two Regional Boards, both Boards must approve the Notice of Termination before coverage under the General Permit is terminated.

5,000 square feet or more. "Parking lot" is defined as a "land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce." According to the NOI filed for the project, construction commenced on August 28, 2006. The Notice of Termination (NOT) filed for the project stated that construction was completed on August 8, 2007. The Regional Board inspector determined that the project did not include post-construction BMPs at the parking lot such as inlet filters, hydrodynamic separators, or inlet signage (see inspection report; Attachment 9).

2.4 Site Inspection Follow Up

As a result of the inspections at Scott Road and Marna O'Brien Park, on December 1, 2008, the Regional Board's Assistant Executive Officer requested a report pursuant to CWC §13267 regarding the County's approved WQMPs for four projects identified as potentially requiring a WQMP: the Scott Road Improvement Project, Southwest Justice Center Project, Clinton-Keith Road Project, and Marna O'Brien Park Project. Because Regional Board staff had not received accurate information regarding the number of CIP projects built since July 15, 2005 requiring WQMP implementation, the letter dated December 1, 2008 also requested for the third time an update on the Discharger's comprehensive evaluation of such construction projects (Attachment 10).

On January 2, 2009, in response to the Regional Board's letter dated December 1, 2008, the Discharger submitted another Required Technical Report (second RTR; Attachment 11). The Discharger's response included a *newly* developed project specific WQMP for the Scott Road Improvement Project and a statement that construction on this project was completed on November 27, 2008. In defiance of the Regional Board's repeated requests for an accurate description of CIP projects completed after July 15, 2005 requiring SUSMP implementation, the Discharger did not provide this information. Rather, the Discharger offered to provide this information to Regional Board staff in quarterly reports.

On March 17, 2009, the Discharger submitted a letter to Regional Board staff providing an update on active CIP projects (Attachment 12). The Discharger stated that construction on the BMP retrofit at Scott Road was complete, and a final report and a NOT were forthcoming. To date, the Regional Board has not received either submittal[3].

Upon review of materials provided by the Discharger, it was discovered that runoff from Marna O'Brien Park does not drain to receiving waters within the boundaries of the San Diego Regional Board's jurisdiction. This fact is contrary

[3] The Discharger submitted a NOT for the Scott Road Improvement Project to the Santa Ana Regional Water Quality Control Board on September 3, 2009. The NOT has not been granted pending enforcement action by the San Diego Regional Water Quality Control Board. The NOT must be granted by both Boards before coverage under the General Construction Permit is terminated.

to information in the Water Quality Control Plan for the San Diego Basin (Basin Plan) and historic maps, and can only be attributed to anthropogenic changes made to the topography of the landscape. Although a WQMP and SUSMP are no longer required to be in compliance with the Permit, information regarding the Discharger's failure to implement SUSMP at Marna O'Brien Park up until the time of this discovery is still relevant as further supporting evidence of the Discharger's programmatic failures.

2.5 Second Inspection at Scott Road

On September 8, 2009, the Regional Board performed a second site inspection at the Scott Road Improvement site to verify the placement of post-construction BMPs, as described in the project-specific WQMP dated December 24, 2008 (included in Attachment 11). Although areas had been demarcated for bioswales, inspectors found that the bioswales present were not representative of those described in the county-wide WQMP and project-specific WQMP (see Exhibit C of WQMP; Attachment 13). Additionally, the As-Built plans dated March 15, 2009 (Attachment 14) described bioswales with numerous specifications (riprap energy dissipaters, 4:1 horizontal to vertical side slopes, 4"-6" grass, 6" sandy loam, etc). The bioswales onsite virtually had none of these characteristics. All swales were poorly graded and lacked the necessary vegetation for proper storm water treatment. All swales resembled gullies rather than functional water quality treatment devices with proper detention time (see inspection report and photos, Attachment 15).

2.6 SUSMP/WQMP Implementation Timeline

Please see Attachment 16 for a detailed chronology of events pertaining to the Discharger's SUSMP program implementation.

3. ALLEGATIONS

3.1 Failure to Adequately Implement a SUSMP Program

Since July 15, 2005 (the date that SUSMP provisions of the Permit were required to be implemented), the Discharger has failed to adequately implement a SUSMP program that complies with Permit requirements. Although some departments within the County have been implementing SUSMP provisions, other departments have not. For example, the Facilities Management Department and Economic Development Agency were only made aware of SUSMP requirements via inter-office memos more than three years after the July 15, 2005 deadline. Prior to these memos, SUSMP requirements were not being uniformly implemented within all County departments. Even after a memo regarding the necessity of SUSMP provisions was distributed to the Economic Development Agency, this department continued its failure to implement SUSMP,

as evidenced by the lack of a project specific WQMP and post-construction BMPs at Marna O'Brien Park. Additionally, other departments not discussed in the audit report also experienced programmatic failures, as evidenced by the Transportation Department's failure to implement SUSMP at the Scott Road Improvement Project site. Collectively, this evidence indicates a serious deficiency with the Discharger's storm water program.

Although the Discharger submitted two RTRs describing tasks undertaken to remedy the programmatic deficiencies, significant deficiencies still exist. Despite numerous enforcement actions and correspondence on the part of the Regional Board over more than two years, the Discharger continues its failure to properly implement its SUSMP/WQMP. These failures to implement a SUSMP program are a serious and intentional violation of Permit section F.2.b).

Section F.2.b) states:

> "Within 365 days of adoption of this Order, each Permittee shall develop, adopt, and *implement* a SUSMP to reduce pollutants to the MEP and to maintain or reduce downstream erosion and protect stream habitat from all Priority Development Projects." (emphasis added)

Although a WQMP was developed and adopted before the due date of July 15, 2005, both program audits and field inspections, most recently conducted in September, 2009, indicate that the Discharger has failed to implement the SUSMP/WQMP. The severity of this allegation cannot be overstated because the SUSMP provisions of Order No. R9-2004-0001 are the primary mechanisms that mitigate for the permanent impacts to the beneficial uses of receiving waters that are caused by land development. Additionally, land development will continue indefinitely to impact receiving waters if effects are not mitigated. According to the Discharger's fiscal year 2008-2009 Annual Report, "…real estate development should and probably will remain important for the region, and that its eventual recovery will probably play a role in a broader economic recovery" (Attachment 17). The SUSMP provisions of the Permit *must* be remedied before further impacts to water quality occur.

3.2 Failure to Implement BMPs at the Scott Road Improvement Project to Ensure that the Discharge of Pollutants are Reduced to the MEP; Failure to Review and Ensure that Scott Road Improvement Project meets SUSMP Requirements

Since October 2, 2007, the Discharger has failed to review and ensure that the Scott Road Improvement Project meets SUSMP requirements. On October 2, 2007, the Discharger's Board of Supervisors approved the plans, specifications, and estimates for the project without a SUSMP/project specific WQMP. The project was built and construction completed on November 27, 2008. On December 24, 2008, the Discharger approved the project specific WQMP, a month *after* the project completed construction.

Inspectors from the Regional Board found on September 8, 2009 that on-site BMPs were not built to specifications described in either the project specific WQMP or As-Built drawings, and therefore do not conform to the sizing requirements specified in the Permit. Furthermore, the project specific WQMP states that the BMP Start-Up Date is "upon completion of construction activities (i.e. grading)" (Attachment 11). Statements made in both the second RTR and a letter dated March 17, 2009 affirmed that construction was complete on this project site. Therefore, according to the project specific WQMP, the BMPs should be operational at this time. Findings from the Regional Board's second site visit reveal the BMPs to be inadequate (see Attachment 15).
Both the development of a project specific WQMP after construction was completed, and the installation of inadequate post-construction BMPs are violations of Permit sections F.2.a), F.2.b), and F.2.b)(2).

Section F.2.a) states:

> "During the planning process, prior to the issuance of permits, Permittees shall require all proposed development projects to implement BMPs to ensure that the discharge of pollutants from the development will be reduced to the MEP and will comply with this Order and all local ordinances plans, and permits.

Section F.2.b) states

> "… each Permittee shall *review and ensure* that all Priority Development Projects meet SUSMP requirements. The SUSMP requirements shall apply to all Priority Development Projects or phases of Priority Development Projects that have not yet begun grading or construction activities." (emphasis added)

Section F.2.b)(2) states

> "The SUSMP shall require all Priority Development Projects to implement a combination of on-site source control and on-site/shared treatment control BMPs (to treat the runoff specifically generated from each project) selected from the recommended BMP list.

Therefore, the Discharger violated these Permit sections for: 1) failing to require the Scott Road Improvement Project to implement BMPs during the planning process, prior to issuance of permits, 2) failing to review and ensure that this PDP meets SUSMP requirements, and 3) failing to implement a combination of on-site source control and on-site/shared treatment control BMPs to treat the runoff specifically generated from this project.

Finally, the Discharger violated finding 4 of Order No. 99-08-DWQ for failing to submit an NOI for this project before construction activities began. Although an NOI was submitted retroactively, the Discharger failed to notify the State Water Resources Control Board that the project spans the jurisdictional areas of two

Regional Boards, as required by the instructions for the NOI Application. This information is necessary to ensure that both Regional Boards have the opportunity to review and approve the Discharger's Notice of Termination, which is required before the project can be terminated from coverage from the General Order.

3.3 Failure to Reduce Pollutants to the MEP from Discharges to the MS4 from Scott Road

Due to the Discharger's failure to implement the requirements of a project-specific WQMP at Scott Road and the inadequacy of the post-construction BMPs as seen on-site by Regional Board inspectors on September 8, 2009, any post-construction runoff from the site would contain pollutants that have not been reduced to the MEP.

The Riverside County Flood Control District's Consolidated Monitoring Program predicts runoff from areas with a high runoff potential when precipitation reaches 0.25 inches (Attachment 18). Since the Scott Road Improvement project involves the installation of impervious surface, the site has a high runoff potential. This means that storms greater than 0.25 inches are likely to produce runoff from this site. Since the Discharger has yet to implement adequate BMPs at this site, the untreated runoff results in discharges from the MS4 system containing pollutants that have not been reduced to the MEP. This is a violation of prohibition A.3 in Order R9-2004-001 "Discharges from MS4s containing pollutants which have not been reduced to the MEP are prohibited."

Rainfall records are from the National Weather Service's Temecula rain gauge as reported at: http://www.wrh.noaa.gov/sgx/obs/rtp/rtpmap.php?wfo=sgx. These rainfall amounts indicate several days of rainfall sufficient to produce runoff from the Scott Road Improvement project.

Date	Rainfall amount (inches)
November 27, 2008 –	0.63 /Construction complete at Scott Road
December 15, 2008 –	2.18
December 16, 2008 –	0.43
December 17, 2008 –	0.98
December 18, 2008 –	0.59
December 25, 2008 –	0.79
February 6, 2009 –	0.83
February 7, 2009 –	0.63
February 9, 2009 –	0.71
February 16, 2009 –	0.87
November 28, 2009 –	0.60
December 7, 2009 –	1.75

The NWS records (included in Attachment 18) indicate a total of 12 ongoing days of discharges with pollutants not reduced to the MEP from the Scott Road Improvement project to date.

4. DETERMINATION OF ADMINISTRATIVE CIVIL LIABILITY

4.1 Maximum Civil Liability

Any person[4] who violates any waste discharge requirement is subject to Administrative Civil Liability (ACL) pursuant to CWC §13385 on either a daily basis, not to exceed ten thousand dollars ($10,000) for each day in which the violation occurs, or on a per gallon basis, not to exceed ($10) for each gallon of waste discharged. Based on the factors listed below, the total maximum possible civil liability for the violations is nineteen million, sixty thousand dollars ($19,060,000).

4.2 Failure to Adequately Implement a SUSMP Program

The failure to adequately implement a SUSMP program has been ongoing since July 15, 2005.[5] Therefore, the maximum possible civil liability for this violation is ten million nine hundred fifty thousand dollars ($10,950,000).

4.3 Failure to Implement BMPs at the Scott Road Improvement Project to Ensure that the Discharge of Pollutants are Reduced to the MEP; Failure to Review and Ensure that Scott Road Improvement Project meets SUSMP Requirements

The ongoing failure to implement BMPs at the Scott Road Improvement Project to ensure that pollutants are reduced to the MEP and the ongoing failure to review and ensure that Scott Road Improvement project meets SUSMP requirements has occurred since October 2, 2007, a period of 799 total days of violation. Therefore, the maximum possible civil liability for this violation is seven million nine hundred ninety thousand dollars ($7,990,000).

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[4] As defined in CWC §13050 "Person includes any city, county, district, the state, and the United States, to the extent authorized by federal law."

[5] Staff determined that the actual number of days of violation is 1608 days. After taking into consideration California Code of Civil Procedure section 338(i), though not binding on administrative proceedings, (see *City of Oakland v. Public Employees' Retirement System* (2002) 95 Cal.App. 4th, 29, 48) staff is calculating the number of days of violation based on a three year time period of 1095 days.

4.4 Failure to Reduce Pollutants to the MEP from Discharges to the MS4 from Scott Road

The discharges from the Scott Road Improvement Project containing pollutants not reduced to the MEP occurred on 12 separate days. The number of gallons of discharge is indeterminate. Therefore, the maximum civil liability for this violation is one hundred and ten thousand dollars ($120,000).

5. FACTORS TO BE CONSIDERED WHEN DETERMINING ADMINISTRATIVE CIVIL LIABILITY (ACL)

CWC §13385 subdivision (e) requires the Regional Board to consider several factors when determining the amount of civil liability to impose. These factors include: "nature, circumstances, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup or abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on its ability to continue its business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters that justice may require. At a minimum, liability shall be assessed at a level that recovers the economic benefits, if any, derived from the acts that constitute the violation."

5.1 Failure to Implement a SUSMP Program

5.1.1 Nature, Circumstance, Extent, and Gravity of the Violation

Discharges from the County's MS4 are regulated by Order No. R9-2004-001, adopted on July 14, 2004. The Permit requires that within 365 days of adoption (i.e. July 15, 2005), the Discharger shall develop, adopt, and implement a SUSMP.

On September 20, 2007 and again on January 15 through 17, 2008, PG Environmental, LLC, with Regional Board staff, conducted an audit of the Discharger's storm water program including compliance with the SUSMP provisions. On March 31, 2008, PG Environmental released a report of their findings from the audit (Attachment 3). The report described several Permit violations including a failure to adopt and implement a SUSMP.

Based on the audit report, on June 13, 2008, the Regional Board's Assistant Executive Officer issued Notice of Violation No. R9-2008-0073, and also required the Discharger to submit a technical report pursuant to California Water Code (CWC) §13267. On July 16, 2008, the Discharger submitted the required technical report describing several steps that the Discharger was taking to improve accountability and program effectiveness. On October 7, 2008, the

Discharger submitted a letter stating that no CIP projects that required implementation of SUSMP/WQMP were built after July 15, 2005.

On October 9, 2008, the Regional Board conducted an unannounced inspection of the Discharger's Scott Road Improvement Project, a PDP subject to SUSMP. During the inspection, the Discharger stated that a project specific WQMP had not been developed and therefore permanent, post-construction BMPs were never built nor included in the site design. On September 8, 2009, the Regional Board conducted a second inspection of the site and found that, despite the late development of the project specific WQMP, post-construction BMPs were not built according to the specifications in the WQMP. Additionally, the BMPs did not resemble the BMPs specified in the project specific WQMP or As Built drawings previously submitted to the Regional Board. Finally, the deficiencies should have been identified because, according to the fiscal year 2008-2009 Annual Report, "Post construction BMPs installed by developer continue to be inspected by Building and Safety-Environmental Compliance Inspection staff to ensure that they are working as designed and are providing adequate protection of the MS4" (Attachment 17).

On October 31, 2008, the Regional Board conducted a site inspection at Marna O'Brien Park and found that a project specific WQMP had not been developed, and consequently, post-construction BMPs were not built. Since then, Regional Board has learned that discharges from the Park drain to Lake Elsinore, an area outside of the San Diego Regional Board's jurisdiction. However, at the time of project approval, planning, and construction, the Discharger believed Marna O'Brien Park to be within the Regional Board's jurisdiction by submitting an NOI stating as such, and hence a project specific WQMP should have been developed and implemented.

The Discharger's lack of SUSMP/WQMP development and implementation for the Scott Road Improvement Project and Marna O'Brien Park indicate that a process has *not* been developed and implemented to ensure that project specific WQMPs and permanent post-construction BMPs were required at all PDPs. At Scott Road in particular, the Transportation Department did not have a process to require SUSMP/WQMP for projects with long timelines. Nor did they have a process for requiring SUSMP/WQMP for projects that undergo plan changes during construction. Nor did they have a process for requiring SUSMP/WQMP for those projects that cross multiple Regional Board jurisdictional boundaries.

As a result of the failure to implement SUSMP at the Scott Road Improvement Project, the Regional Board's Assistant Executive Officer on December 1, 2008 issued a CWC §13267 letter requesting a report including the County's approved WQMPs for four projects: Scott Road, Southwest Justice Center, Clinton-Keith Road, and Marna O'Brien Park.

On January 2, 2009, the Discharger submitted the second Required Technical Report (second RTR). The second RTR stated that the Discharger was taking necessary steps to ensure that the requirements of the Permit were applied to future projects through project checklist modifications and additional project review during planning stages. The additional information in the RTR stated that the administrative process had been remedied and was unlikely to further fail to implement SUSMP requirements at PDPs. However, the Regional Board site inspection of Scott Road on September 8, 2009 revealed that the SUSMP process had in fact not been remedied. Post-construction BMPs at the site did not match the plan specifications, indicating that the process lacked the necessary final check to ensure that post-construction BMPs were built to treat storm water pollutants to the MEP, as required by the Permit.

5.1.2 Susceptibility to Cleanup or Abatement

This factor does not apply to this violation.

5.1.3 Degree of Toxicity

This factor does not apply to this violation.

5.1.4 Ability to Pay and Ability to Continue in Business

Although the Discharger has claimed economic hardship due to the poor economy, according to the fiscal year 2008-2009 Annual Report, "[economists] predict an economic recovery may begin to form in 2010" (Attachment 17). The Discharger should have remedied the program deficiencies in 2007, before the worst of the economic downturn, when the deficiencies were first discovered in the program audit. The Discharger has the ability to raise revenue via fee increases or raising taxes.

5.1.5 Voluntary Cleanup Efforts

This factor does not apply to this violation. The Discharger has repeatedly proposed and claimed to have taken actions to prevent future violations, but violations still exist. Further, these steps are not considered voluntary as they are necessary to comply with the Permit and may have only occurred in response to Regional Board enforcement.

5.1.6 Prior History of Violation

Following the January, 2008 audits, PG Environmental notified the Discharger of their preliminary findings of violations. On June 13, 2008, the Regional Board's Assistant Executive Officer issued Notice of Violation No. R9-2008-0073 for the failure to implement a SUSMP program. The two inspections of Scott Road Improvement Project occurring on October 9, 2008 and September 8, 2009 found the Discharger to be continuing in violation of the Permit's SUSMP provisions.

5.1.7 Degree of Culpability

The Discharger is a municipal government entrusted with protecting the public and environment. The Discharger has required SUSMP for numerous private development projects. The Discharger has extensive experience and knowledge in construction of public works projects and should have the expertise necessary to comply with the applicable government regulations related to such projects, including storm water regulations.

The Discharger's culpability is further increased by their failure to take sufficient actions after being previously notified of the violations and for repeatedly submitting incomplete information to Regional Board staff. In a letter dated October 7, 2008, the Discharger stated that after an exhaustive search of the appropriate databases within two departments, no CIP projects were built since 2005 that did not include the appropriate SUSMP/WQMP provisions. Yet, Regional Board staff found a CIP project (Scott Road) just two days after receiving this letter, indicating that the programmatic problems extended beyond the two departments that were discussed in the audit report. On June 5, 2009, the Discharger submitted an updated project specific WQMP with As-Built drawings (stamped on March 15, 2009) for the post-construction BMPs. Regional Board inspectors visited the site on September 8, 2009 and found that the post-construction BMPs (bioswales) did not resemble the specifications in either the project specific WQMP nor the As-Built drawings. Furthermore, the Discharger's fiscal year 2008-2009 Annual Report indicated that post construction BMPs continue to be inspected by Building and Safety-Environmental Compliance Inspection staff, yet the poorly constructed BMPs have not been corrected.

5.1.8 Economic Benefit Resulting from the Violation

Site inspections of the completed project demonstrate that violations of the Permit are still ongoing, despite repeated enforcement letters from the Regional Board. The Discharger received an economic benefit by not utilizing resources to comply with Permit requirements.

The fact that BMP implementation at Scott Road, which is the final step in executing Provision F of the Permit (following project approval, design, and development of WQMP), is inadequate calls into question the integrity of the Discharger's entire storm water program. Numerous problems were noted with the execution of Permit Provision F: 1) a WQMP was not developed before construction commenced, 2) the BMPs were not built according to the specifications in the WQMP, 3) the project As-Builts were signed even though the BMPs were not built according to the specifications, indicating that the BMPs were not properly verified.

Additionally, the findings from the PG Environmental and Regional Board's audit found deficiencies in the WQMP execution in the Facilities Management and Economic Development Agency. Though the jurisdiction of the discharges from

Marna O'Brien Park was not determined until several months after project completion, a WQMP was never completed and submitted to Regional Board staff prior to beginning construction on the project. The lack of a project specific WQMP for Marna O'Brien Park indicates deficiencies in the execution of the entire SUSMP program. The numerous failures at various stages of the Scott Road Improvement Project and various departments indicate that the failures to comply with Permit Provision F were systematic and programmatic, and not isolated.

5.1.9 Other Factors as Justice May Require

The Regional Board has incurred specific expenses relating to the investigation of the violations alleged in this report as well as the preparation of enforcement documents associated with this enforcement action. To date, the Regional Board's total expenditures are no less than $64,291(Attachment 19). Such expenditures will continue until the Discharger fully complies with the Permit requirements.

5.2 Failure to Implement BMPs at the Scott Road Improvement Project to Ensure that the Discharge of Pollutants are Reduced to the MEP; Failure to Review and Ensure that Scott Road Improvement Project meets SUSMP Requirements

5.2.1 Nature, Circumstance, Extent, and Gravity of the Violation

On September 20, 2007 and again on January 15 through 17, 2008, PG Environmental, LLC, with the Regional Board conducted an audit of the Discharger's storm water program including compliance with the SUSMP provisions. On March 31, 2008, PG Environmental released a report of their findings from the audit. The report singled out the Discharger's Transportation Department saying "…the County Transportation Department was implementing the WQMP [SUSMP] program …" On October 9, 2008, a Regional Board inspection of the Scott Road Improvement project found, contrary to the audit's report, that the Transportation Department had not implemented a project specific WQMP.

The Scott Road Improvement Project is a County of Riverside Transportation Department PDP project. On October 2, 2007, the County Board of Supervisors approved the plans, specifications and estimates for the Scott Road Reconstruction without a project specific WQMP. The Notice to Proceed was provided to the contractor on April 14, 2008, and construction completed on November 27, 2008.

The Scott Road Improvement Project widened Scott Road to an interim 4-lane facility from immediately east of the Paloma Wash and Antelope Road, to approximately 1,000 feet east of El Centro Lane. In addition, the vertical alignment of the roadway was lowered and existing storm drainage facilities were

extended. The project crosses Regional Board boundaries. The western portion of the project is within the Santa Ana Regional Board's jurisdiction and the eastern portion is within the Santa Margarita watershed in the San Diego Regional Board's jurisdiction. The project's runoff in the Santa Margarita watershed flows to Warm Springs Creek, a tributary to Murrieta Creek, and ultimately the Santa Margarita River.

The project is a PDP requiring SUSMP/WQMP. The project added and replaced at least 5,000 square feet of impervious surfaces on an already developed site that was not part of routine maintenance activity. The project category is "Street, roads, highways, and freeways," which states, "[t]his category includes any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles."

The Permit specifies that "[t]he SUSMP requirements shall apply to all Priority Development Projects or phases of Priority Development Projects that have not yet begun grading or construction activities." SUSMP requirements need to be addressed prior to construction in order to incorporate permanent BMPs into the project design to reduce pollutants to the MEP and maintain or reduce downstream erosion and protect stream habitat. Section F.2.a) of the Permit requires that "[d]uring the planning process, *prior* to the issuance of permits, Permittees shall require all proposed development projects to implement BMPs to ensure that the discharge of pollutants from the development will be reduced to the MEP and will comply with this Order [No. R9-2004-001]" (emphasis added). The Permit further requires the Discharger "to review and ensure that all Priority Development Projects meet SUSMP requirements." The PDP review is accomplished through the project plan check, which is required to occur prior to construction.

The October 9, 2008 inspection confirmed that the Scott Road Inspection Project was a PDP, yet there was no project specific WQMP. On December 1, 2008, the Regional Board issued the Discharger a CWC §13267 letter requesting a copy of a project specific WQMP that was to be developed for Scott Road. The receiving waters for the project are Warm Springs Creek, Murrieta Creek, and Santa Margarita River. Murrieta Creek is on the Clean Water Act §303(d) list of impaired water bodies for iron, manganese, and nitrogen. Santa Margarita River (Upper) is on the Clean Water Act §303(d) list for phosphorous.

In the RTR dated January 2, 2009, the Discharger submitted a copy of the newly developed project specific WQMP for Scott Road. The WQMP included the implementation of 13 vegetated swales and one catch basin insert to minimize pollution to the MEP. However, on September 8, 2009, Regional Board inspectors found that BMPs were not built to specifications in the project specific WQMP, and were found to be inadequate for treating pollutants commonly found in storm water runoff.

5.2.2 Susceptibility to Cleanup or Abatement

This site requires post-construction BMPs to be installed that conform to the specifications described in the project specific WQMP. BMPs installed to date do not satisfy this requirement.

5.2.3 Degree of Toxicity

This factor does not apply to this violation.

5.2.4 Ability to Pay and Ability to Continue in Business

See section 5.1.4, above, for an analysis of this penalty factor.

5.2.5 Voluntary Cleanup Efforts

This factor does not apply to this violation. The Discharger has taken steps to correct this violation by developing a project specific WQMP only after construction was completed, but still needs to properly install the BMPs described in the WQMP. Any actions are not considered voluntary as they are necessary to comply with the Permit and may have only occurred in response to Regional Board enforcement.

5.2.6 Prior History of Violation

See section 5.1.6, above, for an analysis of this penalty factor.

5.2.7 Degree of Culpability

See section 5.1.7, above, for an analysis of this penalty factor.

5.2.8 Economic Benefit Resulting from the Violation

An estimation of economic benefit was calculated by using the State of California Department of Transportation Final Report on the BMP Retrofit Pilot Program (Pilot Program), January 2004 (Excerpt in Attachment 20). According to this study, the estimated cost to retrofit six bioswales into an existing road project is $57,818 ($9,636 per bioswale)(see Table 14-1 in Attachment 20). Because the project specific WQMP for Scott Road includes retrofitting 9 bioswales to treat runoff discharging into the Santa Margarita watershed, the approximate cost the Discharger is expected to have spent on this retrofit is $86,724, plus cost of annual maintenance, estimated at $2,200 (see Table 14-4 in Attachment 20) for a total of $88,924. This calculation represents a reasonable approximation of economic benefit based on a comprehensive third-party study.

5.2.9 Other Factors as Justice May Require

See section 5.1.9, above, for an analysis of this penalty factor.

5.3 Failure to Reduce Pollutants to the MEP from Discharges to the MS4 from Scott Road

5.3.1 Nature, Circumstance, Extent, and Gravity of the Violation

Due to the Discharger's failure to implement the requirements of a project specific WQMP at Scott Road, any post-construction runoff from the site would contain pollutants that have not been reduced to the MEP.

The Riverside County Flood Control District's Consolidated Monitoring Program predicts runoff from areas with a high runoff potential when precipitation reaches 0.25 inches (Attachment 18). Since the Scott Road Improvement project involves the installation of impervious surface, the site has a high runoff potential. This means that storms greater than 0.25 inches are likely to produce runoff from this site. Since the Discharger has yet to implement adequate BMPs at this site, the untreated runoff results in discharges from the MS4 system containing pollutants that have not been reduced to the MEP. This is a violation of prohibition A.3 in Order R9-2004-001 "Discharges from MS4s containing pollutants which have not been reduced to the MEP are prohibited."

Rainfall records are from the National Weather Service's Temecula rain gauge (Attachment 18) show a total of 12 days of discharges with pollutants not reduced to the MEP from the Scott Road Improvement Project.

Streets, highways and freeways such as the Scott Road Improvement Project generate the following pollutants: heavy metals, nutrients (if landscaping exists on-site), organic compounds (including petroleum hydrocarbons), sediments, trash & debris, oxygen demanding substances (including solvents), and oil & grease.[6]

The receiving waters for this project are Warm Springs Creek, Murrieta Creek, and Santa Margarita River. Murrieta Creek is on the Clean Water Act §303(d) list of impaired water bodies for iron, manganese, and nitrogen. Santa Margarita River (Upper) is on the Clean Water Act §303(d) list for phosphorous.

The beneficial uses for Warm Springs Creek, (902.34 Lower Domenigoni Hydrologic Subarea) are:[7]

- Municipal Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Industrial Process Supply (PROC)
- Contact Water Recreation (REC-1) (Potential)

[6] California Stormwater Quality Association, Stormwater Best Management Practice Handbook – New Development and Redevelopment, January 2003.
[7] Water Quality Control Plan for the San Diego Basin (9), California Regional Water Quality Control Board – San Diego Region, September 8, 1994 (with amendments effective prior to April 25, 2007).

- Non-contact Water Recreation (REC-2)
- Warm Freshwater Habitat (WARM)
- Wildlife Habitat (WILD)

The beneficial uses for Murrieta Creek, (902.31 Wildomar Hydrologic Subarea and 902.32 Murrieta Hydrologic Subarea) are[8]:

- Municipal Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Industrial Process Supply (PROC)
- Contact Water Recreation (REC-1) (Potential)
- Non-contact Water Recreation (REC-2)
- Warm Freshwater Habitat (WARM)
- Wildlife Habitat (WILD)

The beneficial uses for Santa Margarita River, (902.22 Gavilan Hydrologic Subarea) are[9]:

- Municipal Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Contact Water Recreation (REC-1)
- Non-contact Water Recreation (REC-2)
- Warm Freshwater Habitat (WARM)
- Cold Freshwater Habitat (COLD)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)

The discharge of pollutants from the Scott Road Improvement Project has a negative impact on beneficial uses and causes further impairment already identified on the CWA §303(d) list.

5.3.2 Susceptibility to Cleanup or Abatement

The pollutant deposition caused by discharges from rainfall events would be difficult to remove because the pollutants would be spread widely along the stretch of receiving waters. Potential cleanup would cause widespread disturbance of native flora and fauna. Water quality benefits of a cleanup would need to be weighted against potential impacts resulting from cleanup action. Mitigation is possible in the form of restoration or enhancement.

5.3.3 Degree of Toxicity

The degree of toxicity is indeterminate due to the widespread, diffuse, and diverse nature of the pollutant discharges. That the Discharger has taken any

[8] Ibid.
[9] Ibid.

specific monitoring to evaluate potential toxicity from these specific discharges is unlikely. Even so, some general toxicity information is known about potential pollutants discharged from parking lots, landscaped areas and roads.

Pollutants in runoff can threaten human health and the environment. Pollutants in receiving waters can bioaccumulate in the tissues of invertebrates and fish, which may be eventually consumed by humans. The pollutants in urban runoff often contain pollutants that cause toxicity to aquatic organisms (i.e., adverse responses of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies). Toxic pollutants impact the overall quality of aquatic systems and beneficial uses of receiving waters.

Heavy metals can be toxic to aquatic life. Humans can be impacted from contaminated groundwater resources, and bioaccumulation of metals in fish and shellfish. Organic compounds found in pesticides, solvents, and hydrocarbons can indirectly or directly constitute a hazard to environmental life or health. Nutrients may include the un-ionized ammonia form of nitrogen that can be toxic to fish. Oil and grease includes a wide array of hydrocarbon compounds, some of which are toxic to aquatic organisms at low concentrations.

5.3.4 Ability to Pay and Ability to Continue in Business

See section 5.1.4, above, for an analysis of this penalty factor.

5.3.5 Voluntary Cleanup Efforts

The Discharger has not taken any voluntary cleanup efforts of the pollutants discharged. Any cleanup efforts need to consider the factors in 5.3.2 prior to initiating cleanup. As discussed in section 5.2.5, the Discharger has taken steps to prevent future violations, but these steps are inadequate at best and not considered voluntary as they are necessary to comply with the Permit and may have only occurred in response to Regional Board enforcement.

5.3.6 Prior History of Violation

See section 5.1.6, above, for an analysis of this penalty factor.

5.3.7 Degree of Culpability

See sections 5.1.7, above, for an analysis of this penalty factor.

5.3.8 Economic Benefit Resulting from the Violation

See section 5.1.8 above, for an analysis of this penalty factor.

5.3.9 Other Factors as Justice May Require

See section 5.1.9, above, for an analysis of this penalty factor.

6. PROPOSED CIVIL LIABILITY PER VIOLATION

6.1 Failure to Adequately Implement a SUSMP Program

The proposed civil liability should reflect the seriousness of failing to adequately implement a major provision of Order No. R9-2004-001, as evidenced by failures at the Scott Road Improvement Project and Marna O' Brien Park. These failures occurred despite repeated enforcement actions and correspondence on the part of the Regional Board. The severity of this violation cannot be overstated because the SUSMP provisions of Order No. R9-2004-001 are the primary mechanisms that mitigate for the permanent impacts to beneficial uses of receiving waters that are caused by land development. The proposed civil liability is approximately three hundred dollars ($300) per day for 1,095 days of violation for a total of three hundred twenty eight thousand, five hundred dollars ($328,500). This value represents approximately 3 percent of the statutory maximum liability of $10,950,000. The SUSMP Program sets forth the overarching requirements that apply to every development project the County undertakes. In comparison to the proposed civil liability amount discussed below in section 6.2, staff is recommending civil liability in the amount of 3 percent of the statutory maximum for the Discharger's failure to adequately implement a SUSMP Program as these violations significantly undermine the purpose of the MS4 program.

6.2 Failure to Implement BMPs at the Scott Road Improvement Project to Ensure that the Discharge of Pollutants are Reduced to the MEP and Failure Review and Ensure that Scott Road Reconstruction meets SUSMP Requirements

CWC §13385(e) requires that "[a]t a minimum, liability shall be assessed at a level that receive the economic benefits, if any, derived from the acts that constitute the violation." For the violations at the Scott Road Improvement Project, the economic benefit totaled $88,924. This amount represents approximately 1.1 percent of the statutory maximum liability of $7,990,000. At the very least, the penalty assessed should recapture the Discharger's economic benefit. However, in order provide a meaningful deterrent to future violations and so liabilities are not construed as the cost of doing business, the proposed civil liability represents 2 percent of the statutory maximum liability of $7,990,000 totaling one hundred fifty nine thousand eight hundred dollars ($159,800) or approximately two hundred dollars ($200) per day for 799 days of violation.

6.3 Failure to Reduce Pollutants to the MEP from Discharges to the MS4 from Scott Road

Based on this analysis of the statutory penalty factors the proposed civil liability is five thousand dollars ($5,000) per discharge for 12 discharges for a total of sixty thousand dollars ($60,000).

7. TOTAL PROPOSED CIVIL LIABILITY

In consideration of the current economic climate, the maximum civil liability of $19,060,000 is not warranted.

The proposed civil liability amounts of sections 6.1, 6.2, and 6.3 total five hundred forty three, three hundred dollars ($548,300). The total proposed civil liability in this matter includes this amount plus staff recovery costs of sixty four thousand, two hundred ninety one dollars ($64,291). Therefore the total proposed liability is six hundred twelve thousand, five hundred ninety one dollars ($612,591).

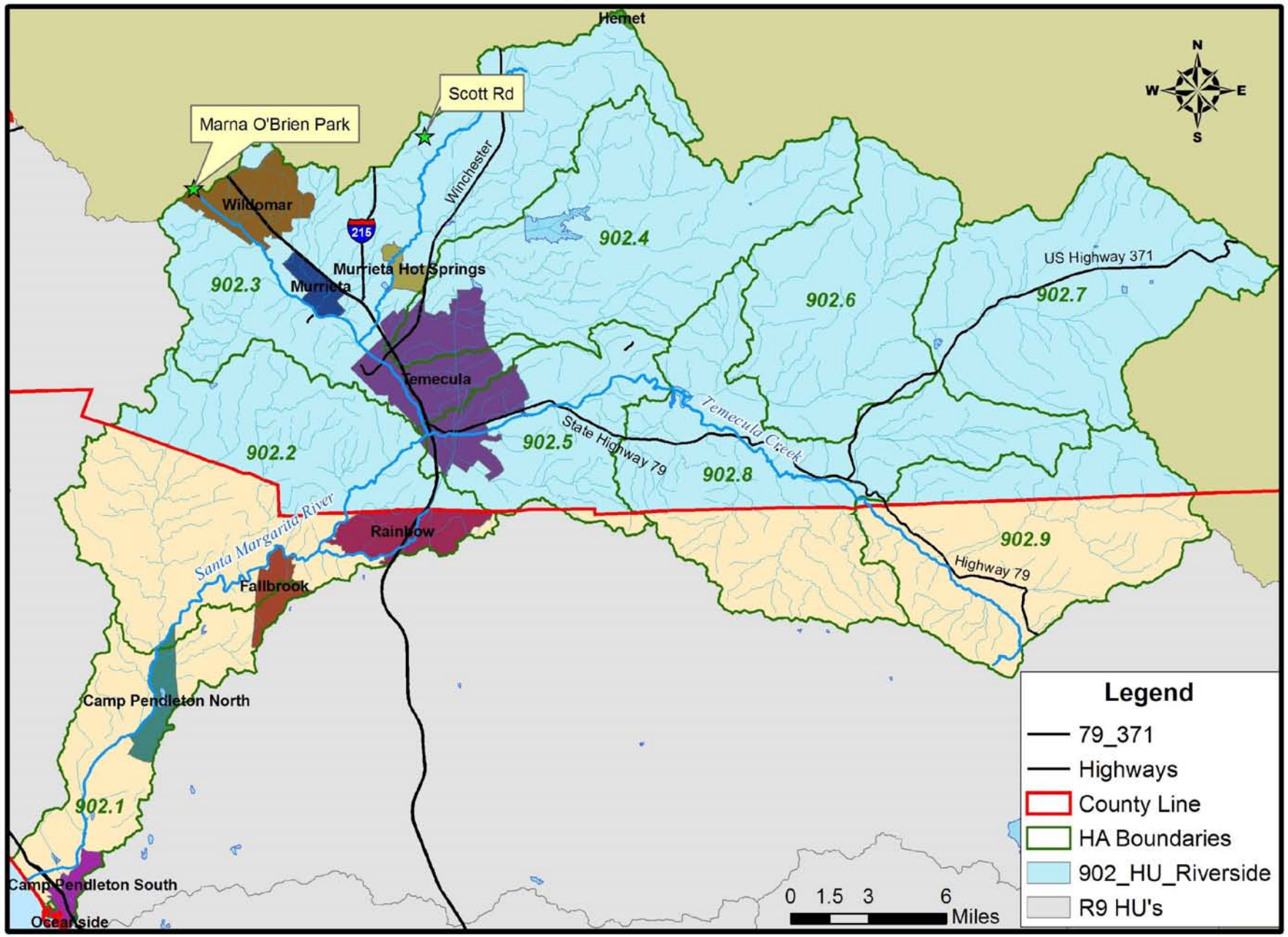
Attachments:

1. Map of Site Locations
2. County Census Information
3. PG Environmental County of Riverside MS4 Inspection Report
4. June 13, 2008 NOV/13267
5. Excerpt from RTR dated July 16, 2008
6. Regional Board Letter dated September 4, 2008
7. County of Riverside Letter dated October 7, 2008
8. Scott Road Facility Inspection Report dated October 9, 2008
9. Marna O'Brien Park Facility Inspection Report dated October 31, 2008
10. December 1, 2008 CWC §13267 letter
11. Excerpt from RTR dated January 2, 2009
12. County of Riverside Letter dated March 17, 2009
13. Exhibit C, WQMP dated September 17, 2004
14. As Built plans for Scott Road date March 15, 2009
15. Scott Road Facility Inspection Report dated September 8, 2009
16. Riverside County SUSMP/WQMP Implementation Timeline
17. County of Riverside Santa Margarita Watershed Fiscal Year 2008-2009 Progress Report
18. RCFCD Consolidated Monitoring Plan and NWS rainfall record
19. Regional Board Staff Costs
20. California Department of Transportation BMP Retrofit Pilot Program Final Report

ATTACHMENT 1

MAP OF SITE LOCATIONS

Santa Margarita HU (902)

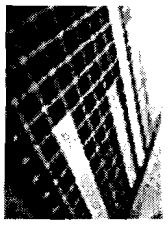


R9-2009-0026

ATTACHMENT 2

CENSUS INFORMATION
FOR THE COUNTY OF RIVERSIDE

U.S. Census Bureau
American FactFinder



Riverside County, California
Selected Housing Characteristics: 2005-2007
Data Set: **2005-2007 American Community Survey 3-Year Estimates**
Survey: **American Community Survey**

NOTE. Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see Survey Methodology.

Selected Housing Characteristics	Estimate	Margin of Error	Percent	Margin of Error
HOUSING OCCUPANCY				
Total housing units	**729,148**	**+/-272**	**100%**	**(X)**
Occupied housing units	636,755	+/-2,858	87.3%	+/-0.4
Vacant housing units	92,393	+/-2,888	12.7%	+/-0.4
Homeowner vacancy rate	2.9	+/-0 3	(X)	(X)
Rental vacancy rate	6 2	+/-0.7	(X)	(X)
UNITS IN STRUCTURE				
Total housing units	**729,148**	**+/-272**	**100%**	**(X)**
1-unit, detached	479,122	+/-3,250	65 7%	+/-0.4
1-unit, attached	43,560	+/-1,644	6.0%	+/-0 2
2 units	10,888	+/-1,181	1.5%	+/-0.2
3 or 4 units	28,768	+/-1,441	3.9%	+/-0.2
5 to 9 units	31,836	+/-2,065	4.4%	+/-0 3
10 to 19 units	24,963	+/-1,778	3 4%	+/-0.2
20 or more units	31,160	+/-1,374	4.3%	+/-0.2
Mobile home	76,118	+/-2,238	10.4%	+/-0.3
Boat, RV, van, etc.	2,733	+/-595	0.4%	+/-0.1
YEAR STRUCTURE BUILT				
Total housing units	**729,148**	**+/-272**	**100%**	**(X)**
Built 2005 or later	32,768	+/-1,535	4.5%	+/-0.2
Built 2000 to 2004	115,181	+/-2,880	15.8%	+/-0 4
Built 1990 to 1999	132,582	+/-3,260	18.2%	+/-0.4
Built 1980 to 1989	177,602	+/-3,659	24.4%	+/-0.5
Built 1970 to 1979	122,646	+/-2,888	16 8%	+/-0 4
Built 1960 to 1969	67,189	+/-2,335	9.2%	+/-0.3
Built 1950 to 1959	49,236	+/-1,610	6.8%	+/-0.2
Built 1940 to 1949	15,650	+/-1,174	2.1%	+/-0.2
Built 1939 or earlier	16,294	+/-1,365	2.2%	+/-0 2
ROOMS				
Total housing units	**729,148**	**+/-272**	**100%**	**(X)**
1 room	5,468	+/-864	0.7%	+/-0 1
2 rooms	23,022	+/-1,552	3 2%	+/-0.2
3 rooms	62,141	+/-2,573	8.5%	+/-0.4
4 rooms	130,804	+/-3,166	17.9%	+/-0.4
5 rooms	172,581	+/-3,394	23.7%	+/-0.5

ATTACHMENT 3

PG ENVIRONMENTAL, LLC
MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
INSPECTION REPORT

Riverside County Flood Control and Water Conservation District and County of Riverside Municipal Separate Storm Sewer System (MS4) Inspection Report

Background

PG Environmental, LLC, a USEPA Region IX contractor, with assistance from the California Regional Water Quality Control Board, San Diego Bay Region (Regional Water Board), conducted inspections of the Riverside County Flood Control and Water Conservation District (hereafter, District) and County of Riverside (hereafter, County) Municipal Separate Storm Sewer System (MS4) programs on September 20, 2007 and January 15 through 17, 2008. Mr. Wesley Ganter and Mr. Max Kuker of PG Environmental, LLC led the inspections and were assisted by Regional Water Board staff. Discharges from the District's and the County's MS4 are regulated by Regional Water Board Order No. R9-2004-001 (NPDES Permit No. CAS0108766) issued July 14, 2004. The purpose of the inspections was to determine the Permittees' compliance with requirements contained within Regional Water Board Order No. R9-2004-001 (hereafter, Order), and to assess the Permittees' current implementation status with respect to their Drainage Area Management Plan (DAMP). The initial September 20, 2007 inspection identified discrepancies between the Order requirements and the District and County MS4 program implementation. The intent of the January 2008 inspections was to further investigate and substantiate the previously noted discrepancies.

The District serves as the principal permittee for the Riverside County MS4 permittee group and the District and the County jointly implement several of the individual MS4 program elements. The previously referenced Order is the second MS4 permit issued to these permittees. While the District and the County also hold MS4 permits issued by the Santa Ana and Colorado River Regional Water Boards, this inspection primarily focused on activities occurring within the Santa Margarita River watershed and within the jurisdictional boundaries of the San Diego Regional Water Board. However, where indicated in this inspection report, Development Planning inspection activities also occurred in the Santa Ana Region during which the inspection team evaluated the permittees compliance with respect to Santa Ana Regional Water Board Order No. R8-2002-001. These activities occurred with the full knowledge and support of the Santa Ana Regional Board.

The inspections focused specifically on two sections of the Order: Provision F. Development Planning and the implementation of Standard Urban Storm Water Mitigation Plan (SUSMP) requirements; and Provision L. Part II. Monitoring Program. The inspections did not evaluate or assess compliance with the following provisions of the Order: G. Construction, H. Existing Development, I. Education, J. Illicit Discharge Detection and Elimination Program; and K. Watershed-Based Activities. As such, the inspections were not intended to be a comprehensive evaluation of all components and requirements associated with the entire MS4 program.

The inspections consisted of interviews of District and County staff. Interviews occurred at the Riverside County Executive Office located at 4080 Lemon Street in downtown Riverside and at

the District's offices located at 1995 Market Street, Riverside, CA. The primary MS4 Program representatives were Mr. Mike Shetler and Mr. Alex Gann, Riverside County Executive Office, and Mr. Jason Uhley, Senior Civil Engineer, Riverside County Flood Control and Water Conservation District. These individuals were supported by other District and County staff that have responsibilities for program implementation and also by URS Corporation representatives, a consultant to the Riverside County permittee group. A list of all inspection attendees is attached to this report.

The County of Riverside was represented by five separate organizational entities during the course of the inspections as follows: the Executive Office, Economic Development Agency (EDA), Transportation Department, Facilities Management Department, and the Regional Park & Open-Space District.

The inspection schedule was as follows:

September 20, 2007	**January 15-17, 2008**
Riverside County Flood Control and Water Conservation District and County of Riverside	***Riverside County Flood Control and Water Conservation District and County of Riverside***
9:00 AM – Opening meeting at the Riverside County Executive offices	**<u>January 15th</u>** Review of District's Monitoring Program
9:30 AM – Interview regarding Development Planning and the implementation of SUSMP requirements	**<u>January 16th</u>** (AM) – Review of <u>private</u> development (PM) – Review of <u>public</u> development
1:30 PM – Office visit to discuss Monitoring	**<u>January 17th</u>** Two teams with office and field activities
4:00 PM – Closing Conference	**Team 1** – Review of public Capital Improvement Projects (CIP) SUSMP applicability and field visits **Team 2** – Review of private development SUSMP applicability, development, and maintenance

Findings

Section F. Development Planning

Note: The permittee internally refers to the SUSMP program and required documents as Water Quality Management Plans (WQMPs). Hereafter, these terms are used interchangeably.

The organizational structure for the WQMP process is divided between private and public development sectors. The District solely leads and implements the WQMP process for all private development. District staff review incoming development plans, converse with the development community, and condition and approve submitted WQMPs. In terms of public development, the County has four separate organizational entities which are granted with building authority and therefore have WQMP obligations. These organizations include: EDA, Transportation Department, Facilities Management Department, and the Regional Park & Open-Space District. At the time of the initial inspection in September 2007, County representatives stated that District staff did not have any involvement or participation in the review of WQMPs for public development. During the course of the January 2008 inspection, County representatives stated that opportunities to involve District staff in WQMP reviews for public projects was being discussed but formal arrangements for shared services had yet to be determined or implemented. As such, while staff from the County's Executive Office provide guidance, each organizational entity was fully responsible for implementation of the County's WQMP program.

The inspection team visited a number of private WQMP projects in various stages of development to generally observe BMP selection, placement, operation, and maintenance. The WQMP project sites that were visited included: (1) Arco Gas Station (ID No. PA05-0127) and (2) Southern California Edison staging area (ID No. PA05-0036).

On-site inspection activities for public development projects focused primarily on the project sponsorship, design, and development activities of the EDA, the Transportation Department, and Facilities Management Department. The Regional Park & Open-Space District was not evaluated in depth as it was stated that the other three county entities frequently implement development projects on their behalf.

Summary Finding for Section F. Development Planning

With two exceptions (listed below as Findings 4 and 5), there were no adverse findings identified regarding the District's implementation of the Section F. Development Planning requirements for the private development community. District staff appeared well trained and knowledgeable with the implementation of the County's WQMP program and the use of post-construction BMPs and adequate procedures were in place to ensure identification of WQMP-applicable projects. Deficiencies were not identified at the private development sites visited during the inspection. Findings 4 and 5 address deficiencies identified with the appropriate identification of Pollutants of Concern (POCs) and application of effective BMPs and the use of an effective program to ensure ongoing maintenance of post-construction BMPs at commercial and industrial locations.

In contrast, while the County Transportation Department was implementing the WQMP program, the EDA and Facilities Management Department had yet to establish a WQMP program and were not identifying or conditioning WQMP-applicable projects. These entities appeared to be in their infancy of developing and implementing a WQMP program that would comply with, or meet the intent of, the Section F. Development Planning requirements. Regional Board Order No. R9-2004.001 Requirement F.2.(b) requires the District and County "Within 365 days of adoption of this Order, each Permittee shall develop, adopt, and implement a SUSMP to reduce pollutants to the MEP and to maintain or reduce downstream erosion and protect stream habitat from all Priority Development Projects." This required a SUSMP program to be developed, adopted, and implemented no later than July 15, 2005. As demonstrated during the inspection and substantiated in Findings 1, 2, and 3, the County was not in compliance with this provision. Furthermore, it is problematic that worthwhile and significant county-sponsored efforts to develop a Policy on Sustainable Development and construct a Leadership in Energy and Environmental Design (LEED) building would progress without reference to or incorporate the County's WQMP program (see Findings 2 and 3 below). The following significant deficiencies were identified with the County's implementation of the WQMP program for public projects.

1. Failure to Adopt and Implement a SUSMP. Regional Water Board Order No. R9-2004-001, Requirement F.2.b. requires the County to "develop, adopt, and implement a SUSMP to reduce pollutants to the MEP [maximum extent practicable] and to maintain or reduce downstream erosion and protect stream habitat from all Priority Development Projects." Pursuant to this requirement, the County has developed the Riverside County Water Quality Management Plan for Urban Runoff dated July 24, 2006 (hereafter, Riverside WQMP Manual). Internally, however, the County EDA and Facilities Management Department have not formally adopted or adequately implemented the Riverside WQMP Manual. Based on questioning by the inspectors, the County EDA and Facilities Management Department staff displayed partial knowledge of the MS4 permit requirements and were not knowledgeable or aware of the Riverside WQMP Manual itself. During the course of the inspection, copies of both documents were provided to County EDA staff for compliance assistance purposes. As a result, the County EDA and Facilities Management Department have not formally adopted or adequately implemented a SUSMP to reduce pollutants to the MEP and to maintain or reduce downstream erosion and protect stream habitat from all Priority Development Projects.

2. Failure to Develop a Process by which SUSMP Requirements will be Implemented. Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(6), Implementation Process, requires the County to "develop a process by which SUSMP requirements will be implemented." Because the County EDA and Facilities Management Department had not implemented the Riverside WQMP Manual and associated procedures, these entities did not have a structured program in place for Capital Improvement Projects (CIPs) to: (1) identify all Priority Development Projects for applicability of the SUSMP requirements (see Finding 3), (2) require the development of Project-Specific WQMPs, (3) review Project-Specific WQMPs for compliance with the SUSMP requirements, or (4) ensure adequate long-term maintenance of constructed WQMP Best Management Practices (BMPs) (see Finding 5). During the inspection, both Facilities Management Department and EDA staff acknowledged that they did not have a structured WQMP program but stated that they were willing and eager to develop and implement

the SUSMP requirements. Facilities Management Department staff indicated that they were currently re-writing contracting specifications and would include WQMP requirements in future versions.

The Facilities Management Department Contract General Conditions dated March 2006 (hereafter, Contract General Conditions), states that the "contractor shall keep informed of, and comply with, all federal, state, and county laws, ordinances, rules, and regulations applicable to the Work." However, the language in the Contract General Conditions does not clearly specify that a project must be built in accordance with the Project-Specific WQMP. Furthermore, the Contract General Conditions do not reference or require the use of the Riverside WQMP Manual, a document which is intended to guide the development of an adequate Project-Specific WQMP. As a result, the County does not have an adequate mechanism to ensure that the SUSMP requirements will be implemented. This appeared substantiated by recent design and construction activities that have occurred without reference to, or incorporation of, a project-specific WQMP.

Additionally, County representatives stated that the County Board of Supervisors is currently in the process of establishing the County's policy on sustainable building. The draft Sustainable Building Policy document sets a minimum performance target to reuse and clean water onsite. Furthermore, the document states that "green building design will help to reduce operating costs associated with…storm water management." Despite the draft policy's effort to address the topic of storm water management, it does not establish minimum performance targets which are aligned with the WQMP requirements of Regional Water Board Order No. R9-2004-001. It is strongly recommended that the County leverage its policy on sustainable building to better integrate its land-use practices with its water quality goals and obligations. During the course of the inspection, County staff expressed that they were willing and eager to incorporate the WQMP program into the County's contract language and would explore opportunities to incorporate WQMP provisions into the policy on sustainable building. The County must develop a process by which SUSMP requirements will be implemented.

3. Failure to Identify WQMP-Applicable Projects. Regional Water Board Order No. R9-2004-001, Provision F.2.b, requires that each Permittee "review and ensure that all Priority Development Projects meet SUSMP requirements." Requirement F.2.b. of the Order defines Priority Development Projects as: "(a) all new development projects, and (b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site, that are listed under the project categories or locations in Requirement F.2.b.(1)."

The EDA and Facilities Management Department did not have a structured program to ensure that their County-sponsored CIPs are reviewed by a trained person or entity for WQMP applicability or to ensure the development, adequacy, or implementation of a Project-Specific WQMP. As stated by EDA and Facilities Management Department personnel, as of January 15, 2008 neither of these entities had developed a Project-Specific WQMP for a completed CIP. The Facilities Management Department had been actively approving CIPs during the current permit term and following the compliance date of July 15, 2005, without a structured WQMP program in place. For example, the proposed Southwest Justice Center (SWJC) Parking Lot Expansion is proposed to be located at 30755 Auld Road in unincorporated Murrieta, CA. The Facilities

Management Department Capital Project Status Report dated January 2008 (hereafter, Facilities CIP List), states that the project will include the addition of 390 parking spaces and that a contract agreement was being prepared (see attached Exhibit 1). Although this project qualifies as a Priority Development Project under F.2.b.(1)(b) and F.2.b.(1)(g) of the Order, the Facilities CIP List indicates that a contract agreement could be finalized without incorporating the SUSMP requirements for the project. As a result, the Facilities Management Department had not ensured that all Priority Development Projects meet SUSMP requirements.

Due to the limited availability of completed projects identified as Priority Development Projects by the County, the inspection team visited project sites in both the Santa Margarita River and Santa Ana River[1] watersheds. Activities conducted within the Santa Ana River watershed are regulated by Santa Ana Regional Water Board Order No. R8-2002-0011. Section VIII.B.1. of that Order requires that the WQMP address management of Urban Runoff quality from non-residential developments where the land area of the project site is 5,000 square feet or more. The WQMP requirements of Order No. R8-2002-0011, Section VIII.B.1., would apply to a number of CIP sites identified and visited during the inspections that did not adhere to these WQMP requirements. Examples include:

Rubidoux Fleet Services Facility – This $14 million dollar project was constructed under the administration of the EDA at the intersection of Crestmore Road and Mission Boulevard in unincorporated Rubidoux, CA. The project consists of a five acre municipal facility which provides vehicle maintenance, parking for 175 vehicles, and 5,000 square feet of office space. The project design was completed in December 2005 and construction was completed in July 2007. The facility was visited during the inspection and County representatives confirmed the project was designed and completed without a WQMP and associated post-construction BMPs. Information regarding the project (as well as others in the area) are available at http://district2.co.riverside.ca.us/opencms/districthappenings.html.

Woodcrest Community Library – This library was also constructed under the administration of the EDA at 17024 Van Buren Boulevard in unincorporated Riverside, CA. Groundbreaking ceremonies for the library occurred on November 2, 2006 and the project was opened to the public on November 10, 2007. The library consists of a 10,000 square foot LEED (Leadership in Energy and Environmental Design) certified building. Although the Woodcrest Library project implemented a number of post-construction BMPs, it is located on an approximate 2 acre project site and was not constructed in accordance with the aforementioned WQMP requirements or the associated Riverside WQMP Manual procedures. Information regarding the project is available at http://appsweb.co.riverside.ca.us/news/process?action=viewPressRelease&id=1769.

Although not visited during the inspections, the WQMP requirements of Order No. R8-2002-0011, Section VIII.B.1., would appear to apply to a number of additional CIPs which are currently being designed and/or constructed under the administration of the Facilities Management Department as follows: (1) the County Mental Health Department's Riverside Safe Haven located at 2800 Hulen Place in Riverside, CA; and (2) the County Community Health Agency's Administrative Building expansion. The County must apply the WQMP requirements

[1] Inspection activities in the Santa Ana River watershed were granted pre-inspection authorization by the Santa Ana Regional Water Board.

and associated Riverside WQMP Manual procedures to the categories of development identified in Order No. R8-2002-0011, Section VIII.B.1.

Due to the likelihood that additional CIPs qualify as a Priority Development Project, the County must review all current and proposed CIPs within both the Santa Margarita and Santa Ana River watersheds for WQMP applicability and develop a list of these projects including all data necessary to determine whether the CIPs qualify as a Priority Development Project, including but not limited to: land use, land area for development, area of impervious surface created or replaced, number of dwelling units, proximity to an ESA(s), and all other data relating to the Priority Development Project Categories specified in Requirement F.2.b.(1) of Order No. R9-2004-001 and Requirement VIII.B.1.b of Order No. R8-2002-0011. As a component of the list, the County shall make an initial Priority Development Project Category determination regarding the need for a WQMP and supporting rationale. The resulting list must be submitted to both the San Diego and Santa Ana Regional Water Boards.

4. Implementation of a Process to Ensure BMPs are Effective at Removing or Treating the Pollutants of Concern Associated with the Project. Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(2)(d) requires that WQMP BMPs "be effective at removing or treating the pollutants of concern associated with the project." The County did not have an adequate procedure for requiring the application of BMPs which are effective at removing or treating the POCs associated with Capital Improvement Projects and Private Development. The County's procedure only required the review of plans for appropriate BMPs when the CIP's receiving waters are CWA Section 303(d) listed waters for the identified POCs. Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(5), Pollutants or Conditions of Concern, states that "the procedure shall address, at a minimum: (1) Receiving water quality (including pollutants for which receiving waters are listed as impaired under CWA section 303(d); (2) Land use type of the development project and pollutants associated with that land use type; (3) Pollutants expected to be present on site; (4) Changes in storm water discharge flow rates, velocities, durations, and volumes resulting from the development project; and (5) Sensitivity of receiving waters to changes in storm water discharge flow rates, velocities, durations, and volumes."

Due to the lack of an adequate procedure for requiring the application of appropriate BMPs for identified POCs, it appeared that project proponents (i.e., developers or consultants retained by the county) could propose any BMP or suite of BMPs listed in the County's WQMP Manual irregardless of the BMPs applicability to items 1 through 5 above. This is turn could lead to the deployment of permanent post-construction BMPs that are ineffective at removing or treating the suite of POCs associated with a project. The following project exemplifies this problem.

<u>Site: Clinton Keith Road Widening from George Avenue to Copper Craft Drive located in un-incorporated Murrieta, CA 92562</u>

Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(2)(d) requires that WQMP BMPs "be effective at removing or treating the pollutants of concern associated with the project." Pursuant to this requirement, the Riverside WQMP Manual, Section 4.5.3 Treatment Control BMPs, states that "for identified Pollutants of Concern (POCs) that are causing

impairments in receiving waters, the Project-Specific WQMP shall incorporate one or more Treatment Control BMPs of at least *medium* efficiency [emphasis added]." The Transportation Department hired URS Corporation to prepare a WQMP for this project. The Project-Specific WQMP dated May 11, 2007, Section III. Pollutants of Concern, identifies both Murrieta Creek and the Santa Margarita River as receiving waters for this CIP. The Final 2006 CWA Section 303(d) List of Water Quality Limited Segments identifies the entire length of Murrieta Creek (12 miles) as impaired for the following: iron and manganese (metals), and nitrogen and phosphorus (nutrients); and the upper portion of the Santa Margarita River (18 miles) as impaired for phosphorus. The Project-Specific WQMP selected Fossil Filter Inserts (County Standard No. 300A) to be installed on all catch basins throughout the project extent, even though the BMPs have an unknown (U) removal efficiency for the POCs identified in the Final 2006 CWA Section 303(d) List of Water Quality Limited Segments (metals and nutrients), (see attached Exhibit 2).

The Department of Transportation also hired Bureau Veritas North America, Inc. (BVNA) to conduct a third party review of the Project-Specific WQMP. BVNA's technical review memorandum dated, June 15, 2007, identifies this deficiency as it states "Catch Basin Filter Inserts are not an appropriate BMP for this project because…they do not treat the primary pollutants of concern (those generated by the site and also found in the receiving waters) to a medium/high removal efficiency level. Select a more appropriate BMP that RCTD [Riverside County Transportation District] approves and that provide the required treatment." Additional documentation and/or revisions to the WQMP were not available during the inspection and therefore it was not determined if the Project-Specific WQMP had been revised accordingly. However, it should also be noted that construction activities had not yet commenced on the project.

The selection of BMPs which are protective of POC levels will be vitally important as TMDLs continue to be adopted and implemented in the permittee's jurisdiction. Furthermore, the selection of WQMP BMPs which are effective for the identified POCs is more likely to result in measurable and tangible water quality improvement. The County must select WQMP BMPs which are effective at removing or treating the pollutants of concern associated with the project. Additionally, for identified POCs that are causing impairments in receiving waters, the County must ensure that the Project-Specific WQMP incorporates one or more Treatment Control BMPs of at least *medium* efficiency.

5. Failure to Implement a Process to Ensure Ongoing Maintenance: Regional Board Order No. R9-2004-001, Requirement F.2.b.(6), Implementation Process, requires the County to "develop a process by which SUSMP requirements will be implemented." Furthermore, Requirement F.2.b.(2)(j), BMP Requirements, requires that BMPs shall: "Include proof of mechanism, to be provided by the project proponent or Permittee, which shall ensure the ongoing long-term BMP maintenance." The County did not have a mechanism in place to add those new private development projects without Conditions, Covenants, and Restrictions (CC&Rs), such as restaurants, to the its inventory of BMPs. The County's current process appeared adequate for residential developments but did not appear to be effective for commercial or industrial developments. As a result, the County did not provide an adequate mechanism to ensure that all BMPs are maintained as required. Further, the County was not tracking the ongoing maintenance of BMPs. Specifically, required maintenance, maintenance history, inspection

results, and physical characteristics were not tracked. To ensure compliance with the requirements presented above, the County needs to develop and implement a system to more effectively track deployment, ownership, and maintenance of WQMP BMPs associated with commercial and industrial developments to ensure adequate long-term maintenance of the BMPs.

Section L. Monitoring and Reporting Program

The District has entered into interlocal agreements with the copermittees to implement the Monitoring and Reporting Program (MRP) as required by Order R9-2004-001. The MRP is organized as follows:

MRP Section I. Purpose. The MRP is intended to meet the following goals:

1. Assess compliance with Order R9-2004-001:
2. Measure and improve the effectiveness of the SWMPs;
3. Assess the chemical, physical, and biological impacts of receiving waters resulting from urban runoff;
4. Characterize urban runoff discharges;
5. Identify sources of pollutants;
6. Prioritize drainage and sub-drainage areas that need management actions;
7. Detect and eliminate illicit discharges and illicit connections to the MS4; and
8. Assess the overall health of the receiving waters.

MRP Section II. Monitoring Program. The Monitoring Program consists of the following elements:

A. Receiving Waters Monitoring
    A.I Core Monitoring[2]
        1. Mass Loadings
        2. Water Column Toxicity Testing
        3. Bioassessment
        4. Follow-up Actions Based on Triad Approach
        5. Tributary Monitoring
    A.II Regional Monitoring
    A.III Special Studies
B. Illicit Discharge Monitoring
C. Monitoring Provisions

MRP Section III. Reporting Program. The Reporting Program consists of the following elements:

A. SWMP Reporting Requirements
    1. Individual Annual Report
    2. Watershed Annual Report
B. Receiving Waters Monitoring Reporting Requirements
    1. Monitoring Program Annual Report
C. Certified Perjury Statement

[2] The Mass Loadings, Water Column Toxicity Testing, and Bioassessment monitoring components of the Core Monitoring section are collectively referred to as the triad approach.

The inspection activities conducted in September 2007 and January 2008 focused primarily on the Districts implementation of the Section II. Monitoring Program and Section III.B Monitoring Program Annual Report requirements. The inspection included interviews with District personnel and their consultants and a review of the District's 2006 - 2007 Monitoring Annual Report submitted pursuant to Section III.B.1. With the exception of an overall finding relating to the purpose and goals of the monitoring program, which is presented last, the remainder of this report is organized to follow the MRP outline presented above.

MRP Section II.A.I.1 Core Monitoring.

The District has established the following four triad monitoring stations for wet and dry weather monitoring:

Triad Stations:
Temecula Creek below Pala Road – Station No. 777 (Lower Temecula Creek)
Lower Murrieta Creek @ USGS Weir – Station No. 778
Cole Creek – Station No. 188
Adobe Creek – Station No. 848

The District stated that Cole Creek is used as a wet weather reference station while Adobe Creek serves as a dry weather reference station.

The following findings were identified with respect to the District's implementation of triad monitoring.

6. Failure to Collect Wet Weather Mass Loading Samples. Monitoring and Reporting Program No. R9-2004-001, Section II.A.1(b), requires the Permittees to monitor the first storm event of each monitoring year that produces sufficient flow to collect a composite sample, and a minimum of two additional storm events during each monitoring year at each triad station (i.e., a total of three storm events are required to be sampled). During monitoring year 2006 - 2007, the District failed to obtain the required number of wet weather mass loading samples at all triad stations. Specifically, no wet weather samples were collected at the Cole Creek wet weather reference station, one wet weather sample was collected at the Lower Murrieta Creek station, and one wet weather sample was collected at the Temecula Creek station. [These samples were improperly collected – see Finding 9 below.] A summary of the District's mass loading sampling is provided as Exhibit 3. The exhibit was compiled based on the District's Field Data Sheets for the 2006 – 2007 reporting period that were obtained during the January 2008 inspection.

It should be noted that based on Table G-10 of the District's 2006 – 2007 Annual Monitoring Report and a review of Field Data Sheets, the Mass Loading sites were only visited during three wet weather events during the monitoring year. These dates included December 16, 2006, February 22, 2007, and April 20, 2007. The lone wet weather sample was obtained during the April 20, 2007 event. Precipitation data provided in Table G-8 of the 2006 – 2007 Monitoring Annual Report indicates that at least 8 precipitation events of greater than 0.1 inch occurred during the reporting period.

Additionally, the District only conducted one site visit to the Cole Creek triad monitoring station during the monitoring year. During this single visit it was determined that flow in the waterway was insufficient to obtain a composite sample. For the storm event on April 20, 2007 (when the other Mass Loading stations were sampled), District representatives stated that the Cole Creek site was not visited because the District assumed that the site would not have flowing water.

7. Failure to Monitor First Storm Event. Monitoring and Reporting Program No. R9-2004-001, Section II.A.1(b), requires the Permittees to monitor the first storm event of each monitoring year (July 1 through June 30) that produces sufficient flow to collect a composite sample, and a minimum of two additional storm events during each monitoring year at each triad station. The District is using the Riverside County Consolidated Monitoring Program for Water Quality Monitoring dated September 2007 (hereafter, Consolidated Monitoring protocol) as its procedure manual for the monitoring programs. The Consolidated Monitoring protocol defines a measurable storm event in accordance with an EPA classified storm event as follows: greater than 0.1 inch of accumulated precipitation preceded by 72 hours of dry weather. Furthermore, the Consolidated Monitoring protocol amends the 72 hour mark to include storms within that time frame that produce flow, given the first storm may not produce sufficient flow to collect a sample.

Based on available precipitation and USGS stream flow data, it appears the District failed to obtain the required samples during the first storm event that produced sufficient flow in monitoring year 2006 - 2007. A detailed review of the Lower Murrieta Creek monitoring station (Station No. 778) was conducted to be representative of the failure to obtain samples as follows:

Based on precipitation dated provided in Table G-8 of the 2006 - 2007 Monitoring Annual Report, the first measurable storm event in monitoring year 2006 - 2007 at the Murrieta Creek weather station was recorded as 0.59 inches on September 6, 2006. The District did not complete a site visit during this event and District staff cited their Consolidated Monitoring protocol amendment regarding insufficient flow for sample collection during the first storm event. Data obtained from the USGS gaging station on Murrieta Creek (USGS Station No. 11043000), which is 600 feet downstream of the sample location, substantiated the lack of flow as the recorded flow measurement was less than 0.10 cubic feet per second (cfs). The second measurable storm event in the Murrieta Creek watershed was recorded as 0.13 inches on October 14, 2006, but based on USGS flow records also did not result in sufficient flow to obtain samples. The first measurable storm event of monitoring year 2006 - 2007 that resulted in sufficient flow to obtain a sample at the District's Murrieta Creek weather station was recorded as 0.29 inches on December 10, 2006. A flow of 30 cubic feet per second (cfs) was recorded at USGS Station No. 11043000 on December 10, 2006, however the District did not complete a site visit nor did they obtain samples during this event. As stated in the 2006 – 2007 Monitoring Annual Report, "During storm events, sampling is conducted at the USGS Gage House, upstream of the USGS weir due to safety." [Additionally, the District did not complete site visits or obtain any samples from either the Cole Creek or Lower Temecula triad monitoring stations during this event.]

Based on a review of USGS streamflow data for the Murrieta Creek watershed, it appears that five instances of measurable flow occurred between September 6, 2006 and April 21, 2007 that

resulted in sufficient flow for obtaining wet weather samples in the Murrieta Creek. In these instances, the streamflow equaled or exceeded the stream flow present during the April 20, 2007 sampling event. A complete assessment of streamflow present within Murrieta Creek is attached to this report as Exhibit 4.

Based on the above information, the District appears to have an inadequate process for the identification and mobilization of sampling efforts to obtain monitoring data. The District heavily relies upon guidelines that use both the Quantitative Precipitation Statement (QPS) of forecasted precipitation events and antecedent moisture condition (AMC) within the watershed to identify opportunities to collect wet weather samples. The District stated that sample mobilization does not occur unless the QPS predicts a storm greater than 0.5 inches. It should be noted that use of 0.5 inches as a qualifying event contradicts the District's own procedures as presented in Section 3.A of the Consolidated Monitoring protocol. It appeared that this process may allow measurable storms to occur without being sampled (or at least field verified). Additionally, the QPS tracking does not begin until mid October which is after the onset of the wet season. The District representative stated that storms are tracked prior to the initiation of the QPS in October, but that mobilization does not commonly occur due to the fact that QPS predictions are often unreliable.

It appears that the District is challenged in obtaining samples from the triad stations due to problems with the mobilization process. For instance, the District does not appear to be timing site visitation with an expected time of actual flow. This is evident in the February 22, 2007 site visit to the Murrieta Creek monitoring station for obtaining wet weather sampling of an anticipated storm event. According to the Field Data Sheet (Exhibit 5), the site visit was conducted prior to the time of sufficient flow (as documented at the USGS gaging station, see Exhibit 4). The Consolidated Monitoring protocol references USEPA's storm classification and sample collection procedures (i.e., USEPA Stormwater Sampling Guidance Document 833-8-92-001 (July 1992)) specifying that composite samples should be taken during the first 3 hours of the storm or for the entire duration of the storm (if the event is less than 3 hours long). However, based on a review of Field Data sheets and USGS flow data, it appears that there is a disconnect between the timing of the site visits compared to the expected time that the wet weather flow would actually reach the monitoring station. The District should evaluate this procedure in light of other sampling requirements and commitments and make recommendations to the Regional Water Board regarding possible remedies.

8. Failure to Provide Written Explanation for Lack of Sampling. Monitoring and Reporting Program No. R9-2004-001, Section II.A.1(c), requires that "in the event that the required number of storm events are not sampled during one monitoring year at any given station, the Permittees shall submit, with the subsequent Annual Report, a written explanation for a lack of sampling data, including streamflow data from the nearest USGS gaging station." The 2006 - 2007 Monitoring Annual Report did not include a written explanation for the lack of mass loading sampling data at the triad stations, nor did the District provide streamflow data from the USGS gaging station or any other type of flow monitoring data that indicated that streamflows were not sufficient to collect the required samples.

District staff stated during the inspection that the watershed received very little rainfall during the reporting period which resulted in the failure to collect the required number of samples. Because the required number of storm events were not sampled during monitoring year 2006 - 2007 at all triad stations, the District must submit a written explanation for the lack of sampling data, including streamflow data from the nearest USGS gaging stations, to explain why the District did not monitor the required number of storm events.

9. Failure to Adhere to Required Monitoring Provisions. Monitoring and Reporting Program No. R9-2004-001, Section II.A.1(f), requires that "mass loading sampling and analysis protocols shall be consistent with 40 CFR 122.21(g)(7)(ii) and with the EPA Storm Water Sampling Guidance Document (EPA 833-B-92-001). Storm water samples shall be flow-weighted composites, collected during the first 3 hours of flow, or for the duration of the storm if it is less than 3 hours." The mass loading samples collected by the District at the triad stations do not conform with the referenced guidance documents as the District did not collect flow-weighted composite samples, and also did not adequately document whether the samples were collected during the first 3 hours of flow or for the duration of the storm when it is less than 3 hours. The District did not obtain composite samples from the triad stations during the sampling events conducted in monitoring year 2006 - 2007 as required by Section II.A.1(f) of the MRP. The District's Field Data Sheets indicate that the mass loading samples collected during the monitoring year at the triad stations were obtained as grab samples instead of the required composite samples. These samples include wet weather sampling events on April 20, 2007 at the Temecula Creek and Lower Murrieta Creek monitoring stations. This departure from the established Consolidated Monitoring protocols and Order requirements was not disclosed within the 2006 - 2007 Monitoring Annual Report. The reliance on grab samples was only identified after reviewing Field Data Sheets and questioning by the inspectors. The District must collect storm water samples which are flow-weighted composites, collected during the first 3 hours of flow, or for the duration of the storm if it is less than 3 hours.

10. Failure to Monitor First Storm Event for Full EPA Priority Pollutant List. MRP No. R9-2004-001, Section II.A.1(h), requires that at the triad stations, the first storm of every sampling year be analyzed for the full EPA priority pollutant list as defined in 40 CFR 122, Appendix D. The District's 2006 - 2007 Monitoring Annual Report states in Section G-6.1.1 that "During the first storm event of the reporting period, samples collected at the Triad stations were analyzed for the complete list of priority pollutants (40 CFR 122, Appendix D)." A review of the actual monitoring results reported in the District's Monitoring Annual Report revealed that the full list of priority pollutants was not actually completed as the samples collected on April 20, 2007 were not analyzed for bacteria and nutrients. 40 CFR 122, Appendix D, Table IV (Conventional and Non-conventional Pollutants Required To Be Tested by Existing Dischargers if Expected to be Present) lists bacteria and nutrients to be sampled if expected to be present in the receiving water.

It is reasonable to believe that nutrients and bacteria are present in the receiving waters of Cole Creek, Temecula Creek, Lower Murrieta Creek, and Adobe Creek based upon the following:

(1) There are CWA Section 303(d) impairments in the Santa Margarita River watershed for nutrients. Specifically, the Final 2006 CWA Section 303(d) List of Water Quality Limited

Segments identifies the entire length of Murrieta Creek (12 miles) as impaired for nitrogen and phosphorus (nutrients); and the upper portion of the Santa Margarita River (18 miles) as impaired for phosphorus; and

(2) The Water Quality Control Plan for the San Diego Basin, dated September 8, 1994 (hereafter, Basin Plan) specifies Water Quality Objectives (WQO) for fecal coliform. Fecal coliform is listed in Table G-27 of the District's 2006-2007 Monitoring Annual Report (Summary of Constituents of Concern) as detected above the WQO at Temecula Creek during one dry weather event and detected above the WQO at all tributaries during wet weather.

(3) The District collected samples for both nutrients and bacteria during their April 20, 2007 wet weather sampling at their tributary stations. Fecal coliform bacteria and nutrients were found to exceed the WQO in 7 of 8 bacteria samples and 10 of 10 nutrient samples, respectively.

(4) The District sampled for bacteria and nutrients during the October 17, 2006 and May 10, 2007 dry weather sampling events at both the Murrieta and Temecula Creek stations.

For these reasons, it is unclear why the District would fail to monitor for bacteria and nutrient during the single wet weather sampling event of the monitoring season. Pursuant to MRP No. R9-2004-001, Section II.A.1(h), the District must ensure that during the first storm event of the reporting period, samples collected at the Triad stations are analyzed for the complete list of priority pollutants (40 CFR 122, Appendix D).

Pages G-45 through G-63 of the District's 2006 – 2007 Monitoring Annual Report is attached to this report as Exhibit 7.

11. Failure to Conduct Follow-up Analysis and Actions Based on Triad Approach.
Monitoring and Reporting Program No. R9-2004-001, Section II.A.I.4, establishes a matrix of required follow-up actions based on the results of the triad monitoring. As presented in section G-6.4.3 of the 2006 – 2007 Monitoring Annual Report, the District states that "During the 2004-2005 and 2005-2006 reporting periods, toxicity to Hyalella was observed in 1 of 3 and 3 of 4 stormwater collections respectively, for both Temecula and Murrieta Creeks." During the course of the September 2007 and January 2008 inspections, the District stated that they examined the results and internally determined with their consultants that the results were not valid because the WET test species were coated with microorganisms that they believed to be the cause of the observed toxicity. It was stated that for this reason the District did not initiate a TIE in either 2005 or 2006 as is required by the permit. During the 2006 – 2007 reporting period, toxicity was again observed for Hyalella, however this time the District's consultant determined that, while present, the microorganisms were likely not the cause of the identified toxicity. The District subsequently initiated the required TIE procedure, which identified pyretheroids as the toxicant. The District conducted the TIE in May and June of 2007 and received the final results on July 7, 2007. Pursuant to Monitoring and Reporting Program No. R9-2004-001, Section II.A.4 Table 2, the District should have initiated a TIE following the evidence of toxicity in the previous monitoring years.

Furthermore, Monitoring and Reporting Program No. R9-2004-001, Section II.A.4(b) requires a Toxicity Reduction Evaluation (TRE) be conducted immediately upon the completion of a Toxicity Identification Evaluation (TIE) that identifies a pollutant(s) associated with urban runoff as a cause of any identified toxicity. The District did not initiate a TRE immediately upon completion of the TIE. As of the September 20, 2007 inspection, the District had yet to initiate the TRE process. During the January 2008 inspection, the District stated that a TRE had been initiated but they did not intend on submitting the TRE until submittal of their 2007-2008 Monitoring Annual Report which is due on or before October 31, 2008. SectionII.A.4(b) requires that once the source of toxicity and appropriate BMPs are identified that the permittee submit the TRE to the Regional Water Board for review. As such, the District is strongly encouraged to submit the TRE report and associated program changes to the Regional Water Board for review immediately upon its completion.

MRP Section II.A.I.5. Tributary Monitoring

12. Failure to Analyze for Constituents of Concern and Collect Dry Weather Tributary Samples. Monitoring and Reporting Program R9-2004-001, Section A.I.5.a) Tributary Monitoring, states the permittees "shall collect a grab sample from the first storm event of each monitoring year, a minimum of one additional storm event, and two dry weather events during each monitoring year at the following four tributary stations to help identify sources of pollutants." This requirement equates to the collection of two wet weather and two dry weather samples. The District has identified the following four tributary stations:

Warm Springs Creek – Station No. 397
Lateral A of Santa Gertudis Creek – Temecula – Station No. 774
Long Canyon – Station No. 780
Redhawk Channel downstream of Overland Drive – Station No. 768

Monitoring and Reporting Program R9-2004-001, Section A.I.5(c) states "tributary samples shall be analyzed for the constituents of concern…" Table G-2 of the District's 2006 – 2007 Monitoring Annual Report identifies the Constituents of Concern. Page G-4 of the 2006 – 2007 Monitoring Annual Report states "Per the MRP, monitoring of the tributary stations consists of collection of grab samples during the first storm event, an additional storm event and two dry weather events. The samples will be analyzed for the Constituents of Concern listed in Table G-2." Section G-6.1.2 Core Monitoring – Tributary Stations (page G-47) states "Four dry weather and two wet weather sampling events were monitored at the Tributary stations during the 2006-2007 reporting period. Wet weather samples were analyzed for the Constituents of Concern in Table G-2. Dry weather samples were collected and analyzed as described in the Illicit Connection/Illicit Discharge (IC/ID) discussion in Section 7.3.5." This procedure of analyzing dry weather samples per the IC/ID field screening procedure is a departure from the MRP requirements and the District's own procedures. Both dry and wet weather samples should have been analyzed for the Constituents of Concern.

This departure appears to be due, in part, to the fact that the District has elected to use their four tributary stations as their illicit discharge stations. Based on a review of Field Data Sheets, it appears that field crews were either unaware, or became confused, regarding the need to collect a

complete suite of parameters listed in Table G-2 during the dry weather events. Instead, the field crews appeared to have only collected the field screening data conducted as a component of the IC/ID program. Nonetheless, the District did not collect the full suite of parameters listed in Table G-4 during the dry weather sampling events.

Additionally, as displayed in Table G-12: Detected Results, the District collected only one dry weather sample at the Santa Gertudis Creek station and no dry weather samples at the Warm Springs Creek. As reported in Table G-31 of the 2006 – 2007 Monitoring Annual report, the Long Canyon, Santa Gertudis Creek, and Warm Springs Creek stations were only visited on September 14, 2006 and March 20, 2007. Additional efforts to collect the dry weather samples were not performed and therefore it does not appear that the District took all reasonable steps to acquire the required samples.

Further, the District did not collect bacteria samples during the first wet weather event on December 16, 2006 at the Long Canyon, Redhawk Channel, Santa Gertudis Creek, and Warm Springs Creek tributary stations. Bacteria samples were not collected during the September 14, 2006 sampling event at Long Canyon, Santa Gertudis Creek, and Warm Springs stations. During the course of the January 2007 inspection, the District stated that bacteria sampling has been difficult due to an inability to meet holding times at the contract laboratory. As a result, many of the collected bacteria samples have not been analyzed or reported.

It should be noted that the District did not proactively identify the above deficiencies and departures from the MRP requirements and their own Consolidate Monitoring protocols. Rather, the District states in Section G-6.1.2 Core Monitoring – Tributary Stations (page G-47) that "Four dry weather and two wet weather sampling events were monitored at the Tributary stations during the 2006-2007 reporting period." This statement is proven to be false.

Pages G-45 through G-63 of the District's 2006 – 2007 Monitoring Annual Report is attached to this report as Exhibit 7.

MRP Section II.B. Illicit Discharge Monitoring

13. Effectiveness of Illicit Discharge Monitoring Locations. Monitoring and Reporting Program No. R9-2004-001, Section II.B.1(a), Illicit Discharge Monitoring, requires that "stations shall be accessible points in the MS4 (i.e., outfalls, manholes or open channels) located downstream of potential sources of illicit discharges (i.e., commercial, industrial, and residential areas). Permittees shall use the MS4 map, developed pursuant to section J.2 of Order No. R9-2004-001, to help locate dry weather monitoring stations and to determine the number necessary to adequately represent the entire MS4."

As previously stated, the District selected the four tributary sites as their illicit discharge monitoring sites. These sites are located within the receiving streams and/or within open channel systems that routinely contain standing or ponded water throughout much of the year. As a result, the usefulness of these locations in identifying unauthorized dry weather discharges to the MS4 and eliminating their respective source(s) was questionable. The District should consider

selecting new or additional dry weather monitoring stations at appropriate points in the MS4, the number of which are adequate to represent the entire MS4 under dry weather conditions.

MRP Section II.C. Monitoring Provisions

14. Failure to Adhere to Monitoring Provisions. Monitoring and Reporting Program No. R9-2004-001, Section C requires that all monitoring shall meet established federal and state regulations that govern record keeping and sample collection, analysis, and reporting. Specifically, Monitoring and Reporting Program No. R9-2004-001, Section II.C.(c), requires that records of monitoring information include: (1) the date, exact place, and time of sampling or measurements; (2) the individual(s) who performed the sampling or measurements; (3) the date(s) analyses were performed; (4) the individual(s) who performed the analysis; (5) the analytical techniques or methods used; and (6) the results of such analyses.

A review of the Districts Field Data Sheets was performed during the January 2007 inspection. The review indicated that the records of sampling events are not fully completed on a regular basis and critical information from the Field Data Sheets is missing. Missing data includes names of samplers, required signature of lead sampler, select field measurements, and critical information such as why grab samples were collected in lieu of composite samples. An example of the missing data is attached to this report as Exhibit 8.

As an example of where important information was left out of the Monitoring Annual Report, the District did not mention or explain within the 2006 - 2007 Monitoring Annual Report the reason for absence of dissolved oxygen (DO) readings for the dry weather sample collected on May 10, 2007. Upon questioning, the District representatives stated that the DO readings were not taken due to a broken meter. This was not recorded on the Field Data Sheets.

The District needs to ensure that its recordkeeping and sample collection, analysis, and reporting procedures adhere to the federal and state regulations presented in Monitoring and Reporting Program No. R9-2004-001, Section C.

MRP Section I. Purpose

15. Summary Finding Regarding Purpose and Goals of the Monitoring Program. Monitoring and Reporting Program No. R9-2004-001, Section I., states that one of the goals of the MRP is to "measure and improve the effectiveness of the SWMPs [Storm Water Management Plans]." Based on the inspections, it is unclear how the District is using its monitoring programs to measure the effectiveness of the BMPs it has implemented and to accordingly identify modifications and improvements needed to its SWMP (or DAMP as it is referred to by the permittee). This statement is based on the findings presented above which are summarized below:

- The District did not monitor the required number of wet and dry weather events nor did they appear to take all reasonable steps to attempt to comply with the monitoring requirements;
- The District did not appear to take all reasonable steps to attempt to monitor the first storm event;

- Samples collected at the Mass Loading stations were not analyzed for the complete list of EPA priority pollutants during the first wet weather storm event of monitoring year 2006/2007;
- The District did not monitor the required number of dry weather events at the tributary stations nor did they appear to take all reasonable steps to attempt to comply with the monitoring requirements.
- Tributary station sample analyses were not conducted in accordance with MRP requirements or the Districts own procedures;
- The number and location of illicit discharge monitoring stations did not appear to be effective or sufficient to represent the MS4 and detect illicit discharges that may occur throughout the system; and
- As stated by District personnel, the sampling program and efforts are purposely structured so as to meet the minimum requirements contained within the MRP;
- The District failed to proactively identify known departures from their established sampling protocols and the permit requirements within their 2006 – 2007 Monitoring Annual Report. Several of these issues were only identified after record reviews conducted on-site by the inspection team.

Furthermore, as presented in Section A.I of the MRP, the triad and tributary Core Monitoring requirements are intended to generate water quality data that will build upon existing data to begin answering the following management questions:

- Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
- What is the extent and magnitude of the current or potential receiving water problems?
- What is the relative urban runoff contribution to the receiving water problem(s)?
- What are the sources of urban runoff that contribute to receiving water problems(s)?
- Are conditions in receiving waters getting better or worse?

Clearly, the task of generating sufficient data to answer these important management questions is not a trivial exercise. Based on the current design and implementation status of the Districts monitoring program, the ability of the District to begin answering the management questions at the end of the current Order term appeared questionable. In part, the District acknowledges this assessment as stated in Section G-6.4.6 of the Monitoring Annul Report.

Section III.B.1(d) of the MRP requires the permittees to submit a fourth-year Monitoring Report that shall include:

- A discussion of any long-term trends that can be detected from existing data (from all previous permit terms).
- Recommendations for future monitoring based on the results of previous efforts and the progress towards answering the management questions listed in Section II.A of the MRP and achieving the goals listed in Section I of the MRP.
- Recommended modifications to Individual or Watershed SWMPs to address identified source of pollutants in urban runoff.

As such, the District is encouraged to thoroughly evaluate the stated purpose, extent, existing data, and procedures of its monitoring program to ensure that the upcoming fourth-year Monitoring Report meets the objectives of the requirements.

ATTACHMENT 4

NOTICE OF VIOLATION AND 13267 DATED JUNE 13, 2008

California Regional Water Quality Control Board
San Diego Region

Linda S. Adams
Secretary for
Environmental Protection

Over 50 Years Serving San Diego, Orange, and Riverside Counties
Recipient of the 2004 Environmental Award for Outstanding Achievement from U.S. EPA

Arnold Schwarzenegger
Governor

9174 Sky Park Court, Suite 100, San Diego, California 92123-4353
Phone (858) 467-2952 • FAX (858) 571-6972
http://www.waterboards.ca.gov/sandiego

VIA CERTIFIED MAIL
7007 3020 0001 0040 7348

June 13, 2008

In reply refer to:
NWU:10-7004.02:bneill

Riverside County Executive Officer
Larry Parrish
Riverside County Administrative Center
4080 Lemon Street – 4th Floor
Riverside, CA 92501

RE: NOTICE OF VIOLATION AND REQUIRED TECHNICAL REPORT

Dear Mr. Parrish,

Enclosed is **Notice of Violation (NOV) No. R9-2008-0073** for the violations of California Regional Water Quality Control Board, San Diego Region (Regional Board) Order No. R9-2004-001, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108766, *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of Riverside, the City of Murrieta, the City of Temecula, and the Riverside County Flood Control and Water Conservation District within the San Diego Region (Permit).*

The violations were identified during an inspection by the Regional Board with PG Environmental, a USEPA Region IX contractor. The failure to properly implement the requirements of the Development Planning Component, as detailed in the NOV, hinders the Copermittees ability to effectively reduce pollutants to the maximum extent practicable and to maintain or reduce downstream erosion and protect stream habitat. Furthermore, the proper implementation of the Development Planning Component will be vitally important as Total Maximum Daily Loads are adopted and implemented within your jurisdiction.

Therefore, pursuant to California Water Code section 13267 and 13383, the Copermittees are directed to prepare and submit a Required Technical Report (RTR) to the Regional Board no later than **5:00 PM, on July 16, 2008**. The RTR is required due to the violations noted in the enclosed NOV No R9-2008-0053. The RTR will be reviewed to determine if appropriate measures have been taken to address these violations and to assess the need for further enforcement action. The RTR shall provide the following information:

1. An explanation section describing the reasons why the violations occurred.

2. A planned actions section describing how the Copermittees plan to correct these violations and to prevent these violations from occurring in the future. This section shall include but not be limited to:

    a. A description and documentation that the County's Economic Development Agency and Facilities Management Department have adopted and started implementation of a Standard Urban Storm Water Mitigation Plan (SUSMP) for their capital improvement projects (CIPs). This description shall include the names, roles and responsibilities, and contact information of staff members responsible for the review, oversight and management of SUSMP implementation on their CIPs.
    b. A description of measures taken to ensure the implementation of SUSMP requirements in County contracts for applicable projects.
    c. A description of the SUSMP process for County CIPs to ensure that they are correctly identified as priority development projects (PDPs) including any checklists or manuals used by County staff to make that determination.
    d. A description of measures taken to improve and ensure that the application of BMPs at County CIPs are effective at removing the pollutants of concern.
    e. A description of the County's process to ensure ongoing implementation and maintenance of post construction BMPs at all private and public PDPs. This process must include the tracking of implementation, maintenance results, inspection history and physical characteristics to ensure ongoing effectiveness of the BMP.

3. An inventory of all County capital improvement projects within the Santa Margarita Watershed that started construction post July 15, 2005. The inventory shall include:
    a. Whether or not the project was or should have been a priority development project and the reasons behind that determination;
    b. The pollutants of concern for the priority development projects; and
    c. The best management practices implemented at the priority development projects.

4. For all CIPs that the County determines have failed to implement the SUSMP requirements, the County shall submit and implement a plan to retrofit the projects to comply with Order No. R9-2004-001. If the County makes a determination that retrofitting is infeasible, then the County may propose a mitigation plan to offset the anticipated pollutant impacts that were not addressed through implementing SUSMP requirements.

5. If necessary, an updated Water Quality Management Plan with changes to ensure future compliance with Order No. R9-2004-001.

The submitted Required Technical Report shall be signed in accordance with Order No. R9-2004-001, Attachment B.2 Signatory Requirements and contain the following certification:

> *I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Failure to submit the above information by the date requested may result in the imposition of administrative civil liability pursuant to CWC sections 13268 and 13385.

Questions pertaining to this Required Technical Report and the enclosed Notice of Violation should be directed to Ben Neill at (858) 467-2983 or bneill@waterboards.ca.gov. Written correspondence should be directed to the following address:

Michael P. McCann
Assistant Executive Officer
Attn: Ben Neill
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Respectfully,

MICHAEL P. McCANN
Assistant Executive Officer

Signed pursuant to the authority delegated by the Executive Officer to the Assistant Executive Officer

Attachments: Notice of Violation No. R9-2008-0073
USEPA Region IX MS4 Inspection Report

CC with attachments via email:

Ken Greenberg, USEPA, greenberg.ken@epa.gov
Mike Shetler, County of Riverside, mshetler@rceo.org
Wes Ganter, PG Environmental, LLC, wes.ganter@pgenv.com

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CIWQS:	13267:	346610
	NOV:	346564
	9/20/07 FIR:	1359665
	1/15/08 FIR:	1359752
	Violations:	760325, 760331, 760350, 760388, 760434

California Regional Water Quality Control Board
San Diego Region

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June 13, 2008

IN THE MATTER OF:	NOTICE OF VIOLATION NO. R9-2008-0073
Riverside County Executive Officer **Larry Parrish** **Riverside County Administrative Center** **4080 Lemon Street – 4th Floor** **Riverside, CA 92501**	**In reply refer to:** **NWU:10-7004.02:bneill** **WDID NOs.** **9 0000512S1**

Order No. R9-2004-001, NPDES No. CAS0108766

YOU ARE HEREBY NOTIFIED THAT:

You are in violation of waste discharge requirements contained in California Regional Water Quality Control Board, San Diego Region (Regional Board) Order No. R9-2004-001, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108766, *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of Riverside, the City of Murrieta, the City of Temecula, and the Riverside County Flood Control and Water Conservation District (Permittees) within the San Diego Region*. Such violation subjects you to possible enforcement action by the Regional Board, including administrative enforcement orders requiring you to cease and desist from violations, or to clean up waste and abate existing or threatened conditions of pollution or nuisance; administrative civil liability in amounts of up to $10,000 per day per violation; referral to the State Attorney General for injunctive relief; and, referral to the District Attorney for criminal prosecution.

On September 20, 2007, Brandi Outwin, Water Resource Control (WRC) Engineer, Kristin Schwall, WRC engineer, Lilian Busse, Environmental Scientist, and Peter Peuron, Environmental Scientist, accompanied by Wes Ganter and Max Kuker, of PG Environmental, LLC, a USEPA Region IX contractor, conducted an inspection to investigate the Copermittee's compliance with Order No. R9-2004-001. Again on January 15, 16, and 17, 2008, Chad Loflen, Environmental Scientist, accompanied by PG Environmental conducted a follow-up inspection and identified the violations described below. USEPA's report describing the findings of the inspections is attached.

The inspections included the Riverside County Economic Development Agency and Facilities Management Department. As part of the County, this department and agency are required to adhere to the requirements of Order No. 2004-001.

The Riverside County Copermittees have chosen to name their "Standard Urban Storm Water Mitigation Plans" (SUSMP) as "Water Quality Management Plans" (WQMP). Therefore, this notice of violation uses the two terms interchangeably as SUSMP when referring to the Regional Board's Order No. R9-2004-001 requirements and as WQMP when referring to the Copermittee's plan to comply with Order No. R9-2004-001. The Order's SUSMP requirements are intended to ensure that pollutant discharges from Priority Development Projects (PDPs) are reduced to the maximum extent practicable (MEP).

SUMMARY OF VIOLATIONS:

I. Failure to Adopt and Implement a Standard Urban Storm Water Mitigation Plan (SUSMP)

➢ Order R9-2004-001, Provision F, Development Planning, F.2.b):
"Within 365 days of adoption of this Order, each Permittee shall develop, adopt, and implement a SUSMP ..."

Observation: The County of Riverside's Economic Development Agency (EDA) and Facilities Management Department have not formally adopted the Riverside WQMP to meet the Order's SUSMP requirements. Perhaps due to a lack of formal adoption, this agency and department have not adequately implemented the SUSMP requirements. During the inspection both County EDA staff and Facilities Management Department staff were not knowledgeable or aware of the Riverside WQMP.

II. Failure to Develop a Process by which SUSMP Requirements will be Implemented

➢ Order R9-2004-001, Provision F, Development Planning, F.2.b)(6):
" ... the Permittees shall develop a process by which SUSMP requirements will be implemented."

Observation: Because the County of Riverside EDA and Facilities Management Department have not implemented the Riverside WQMP, these entities do not have a structured process in place for capital improvement projects (CIPs) to implement the SUSMP requirements. During the inspection both County EDA staff and Facilities Management Department staff acknowledged that they did not have a structured WQMP program. In addition to identifying SUSMP Applicable Projects (see violation III, below), the SUSMP process must require the development of project specific WQMPs, review the project specific WQMPs, and ensure adequate long-term maintenance of post construction BMPs (see violation V, below).

III. Failure to Identify SUSMP Applicable Projects

➢ Order R9-2004-001, Provision F, Development Planning, F.2.b:
" ... each Permittee shall review and ensure that all Priority Development Projects meet SUSMP requirements."

Observation: The County of Riverside's EDA and Facilities Management Department do not have a structured program to ensure that their County sponsored CIPs are reviewed by a trained person or entity for SUSMP applicability or to ensure the development, adequacy, or implementation of a project specific WQMP. For example, the proposed Southwest Justice Center Parking Lot Expansion will include the addition of 390 parking spaces and therefore qualifies as a PDP requiring a WQMP. The Facilities CIP List indicates that a contract agreement could be finalized without incorporating the SUSMP requirements for the project.

IV. Failure to Ensure BMPs are Effective

➢ Order R9-2004-001, Provision F, Development Planning, F.2.b)(2)(d):
"The BMPs shall, at a minimum ... Be effective at removing or treating the pollutants of concern associated with the project;"

Observation: The County did not have an adequate procedure for requiring the application of BMPs which are "effective at removing or treating the pollutants of concern associated with CIP and private development projects. For example, the Clinton Keith Road Widening from George Avenue to Copper Craft Drive in unincorporated Murrieta selected Fossil Filter inserts with unknown removal efficiency for the pollutants of concern. An unknown removal efficiency cannot be considered effective at removing the pollutants of concern.

V. Failure to Ensure Ongoing Maintenance

➢ Order R9-2004-001, Provision F, Development Planning, F.2.b)(2)(j):
"The BMPs shall ... Include proof of a mechanism, to be provided by the project proponent or Permittee, which will ensure ongoing long-term BMP maintenance."

➢ Order R9-2004-001, Provision F, Development Planning, F.2.b)(6):
"As part of the SUSMP, the Permittees shall develop a process by which SUSMP requirements will be implemented."

Observation: The County does not have a mechanism to add those new private development projects without Conditions, Covenants, and Restrictions (CC&Rs), such as restaurants, to its inventory of existing BMPs. The County's current process appears adequate for residential developments but did not appear to be effective for commercial or industrial developments. Typically, commercial and industrial developments do not have CC&Rs. Furthermore, the County was not tracking the ongoing maintenance, maintenance history, inspection results and physical characteristics of implemented BMPs.

Questions pertaining to the issuance of this Notice of Violation should be directed to Ben Neill at (858) 467-2983 or bneill@waterboards.ca.gov. Written correspondence pertaining to this Notice of Violation should be directed to the following address:

David Barker
Supervising Water Resource Control Engineer
Attn: Ben Neill
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

David Barker, P.E.
Supervising Water Resource Control Engineer

6/12/2008
DATE

ATTACHMENT 5

EXCERPT FROM REQUIRED TECHNICAL REPORT DATED JULY 16, 2008

Ben Neil

Executive Office
County of Riverside

Larry Parrish
County Executive Officer

July 16, 2008

Michael P. McCann
Assistant Executive Officer
Attn: Mr. Ben Neill
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD
2008 JUL 17 A 9:52

RE: Required Technical Report\NOV R9-2008-0073

Dear Mr. McCann and Mr. Neill

Enclosed is a copy of the Required Technical Report for NOV R9-2008-0073, for your review. A PDF file is being submitted electronically with this hard copy correspondence to follow via mail. If you have any question please contact either Alex Gann or me at (951)955-1110.

Sincerely,

Michael R. Shetler

Michael R. Shetler, REHS, MA
Senior Management Analyst
NPDES Stormwater Program Coordinator
Riverside County Executive Office

Attachment
Required Technical Report/NOV R9-2008-0073
w/attachments

Required Technical Report

Notice of Violation R9-2008-0073

California Regional Water Quality Control Board, San Diego Region
Regional Board Order No. R9-2004-001
National Pollutant Discharge Elimination System (NPDES)
Permit No. CAS108766
Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer System (MS4s) Draining the County of Riverside, the City of Murrieta, the City of Temecula, and the Riverside County Flood Control and Water Conservation District within the San Diego Region

July 16, 2008

Prepared by:

County of Riverside
Executive Office
NPDES Stormwater Program

On Behalf of the County Departments Identified in the Notice of Violation

Contents

ATTACHMENT 6

REGIONAL BOARD LETTER DATED SEPTEMBER 4, 2008

Linda S. Adams
Secretary for
Environmental Protection

California Regional Water Quality Control Board

San Diego Region

Over 50 Years Serving San Diego, Orange, and Riverside Counties
Recipient of the 2004 Environmental Award for Outstanding Achievement from USEPA

Arnold Schwarzenegger
Governor

9174 Sky Park Court, Suite 100, San Diego, California 92123-4353
(858) 467-2952 • Fax (858) 571-6972
http:// www.waterboards.ca.gov/sandiego

September 4, 2008

In reply refer to:
NWU:bneill

Riverside County Executive Officer
Larry Parrish
Riverside County Administrative Center
4080 Lemon Street – 4th Floor
Riverside, CA 92501

Dear Mr. Parrish:

SUBJECT: Response to Notice of Violation No. R9-2008-0073

This letter is to acknowledge the July 17, 2008 receipt of the Required Technical Report (RTR) as requested in the section 13267 letter dated June 13, 2008. The section 13267 letter and NOV No. R9-2008-0073 were issued due to violations of California Regional Water Quality Control Board, San Diego Region (Regional Board) Order No. R9-2004-001, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108766, *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the County of Riverside, the City of Murrieta, the City of Temecula, and the Riverside County Flood Control and Water Conservation District within the San Diego Region (Permit).*

The RTR included an explanations section, a planned actions section, an inventory of County of Riverside capital improvement projects since July 15, 2005, and a plan to evaluate County CIP projects for compliance with the Standard Urban Stormwater Mitigation Plan (SUSMP) requirements of the Permit. My staff has thoroughly reviewed the Required Technical Report and offers the following comments:

1. Please provide an update on the Directive Memorandum to be issued by the Directors of the Facilities Management Department and the Economic Development Agency as referenced on page seven of the RTR.

2. Please provide more information regarding the implementation of SUSMP requirements in County contracts for applicable projects (page 9 of the RTR). Including SUSMP requirements in the Architectural Services Agreements is a good first step. Please provide information on how the County's contract managers will evaluate and enforce these new contract requirements. In addition, please provide a summary of any training provided to the contract managers regarding the new contract language.

3. We agree with the County's plan to evaluate projects within the Santa Margarita watershed for SUSMP compliance (page 14 of the RTR) and we look forward to the County's findings. If retrofitting a project is found to be infeasible, we request that the mitigation projects be identified prior to contributing to a fund and that the mitigation projects be within the same hydrologic sub area.

4. Page 15 of the RTR references a GIS database to track WQMP and BMP detail. Please clarify if this database will track both public and private projects.

We thank-you for the timely and informative submittal of the report. The County's actions to address the violations are encouraging and reinforces your commitment to preserving water quality. The Regional Board will continue to conduct periodic inspections and program evaluations to ensure full compliance with the provisions of the Permit. If you have any questions please contact Ben Neill at (858) 467-2983 or email: bneill@waterboards.ca.gov.

Respectfully,

JAMES G. SMITH
Senior Environmental Scientist
Northern Watershed Unit
California Regional Water Quality Control Board – San Diego Region

JGS:bin

Cc via email: Mike Shetler, County of Riverside, mshetler@rceo.org
Alex Gann, County of Riverside, agann@rceo.org

ATTACHMENT 7

COUNTY OF RIVERSIDE LETTER DATED OCTOBER 7, 2008

Neill

SAN DIEGO REGIONAL
WATER QUALITY
CONTROL BOARD

2008 OCT 14 12:54

SAN DIEGO REGION
WATER QUALITY
CONTROL BOARD
2008 OCT 14 [illegible] 54

Bill Luna
County Executive Officer

Jay E. Orr
Assistant County Executive Officer

Executive Office, County of Riverside

Mr. James G. Smith
Senior Environmental Scientist/
Mr. Ben Neill, Water Resource Control Engineer
San Diego Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4353

October 7, 2008

Subject: Response to Letter Dated September 4, 2008 Regarding Required Technical Report for Notice of Violation No. R9-2008-0073.

Dear Mr. Smith and Mr. Neill,

This letter is in response to your comments to the Required Technical Report (RTR) for Notice of Violation R9-2008-0073.

The following are responses to your comments:

- **Comment 1**- ***Please provide an update on the Directive Memorandum to be issued by the Directors of Facilities Management and Economic Development Agency as referenced on page seven of the RTR.*** Attached are signed memoranda from the department heads for Facilities Management and Riverside County Economic Development Agency.

- **Comment 2- Please provide *more information regarding the implementation of SUSMP (WQMP) requirements in County contracts for applicable projects.(page nine of the RTR) Please provide information on how the County's contract managers will evaluate and enforce these new contract requirements, In addition provide a summary of any training provided to the contract managers regarding the new contract language.*** The Department of Facilities Management is currently revising its contracts to include provisions for WQMP compliance. Through amended contracts, the priority development and redevelopment projects for which the Department is managing includes the development of a preliminary and final WQMP in compliance with the Riverside County WQMP. The Department's project managers have already received verbal and written guidance regarding the requirements and implementation of the WQMP for present and future projects. Upon the new contract review and approval by county counsel (anticipated 11-20-2008), the Department's project managers will receive additional guidance and training from the Department's new Environmental Compliance Unit. Additionally, the Department's construction inspection group and project managers will work in concert to ensure that BMPs identified in the WQMP are constructed to the required specifications. Furthermore, continued inspection of a project via our 1-year performance bond will ensure that the BMPs are functioning adequately during the first year of operation.

  The Economic Development Agency projects that are managed by Facilities Management will adhere to these requirements. Projects that are managed by Economic Development Agency project managers have received the same guidance on the requirements for WQMP and as stated previously language has been incorporated into the Architectural Services Agreement. The County Flood Control and Water Conservation District provides the training for construction and WQMP activities of which a summary can be obtained at their website http://www.floodcontrol.co.riverside.ca.us/.

- **Comment 3-** ***Determine projects requiring a WQMP built between 2005 to present.*** After an exhaustive search of the Facilities Management and EDA capital improvement projects (CIP) within the Santa Margarita Watershed; no CIP projects were built since the 2005 date. Proposed projects are being reviewed by the Executive Office CIP Review Team and requirements for SUSMP (WQMP) and other stormwater requirements are being addressed at the inception of project concept and language for stormwater related design criteria is being incorporated during the Architectural Services Agreement. For all countywide projects that were in the planning and design stages prior to the audit; an internal review to evaluate whether a WQMP was need was made. Changes for those projects requiring a WQMP have been incorporated to ensure compliance with the MS4 requirements. For all future projects a list will be provided in the annual report. **Note:** The CIP Review Team does not review linear transportation projects. The Transportation Department utilizes a third party WQMP review process as identified during the audit process.

- **Comment 4-** ***Page 15 of the RTR references a GIS database to track WQMP and BMP detail. Please Clarify if this database will track both public and private projects.*** Yes, the intent is to capture WQMP and BMP detail for both public and private projects.

The County of Riverside would like to take this opportunity to thank the Regional Board staff for their response to the RTR and the opportunity to clarify the actions taken by the County. This continued collaborative partnership will help foster the commitment and combined effort toward preserving water quality within the Santa Margarita River Watershed.

Respectfully submitted,

Michael R. Shetler

Michael R. Shetler, REHS, MA
Senior Management Analyst
NPDES Stormwater Program Coordinator
Riverside County Executive Office
mshetler@rceo.org
951.955.1110
951.955.1105 FAX

Certification Statement

I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations

Jay E. Orr

10-8-08

Jay E. Orr, Assistant County Executive Officer
Riverside County Executive Office
jorr@rceo.org
951.955.1110
951.955.1105 FAX

Date

Cc: via email: Jason Uhley, Riverside County Flood Control and Water Conservation District
Alex Gann, County of Riverside Executive Office
Michael R. Shetler, County of Riverside Executive Office
Chuck Waltman, Deputy Director, Facilities Management Department
Deanna Lorson, Managing Director, Riverside County EDA

MEMORANDUM

DEPARTMENT OF FACILITIES MANAGEMENT

TO: **Chuck Waltman, George Gemberling, Vincent Yzaguirre**

CC: **Tim Miller, Lisa Brandl, Geraldine Gour**

FROM: **Rob Field**

DATE: **August 4, 2008**

Re: National Pollution Discharge Elimination System Compliance – Notice of Violation No. R9-2008-0073, San Diego Regional Water Quality Control Board (Regional Board)

On June 13, 2008, the County of Riverside was issued a Notice of Violation by the San Diego Regional Water Quality Control Board for violations identified during an inspection/audit. Violation I *Failure to Adopt and Implement a Standard Urban Stormwater Mitigation Plan* (also known as a WQMP) specifically names the Facilities Management Department for not formally adopting (and subsequently implementing) the Riverside County Water Quality Management Plan.

Therefore, effective immediately, Department of Facilities Management projects meeting the criteria for the preparation of a project-specific water quality management plan (as defined by the Municipal Separate Storm Sewer System (MS4) permits issued individually by the Colorado Regional Water Quality Control Board, Santa Ana Regional Water Quality Control Board, and San Diego Regional Water Quality Control Board), shall comply with the applicable MS4 permit and the guidelines set forth in the Riverside County Water Quality Management Plan for Urban Runoff when preparing a project-specific WQMP.

The Environmental Compliance Unit is currently developing procedures for the applicable DoFM Divisions regarding this regulatory requirement and is available to answer questions regarding the WQMP should you have any.

RIVERSIDE COUNTY
Economic Development Agency

MEMORANDUM

ECONOMIC DEVELOPMENT AGENCY

Robin Zimpfer
Assistant County Executive Officer/EDA

TO: Colby Cataldi, Director of Aviation & Desert Operations
Tina English, Director of Redevelopment
Suzanne Holland, Director of Community Services

FROM: Robin Zimpfer, Assistant County Executive Officer/EDA

CC: Deanna Lorson, Managing Director
Peggy Sanchez, Deputy Director

DATE: September 16, 2008

SUBJECT: National Pollution Discharge Elimination System Compliance – Notice of Violation No. R9-2008-0073, San Diego Regional Water Control Board (Regional Board)

On June 13, 2008, the County of Riverside was issued a Notice of Violation by the San Diego Regional Water Quality Control Board for violations identified during an inspection/audit. Violation I *Failure to Adopt and Implement a Standard Urban Stormwater Mitigation Plan* (also known as a WQMP) specifically names the Economic Development Agency (EDA) for not formally adopting and subsequently implementing the Riverside County Water Quality Management Plan.

Effective immediately, Economic Development Agency projects meeting the criteria for the preparation of a project-specific water quality management plan, as defined by the Municipal Separate Storm Sewer System (MS4) permits issued individually by the Colorado Regional Water Quality Control Board, Santa Ana Regional Water Quality Control Board and San Diego Regional Quality Control Board, shall comply with the applicable MS4 permit and the guidelines set forth in the Riverside County Water Quality Management Plan for Urban Runoff when preparing a project-specific WQMP.

The Environmental Compliance Unit of Facilities Management is currently developing procedures for the applicable EDA Divisions regarding this regulatory requirement and is available to answer questions regarding the WQMP.

RZ:DL:sj

U:\DOCS\DEANNA\Violation Failure to adopt stormwater mitigation plan memo.doc

P.O. Box 1180♦ Riverside, CA 92502 ♦ Tel: (951) 955-8916 ♦ Fax: (951) 955-6686

Ben this is the County's signature / certification for the report provided by Flood Control
RT R R9-2008-0053

Mike Shetler

Bill Luna
County Executive Officer

Executive Office, County

Ref. R9-2008-0053

County of Riverside Certification Statement

I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature Jay E. Orr

Jay E. Orr, Assistant County Executive Officer

10/8/08
Date

Robert T. Andersen Administrative Center
4080 Lemon Street • 4th Floor • Riverside, California 92501 • (951) 955-1100 • Fax (951) 955-1105

ATTACHMENT 8

SCOTT ROAD FACILITY INSPECTION REPORT DATED OCTOBER 9, 2008

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - SAN DIEGO REGION
WATERSHED MANAGEMENT PROGRAM

FACILITY INSPECTION REPORT

INSPECTION DATE: October 9, 2008 TIME: 10 AM WDID: 9 0000512S1 for County MS4, none for Construction

FACILITY REPRESENTATIVE(S) PRESENT DURING INSPECTION: County of Riverside: Michael Shetler from the Riverside County Executive Office; Glenn Higa, Mike Call, Elmer Datuin, Eric Lohr, Mark Bernas, Nick Sison, all from the Transportation Department

---

County of Riverside
NAME OF OWNER, AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE

Elmer Datuin (951) 955-6762
OWNER CONTACT NAME AND PHONE #

Scott Road Reconstruction – All American Asphalt
FACILITY OR DEVELOPER NAME (if different from owner)

Brett Schultz WPC/Project Manager (951) 736-7600
FACILITY OR DEVELOPER CONTACT NAME AND PHONE #

Intersection of Scott Road and Briggs Road
FACILITY STREET ADDRESS

Menifee, CA
FACILITY CITY AND STATE

APPLICABLE WATER QUALITY LICENSING REQUIREMENTS

- ☒ **MS4 URBAN RUNOFF REQUIREMENTS NPDES NOS. CAS0108758, CAS0108740 or CAS0108766**
- ☒ **GENERAL PERMIT ORDER NO. 99-08-DWQ, NPDES NO. CAS000002 – CONSTRUCTION**
- ☐ **GENERAL PERMIT ORDER NO. 99-06-DWQ, NPDES NO. CAS000003 - CALTRANS**
- ☐ **GENERAL OR INDIVIDUAL WASTE DISCHARGE REQUIREMENTS**
- ☐ **GENERAL OR INDIVIDUAL WAIVER OF WASTE DISCHARGE REQUIREMENTS**
- ☐ **SECTION 401 WATER QUALITY CERTIFICATION**
- ☐ **CWC SECTION 13264**

INSPECTION TYPE (Check One)

A1 ____ "A" type compliance--Comprehensive inspection in which samples are taken. (EPA Type S)

B1 *X* "B" type compliance--A routine nonsampling inspection. (EPA Type C)

02 ____ Noncompliance follow-up--Inspection made to verify correction of a previously identified violation.

03 ____ Enforcement follow-up--Inspection made to verify that conditions of an enforcement action are being met.

04 ____ Complaint--Inspection made in response to a complaint.

05 ____ Pre-requirement--Inspection made to gather info. relative to preparing, modifying, or rescinding requirements.

06 ____ No Exposure Certification (NEC) - verification that there is no exposure of industrial activities to storm water.

07 ____ Notice of termination request for industrial facilities or construction sites - verification that the facility or construction site is not subject to permit requirements (**Type, NOT I or NOT C - circle one**).

08 ____ Compliance Assistance Inspection - Outreach inspection due to discharger's request for compliance assistance.

INSPECTION FINDINGS

Y Were violations noted during this inspection? (Yes/No/Pending Sample Results)

N Were samples taken? (N=no) If YES then, G= grab or C= Composite and attach a copy of the sample results/chain of custody form

I. COMPLIANCE HISTORY:

R9-2005-0275 issued in 2005 to the County of Riverside for violations of the MS4 permit's construction component requiring oversight of a private construction site.

R9-2008-0053 issued on May 13, 2008 to the County of Riverside for violations of the MS4 permit's SUSMP and land development component.

II. FINDINGS

On October 9, 2008, Ben Neill, Water Resource Control Engineer of the Northern Watershed Unit, inspected the County of Riverside's Scott Road Reconstruction project. The project is in both the San Diego Regional Board's Santa Margarita Watershed and the Santa Ana Regional Board's jurisdiction. The total size of the construction project is 17 acres with 4 acres being within the Santa Margarita watershed. The project started on April 14, 2008 and is anticipated to be complete by November 1, 2008. The project consists of widening Scott Road, constructing additional lanes of traffic, turn lanes, installing traffic signals, sidewalks and curb and gutter. The project also has some minor improvements to adjacent arterials such as Briggs Road. The project's budget is $4.9 million with stormwater accounting for $30,000. All-American Asphalt paving is the contractor for the project.

The County of Riverside was represented during the inspection by six individuals. Michael Shetler represented the Riverside County Executive Office. Mike Call, Elmer Datuin, Eric Lohr, Glenn Higa, Nick Sison, and Mark Bernas were from the County of Riverside Transportation Department. Mike Shetler of the County of Riverside provided the attached photographs.

We met near the intersection of Briggs Road and Scott Road. I briefly looked over the project site's SWPPP. The site has not filed a Notice of Intent to comply with the State Board's General Construction Permit. This oversight was due to a project change beyond the initial scope of work. Originally, the project was designed so as not to disturb greater than one acre. Following construction start the project's scope increased so that the site did disturb greater than one acre. The County plans on filing an NOI within two weeks once a check is secured for fee payment. A copy of the NOI is attached. The SWPPP lacked sufficient detail to identify flow lines, discharge points, and BMP implementation.

Even without specific BMP detail in the SWPPP, the County's contractor took it upon themselves to implement some BMPs. The project has sprayed hydroseed along slopes in most of the project area. The east side of Briggs Road south of Scott Road needs additional sediment control and erosion control BMPs along the disturbed area (Photo MRS091008-7). Hydroseeding had been applied at one time to this area, but has since been redisturbed as evident by the tire tracks.

Along the south side of Scott Road and east of Briggs Road, the shoulder has disturbed earth (Photo MRS091008-9). Although the slope has been sprayed with erosion controls, the area was without any sediment controls. The bare dirt shoulder appears to be graded to collect concentrated runoff from Scott Road and the intersection with Briggs Road. This dirt shoulder is unstabilized and will most likely erode significantly during a rainstorm unless additional BMPs are implemented. In addition, this area will need permanent post-construction measures to prevent continued erosion along the shoulder.

The road's drainage appears to flow to a large disturbed area at the base of the hill (Photo MRS091008-11). The slope below the road in this area has hydroseed applied (MRS091008-10). This large disturbed area was without any erosion controls and sediment controls. A storm drain inlet (Photo MRS091008-12) received runoff from this disturbed area. The inlet had minimal sand bags that will provide little protection considering the amount of disturbed area and lack of BMPs.

Along the north side of Scott Road, a storm drain had filter fabric and a straw waddle for protection (Photo MRS091008-13). Although a straw waddle may be appropriate during the summer to keep trash and debris out of the storm drain, straw waddles are ineffective inlet protection during rain events. The straw waddles typically become waterlogged, thereby flooding the adjacent street and fall into the storm drain. The County plans to replace the straw waddle with gravel bags.

The construction project was in the midst of hauling off a large excess dirt stockpile over the next two days. A street sweeper was continuously operating along the paved Scott Road (Photo MRS091008-15). In addition, the haul trucks were staged on the pavement of Scott Road thereby preventing any sediment tracking.

Along the north side of Scott Road, west of Briggs Road, only the slope, and not the shoulder, was hydroseeded. The shoulder needs additional sediment and erosion control BMPs and permanent post-construction BMPs to prevent concentrated road runoff from collecting and eroding out the shoulder (MRS091008-16). A concrete washout was onsite and actively being used (MRS091008-18).

FACILITY: Scott Road Reconstruction (WDID) 9 0000512S1, NA INSPECTION DATE: Oct. 9, 2008

Based on the County's statements, the project does have greater than 5,000 square feet of new paved surface. Therefore the project is a Priority Development Project requiring a SUSMP with site design, source control and treatment control BMPs. The project does not have a SUSMP and no post-construction treatment control BMPs were designed or implemented onsite.

III. SIGNATURE SECTION

Ben Neill		10/9/08
STAFF INSPECTOR	SIGNATURE	INSPECTION DATE

IV. (For internal use only)

Reviewed by Supervisor: _____ Date 27 Oct 08

cc: Jeremy Johnstone (EPA), John Norton (SWRCB), City Storm Drain Enforcer

Inter-office Referral: 1) _____ 2) _____ 3) _____ 4) _____ 5) _____

D:\My Documents\Desktop\Scott Road\FIR.doc
CIWQS

Photos of Scott Rd . Riverside County Transportation Department Project

October 9, 2008 by Mike Shetler
Riverside County Executive Office

Scott Rd looking West, South side of road with hydro-seed applied to 2:1 slope

Scott Rd looking West, North side of road with hydro-seed applied to 2:1 slope Note: stock pile removal.

Northwest corner of Scott Rd and Briggs Rd

Northeast corner of Scott Rd and Briggs Rd

Intersection Scott Rd and Briggs Rd Southwest corner.

Scott R. East of Briggs Rd. looking East

Photos of Scott Rd . Riverside County Transportation Department Project

October 9, 2008 by Mike Shetler
Riverside County Executive Office

Briggs Rd East side looking South
Hydro-seed application to downward slope

Briggs Rd West side looking South
Hydro-seed application to downward slope

Scott Rd South side, East of Briggs Rd.
looking East.

Scott Rd South side, East of Briggs Rd.
looking West

Excavated area south of Scott Rd. where drainage pipe and planned rip/rap will be applied. Looking East

Location of drainage pipe south side of Scott Rd.
Proposed location of rip/rap.

Photos of Scott Rd . Riverside County Transportation Department Project

October 9, 2008 by Mike Shetler
Riverside County Executive Office

North side of Scott Rd storm drain with silt cloth and straw waddle. Plan to supplement with gravel filled bags to provide added protection

North side of Scott Rd looking west location of Edison man-way and retaining wall.

Sweep for track-out of surplus dirt being transported off-site.

Scott Rd North side looking East toward Briggs Rd
Note: Hydro-seeding on 2:1 slope.

Covered stockpiles

Concrete washout

ATTACHMENT 9

MARNA O'BRIEN PARK FACILITY INSPECTION REPORT DATED OCTOBER 31, 2008

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - SAN DIEGO REGION
WATERSHED MANAGEMENT PROGRAM

FACILITY INSPECTION REPORT

INSPECTION DATE: October 31, 2008 TIME: 10 AM WDID: 9 0000512S1, 9 33C343785

FACILITY REPRESENTATIVE(S) PRESENT DURING INSPECTION: None

County of Riverside
NAME OF OWNER, AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE

Mike Shetler (951) 955-1186
OWNER CONTACT NAME AND PHONE #

Marna O'Brien park, Southwest Justice Center
FACILITY OR DEVELOPER NAME (if different from owner)

Gloria Perez (951) 955-9056
FACILITY OR DEVELOPER CONTACT NAME AND PHONE #

20505 Palomar Street
FACILITY STREET ADDRESS

Wildomar, CA
FACILITY CITY AND STATE

APPLICABLE WATER QUALITY LICENSING REQUIREMENTS

- ☒ **MS4 URBAN RUNOFF REQUIREMENTS NPDES NOS. CAS0108758, CAS0108740 or CAS0108766**
- ☐ **GENERAL PERMIT ORDER NO. 99-08-DWQ, NPDES NO. CAS000002 – CONSTRUCTION**
- ☐ **GENERAL PERMIT ORDER NO. 99-06-DWQ, NPDES NO. CAS000003 - CALTRANS**
- ☐ **GENERAL OR INDIVIDUAL WASTE DISCHARGE REQUIREMENTS**
- ☐ **GENERAL OR INDIVIDUAL WAIVER OF WASTE DISCHARGE REQUIREMENTS**
- ☐ **SECTION 401 WATER QUALITY CERTIFICATION**
- ☐ **CWC SECTION 13264**

INSPECTION TYPE (Check One)

A1 ____ "A" type compliance--Comprehensive inspection in which samples are taken. (EPA Type S)

B1 X "B" type compliance--A routine nonsampling inspection. (EPA Type C)

02 ____ Noncompliance follow-up--Inspection made to verify correction of a previously identified violation.

03 ____ Enforcement follow-up--Inspection made to verify that conditions of an enforcement action are being met.

04 ____ Complaint--Inspection made in response to a complaint.

05 ____ Pre-requirement--Inspection made to gather info. relative to preparing, modifying, or rescinding requirements.

06 ____ No Exposure Certification (NEC) - verification that there is no exposure of industrial activities to storm water.

07 ____ Notice of termination request for industrial facilities or construction sites - verification that the facility or construction site is not subject to permit requirements (**Type, NOT I or NOT C - circle one**).

08 ____ Compliance Assistance Inspection - Outreach inspection due to discharger's request for compliance assistance.

INSPECTION FINDINGS

Y Were violations noted during this inspection? (Yes/No/Pending Sample Results)

N Were samples taken? (N=no) If YES then, G= grab or C= Composite and attach a copy of the sample results/chain of custody form

I. COMPLIANCE HISTORY:

R9-2005-0275 issued in 2005 to the County of Riverside for violations of the MS4 permit's construction component requiring oversight of a private construction site.

R9-2008-0053 issued on May 13, 2008 to the County of Riverside for violations of the MS4 permit's SUSMP and land development component.

FACILITY:_County of Riverside MS4_____ (WDID)_9 0000512S1_____ INSPECTION DATE:_Oct. 31, 2008_

II. FINDINGS

On October 31, 2008, an inspection was conducted to assess the County of Riverside's compliance with their MS4 permit specifically the SUSMP section requiring post construction BMPs.

The County of Riverside constructed park improvements at the Marna O'Brien Park in Wildomar, CA. At the time Wildomar was an unincorporated community within Riverside County. Wildomar has since decided to incorporate. Archived news articles report that the park was previously part of the Ortega Trails Recreation and Park District. The park had been closed since 1999 when the park district dissolved.

A Notice of Intent for construction was approved by State Board on October 3, 2006 and assigned WDID No. 9 33C343785. The Notice of Intent lists the Riverside County Economic Development Agency as the owner. The Notice of Intent states that the anticipated construction commencement date is August 28, 2006 and the anticipated construction completion date is May 25, 2007. The Notice of Intent states that the total area to be disturbed is 9.34 acres and the percent imperviousness after construction is 23%, resulting in 2.15 acres of impervious surfaces.

A Notice of Termination for construction was approved by the Regional Board on December 27, 2007. The Notice of Termination stated that construction was complete on August 18, 2007.

On the day of the inspection, construction activities appeared to have been complete for some time. The parking lot appears to be greater than 5,000 square feet. The parking lot has 150 parking spaces. The parking lot size was roughly a rectangular parcel,157 paces long by 36 paces wide. Assuming each pace is ~ 3 feet, then the total new impervious area is about 50,000 square feet, well over the 5,000 square foot threshold that requires SUSMP to be implemented. The parking lot also appeared to be recently built. The pavement, parking stripes and curbs did not appear weathered. Four inlets were observed in the parking lot. None of the inlets appeared to have any storm water treatment control devices in place such as inlet filters or a hydrodynamic separator. Another inlet along Palomar Street also did not appear to have any storm water treatment control devices. The grass playing fields had some area drains.

III. SIGNATURE SECTION

Ben Neill — STAFF INSPECTOR

SIGNATURE

October 31, 2008 — INSPECTION DATE

IV. (For internal use only)

Reviewed by Supervisor:_____ Date

cc: Jeremy Johnstone (EPA), John Norton (SWRCB), City_____ Storm Drain Enforcer

Inter-office Referral: 1)_____ 2)_____ 3)_____ 4)_____ 5)_____

D:\Municipal\County of Riverside\Marna O'Brien Park\FIR 10-31-08.doc
CIWQS

Photos 1 to 5 – Photos of the four inlet drains in the parking lot. None have inlet filters or other treatment devices.

Photos 6 and 7 – Photos show the storm drain inlet along Palomar Street next to the parking lot. This inlet also appeared to not have any inlet filters or other treatment devices.

Photos 8 and 9 – The park's parking lot is greater than 5,000 square feet.

10. The park has some ancillary impervious surfaces that appear to drain partly to vegetated areas.

11. Temporary toilets were onsite.

ATTACHMENT 10

13267 LETTER DATED DECEMBER 01, 2008

California Regional Water Quality Control Board
San Diego Region

Over 50 Years Serving San Diego, Orange, and Riverside Counties
Recipient of the 2004 Environmental Award for Outstanding Achievement from U.S. EPA

Linda S. Adams
Secretary for Environmental Protection

Arnold Schwarzenegger
Governor

9174 Sky Park Court, Suite 100, San Diego, California 92123-4353
(858) 467-2952 • Fax (858) 571-6972
http://www.waterboards.ca.gov/sandiego

December 1, 2008

VIA CERTIFIED MAIL
7008 1140 0004 9971 8849

In reply refer to:
NWU:252901:bneill

Riverside County Executive Officer
Larry Parrish
Riverside County Administrative Center
4080 Lemon Street – 4th Floor
Riverside, CA 92501

RE: REQUIRED TECHNICAL REPORT

Dear Mr. Parrish,

Back on September 20, 2007 and January 15 – 17, 2008, PG Environmental, A United States Environmental Protection Agency contractor, with the California Regional Water Quality Control Board San Diego Region (Regional Board) conducted inspections of the County of Riverside's (hereafter County) Municipal Separate Storm Sewer (MS4) program. The purpose of the inspections was to determine the County's compliance with Regional Board Order No. R9-2004-001, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0108766, *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems Draining the County of Riverside, the City of Murrieta, the City of Temecula, and the Riverside County Flood Control and Water Conservation District within the San Diego Region (Permit)*.

The inspection report dated March 31, 2008 described violations of the Permit's Standard Urban Stormwater Mitigation Program (SUSMP). The County has chosen to name their SUSMP as "Water Quality Management Program" (WQMP). These two terms are used interchangeably throughout this letter. In addition to being required by federal regulations, the permit's SUSMP section requires priority development projects to reduce pollutants to the maximum extent practicable (MEP), to maintain or reduce downstream erosion, and to protect stream habitat.

As a result of the inspections, the Regional Board issued Notice of Violation (NOV) No. R9-2008-0073 with a request for technical report on June 13, 2008. Among the violations were a failure to identify applicable SUSMP projects at the County's own construction projects and a failure to ensure effective Best Management Practices are required in County SUSMP projects. The County submitted the Required Technical Report dated July 17, 2008. Included on page 15 of the report, the County provided an

acceptable timeline to complete a comprehensive review of the County's historic CIP projects since July 15, 2008, the date of SUSMP adoption.

On October 9, 2008, the Regional Board with County representatives conducted an inspection of the County's expansion of Scott Road. The inspection identified the project as having greater than 5,000 square feet of paved surfaces triggering the SUSMP requirements. The project did not have a post construction WQMP and no post-construction stormwater treatment devices were designed or implemented onsite.

A review of the Regional Board's construction database identified the "Marna O'Brien park" redevelopment project as potentially needing to comply with the permit's SUSMP provisions. According to the project's Notice of Intent, the site commenced construction on August 28, 2006 which is post the required SUSMP implementation date of July 15, 2005. A site visit confirmed that the site would be considered a priority development project due to having a parking lot greater than 5,000 square feet. The site does not appear to have implemented any post-construction stormwater treatment devices.

Therefore, pursuant to California Water Code section 13267 and 13383, you are directed to prepare and submit a Required Technical Report (RTR) to the Regional Board no later than **5:00 PM, on January 2, 2009**. The RTR is required due to the ongoing violations of the MS4 permit's SUSMP section and to assist the Regional Board's investigation into the County's steps to maintain compliance. Since we are aware of SUSMP violations at four of the sites (listed below), we are asking for the WQMP for those specific sites to ensure corrections have been implemented in compliance with the Permit. The County's comprehensive evaluation (to be submitted in response to NOV No. R9-2008- 0073) may include additional information on these four specific sites if the sites have been constructed without complying with the Permit's SUSMP section. The RTR will be reviewed to determine if appropriate measures have been taken in compliance with the Permit and to assess the need for further enforcement action. The RTR shall provide the following information:

1. The complete and approved WQMP including the project construction start date (or anticipated start date) and the date of final design approval for the following County projects:
    a. Scott Road reconstruction;
    b. Southwest Justice Center parking lot expansion;
    c. Clinton Keith Road project; and
    d. Park enhancements for Marna O'Brien park (if available).

2. An update on the County's progress on their comprehensive evaluation and implementation plan for CIPs constructed after July 15, 2005 that failed to implement SUSMP requirements (as described on page 15 of the County's report dated July 17, 2008.)

3. If a WQMP for the Marna O'Brien park is unavailable by January 2, 2009, then include an update regarding the park's WQMP as part of the County's comprehensive evaluation and provide the WQMP as soon as it is approved.

The submitted Required Technical Report shall be signed in accordance with Order No. R9-2004-001, Attachment B.2 Signatory Requirements and contain the following certification:

> *I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.*

Failure to submit the above information by the date requested may result in the imposition of administrative civil liability pursuant to CWC sections 13268 and 13385.

Questions pertaining to this Required Technical Report and the enclosed Notice of Violation should be directed to Ben Neill at (858) 467-2983 or bneill@waterboards.ca.gov. Written correspondence should be directed to the following address:

Michael P. McCann
Assistant Executive Officer
Attn: Ben Neill
California Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340

Respectfully,

MICHAEL P. McCANN
Assistant Executive Officer

Signed pursuant to the authority delegated by the Executive Officer to the Assistant Executive Officer

CC via email:

Ken Greenberg, USEPA, greenberg.ken@epa.gov
Mike Shetler, County of Riverside, mshetler@rceo.org
Alex Gann, County of Riverside, agann@rceo.org
Wes Ganter, PG Environmental, LLC, wes.ganter@pgenv.com

D:\Municipal\County of Riverside\SUSMP 13267 12-01-08.doc

CIWQS: 13267: 355995

ATTACHMENT 11

EXCERPT FROM REQUIRED TECHNICAL REPORT DATED JANUARY 2, 2009

Ben N.

Bill Luna
County Executive Officer

Jay E. Orr
Assistant County Executive Officer

Executive Office, County of Riverside

Date: December 24, 2008

Mr. Michael McCann, Assistant Executive Officer
San Diego, Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA. 92123-4340

Attn: Mr. Ben Neill, Water Quality Control Engineer

Subject: In Response to the Correspondence of December 1, 2008, referencing California Water Code Section 13267/13383-Required Technical Report as it relates to Notice of Violation R9-2008-0073.

Mr. Neill,

Attached is the requested Required Technical Report and available documentation addressing issues described in the December 1, 2008 correspondence from Mr. McCann. If you have any questions please contact Mr. Alex Gann or me at 951-955-1110 or by email at agann@rceo.org and mshetler@rceo.org.

Sincerely,

Michael R. Shetler

Michael R Shetler, REHS, MA
Senior Management Analyst
NPDES Stormwater Program Coordinator

Required Technical Report

California Regional Water Quality Control Board, San Diego Region
Regional Board Order R9-2004-001
National Pollutant Discharge Elimination System (NPDES)
Permit No. CAS108766

December 24, 2008

In response to the December 1, 2008,
California Water Code Section 13267/13383 letter
from
Michael McCann, Assistant Executive Officer
as it relates to
Notice of Violation R9-2008-0073
and corresponding to the
Required Technical Report
Submitted by the County of Riverside
on
July 16, 2008

On Behalf of County Departments Identified in the Letter Dated
December 1, 2008

Certification Statement
Required Technical Report
Follow-up Response
for
Notice of Violation R9-2008-0073
and
California Water Code Section 13267/13383 Letter
of
December 1, 2008

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Gary M. Christmas

Gary M. Christmas
Chief Deputy County Executive Officer
Riverside County Executive Office

12/31/08

Date

Background

On September 20, 2007, and January 15-17, 2008, PG Environmental, LLC, a U.S. EPA, Region IX contractor, with assistance from the California Regional Water Quality Control Board, San Diego Bay Region, ("Regional Board") conducted focused inspections of the County of Riverside ("County") municipal separate storm sewer system ("MS4") compliance programs. Discharges from the County's MS4 are regulated by Regional Water Board Order No. R9-2004-001 (NPDES Permit No. CAS0108766) issued July 14, 2004. The purpose of the inspection was to evaluate the County's compliance with requirements of Regional Board Order No R9-2004-001 and implementation of the Drainage Area Management Plan ("DAMP").

As a result of the inspections, on June 13, 2008, the Regional Board issued Notice of Violation (NOV) No. R9-2008-0073, with a requirement for a Required Technical Report. Among the alleged violations were a failure to identify County Capital Improvement Projects (CIPs) for which the Standard Urbanized Stormwater Mitigation Plan (SUSMP) or Water Quality Management Plan (WQMP) requirements were applicable and a failure to ensure effective post construction site specific Best Management Practices (BMPs) are included in CIPs.

On July 16, 2008, the County provided a Required Technical Report addressing the issues described in the NOV. In addition, a follow-up letter was submitted on October 6, 2008, by the County to clarify the Regional Board's additional questions related to modifications to departmental policies and procedures to ensure compliance with the NPDES MS4 Permit and the DAMP.

On December 2, 2008, an email from Ben Neill of the Regional Board was received by the County. The email included an attached letter directing that a Required Technical Report be submitted by January 2, 2009, to address the following issues:

1. The completed and approved WQMP including construction start date (or anticipated start date) and the date of final design approval for the following County projects:

    a. Scott Road reconstruction;
    b. Southwest Law and Justice Center parking lot expansion;
    c. Clinton-Keith Road project; and
    d. Park enhancements for Marna O'Brian park (if available)

2. An update on the County's progress on their comprehensive evaluation and implementation plan for CIPs constructed after July 2005 that failed to implement SUSMP (WQMP) requirements (as described on page 15 of the County's report dated July 16, 2008)

3. If a WQMP for Marna O'Brian Park is unavailable by January 2, 2009, then include an update regarding the park's WQMP as part of the County's comprehensive evaluation and provide a WQMP as soon as possible.

Response

To update the Regional Board for future correspondence purposes, in July 2008, Mr. Larry Parrish retired from his position of Riverside County Executive Officer and was replaced by Mr. Bill Luna. In addition, Mr. Luna has announced his new executive management team including Mr. Jay Orr as Assistant County Executive Officer, Mr. Paul McDonnell as County Finance Director, and Mr. Gary Christmas as Chief Deputy County Executive Officer. Future correspondence should be sent to Mr. Luna and his authorized representatives including Mr. Alex Gann, Principal Management Analyst and Mr. Mike Shetler, Senior Management Analyst who coordinate with County Departments on all Stormwater Program issues.

In addition, in response to the Regional Water Board's 13267 and 13383 directives to prepare and submit a Required Technical Report, the County would like to take this opportunity to correct misconceptions that the Regional Board may have regarding two of the projects identified in their letter dated December 1, 2008.

1. **The Southwest Law and Justice Center parking lot expansion** is a project being planned and designed through the Riverside County Facilities Management Department. It is currently in the design phase. A construction SWPPP and draft preliminary WQMP have been developed for the project. The Board of Supervisor's final approval of the project is scheduled for early 2009. As funding is released to move forward with the final design of the project, a final project-specific WQMP will be implemented and constructed per the architectural/landscape plan. The County utilizes the WQMP template posted on the Riverside County Flood Control District's website with a slight modification to reflect the difference between privately-owned projects and publicly-owned facilities. The County takes into consideration pollutants of concern for the receiving waters and uses a hierarchical approach to selecting treatment control BMPs that are based upon performance to reduce pollutant load, ease of operation & maintenance, and cost. Preferred BMPs are landscape based, when practicable. Rick Engineering has been tasked with the development of the project specific WQMP on behalf of Riverside County Facilities Management Department.

   The SWPPP and preliminary WQMP for the project are available for review by Regional Board staff. A final date for construction has not been identified and is dependent upon Board of Supervisor's approval.

2. **The Clinton-Keith Road Project as identified in NOV R9-2008-0073** is a project being planned and designed through the Riverside County Transportation Department. The Clinton-Keith Road Project was reviewed by PG Environmental, during the January 15-20, 2008, focused inspection. In this review, PG Environmental did not recognize that the Clinton Keith Road WQMP was a draft-preliminary WQMP. The project remains in the design phase and the preparation of the final WQMP and other design elements for the project is still on-going. A final date for construction to commence has not

been identified. In addition, easements along stretches of this project are limited and restrict the type of BMPs that can be implemented.

The Clinton-Keith Road Project was intended during the focused inspection to be used as an example of the processes taken by the Transportation Department in the development of a WQMP for linear road projects within the Santa Margarita Region. It was not presented as the final WQMP for the project.

Once the Final WQMP is approved it will be available for review by Regional Board staff. As stated above a schedule for the start of construction is not available at this time.

Recommendation

The Southwest Law and Justice Center parking lot expansion and the Clinton-Keith Road Project are currently in the design phase and no construction activities have commenced. During the September 2007 and January 2008 audits, these two projects were reviewed and highlighted as potential examples of a future violation. The auditor made the observation that the lack of procedures for identification of SUSMP applicable projects and procedures to ensure BMPs are effective at addressing pollutants of concern could potentially lead to a violation of the permit. These concerns were over the County's process. The observation did not imply that the preliminary projects were, as of yet, in violation of the Permit – as no construction associated with the projects had commenced. The parking lot expansion and Clinton Keith Road Project are still in the design phase and their respective WQMPs are still in development.

As a result of the audit, the departments associated with public works projects have evaluated the issues raised in the audit and re-examined their processes for compliance. With regard to the policy issues raised by auditor, both EDA and Facilities Management have issued memorandums to their staff directing them to follow through with WQMPs on applicable projects. They have fully complied with the memorandum's requirement. The Transportation Department has taken the auditor's comments into consideration and is in the process of finalizing an internal NPDES Policy, including steps to ensure that appropriate BMPs are selected for each project.

The County respectfully requests that the allegation of SUSMP violation for these two projects be rescinded as part of the Notice of Violation R9-2008-0073, as these projects are not in violation of the requirements of Regional Board Order No. R9-2004-001.

COMPREHENSIVE REVIEW OF PUBLIC WORKS PROJECTS
(since July 15, 2005)

Transportation Department

Scott Road Widening Project
Antelope Road to El Centro Road, Menifee, CA

That portion of the project within the Santa Margarita Region is being retrofitted to address WQMP requirements. The final WQMP is available for review. Recommended post construction Treatment Control BMPs will be scheduled for retrofit during January-March 2009.

1. Evaluation of the Project

(a) Project Description:
The Riverside County Transportation Department widened Scott Road to an interim 4-lane facility from immediately east of the Paloma Wash and Antelope Road, to approximately 1,000 feet east of El Centro Lane, a distance of approximately 2.5 miles. Improvements were constructed within the boundary of the minimum 85 foot right of way. While the overall project area is 24.25 acres, only an area of approximately 6.0 acres was newly disturbed by the proposed project. The balance of acreage reflects the existing roadway that was repaved, construction staging or a boundary perimeter to reflect the environmental permitting documents project description.

The horizontal alignment of Scott Road generally remained in its current location. The vertical alignment of the roadway was changed to improve the drivability of the roadway. In areas on the west end of the project area, improvements to the south side of Scott Road were limited. Most of the western portion of improvements consisted of roadway within existing right-of-way and did not include newly paved areas. At the eastern end of the project the topography required cut and fill, retaining walls and similar structures. No new sidewalks or landscaping was included in this project. Along most of the alignment, the project did not construct curb and gutter.

(b) Water Quality Management Plan (WQMP):
On October 17, 2008, the County authorized URS Corporation to prepare a WQMP for the project. The WQMP was prepared, reviewed by a third party and is available for review.

2. Planned Actions

(a) Retrofitting of the Project Site (Structural BMPs): The following structural BMPs will be constructed to treat stormwater runoff that is generated on the roadway and discharged to the sides of the roadway: (1) vegetated swales will be constructed within the existing right-of-way limits of the project and (2) the existing catch basin and catch basin filter insert located between Briggs Road and El Centro will be cleaned and the filter will be replaced.

(b) Retrofitting of the Project Site (Non-Structural BMPs): The catch basin between Briggs Road and El Centro will be stenciled with the following phrase: "NO DUMPING – DRAINS TO CREEK."

3. Timeline

(a) Completion of WQMP: December 2008/January 2009.
(b) Completion of Installation of Structural BMPs: March 31, 2009
(c) Completion of Installation of Non-Structural BMPs: January 31, 2009

Scott Road Widening Project Chronology

06/05/01	BOS approve Engineering and Environmental Agreement with DMJM+Harris (formally Homes and Narver) to provide engineering and environmental services for an interim 4-lane facility between I-215 to Winchester Road
06/07/01	Notice to Proceed provided to DMJM
07/26/05	BOS approve Amendment No. 1 to the Agreement with DMJM to provide engineering and environmental services for an ultimate 6-lane facility between I-215 and Winchester Road
10/2005	Modify scope of project to an interim 4-lane facility between Antelope Road and Briggs Road
06/05/07	Approved Environmental Clearance
09/25/07	PS&E approved by Transportation Department
10/02/07	BOS approve PS&E and authorize advertisement of the project
10/31/07	Bids Opened
01/29/08	BOS award construction contract to All American Asphalt

04/14/08	Notice to Proceed provided to All American Asphalt
10/09/08	On site field meeting with Ben Neill, Michael Shetler, Mike Call, Elmer Datuin, Eric Lohr, Glenn Higa, Nick Sison and Mark Bernas
10/14/08	NOI submitted to Regional Board
10/15/08	Kick-off meeting with URS for the preparation of the WQMP
10/17/08	Authorized URS to prepare the WQMP
11/27/08	Construction Completed
12/09/08	BOS approve Amendment No. 2 to the Agreement with DMJM to provide engineering and environmental services for an interim 4-lane facility between Antelope Road and Briggs Road
12/08-01/09	Anticipate an approved WQMP
01/2009	Proceed with WQMP construction

The majority of the Scott Road project is now within the city limits of the new City of Menifee (incorporated October 2008). In the short term the County will continue to provide operation & maintenance (O & M) activities on Scott Road. However, once the City of Menifee becomes self-sufficient their public works department may take over the O & M activity. Portions of O & M may also be provided by the Valley Wide Parks and Recreation District.

As stated above, the recommended retrofits will be implemented during early 2009.

Steps have been taken to ensure that the requirements of the appropriate MS4 Permit are applied to future projects. Modifications have been made to the Transportation Department's project checklist to ensure that this issue is reviewed and does not occur in the future.

Further, this project points to a larger issue that linear road projects can be in the planning, design and environmental clearance stages for many years and may overlap permit cycles. Procedural changes to the project process is necessary to periodically review projects as they proceed toward completion to ensure that new local, state and federal requirements do not have an impact. This procedural change is being evaluated by the Transportation Department and will be a part of an added training component for project managers.

Economic Development Agency

Marna O'Brien Park
20505 Palomar Road
Wildomar, CA

1. Project Overview

The Marna O'Brien Park site is located on three separate parcels of land and is approximately nine (9) acres in size. Prior to its rehabilitation, the park had been abandoned due to the dissolution of the former Ortega Trails Park and Recreation District and lack of a viable funding mechanism.

The original facility included an existing parking lot, approximately two-thirds of which was paved, a small out-building, a small house, landscaping and minimal improvements. While the footprint of the original parking lot was not expanded and remains the same as it is today, the park rehabilitation project (hereinafter referred to as "the project") included a complete reconstruction of the paved and unpaved areas. In addition, all original landscaping and both of the aforementioned structures were removed from the site. The project site is now a part of, and is currently maintained by, County Service Area (CSA) 152.

In July 2008, the new city of Wildomar was formed and at some point in the future, as the city becomes completely self-sufficient, may take over the responsibility for operation and maintenance of the park or continue to contract with CSA 152.

(a) ***Site Improvements***:

The project included extensive reconstruction, new construction and facility improvements.[1] The parking lot was completely rebuilt from the ground up. The following improvements were also added to the site: three (3) lighted baseball fields, two (2) basketball/sports courts, three (3) covered picnic shelters, a new tot lot, meandering and perimeter concrete sidewalks and additional perimeter masonry fencing. A concession stand and restroom building were added to the park; these facilities remain closed pending the completion of and connection to a new sewer line along Palomar Street. It is anticipated that the new sewer line will be completed in late April 2009. The project site included new landscaping with flowers, bushes and turf. A computerized/automated irrigation system was installed on the project site and is currently operational. The project site is enclosed on its northerly, southerly and westerly sides with a masonry wall.

[1] The bid documents contained in the project file indicate that, in addition to extensive on-site demolition, construction of the project involved the installation of 1,010 tons of concrete; 666 cubic yards of aggregate base; 29,710 sq. ft. of 4" thick concrete paving; 2,640 sq. ft. of 6' thick concrete (at "driveways"); and an additional 10,584 sq. ft. of saw cut concrete and "exposed" aggregate.

The grading of the project site was designed to contain and treat all on-site water flow and drainage: neither the parking lot (west of and adjacent to Palomar Street) nor the turf, hardscape or active portions of the park cause sheet flow onto Palomar Street or any of the adjacent surrounding properties.

(b) ***Water Quality Management Plan (WQMP):***

A WQMP[2] was not completed for this project prior to its construction. However, the project was constructed in such a manner that post construction site specific structural and non-structural design features were incorporated to address water quality concerns.

(c) ***Design, Structural and Non-Structural Best Management Practices (BMPs):***

The project was designed to incorporate a number of structural as well as non-structural BMPs. A number of non-structural BMPs relating to the project were implemented as a series of maintenance procedures, once the project construction was completed, portable waste receptacles were brought to the site, and the facility was opened to the public in August 2008. Both structural and non-structural BMPs have been designed with two purposes in mind: the containment and treatment of all on-site water and sheet-flow and protection of water quality in the local watershed.

- ***Design BMPs:***

  The finished grading of the project site as well as the design of the project's hardscape/ facilities was designed to contain all on-site stormwater flows and drainage: neither the parking lot (west of and adjacent to Palomar Street) nor the turf, hardscape or active portions of the project site result in water discharge onto Palomar Street or any of the adjacent surrounding properties[3].

- ***Landscaped berm:***

  A landscaped berm was constructed between the west side of Palomar Road and the project to prevent stormwater sheet flow from leaving the park or from entering the site from Palomar Road.

- ***Structural BMPs:***

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[2] The Redevelopment Agency for the County of Riverside entered into an agreement on 12-11-08 with David Evans & Associates to complete a WQMP. The agreement in its entirety is included at the end of this report as Attachment "A."

[3] This fact can be verified by a visual inspection of the facility including walking the perimeter of the project site (visual inspection on 12-11-08). The parking lot has been designed to direct water to four (4) filtered drain inlets. The remainder of the project is designed to direct water to a number of shallow grass swales that intern direct water to six (6) filtered drain inlets.

The project's drainage system includes an extensive series of on-site inlet drains and underground piping that is used to transfer water directly to an enclosed underground storm drain system. The on-site drainage system includes seven (7) square 24" catch basins with cast iron surface grates. Each of the seven catch basins includes a debris trapping and pollution filtration system that utilizes Model FF 240 "Flo Guard" inset filters (Kristar Enterprises, Inc.)[4].

On-site sheet flow from the parking lot is served by three (3) parking lot "curb inlet" drains. This part of the drainage system utilizes Model FGP-48CI "Flo Guard+Plus" curb inlet inset filters (Kristar Enterprises, Inc.)[5]. The curb inlet drains are supplemented with the use of an additional 24" grated and filtered catch basin (one of the aforementioned seven catch basins mentioned above). In addition, a portion of the parking lot (area located in front of the concession stand/restroom buildings) is paved with pavers, which are pervious and allow for the natural filtration and percolation of stormwater.

A majority of the site remains landscaped with turf or is covered with other pervious materials such as bark or decomposed granite. The portion of the site planted in turf includes a series of shallow but visible bio-swales. The bio-swales have been designed to carry on-site drainage from various locations on the site to six (6) of the seven catch basins located throughout portions of the project site landscaped with turf.

In addition, a small section of the parking lot, in front of the concession and restroom buildings utilizes pervious pavers to help in the infiltration of stormwater flows.

- ***Non-structural (passive) BMPs[6] and Current Maintenance Schedule:***

  (1) On-site Steel Commercial Waste Bin: (1 waste bin / 3 cubic yards)—collection: 1-time per week.
  (2) Waste Containers: located throughout the project (6 containers)—collection: 2-times per week or more if needed.
  (3) Waste Containers at Baseball Diamonds: located in each bleacher area (6 containers: 2 per area)—collection: 2-times per week or more if needed.
  (4) Dog Waste Dispenser: (1-station)—collection: 2-times per week.[7]

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[4] This filter model includes a fine screen and materials for oil and grease absorption (marked 24DBY / visual inspection on 12-10-08).

[5] This filter model includes two internal screens (fine mesh and medium mesh) as well material for oil and grease absorption (visual inspection on 12-11-08). It is designed to remove 80 percent of total suspended solids, 70 percent of all oil and grease, and 40 percent of total phosphorus associated with organic debris. Stormwater Management Products RE: FlowGard+Plus, Kristar Enterprises, 2004 (see www.Kristar.com).

[6] All non-structural or passive BMPs are based on a visual inspection conducted by the Redevelopment Agency on 12-10-08. Maintenance procedures are based on information provided by the CSA maintenance supervisor for the facility (12-10-08).

[7] The dog waste station includes bags for waste. The bags are then deposited in trash receptacles that are emptied twice a week. A second dog waste station with signage will be installed on the project site by 01-05-2009.

(5) Temporary Portable Toilets: (2 toilets)—collection: 2-times per week.
(6) Parking Lot Maintenance (sweeping): 1-time per week (blower and hand sweeping).
(7) Lawn mowing (all grass areas): 1-time per week.
(8) Lawn Maintenance (fertilizer application): 1-time every three (3) months.
(9) Landscaping Maintenance (lawn and other landscaping - pesticide use): has not been applied to the project site and is not anticipated to be needed or used at this facility on a regular basis.
(10) Park-site Monitoring (for trash and general maintenance items): 6-days per week or more if needed.

(d) ***Ratio of Impervious to Pervious Materials:***

The project site is approximately nine (9) acres or 392,040 sq. ft. in size. Based on the bid documents, approximately 114,095 sq. ft. of the project site has been paved with impervious materials consisting of concrete and asphalt. From these figures, it can be determined that approximately 29 percent of the site is covered with impervious surface. It is important to note that approximately 71,152 sq. ft. of paving involved the complete reconstruction and replacement of the existing parking lot as well as the unpaved portion of the original footprint, estimated to be 23,717 sq. ft. (0.54 acres)

(e) ***Pollutants of Concern:***

The project site is located in the Santa Margarita Region. Potential Pollutants of Concern related to public park facilities generally include the following: chemical Pollutants from the on-site use of fertilizers and insecticides; the disposal of paper, food and other types of waste materials that occur through the public use of the facility; and potential petroleum-based pollutants resulting from parking lot runoff.

In particular, parking lots generate the following expected Pollutants: organic compounds in the form of petroleum hydrocarbons, trash and debris, oil and grease and metals, and have the potential to either generate or facilitate the transportation of nutrients, oxygen demanding substances and pesticides from adjacent landscaped areas.[8]

In general, expected Pollutants from landscaped areas include the following: sediment/turbidity, nutrients, trash/debris, oxygen demanding substances, bacteria and viruses, oil and grease and pesticides. This list contains crossover elements with either expected or Potential Pollutants relating to parking lots.[9]

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[8] See Table 2: Potential Pollutants Generated By Land Use Type (P.2) (under "Parking Lots") in *Riverside County Stormwater Best Management Practice Design Handbook*, Riverside County Flood Control and Water Conservation District, July 21, 2006.

[9] See Table 2: Potential Pollutants Generated By Land Use Type (P.2) (under "Detached Residential Development") in *Riverside County Stormwater Best Management Practice Design Handbook*, Riverside County Flood Control and

2. **Planned Actions**

(a) ***Retrofitting[10] of Parking Lot and Landscaping Areas (Structural BMPs):*** Filter inserts[11] were installed in all six (6) field drains (located in lawn/turf areas) when the project was completed in August 2008. The three (3) parking lot curb inlet filters[12] and the one (1) 24" drain filter[13] were installed during the week ending 12-12-08.

(b) ***Retrofitting[14] of the Project Site (Non-Structural BMPs):*** The following non-structural BMPs will be added[15] to the project site to further assist in the maintenance of on-site water quality and water quality education: (1) a second "dog waste station" with signage will be installed at the project site; (2) a bulletin board will be installed at a visible location at the concession stand/restroom complex which will contain educational materials pertaining to the Santa Margarita Region, stormwater management, BMPs and other water quality information; and (3) all four parking lot drains will be stenciled with the following phrase: "Only Rain in the Storm Drain."

(c) ***Landscape Plan to Reduce Irrigation Runoff:*** Landscaping runoff is not an issue on the project site. The on-site irrigation system is fully automated and includes an "evapo-transpiration system."[16] This is a computerized system that minimizes the waste of water resulting from over-watering.

(d) ***Water Quality Treatment Control BMPs:*** See discussion in Section No. 1, (d), above.

3. **Timeline**

(a) ***Completion of WQMP:*** On 12-11-08, the Redevelopment Agency hired a consultant to complete a WQMP for the project site. The contractual time-frame for completion of the WQMP is a maximum of 90-days. However, the Redevelopment Agency expects the draft plan to be completed by the second week of January 2009.

(e) ***Review of WQMP:*** When completed, the WQMP will be reviewed by Redevelopment Agency staff. Secondly, the Riverside County Flood Control & Water Conservation District will be hired to perform a third party review of the WQMP.

Water Conservation District, July 21, 2006. Table 2 does not contain a pollution criteria index for park facilities. "Detached Residential Development" was used as a criteria index due to the fact that it most closely resembled landscape and turf maintenance issues that would most likely occur at a park site.

[10] The need to retrofit the project site with additional structural BMPs beyond those that already exist will be determined by the engineering consultant and based on his recommendations.

[11] All filters installed at the project site are multi-purpose and designed by the manufacturer to filter trash and debris as well as oil, grease and sediment. See filter descriptions in footnote Nos. 4 and 5, above.

[12] Ibid.

[13] Ibid.

[14] The need to retrofit the project site with additional non-structural BMPs beyond those that already exist and have been added and discussed in this paragraph will be determined by the engineering consultant and based on his recommendations.

[15] See Water Quality Management Action Plan: Attachment "B". Some of the listed items are currently in place at the project site.

[16] Cal Sense Controllers ensure that the site gets watered on an as needed basis based on moisture content in the air. This system is checked continuously as part of the maintenance of the project site. CalSense reports are printed and evaluated by CSA staff five days a week.

(f) ***Action Plan:*** See "Water Quality Management Action Plan" (Attachment "B").

(g) ***Completion of Project:*** See "Water Quality Management Plan" timeline (Attachment "B").

4. ***Aerial Photos (pre and post construction):*** (Attachment C[17])

FUTURE PROJECTS

The County of Riverside would also like to take this opportunity to provide a status report on projects that are proposed or in the design phase in the Santa Margarita Region since July 15, 2005:

Facilities Management:

- **Glen Oaks Fire Station**-(Design Phase, SWPPP prepared, preliminary WQMP prepared-waiting final approval, proposed start of construction 2009 unless the Board of Supervisors suspend all CIPs until economy improves)
- **Lake Riverside Fire Station**-(Project placed on hold, no funding available)
- **Southwest Law and Justice Center parking expansion**-(Design Phase, SWPPP prepared, preliminary WQMP prepared-waiting for final approval, proposed start of construction early 2009) ***See above***

Transportation Department:

- **Clinton Keith Road Project**-Design Phase, SWPPP prepared, preliminary WQMP prepared-waiting final approval, proposed start of construction unknown) ***See above***

EDA/RDA:

- **Palomar Road Beautification, Sidewalk, Curb and Storm Drain Project**-This project is located in the City of Wildomar. This project is in the design phase and a review of the file is in process to determine whether a WQMP was part of the design plan. If no WQMP was identified the RDA Project Manager will have a WQMP developed prior to construction. No final date has been set for construction to begin.

[17] Riverside County LMS GIS layer.

Private Development with ties to the County of Riverside:

- **French Valley Business Park District Attorney/Public Defender Complex**-(Rough grading has commenced. NOV issued by Riverside County Building & Safety with requirements to improve BMPs in SWPPP. Facilities Management is taking the lead on project management although it is a private developer project. Additional BMPs have been added to mitigate the NOV. A final site specific WQMP is part of the design.) This project is on EDA purchased land, a private developer is constructing the building and the county will be leasing the building under a fifty-year lease agreement with an opportunity to purchase the building at a future date. Project funding has not materialized and a hold has been placed on this project. Grading has ceased on this project and stormwater BMPs to prevent stormwater flows have been initiated by the developer.) **(This will continue to be a private developer project-not a CIP.) The developer is responsible for obtaining all permits and being in compliance with stormwater requirements)**

The economic recession, decreased number of housing starts, reduced population growth and foreclosures have caused a significant decline in property taxes, and the Transportation Uniform Mitigation Fees (TUMF) and Development Impact Fees (DIF) revenues have diminished, which will have an impact on future municipal Capital Improvement Projects (CIPs). In addition, the County is faced with a 25% decrease in general fund budgets over the next 3 to 5 years. The only significant CIP to likely move forward with any momentum is the proposed mid-county Hub Detention Center located in the Whitewater River Watershed, which is under the jurisdiction of the Colorado Regional Water Quality Control Board. Other CIPs will be suspended throughout the county unless projects have already received full funding and have been approved by the Board of Supervisors.

Remarks on the comprehensive list of projects

Significant progress has been made by County departments and after a thorough review of all known County data base systems and interviews with staff for Facilities Management Department, Transportation Department, Parks and Open Space District, EDA/RDA, Waste Management Department, and Flood Control and Water Conservation District, the last remaining activity to investigate is the paperwork of EDA/RDA construction files. This continues to be a slow process, and as sites are identified, a supplemental report will be filed with the Regional Board. The County would like to offer that a quarterly report be submitted that:

- Identifies any additional sites;
- Planned interim actions;
- Timeline for development of a WQMP; and
- Planned retrofit of existing projects or other mitigation measures based upon the findings of the WQMP.

A quarterly report will continue to be provided until such time that the County is confident that all projects have been identified.

In most instances, in this declining economy the County has taken the approach of utilizing leased spaced to house staff and equipment in the Santa Margarita Watershed and therefore the need for Capital Improvement Projects has been minimized.

As provided in the RTR dated July 16, 2008, Section 2 (pages 6 and 7), since the joint US EPA/Regional Board focused audit of January 2008, and prior to the issuance of NOV R9-2008-0073, steps were taken by county departments to address weaknesses and to make improvements toward strengthening program compliance with the MS4 permit, including the addition of an NPDES/MS4 trigger in the CIP project initiation process and the acknowledgement by EDA/RDA and the Facilities Management Department through a directive memo to project management staff that all CIPs will comply with NPDES and MS4 requirements.

As discussed with the US EPA Region IX auditor, during the focused audit exit interview, the MS4 program continues to evolve and adjustments made to fine tune how the County implements the requirements of the NPDES/MS4 stormwater program. Also, because of the arid and semi-arid conditions of the county and due to the minimal amount of rain that is received in this inland portion of Southern California, the focus of the MS4 implementation has been on urban run off. Over two thirds of the upper Santa Margarita watershed is rural, tribal land or protected as part of the Multiple Species Habitat Planning area and therefore no MS4 coverage is required. Rain which is a transient event (especially during this long period of drought) has had little or no impact on overall water quality in the upper and middle portions of the Santa Margarita watershed then it might for coastal communities.

Further, in this current recessionary economy new residential, commercial & industrial, or municipal development has been on the decline since mid-2006, with no improvement in the economy anticipated until after 2012. Of particular concern is a 25% budget reduction that is being implemented by the County across all county program areas over the next four years. It will be a difficult challenge to maintain NPDES/MS4 program continuity and compliance at current levels notwithstanding any additional unfunded mandates that may be proposed in the next permit cycle.

It should also be noted that there are additional complications of being regulated by three Regional Boards. This unique circumstance presents a hardship for the County and magnifies the complexities of the competing interests and differences of each Regional Board. It also affects Riverside County's effort in trying to keep the county departments up to date with compliance strategies and keeping staff trained on the nuances of each of the three significantly different MS4 permits.

In conclusion, notwithstanding the very real impacts faced by the County under poor economic conditions, we will continue to make the best possible efforts at satisfying the requirements of the current stormwater program.

Project Specific
Water Quality Management Plan

For: Scott Road Improvements: Antelope Road to El Centro Lane
County of Riverside, California
(RCTD Project No. A5-0256)

Prepared for:
Riverside County Transportation Department
3525 14th Street
Riverside, California 92501
(951) 955-6780

Prepared by:
URS Corporation
3500 Porsche Way, Ste 300
Ontario, California 91764
(909) 980-4000
Cynthia Gabaldon, P.E., CPSWQ, CPESC

URS

WQMP Prepared: December 22, 2008

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URS

WQMP Prepared: December 22, 2008

OWNER'S CERTIFICATION

This project-specific Water Quality Management Plan (WQMP) has been prepared for the Riverside County Transportation Department (RCTD) by URS Corporation (URS) for the project known as:

Scott Road Improvements from Antelope Road to El Centro Lane in Riverside County, California (Project No. A5-0256)

This WQMP is intended to comply with the requirements of the Riverside County Drainage Area Management Plan – Santa Ana and Santa Margarita Regions, County of Riverside Santa Margarita Region Stormwater Management Plan, and the Waste Discharge Requirements for Discharges of Urban Runoff from Municipal Separate Storm Sewer Systems (MS4s) adopted by the San Diego Regional Water Quality Control Board (referred to as the NPDES MS4 Permit).

The undersigned, while owning the subject property/project shall be responsible for the implementation of this WQMP and will ensure that this WQMP is amended as appropriate to reflect up-to-date conditions on the site. This WQMP will be reviewed with the RCTD employees, maintenance and service contractors, or any other party (or parties) having responsibility for implementing portions of this WQMP. Copies of this WQMP will be maintained on file by the RCTD Engineering Division, the RCTD Highway Operations Yard and the Valley Wide Park and Recreation District's Administrative Office.

The undersigned is authorized to certify and to approve implementation of this WQMP. If the undersigned transfers its interest in the subject property/project, its successor in interest the undersigned shall notify the successor in interest of its responsibility to implement this WQMP.

"I certify under penalty of law that the provision of this WQMP have been reviewed and accepted and that the WQMP will be transferred to future successors in interest."

Patricia Romo
Owner's Signature

12/24/08
Date

Patricia Romo
Owner's Printed Name

Deputy Director of Transportation
Owner's Title/Position

Riverside County Transportation Department
4080 Lemon Street, 8th Floor
Riverside, California 92501
(951) 955-6740

December 22, 2008

Table 5. BMP Placement and Design Data by Drainage Area

Water Quality BMP Selection Criteria & Design Table

Project: Scott Road Widening Project

Station No.	Drainage Area	Acreage* (Ac)	Flow line to Curb/Shoulder	BMP Selection Criteria	BMP Type	Q_{BMP} Minimum for BMP (cfs)	Q_{Peak} (Check) (cfs)+	Flow Q (cfs)***			Size				Q_{Peak} (Check) (cfs)
								2-Yr	10-Yr	100-Yr	Length (ft)	Top width (ft)	Flow Depth (ft)	Depth Max (ft)	
	5A1	0.50	Shoulder					0.52	0.85	1.30					
	5A2	0.19	Shoulder					0.27	0.43	0.66					
72+98.06	Combined 5A1 + 5A2****	0.69	Shoulder		Vegetated Swale	0.12	3.79	0.79	1.29	1.96	84	11.00	0.17	1.00	3.79 >1.29
	5B	0.92	Curb	Maintenance Only				1.06	1.72	2.65					
	5C	0.68	Curb	Maintenance Only				0.84	1.36	2.07					
77+74.54	6A1	0.30	Shoulder		Vegetated Swale	0.05	0.92	0.40	0.65	0.99	62	7.00	0.10	0.50	0.92 > 0.65
95+88.33	6A2	0.86	Shoulder		Vegetated Swale	0.15	2.64	0.96	1.57	2.39	116	7.50	0.16	0.75	2.64 > 1.57
96+87.51	6B	1.55	Shoulder		Vegetated Swale	0.28	3.79	2.13	3.47	5.29	110	11.00	0.27	1.00	3.79 > 3.47
96+84.09	7A	0.84	Curb		Vegetated Swale	0.15	0.70	0.85	1.36	2.08	90	11.00	0.23	1.00	3.79 > 1.36
96+87.51	7B	1.42	Shoulder		Vegetated Swale	0.26	3.79	1.57	2.56	3.90	107	11.00	0.25	1.00	3.79>2.56
97+52.09	8A	0.28	Shoulder		Vegetated Swale	0.05	0.70	0.43	0.69	1.06	68	6.00	0.12	0.50	0.7 > 0.69
98+64.11	8B	0.33	Shoulder		Vegetated Swale	0.06	0.92	0.55	0.89	1.37	66	7.00	0.11	0.50	0.92 > 0.89
36+44.86	9A	1.19	Shoulder		Vegetated Swale	0.21	3.79	1.55	2.51	3.85	100	11.00	0.02	1.00	3.79 > 2.51
26+35.18	9B	0.22	Shoulder		Vegetated Swale	0.04	0.70	0.28	0.45	0.68	63	6.00	0.11	0.50	0.70 > 0.45
	10A	1.76	Shoulder	Project prior to WQMP**	Catch Basin Insert			2.14	3.48	5.30					
26+35.18	10B	0.25	Shoulder		Vegetated Swale	0.05	0.70	0.38	0.61	0.94	68	6.00	0.12	0.50	0.70 > 0.61
111+36.79	10C	0.16	Shoulder		Vegetated Swale	0.03	0.70	0.22	0.36	0.55	58	6.00	0.09	0.50	0.70 > 0.36
	11B	0.26	Shoulder	Maintenance Only				0.29	0.47	0.72					
	12B	0.37	Shoulder	Maintenance Only				1.02	0.69	1.04					
	11A	0.82	Shoulder					0.95	1.55	2.36					
	12A	0.48	Shoulder					0.54	0.89	1.35					
12+2.90	Combined 11A + 12A****	1.30	Shoulder		Vegetated Swale	0.23	3.79	1.49	2.44	3.71	103	11.00	0.24	1.00	3.79>2.44

* See Section 3.0 of the Riverside County Water Quality Management Plan for Urban Runoff – Santa Ana River and Santa Margarita River Regions. Addition or creation of 5,000 sq. ft. or more of impervious surface to an already developed site may be considered Significant Redevelopment and may require a WQMP. However, routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, the original purpose of the constructed facility or emergency actions required to protect public health and safety are specifically excluded from such requirement.

** The developer north of this portion of Scott Road was conditioned to build this portion of the road. Instead of building these improvements, the developer paid cash-in-lieu. This development was approved prior to the WQMP requirements.

+ Swales are designed per the Q_{BMP} and minimum swale design requirements. The design swale size is then used to reverse calculate the Q_{peak} for that swale design. This Q_{peak} value is then compared to Q_{10} only to cross-check for flow management.

*** The 2-Yr and 10 -Yr data are presented for purposes of the Hydrologic Conditions of Concern requirements of the Riverside County Water Quality Management Plan. The 100 -Yr data is represents flood control flows for comparison purposes only.

**** Combined areas are draining to the same swale.

VI. Operation and Maintenance Responsibility for Treatment Control BMPs

Operation and maintenance (O&M) requirements for all structural Source Control and Treatment Control BMPs have been identified in this project-specific WQMP, including

- Identification of each BMP that requires O&M.
- Thorough description of O&M activities, the O&M process, and the handling and placement of any wastes.
- BMP start-up dates.
- Schedule of the frequency of O&M for each BMP.
- Identification of the parties (name, address, and telephone number) responsible for O&M.
- Self-inspections and record-keeping requirements for BMPs, including identification of responsible parties for inspection and record-keeping.

Treatment Control BMPs: Flow Based Treatment Control BMPs

Upon completion of this Capitol Improvement Project (CIP), long-term budgeting and maintenance will be the responsibility of the Riverside County Deputy Director of Transportation – Operations for the swales. The long-term budgeting and maintenance for the catch basin insert will be the responsibility of Valley Wide Parks and Recreation District through a Landscape Maintenance District.

Swales

Swales will be used to effectively treat stormwater runoff that is generated on the roadway and discharged to the sides of the roadway. Swales will be installed throughout the project site. The contractor will install the swales; however, the Riverside County Transportation Department will assume long-term maintenance responsibilities for the swales. The swales for this project will not be irrigated as there is no water available. A non-irrigated seed mix approved by the Riverside County Transportation Department will be selected based on the soils, and other site conditions. Maintenance of the swales will not require special training for maintenance crews.

Typical maintenance activities and frequencies for the vegetated swales include:

- Riverside County Transportation Department has an interest in protecting the roads from erosion conditions. Swales will be inspected for erosive conditions that may affect the swales' ability to treat stormwater effectively and for the integrity and safety of the facility.
- The Riverside County Transportation Department, Highway Operations Division will inspect the swales for signs of erosion, damage to vegetation, accumulated sediment and presence of trash and debris.

- Inspections will occur at least twice annually—before the rainy season and at the end of the rainy season.
- Stormwater flows may increase to levels where rills or gullies formed within the slope face. Repair the side slopes as soon as practical.
- Observe the swales for any standing water that pose a threat to breeding mosquitoes.
- The swales should be checked for any accumulated debris or litter. Trash tends to accumulate on the side banks along highways and roadways. Trash and litter should be removed promptly.

Refer to the California Association of Stormwater Quality Agencies (CASQA) BMP Vegetated Swale TC-30 included under Appendix D of this WQMP for further details regarding BMP operation and maintenance procedures.

Operation and Maintenance Activities:

BMP Start-Up Date: Upon completion of construction activities (i.e. grading).

Operation and Maintenance Frequency: Clear any trash and debris, repair any damaged vegetation or eroded side slopes, check for standing water, as dictated by site and weather conditions.

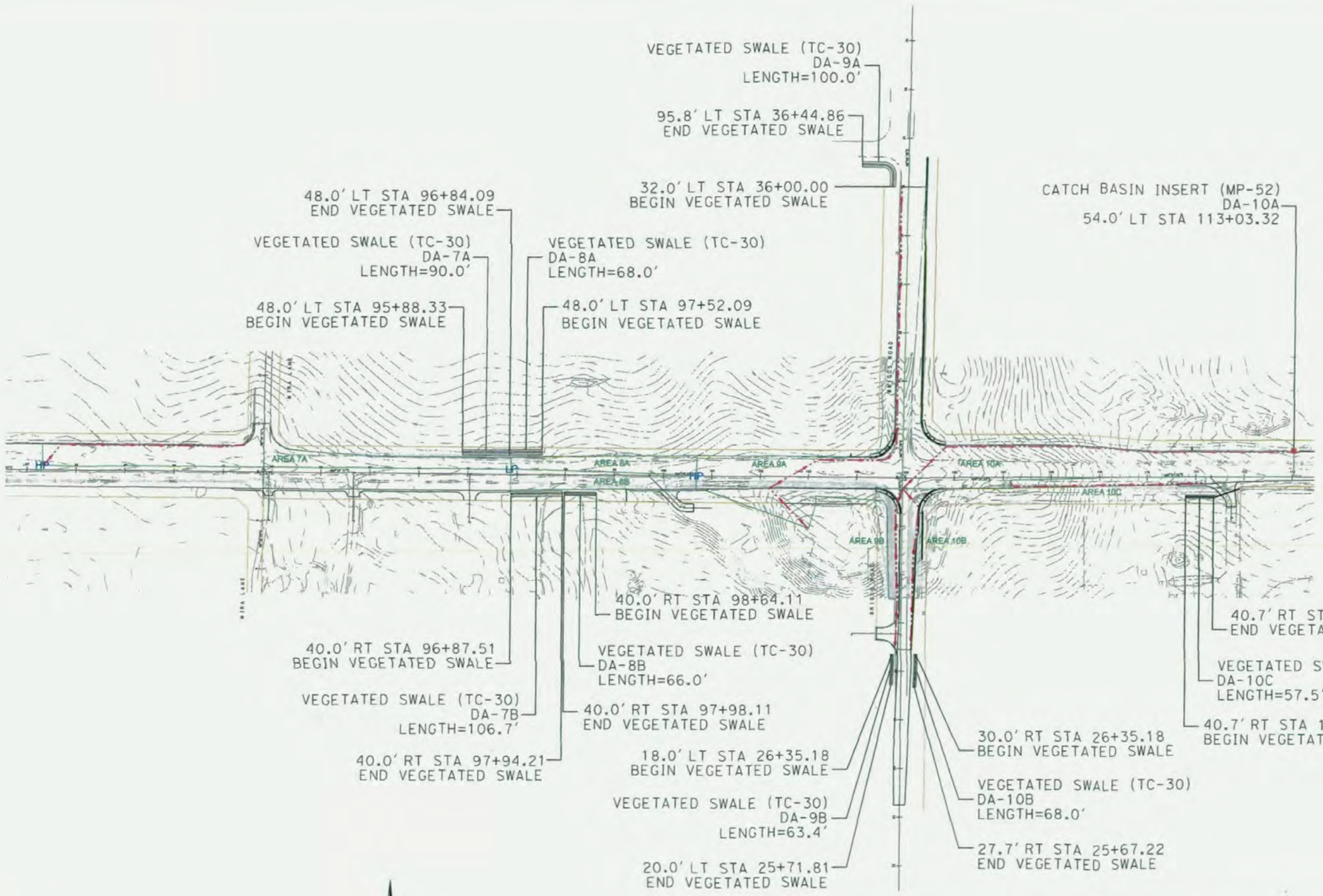
Party Responsible for Operation and Maintenance: Riverside County Transportation Department, Highway Operations Division

Catch Basin Drain Inserts

A Catch Basin Filter Insert is installed at near the eastern end of the project at approximately station 118+50. The Valley Wide Parks and Recreation District, through a landscape and lighting maintenance district, will assume long-term maintenance responsibilities for the catch basin inserts. Catch basin inserts require maintenance to ensure the filter media is intact, not torn or clogged with large debris particles. Maintenance of the catch basin inserts will not require special training for maintenance crews.

- Typical maintenance activities and frequencies include:
- Inspection of the catch basin inserts for damage to fabric material and dumping of collected materials. Increased frequency of inspections should occur at the beginning of the wet season.
- Additional inspections after periods of storm flows and run-off may be important to ensure the catch basin inserts are working properly.
- Catch Basin inserts should be checked for debris and litter and areas of sediment accumulation. Trash tends to accumulate in catch basin inserts, particularly along highways and roadways. The need for litter removal should be determined through periodic inspection but litter should always be removed promptly.

Refer to the California Association of Stormwater Quality Agencies (CASQA) BMP Drain Insert MP-52 included under Appendix D of this WQMP for further details regarding BMP operation and maintenance procedures.



URS

SCALE: 1"=200'

COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT

SCOTT ROAD WIDENING
BMP SITE PLAN

SHEET 4 OF 5

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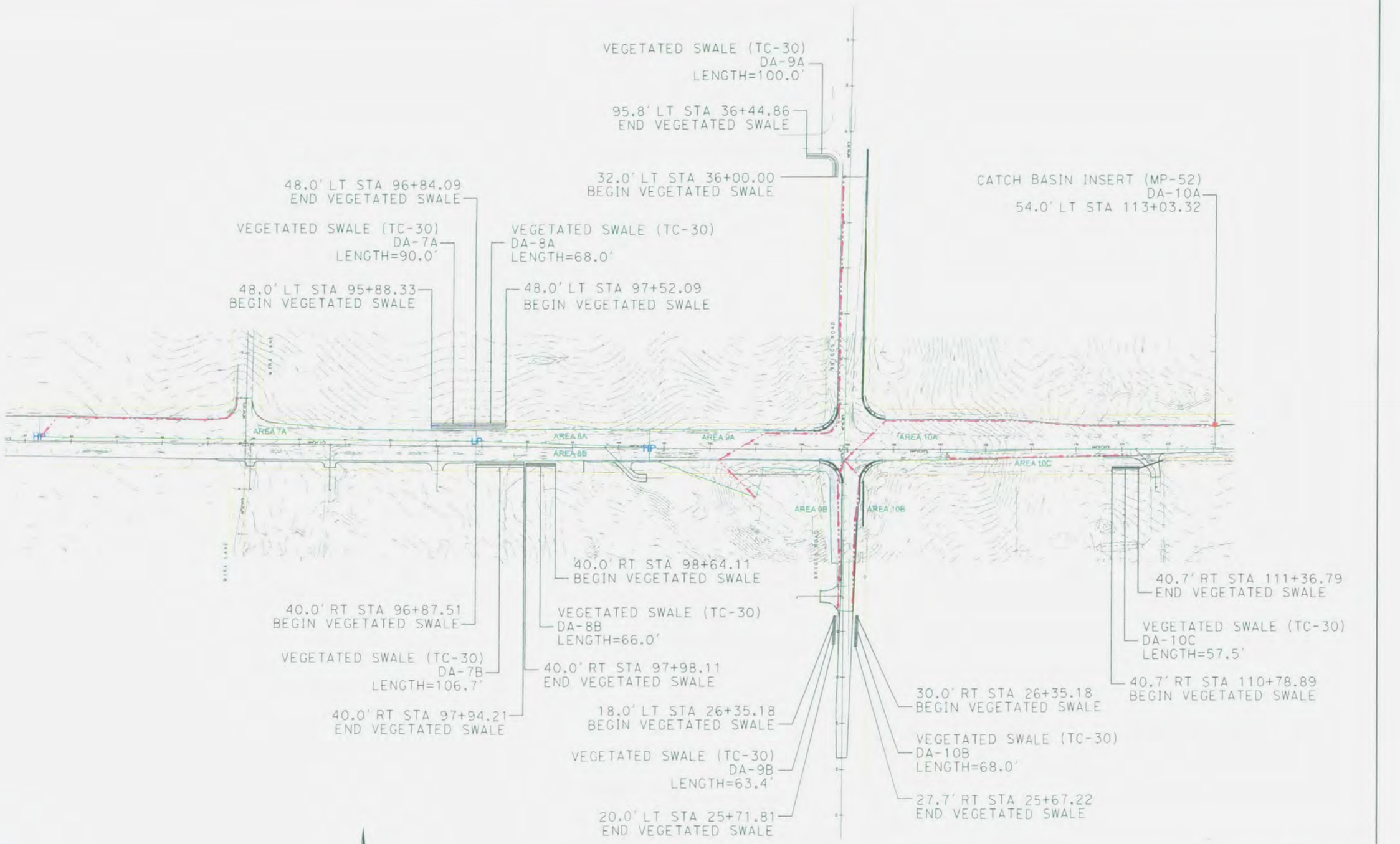

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COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT

SCOTT ROAD WIDENING
BMP SITE PLAN

SHEET 4 OF 5

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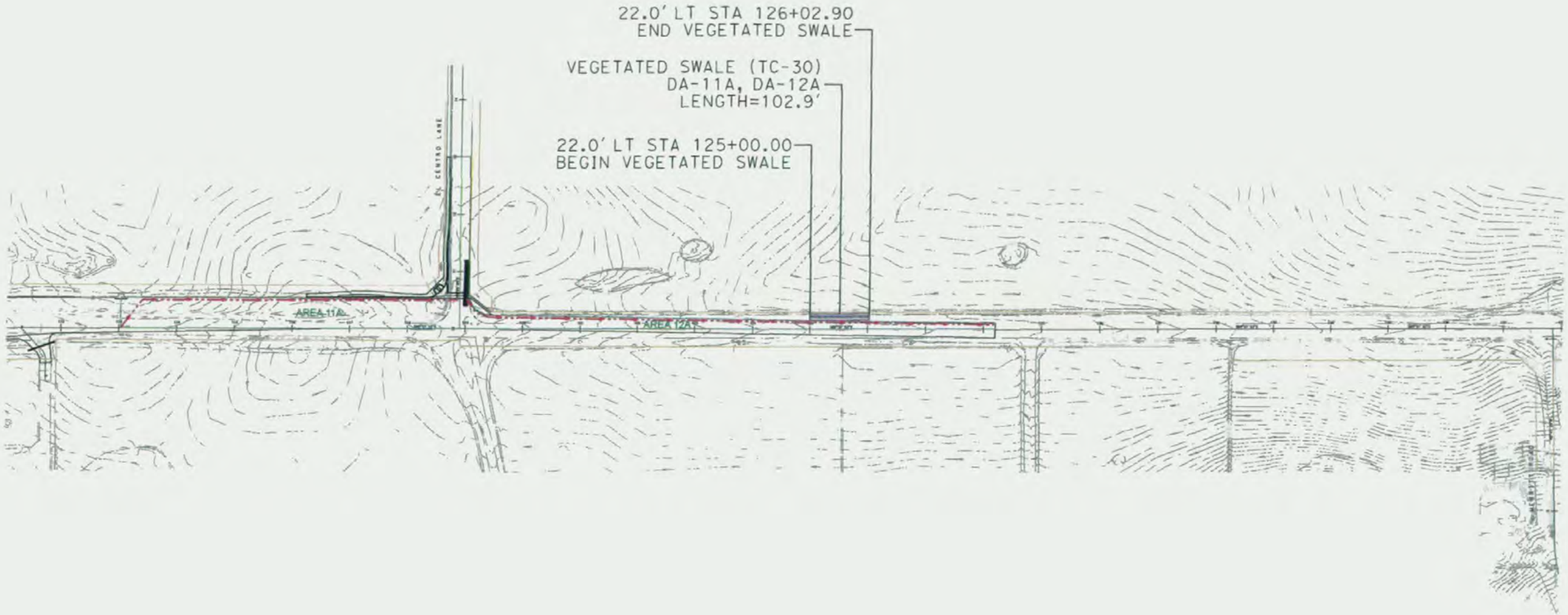

URS

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COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT

SCOTT ROAD WIDENING
BMP SITE PLAN

SHEET 5 OF 5

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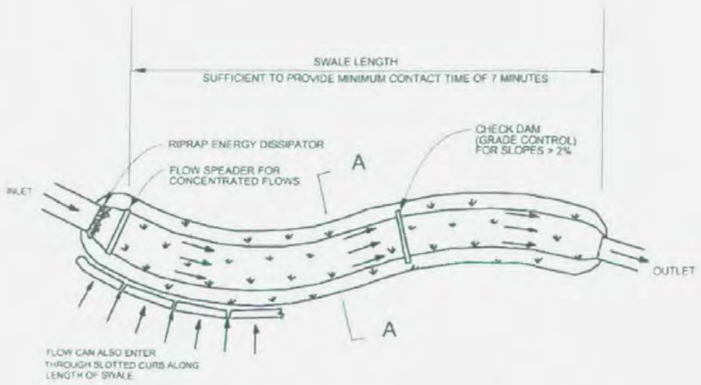
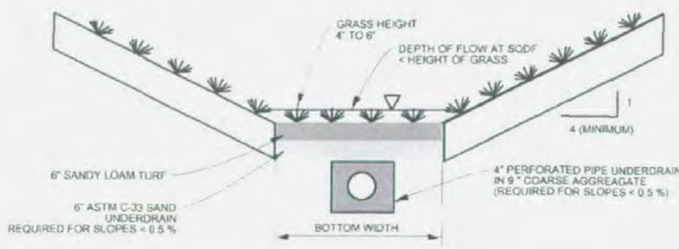


TRAPEZOIDAL GRASS SWALE PLAN

NOT TO SCALE



TRAPEZOIDAL GRASS SWALE SECTION

NOT TO SCALE

VEGETATED SWALE (TC-30)
PER RIVERSIDE COUNTY WATER QUALITY MANAGEMENT PLAN
EXHIBIT C, FIGURE 11

ANCHOR DETAIL

NOTE:

1. FILTER BODY SHALL BE MANUFACTURED FROM PETROLEUM RESISTANT FIBERGLASS WHICH MEETS OR EXCEEDS PS 15-69.
2. ALL METAL COMPONENTS SHALL BE STAINLESS STEEL (TYPE 304)
3. REMOVABLE FILTER BASKET SHALL BE CONSTRUCTED FROM DURABLE POLYPROPYLENE WOVEN MONOFILAMENT GEOTEXTILE.
4. FILTER BODY SHALL BE SECURED TO CATCH BASIN WALL WITH EXPANSION ANCHOR BOLTS AND WASHER. (SEE DETAIL)
5. INSERTS ARE AVAILABLE IN 24" OR 30" LENGTH SECTIONS AND MAY BE INSTALLED IN VARIOUS COMBINATIONS (END TO END) TO FIT MOST CATCH BASIN WIDTHS.
6. FILTER BASKET MAY BE REMOVED THROUGH CURB OPENING FOR EASE OF MAINTENANCE
7. FILTER MEDIUM SHALL BE IN DISPOSABLE POUCHES. INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS

NOT TO SCALE

CATCH BASIN INSERT (MP-52)
PER RIVERSIDE COUNTY ORDINANCE 461
STANDARD 300A

URS

COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT

SCOTT ROAD WIDENING
BMP DETAILS

SHEET 1 OF 1

DGN FILE => $REQUEST

ATTACHMENT 12

COUNTY OF RIVERSIDE LETTER DATED MARCH 17, 2009

Bill Luna
County Executive Officer

Jay E. Orr
Assistant County Executive Officer

Executive Office, County of Riverside

Mr. Ben Neill, WRCE
San Diego, Regional Water Quality Control Board
9174 Sky Park Court, Suite 100
San Diego, CA 92123

March 17, 2009

Subject: ***Update for Riverside County Facilities Management Department, Economic Development & Redevelopment Agencies and Riverside County Transportation Department Capitol Improvement Projects within the Santa Margarita Watershed (Reference:*** **Notice of Violation R9-2008-0073)**

Dear Mr. Neill,

As part of the County of Riverside's commitment to provide periodic updates on capitol improvement projects (CIPs) within the Santa Margarita Watershed, I would like to take this opportunity to highlight the following information:

1. In an effort to contain county costs and provide better program consistency the County Facilities Management Department and the Economic Development & Redevelopment Agencies are being merged in April 2009. This merger will accomplish several goals:
    a. centralize the environmental compliance unit;
    b. consolidate the plan review process and ensure that LID and hydromodification concepts are integrated into the design plan for CIPs;
    c. provide for better coordination between project managers and the environmental compliance unit;
    d. ensure that all CIPs requiring construction SWPPPs and WQMPs with post construction BMPs are implemented, installed, inspected and maintained;
    e. help both organizations meet their ten percent budget reduction for FY 09/10, estimated six percent budget reduction for FY10/11 and estimated four percent budget reduction for FY11/12.

2. The Riverside County Transportation Department has completed the WQMP retrofit for that portion of Scott Road that was within the Santa Margarita Watershed. The Transportation Department will be providing a final report and Notice of Termination under a separate cover letter.

3. Economic Development & Redevelopment Agency Capitol Improvement Projects:

    a. ***Marna O'Brien Park WQMP Retrofit***: the draft WQMP was completed and has been reviewed by the RDA and Flood Control. Flood Control has requested that the RDA design and install an additional bioswale along the easterly edge of the parking lot. This bio-swale will be located on park property as well as in some of the right-of-way on Palomar Road. The design of the bio-swale is currently underway. The final WQMP will incorporate this new BMP and include appropriate maintenance criteria and recommendations provided by Flood Control and the RDA.
    b. ***Windsong Park WQMP***: scope of work has been developed and submitted to the RDA by the consultant.
    c. ***Palomar Street Road Improvement WQMP***: the draft WQMP has been reviewed by the RDA and returned to the consultant for revisions. Flood Control's review comments are anticipated late March 2009.

This should bring you up to date on all current Riverside County CIPs within the Santa Margarita Watershed. Because of the economic uncertainty, high volume of foreclosures, slow to nonexistent new residential and commercial development, loss/reduction of property tax revenue, layoffs, pending furloughs, and an estimated $90 Million budget shortfall all CIPs have been put on hold except for county new correctional facilities and upgrades to existing correctional facilities outside of the San Diego RWQCB jurisdictional area.

If you have any questions you can contact me at 951-955-1110.

Regards,

Michael R. Shetler

Michael R. Shetler, REHS, MA
Senior Management Analyst
NPDES Stormwater Program Coordinator
Riverside County Executive Office

cc: Alex Gann, Principle Management Analyst, Riverside County Executive Office
Jason Uhley, Riverside County Flood Control and Water Conservation District

ATTACHMENT 13

EXHIBIT C (EXCERPT FROM WQMP DATED SEPTEMBER 17, 2004)

RIVERSIDE COUNTY
WATER QUALITY MANAGEMENT PLAN
FOR URBAN RUNOFF

Santa Ana River Region

Santa Margarita River Region

September 17, 2004

Grassed Swales

General

A Grass swale is a wide, shallow densely vegetated channel that treats stormwater runoff as it is slowly conveyed into a downstream system. These swales have very shallow slopes in order to allow maximum contact time with the vegetation. The depth of water of the design flow should be less than the height of the vegetation. Contact with vegetation improves water quality by plant uptake of pollutants, removal of sediment, and an increase in infiltration. Overall the effectiveness of a grass swale is limited and it is recommended that they are used in combination with other BMPs.

This BMP is not appropriate for industrial sites or locations where spills occur. Important factors to consider when using this BMP include: natural channelization should be avoided to maintain this BMP's effectiveness, large areas must be divided and treated with multiple swales, thick cover is required to function properly, impractical for steep topography, and not effective with high flow velocities.

Grass Swale Design Criteria:

Design Parameter	Unit	Design Criteria
Design Flow	cfs	Q_{BMP}
Minimum bottom width	ft	2 ft [2]
Maximum channel side slope	H:V	3:1 [2]
Minimum slope in flow direction	%	0.2 (provide underdrains for slopes < 0.5) [1]
Maximum slope in flow direction	%	2.0 (provide grade-control checks for slopes >2.0) [1]
Maximum flow velocity	ft/sec	1.0 (based on Manning n = 0.20) [1]
Maximum depth of flow	inches	3 to 5 (1 inch below top of grass) [1]
Minimum contact time	minutes	7 [1]
Minimum length	ft	Sufficient length to provide minimum contact time [1]
Vegetation	-	Turf grass or approved equal [1]
Grass height	inches	4 to 6 (mow to maintain height) [1]

1 Ventura County's Technical Guidance Manual for Stormwater Quality Control Measures
2 City of Modesto's Guidance Manual for New Development Stormwater Quality Control Measures
3 CA Stormwater BMP Handbook for New Development and Significant Redevelopment
4 Riverside County DAMP Supplement A Attachment

Grass Swale Design Procedure

1. Design Flow
   Use Worksheet 2 - Design Procedure Form for Design Flow Rate, Q_{BMP}.

2. Swale Geometry
   a. Determine bottom width of swale (must be at least 2 feet).
   b. Determine side slopes (must not be steeper than 3:1; flatter is preferred).
   c. Determine flow direction slope (must be between 0.2% and 2%; provide underdrains for slopes less than 0.5% and provide grade control checks for slopes greater than 2.0%

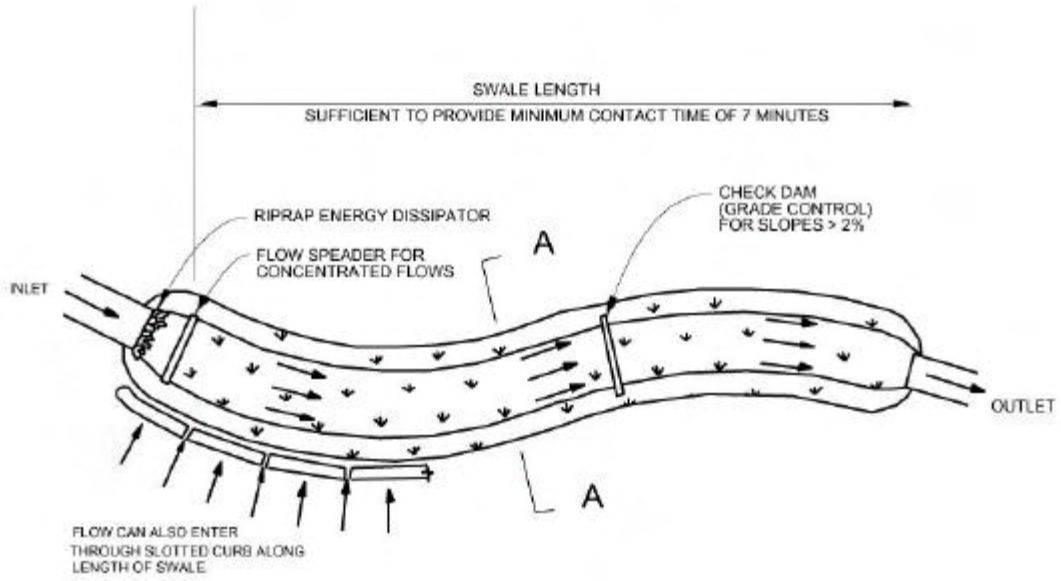
3. Flow Velocity
   Maximum flow velocity should not exceed 1.0 ft/sec based on a Mannings n = 0.20

4. Flow Depth
   Maximum depth of flow should not exceed 3 to 5 inches based on a Manning n = 0.20

5. Swale Length
   Provide length in the flow direction sufficient to yield a minimum contact time of 7 minutes.
   L = (7 min) x (flow velocity ft/s) x (60 sec/min)

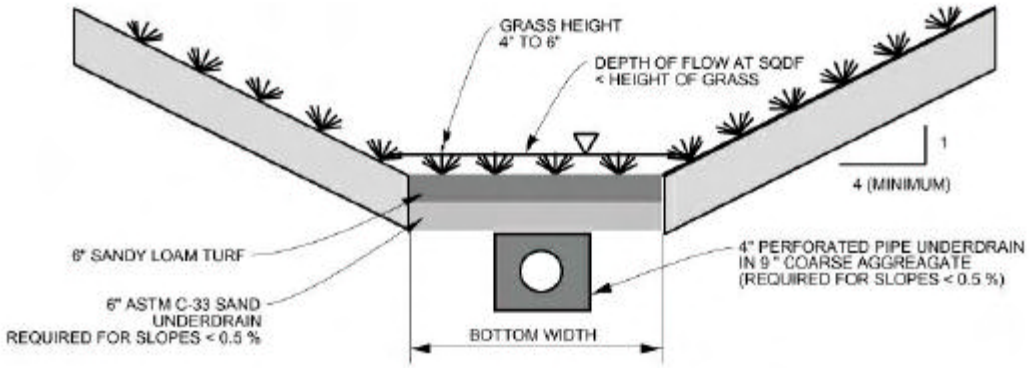
6. Vegetation
   Provide irrigated perennial turf grass to yield full, dense cover. Mow to maintain height of 4 to 6 inches.

7. Provide sufficient flow depth for flood event flows to avoid flooding of critical areas or structures.



TRAPEZOIDAL GRASS SWALE PLAN

NOT TO SCALE



TRAPEZOIDAL GRASS SWALE SECTION

NOT TO SCALE

Figure 11: Grassed Swale

Source: Ventura County Guidance Manual

Worksheet 9

Design Procedure Form for Grassed Swale

Designer:_____
Company:_____
Date:_____
Project:_____
Location:_____

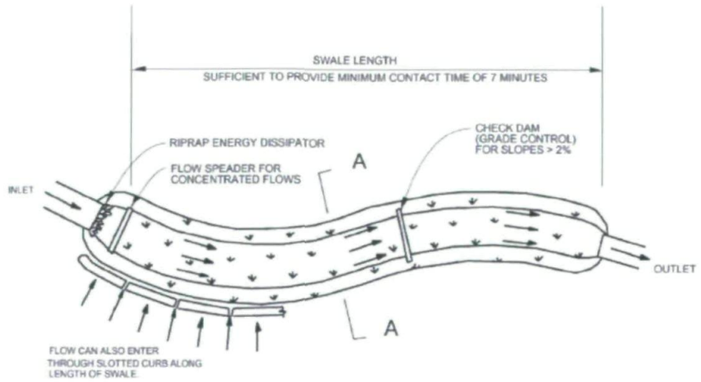
1. Determine Design Flow (Use Worksheet 2)	Q_{BMP} = _____ cfs
2. Swale Geometry a. Swale bottom width (b) b. Side slope (z) c. Flow direction slope (s)	 b = _____ ft z = _____ s = _____ %
3. Design flow velocity (Manning n = 0.2)	v = _____ ft/s
4. Depth of flow (D)	D = _____ ft
5. Design Length (L) L = (7 min) x (flow velocity, ft/sec) x 60	L = _____ ft
6. Vegetation (describe)	_____ _____
8. Outflow Collection (check type used or describe "other")	___ Grated Inlet' ___ Infiltration Trench ___ Underdrain ___ Other_____

Notes:

_____
_____
_____
_____
_____
_____

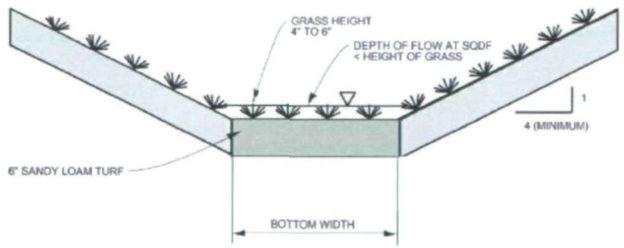
ATTACHMENT 14

AS-BUILT PLANS FOR SCOTT ROAD IMPROVEMENT PROJECT DATED MARCH 15, 2009



TRAPEZOIDAL GRASS SWALE PLAN

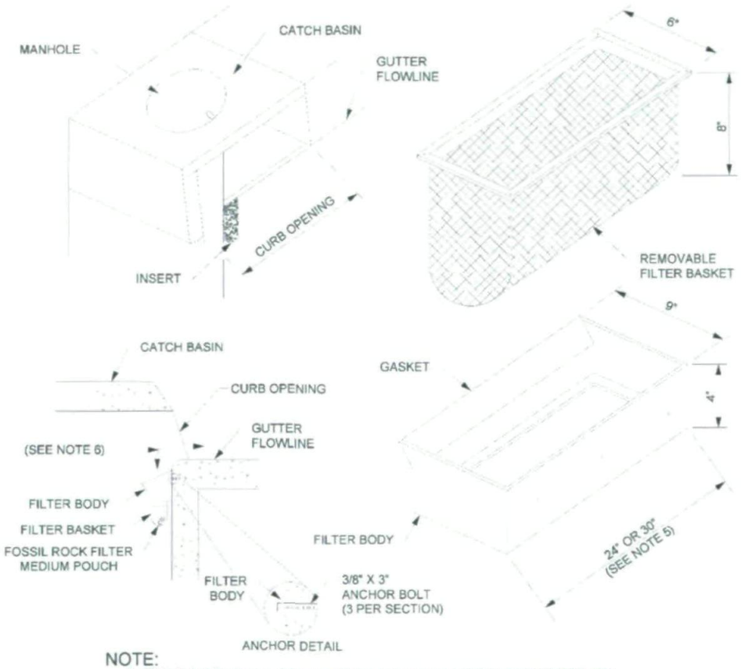
NOT TO SCALE



TRAPEZOIDAL GRASS SWALE SECTION

NOT TO SCALE

VEGETATED SWALE (TC-30, REVISED)
PER RIVERSIDE COUNTY WATER QUALITY MANAGEMENT PLAN
EXHIBIT C, FIGURE 11



NOTE:

1. FILTER BODY SHALL BE MANUFACTURED FROM PETROLEUM RESISTANT FIBERGLASS WHICH MEETS OR EXCEEDS PS 15-69.
2. ALL METAL COMPONENTS SHALL BE STAINLESS STEEL (TYPE 304).
3. REMOVABLE FILTER BASKET SHALL BE CONSTRUCTED FROM DURABLE POLYPROPYLENE WOVEN MONOFILAMENT GEOTEXTILE.
4. FILTER BODY SHALL BE SECURED TO CATCH BASIN WALL WITH EXPANSION ANCHOR BOLTS AND WASHER. (SEE DETAIL)
5. INSERTS ARE AVAILABLE IN 24" OR 30" LENGTH SECTIONS AND MAY BE INSTALLED IN VARIOUS COMBINATIONS (END TO END) TO FIT MOST CATCH BASIN WIDTHS.
6. FILTER BASKET MAY BE REMOVED THROUGH CURB OPENING FOR EASE OF MAINTENANCE.
7. FILTER MEDIUM SHALL BE IN DISPOSABLE POUCHES. INSTALLED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

NOT TO SCALE

CATCH BASIN INSERT (MP-52)
PER RIVERSIDE COUNTY ORDINANCE 461
STANDARD 300A

URS

AS-BUILT PLAN
CORRECTIONS NOTED 3/15/09

COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT

SCOTT ROAD WIDENING
BMP DETAILS

SHEET 1 OF 1

DGN FILE => $REQUEST

ATTACHMENT 15

SCOTT ROAD FACILITY INSPECTION REPORT DATED SEPTEMBER 8, 2009

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - SAN DIEGO REGION
WATERSHED PROTECTION PROGRAM

FACILITY INSPECTION REPORT

INSPECTION DATE: 09/08/09 TIME: 1030 WDID: 8 33C353762

FACILITY REPRESENTATIVE(S) PRESENT DURING INSPECTION: N/A

County of Riverside

NAME OF OWNER, AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE

OWNER CONTACT NAME AND PHONE #

Transportation Department

FACILITY OR DEVELOPER NAME (if different from owner)

Patricia Romo (951) 955-6740

FACILITY OR DEVELOPER CONTACT NAME AND PHONE #

Scott Road and El Centro Lane

FACILITY STREET ADDRESS

Riverside, CA

FACILITY CITY AND STATE

APPLICABLE WATER QUALITY LICENSING REQUIREMENTS

- X **MS4 URBAN RUNOFF REQUIREMENTS NPDES NOS. CAS0108758, CAS0108740 or CAS0108766**
- X **GENERAL PERMIT ORDER NO. 99-08-DWQ, NPDES NO. CAS000002 – CONSTRUCTION**
- ☐ **GENERAL PERMIT ORDER NO. 99-06-DWQ, NPDES NO. CAS000003 - CALTRANS**
- ☐ **GENERAL OR INDIVIDUAL WASTE DISCHARGE REQUIREMENTS**
- ☐ **GENERAL OR INDIVIDUAL WAIVER OF WASTE DISCHARGE REQUIREMENTS**
- ☐ **SECTION 401 WATER QUALITY CERTIFICATION**
- ☐ **CWC SECTION 13264**

INSPECTION TYPE (Check One)

A1 ____ "A" type compliance--Comprehensive inspection in which samples are taken. (EPA Type S)

B1 ____ "B" type compliance--A routine nonsampling inspection. (EPA Type C)

02 **X** Noncompliance follow-up--Inspection made to verify correction of a previously identified violation.

03 ____ Enforcement follow-up--Inspection made to verify that conditions of an enforcement action are being met.

04 ____ Complaint--Inspection made in response to a complaint.

05 ____ Pre-requirement--Inspection made to gather info. relative to preparing, modifying, or rescinding requirements.

06 ____ No Exposure Certification (NEC) - verification that there is no exposure of industrial activities to storm water.

07 ____ Notice of termination request for industrial facilities or construction sites - verification that the facility or construction site is not subject to permit requirements (**Type, NOT I or NOT C - circle one)**.

08 ____ Compliance Assistance Inspection - Outreach inspection due to discharger's request for compliance assistance.

INSPECTION FINDINGS

Y Were violations noted during this inspection? (Yes/No/Pending Sample Results)

N Were samples taken? (N=no) If YES then, G= grab or C= Composite and attach a copy of the sample results/chain of custody form

I. COMPLIANCE HISTORY:

Previous site visit in October 2008 resulted in findings of non-compliance because there was no evidence of post-construction BMPs in project design. Project is subject to SUSMP provisions per Provision F of Order No. R9-2004-0001 and therefore must include treatment of runoff from increased impervious surface area.

FACILITY: Scott Rd Improvements (WDID) 8 33C353762 INSPECTION DATE: 09/08/09

II. FINDINGS

On September 8, 2009, Christina Arias and Ben Neil of the RWQCB inspected the Scott Road Improvement Project to check the status of the post-construction BMPs. Inspectors looked at several bioswales and other post-construction BMPs between Mira Road and just east of El Centro Lane (approximately 130 linear feet).

Overall, the level of vegetation in the bioswales was inadequate to treat pollutants from even a small storm event. Bioswales were generally unvegetated; grasses intended for bioswale function are non-existent (as-built plan specifies grass height of 4"-6"). Bioswales have been sprayed with an unknown hydroseed mix. In some cases, bioswales are poorly graded and storm water will likely bypass the swales and will instead flow untreated to receiving waters. The bioswales were not constructed in accordance to the as-built plans submitted to the RWCQB on 3/15/09. Specifically, none of the swales contained riprap energy dissipators, flow spreaders, check dams, grass, or 6" sandy loam turf. Some bioswales did not have the 4:1 horizontal to vertical minimum slope. It is unlikely that the bioswales provide the 7- minute minimum contact time as specified in the as-builts. Attached photos show BMPs inspected from Station 95+88.33 on the west end to Station 125+00.00 on the east end.

Figures 1 and 2 show bioswales on the north side of Scott Road, just east of Mira Lane. Figures 3 and 4 show bioswales directly across Scott road on the south side. Figure 5 shows a bioswale on the corner of Briggs Road and Kona Gold north of Scott Road. In all cases, grasses needed for treatment of pollutants are not planted and/or not established. Tumbleweeds and other weeds have grown in the bioswales (these are not specified in the as-built plans). Figures 6-8 show bioswales on Briggs Road, roughly 400 feet south of Scott Road. In addition to the observations made at previous bioswales, both of these bioswales on Briggs Road are poorly graded and look more like gullies than functional bioswales. Figures 9-10 show a bioswale on the south side of Scott Road. Again, the bioswale and surrounding area are poorly graded and will not capture runoff from the street as intended.

Figures 11-12 show a storm drain inlet on the north side of Scott Road at Station 113+03.32. The inlet contains a catch basin that is in need of cleaning. The inlet does not have proper signage as indicated in the WQMP dated 12/24/08.

Figure 13 shows drainage and evidence of curbside erosion towards the final bioswale, located east of El Centro Lane. Figure 14 shows the bioswale at Station 125+00.00.

No construction activity was evident anywhere along this stretch of road. As of this inspection, the County of Riverside has not submitted a Notice of Termination for this road expansion.

In summary, the County of Riverside remains in violation of Provision F of Order No. R9-2004-0001 for not including adequate post-construction BMPs to treat runoff from the increased impervious surface from the road expansion. Areas have been demarcated for bioswales (including identification signs), but functional bioswales including proper grading and plant establishment for treatment of pollutants is not present. Storm water will either bypass the swales (due to improper grading), or pass through the swales without proper holding time. Storm water passing through the swales will likely receive little to no treatment before being discharged to receiving waters.

III. SIGNATURE SECTION

Christina Arias		9/08/09
STAFF INSPECTOR	SIGNATURE	INSPECTION DATE
	14 Sep 09	
REVIEWED BY SUPERVISOR	DATE	

Figure 1. Bioswale 5 on north side of Scott Road

Figure 2. Bioswale 6 on north side of Scott Road

Figure 3. Bioswale 7 on south side of Scott Road

Figure 4. Bioswale 8 on south side of Scott Road

Figure 5 Bioswale 9 on corner of Briggs St and Kona Gold

Figure 6 Bioswale 10 on Briggs St. south of Scott Road

Figure 7. Bioswale 11 on Briggs St. looking downstream


Figure 8. Bioswale 11 on Briggs St. looking upstream

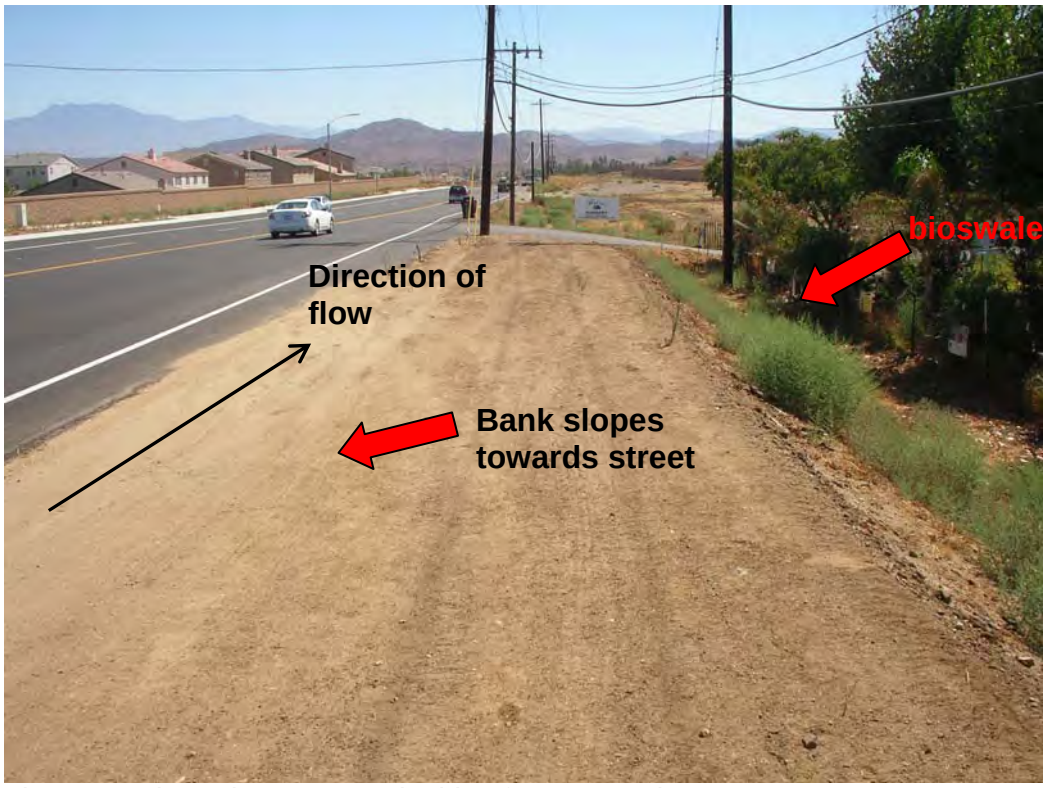


Figure 9. Bioswale 12 on south side of Scott Road


Figure 10. Bioswale 12 closer view

Figure 11. Storm drain inlet at Sta 113+03.32 (Looking upstream on Scott Road)

Figure 12. Storm Drain Inlet—no signage

Figure 13. Upstream of Bioswale 13

Figure 14. Bioswale 13 on north side of Scott Road, east of El Centro Lane

ATTACHMENT 16

RIVERSIDE COUNTY SUSMP/WQMP IMPLEMENTATION TIMELINE

RIVERSIDE COUNTY SUSMP PROGRAM IMPLEMENTATION TIMELINE

Date	Item	Notes
July 14, 2004	Regional Board adopts Order No. R9-2004-001 (Municipal Permit).	
Sept. 17, 2004	Date of county-wide Water Quality Management Plan (WQMP).	The WQMP was primarily written to satisfy the requirements of Order No. R8-2002-0011, the Municipal Permit for Riverside County (Region 8).
March 15, 2005	Board of Supervisors purchases Marna O'Brien park site and hires David Evans & Associates to design the Lakeland Village/Wildomar Parks Rehabilitation Project.	
July 13, 2005	Dischargers submits *County of Riverside, Santa Margarita Region Storm Water Management Plan* (SWMP) to the Regional Board.	The SWMP references the WQMP to satisfy the requirements of Provision F, Development Planning, of Municipal Permit.
July 15, 2005	Date of requirement of Provision F of Municipal Permit: "**develop, adopt, and implement** a SUSMP to reduce pollutants to the MEP…"	Discharger meets Permit requirement to **develop** a SUSMP by SWMP/WQMP submittal. No evidence available showing that requirement to **adopt and implement** a SUSMP/WQMP was satisfied.
March 7, 2006	Board of Supervisors approval of plans, specifications and estimates and Notice inviting bids for Marna O'Brien park construction.	Project qualified as Priority Development Project (PDP); however, no site specific WQMP (including specifications for post-construction BMPs) was included in approved plans and bid invitations. This constitutes violation of Municipal Permit section F.2.a) and F.2.b).
July 24, 2006	County-wide WQMP updated.	
Aug. 28, 2006	Construction start date-Marna O'Brien park.	
Aug. 8, 2007	Construction end date—Marna O'Brien park.	Project was completed without post-construction BMPs. This constitutes violation of

		Municipal Permit section F.2.b)(2).
Sept. 20, 2007	PG Environmental MS4 program inspection.	Violations in SUSMP program discovered.
Oct. 2, 2007	Board of Supervisors approves plans, specifications and estimates and authorizes advertisement of bids for Scott Road expansion.	Project qualified as Priority Development Project (PDP); however, no site specific WQMP (including specifications for post-construction BMPs) was included in approved plans and bid invitations. This constitutes violation of Municipal Permit section F.2.a) and F.2.b).
Jan. 15-17, 2008	PG Environmental MS4 program inspection.	Follow up inspection performed to further investigate program violations discovered in Sept. 2007 audit.
March 31, 2008	PG Environmental inspection report released.	Inspection report noted various failures by the Discharger to comply with section F of Municipal Permit.
April 14, 2008	Discharger provides Notice to Proceed to All American Asphalt (contractor) for Scott Road Improvements; Discharger fails to submit Notice of Intent (NOI) for project.	Failure to submit an NOI constitutes a violation of finding 4. of Order No. 99-08-DWQ, the Statewide General Construction Storm Water Permit.
June 13, 2008	Regional Board issues Notice of Violation (NOV) R9-2008-0073/California Water Code (CWC) section 13267 letter to Discharger.	NOV issued for failing to adopt and implement a SUSMP program to comply with the Municipal Permit. CWC section 13267 letter required a description of planned actions to correct noted violations, and also list of projects constructed post July 2005 that required SUSMP.
July 16, 2008	Discharger submits Required Technical Report (RTR) stating that program deficiencies had been corrected, regional WQMP would soon be implemented in <u>all</u> departments, and permit compliance would be achieved with	

	these actions.	
Sept. 4, 2008	Regional Board comments on RTR.	Regional Board requests more information because response in RTR regarding list of CIP projects were SUSMP was required was incomplete.
Oct. 7, 2008	Discharger response to Regional Board comments.	Letter includes requested memoranda; letter states that "no CIP projects were built since the 2005 date" (that required implementation of SUSMP/WQMP).
Oct. 9, 2008	Regional Board inspects Scott Road construction site.	Inspector notes lack of post-construction BMPs in project design.
Oct. 31, 2008	Regional Board inspects Marna O'Brien Park.	Inspector notes lack of post-construction BMPs in project.
Nov. 27, 2008	Construction complete at Scott Road Improvements site; "Start Up Date" of post-construction BMPs in effect.	Site specific WQMP (developed after construction was completed) states BMP Start Up Date is upon completion of construction activities. This constitutes a violation of Municipal Permit section F.2.a) and F.2.b), and F.2.b)(2).
Dec. 1, 2008	Regional Board issues second CWC section 13267 letter.	Letter noted ongoing violations and required a description of steps to achieve compliance, including development and implementation of WQMP for Scott Road and Marna O'Brien Park.
Dec. 24, 2008	Discharger approves WQMP for Scott Road	WQMP approved *after* construction completion date.
Jan. 2, 2009	Discharger submits Second RTR stating that regional WQMP had been implemented and permit compliance achieved.	
March 15, 2009	Discharger signs off on As-Built Plans for Scott Road.	
March 17, 2009	Discharger submits update to Regional Board on Capitol Improvement Projects under development.	Discharger states that construction on Scott Road is complete, including BMP retrofit.
Sept. 3, 2009	Discharger submits Notice of	NOT is submitted to Region 8

	Termination (NOT) for Scott Road.	for approval. Project is not terminated pending outcome of Region 9's enforcement case.
Sept. 8, 2009	Second Regional Board inspection of Scott Road.	Inspectors note Discharger's failure to adequately implement post-construction BMPs (bioswales not built to specifications in WQMP); this constitutes a violation of Municipal Permit section F.2.a and F.2.b), and F.2.b)(2).
December 10, 2009	Regional Board issues ACL to County of Riverside	

ATTACHMENT 17

EXCERPT FROM COUNTY OF RIVERSIDE'S FISCAL YEAR 2008-2009 ANNUAL REPORT

Bill Luna
County Executive Officer

Jay E. Orr
Assistant County Executive Officer

Executive Office, County of Riverside

County of Riverside Certification Statement

I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Gary Christmas, Chief Deputy County Executive Officer

September 30, 2009
Date

Robert T. Andersen Administrative Center
4080 Lemon Street • 4th Floor • Riverside, California 92501 • (951) 955-1100 • Fax (951) 955-1105

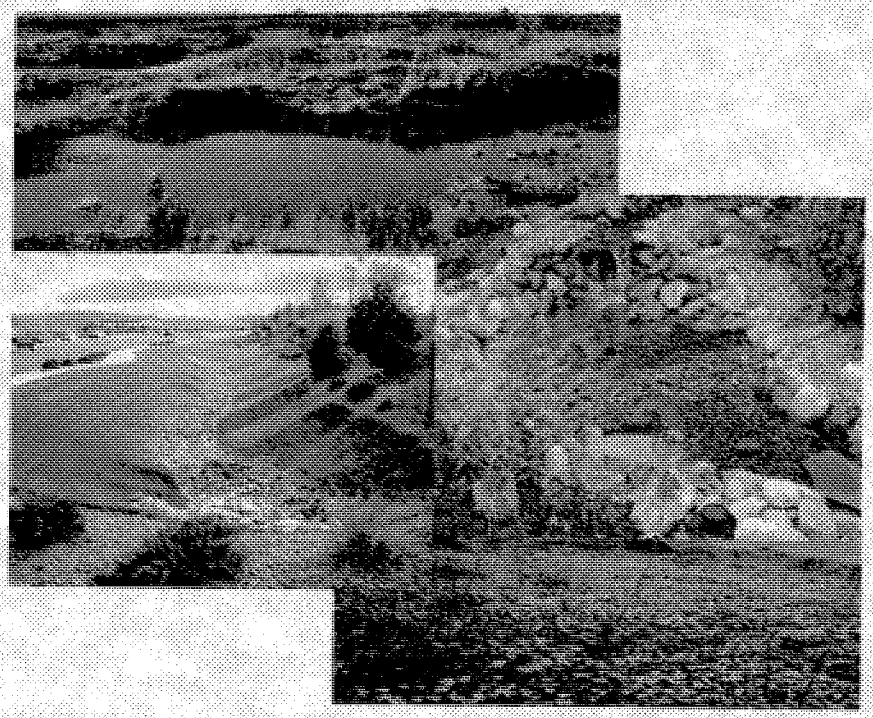
County of Riverside

Santa Margarita Watershed

Municipal Separate Storm Sewer System

FY 2008-2009

Progress Report



NPDES Permit #: CAS108766

San Diego Regional Water Quality Control Board Order #: R-9-2004-001

Local economist have stated that Riverside-San Bernardino region is poised to remain for the next year among the nation's weakest local economies, with unemployment soaring to as high as 16 percent and home values dipping to 65 percent below their 2006 peaks. Economists also concede that the real estate implosion in Southwest Riverside County was almost certainly a factor in the 11 percent decline in local retail sales in 2008 compared with 2007.

They predicted a recovery may begin to form in 2010. All agreed that real estate development should and probably will remain important for the region, and that its eventual recovery will probably play a role in a broader economic recovery. Ditto for the distribution and warehousing industries, which funnel imported goods from the Los Angeles, San Diego, and Long Beach port complex, the nation's largest. The downside is that wages are middling in those industries, and lower among the strip malls that dot the region, according to state figures.

Foreclosures

A report released by RealtyTrac in April of 2009 announced that the Riverside County region had the fourth highest foreclosure rate in the nation. Lenders sent default notices to 16,906 homeowners in Riverside County in the first quarter of 2009 a 12% increase from the same period in 2008. Other reports have warned that adjustable-rate loans taken out in the last three years will begin to reset next year through 2012, likely resulting in a second wave of foreclosures. As of August 2009 Riverside County has the second highest foreclosure rate in the State. Currently, 1 in 74 households in Riverside County are going into default.

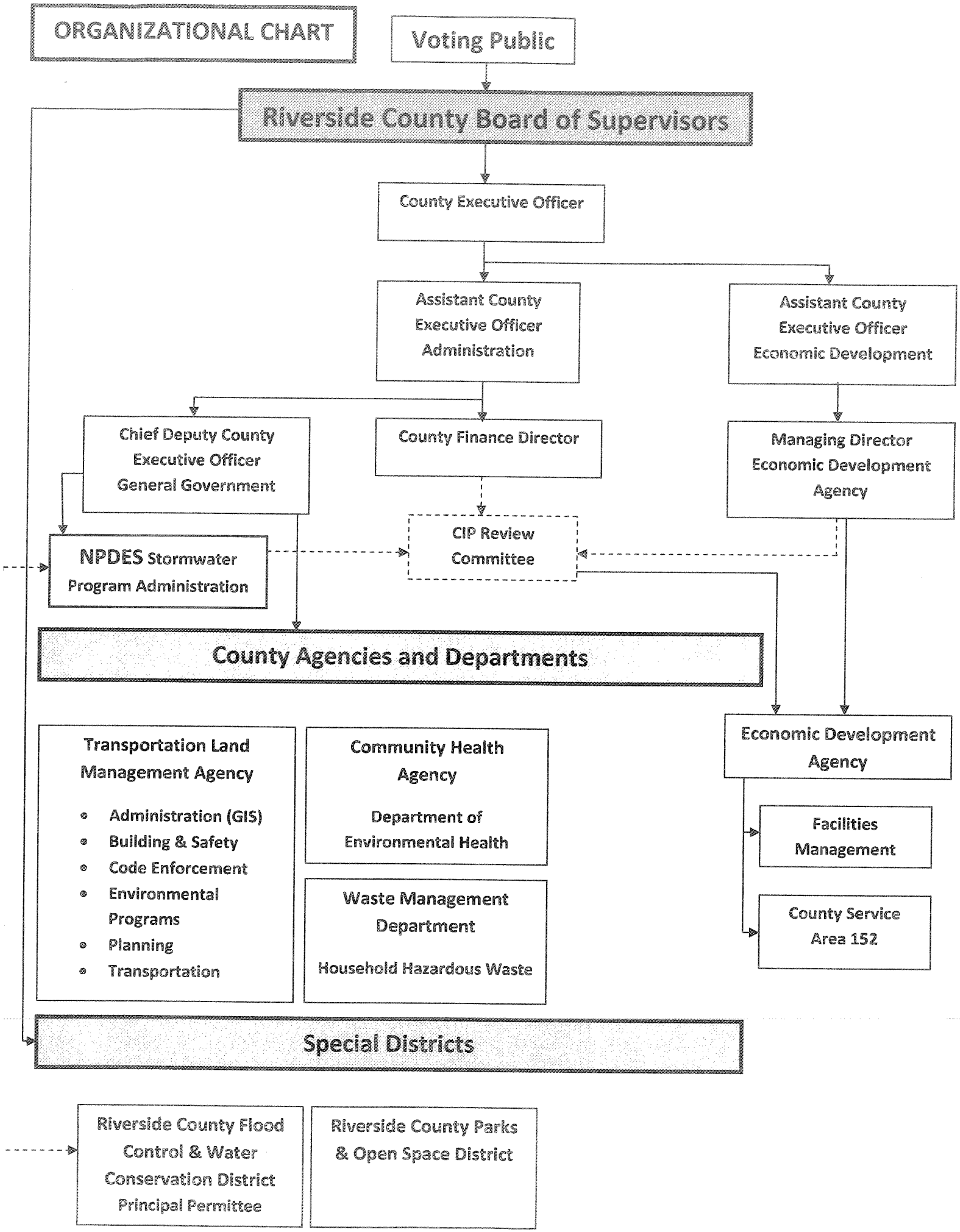
Riverside County Budget Crisis for 2009-2010

Calling the budget process for 2009-2010 a challenge is an understatement. An overnight reduction of $130 million for general fund purposes (from a base of $750 million in FY 2008/2009) makes for difficult choices and requires a restructuring of government over the next several years. The State of California in an attempt to balance their own budget has taken steps to cut allocations in several program areas and raid local Prop 42 revenue. These additional losses in funds (approximately $45 million) will reduce the services that the County currently provides. Any unfunded mandates passed down to the local level will be vigorously challenged as resources are not available for frivolous program enhancements that are not proven to protect water quality or the environment.

County Governmental Structure

Board of Supervisors

The Riverside County Board of Supervisors is the governing body of the County, certain special districts, and the housing authority. The Board enacts ordinances, and resolutions, adopts the annual budget , approves contracts, appropriates funds, determines land use zoning for the unincorporated area of the county. In addition, the Board appoints certain County officers and members of various boards and


ORGANIZATIONAL CHART
Voting Public
Riverside County Board of Supervisors
County Executive Officer
Assistant County Executive Officer Administration
Assistant County Executive Officer Economic Development
Chief Deputy County Executive Officer General Government
County Finance Director
Managing Director Economic Development Agency
CIP Review Committee
NPDES Stormwater Program Administration
County Agencies and Departments
Transportation Land Management Agency
Administration (GIS)
Building & Safety
Code Enforcement
Environmental Programs
Planning
Transportation
Community Health Agency
Department of Environmental Health
Waste Management Department
Household Hazardous Waste
Economic Development Agency
Facilities Management
County Service Area 152
Special Districts
Riverside County Flood Control & Water Conservation District
Principal Permittee
Riverside County Parks & Open Space District

1. DEVELOPMENT PLANNING
(SECTION F of ORDER NO. R9-2004-001)

1) **Description of any amendments to the General Plan or the development project approval process:** None

1) **Number of grading permits issued:** 388 within the Santa Margarita Watershed

2) **Number of developments conditioned to meet SUSMP(WQMP) requirements:** See Flood Control Report for projects conditioned and reviewed for SUSMP (WQMP) by the District. Three municipal CIPs were conditions with SUSUMP/WQMP requirements

3) **Attach one example of a development project that was conditioned to meet SUSMP (WQMP) requirements and a description of the required BMPs:** See Flood Control District Report

4) **Description of any updates to the environmental review process:** None, the 2003 General Plan is still in effect.

5) **Description and number of training efforts conducted during the reporting period (for staff, developers, contractors, etc.), including the number of staff trained.**

a) Training:

Training	Training Description	Training Dates	Number of Attendees
WQMP	WQMP Training	11/3/08	19
	WQMP Training	5/4/09	11
	WQMP Training	6/8/09	2
		Total	**0**

b) **Summarize the educational and outreach activities the Development Planning Component has conducted over the past year:** [i.e., focused brochures, posters - see Education form (Section I)] Educational Outreach is provided through Riverside County FC&WCD. Kiosks are setup at all TLMA in-take counters where NPDES stormwater information is available. Each Development Project conditioned for approval is required to obtain copies of public education materials, sign an affidavit stating that they will provide stormwater related materials to all property owners. In addition the County and RCFC&WCD keep the general public and the development community informed of all training and educational opportunities through the District website and informational bulletins.

1. DEVELOPMENT PLANNING
(SECTION F of ORDER NO. R9-2004-001)

6) **An assessment of program effectiveness based on the measurable goals established in the Permittee's Individual SWMP:**

a. Training continues to be a priority with changing technology and increased emphasis on hydromodification and low impact development (LID) as they relate to SUSMP (WQMP) requirements.

b. Projects that meet the regulatory threshold are conditioned for SUSMP/WQMP

7) **Additional Comments/Information:**

Describe the major accomplishments of the Development Planning Component over the past year. (General Plan or ordinance revisions, procedure/approval process changes, SUSMP guidance material): The Economy has continued to stall, which has effectively curtailed most development over the last 18 months as can be seen by the significant drop off in the number of grading permits issued. Availability of diminishing water resources caused by drought conditions will continue to have an impact on future development for the region. For those projects that have moved through the development process and into the construction phase, emphasis has been on incorporated drought tolerant landscape and water efficient micro-irrigation techniques including the use of smart irrigation controllers. Where recycled water is available infrastructure is being added to accommodate common area landscape.

Summarize new activities or improvements to be implemented next year as a result of your self assessment of the Development Planning Component:

Post construction BMPs installed by developer continue to be inspected by Building and Safety –Environmental Compliance Inspection staff to ensure that they are working as designed and are providing adequate protection of the MS4.

Planned Projects for FY 2009/2010

Facilities Management

1. Southwest Law and Justice Center (Parking Lot Expansion)

WDID #: 9-33C352808

Processing Date: 7/31/2008

WQMP completed: Yes

Project Manager: Nahid Selbe

Comments: Project funded, design phase completed and moving forward to bid award.

Date Project Completed: unknown, to be determined

1. DEVELOPMENT PLANNING
(SECTION F of ORDER NO. R9-2004-001)

2. Glen Oaks Fire Station (On Hold) (Facilities Management)

WDID #:

Processing Date:

WQMP completed: Yes

Project Manager: Dane Winkelman

Comments: Land acquisition completed-, project put on hold pending funding

Date Project Completed: unknown, funding not obtained

3. Lake Riverside Fire Station (On Hold)

WDID #: Pending

Processing Date: Pending

WQMP Completed: No

Project Manager: Real Estate – Burt Presnell

Comments: Land acquisition not yet completed. Further geotechnical study underway.

Date Project Completed: unknown, pending further study

ATTACHMENT 18

EXCERPT FROM THE RIVERSIDE COUNTY FLOOD CONTROL DISTRICT'S CONSOLIDATED MONITORING PLAN AND RAINFALL RECORD

RIVERSIDE COUNTY CONSOLIDATED PROGRAM FOR WATER QUALITY MONITORING

WHITEWATER RIVER REGION
SANTA ANA WATERSHED
SANTA MARGARITA WATERSHED

December 15, 2003

Revised June 2008

4.4.5 Collect samples (see Section 4.G.3) and place the filled bottles in the ice chest. During wet weather, or if there are high flow during dry weather, it may not be safe to stand in the flow (see Section 4.G.5.1.10). Use a pole sampler to collect the sample.
4.4.6 Record sample information and any pertinent notes on the Field Data Sheet.
4.4.7 Fill out the Chain of Custody Form (Appendix D.5).
4.4.8 Take the samples to Babcock Laboratories (see Appendix D.6 for a map and driving directions).

C. Water Chemistry

This section addresses monitoring requirements that are common to all three watershed MS4 permits. Permit requirements that deviate from this protocol will be outlined in the watershed-specific appendix.

1. Need for Both Chemistry and Flow Data

Chemical data allow for comparisons with Basin Plan Water Quality Objectives, other benchmarks, and among monitoring stations. An understanding of impacts, however, requires an understanding of the flows throughout the MS4 and Receiving Waters. For example, a water quality analysis may indicate a high concentration of a pollutant in an MS4, but flows may be very low and visual observation may show that the flow will not reach a Receiving Water. Development of a watershed computer model may be an effective approach to understand the impacts of point and non-point discharges. However, establishing and maintaining a watershed computer model requires both chemical and flow data, and can be complex and expensive.

2. Wet-Weather Monitoring

The MS4 permits require that wet-weather samples be collected from the first storm event and one or two more storm events during the rainy or wet season. The definition of wet season may differ by watershed, but in general falls between October 1 and April 30. In an ephemeral watershed, the first storm of the year that falls under the USEPA-recommended criteria may not result in runoff from surrounding lands. The District has developed guidance on when wet-weather samples should be collected. Two National Weather Service weather forecasts are monitored, the normal 7-day forecast for the possibility of a rain event and the Qualitative Precipitation Forecast (QPF) to determine how much rain is predicted to fall in 6-hour increments over the next 24-hour period and during days 2 and 3 of the rain event. The antecedent moisture condition (AMC) of the watershed is also evaluated. AMC is a subjective measure of runoff potential.

AMC I represents low runoff potential, such as from a dry watershed. AMC II represents moderate runoff potential. AMC III represents high runoff potential, such as a watershed saturated from previous rain events. Based on the QPF and AMC, and keeping the EPA Guidance (see Section 3.A) in mind, the following guidelines are recommended in determining when a wet-weather sample should be collected:

- AMC I and QPF of ½ inch of precipitation in 24 hours
- AMC II and QPF of $^3/_8$ inch of precipitation in 24 hours
- AMC III and QPF of ¼ inch of precipitation in 24 hours

These guidelines may be modified based on differences in hydrology in a particular drainage area or per specific permit requirements. Permit-specific requirements will be noted in Appendices A-C.

10/28/08	SDTEC:	TEMECULA	1020 :	99 /	53 /	0.00 /
10/29/08	SDTEC:	TEMECULA	1020 :	94 /	55 /	0.00 /
10/30/08	SDTEC:	TEMECULA	1020 :	87 /	52 /	0.00 /
10/31/08	SDTEC:	TEMECULA	1020 :	88 /	56 /	0.00 /
11/01/08	SDTEC:	TEMECULA	1020 :	87 /	56 /	0.00 /
11/02/08	SDTEC:	TEMECULA	1020 :	71 /	56 /	0.00 /
11/03/08	SDTEC:	TEMECULA	1020 :	71 /	47 /	0.00 /
11/04/08	SDTEC:	TEMECULA	1020 :	65 /	55 /	0.07 /
11/05/08	SDTEC:	TEMECULA	1020 :	77 /	44 /	0.00 /
11/06/08	SDTEC:	TEMECULA	1020 :	80 /	43 /	0.00 /
11/07/08	SDTEC:	TEMECULA	1020 :	87 /	53 /	0.00 /
11/08/08	SDTEC:	TEMECULA	1020 :	83 /	46 /	0.00 /
11/09/08	SDTEC:	TEMECULA	1020 :	63 /	54 /	0.01 /
11/10/08	SDTEC:	TEMECULA	1020 :	69 /	45 /	0.00 /
11/11/08	SDTEC:	TEMECULA	1020 :	76 /	43 /	0.00 /
11/12/08	SDTEC:	TEMECULA	1020 :	85 /	45 /	0.00 /
11/13/08	SDTEC:	TEMECULA	1020 :	87 /	47 /	0.00 /
11/14/08	SDTEC:	TEMECULA	1020 :	91 /	50 /	0.00 /
11/15/08	SDTEC:	TEMECULA	1020 :	87 /	54 /	0.00 /
11/16/08	SDTEC:	TEMECULA	1020 :	93 /	52 /	0.00 /
11/17/08	SDTEC:	TEMECULA	1020 :	93 /	47 /	0.00 /
11/18/08	SDTEC:	TEMECULA	1020 :	89 /	46 /	0.00 /
11/19/08	SDTEC:	TEMECULA	1020 :	88 /	49 /	0.00 /
11/20/08	SDTEC:	TEMECULA	1020 :	88 /	47 /	0.00 /
11/21/08	SDTEC:	TEMECULA	1020 :	86 /	46 /	0.00 /
11/22/08	SDTEC:	TEMECULA	1020 :	81 /	49 /	0.00 /
11/23/08	SDTEC:	TEMECULA	1020 :	73 /	45 /	0.00 /
11/24/08	SDTEC:	TEMECULA	1020 :	82 /	42 /	0.00 /
11/25/08	SDTEC:	TEMECULA	1020 :	80 /	54 /	0.00 /
11/26/08	SDTEC:	TEMECULA	1020 :	66 /	54 /	0.59 /
11/27/08	SDTEC:	TEMECULA	1020 :	65 /	53 /	0.63 /
11/28/08	SDTEC:	TEMECULA	1020 :	67 /	51 /	0.00 /
11/29/08	SDTEC:	TEMECULA	1020 :	75 /	45 /	0.00 /
11/30/08	SDTEC:	TEMECULA	1020 :	82 /	46 /	0.00 /
12/01/08	SDTEC:	TEMECULA	1020 :	87 /	46 /	0.00 /
12/02/08	SDTEC:	TEMECULA	1020 :	70 /	44 /	0.00 /
12/03/08	SDTEC:	TEMECULA	1020 :	76 /	48 /	0.00 /
12/04/08	SDTEC:	TEMECULA	1020 :	69 /	48 /	0.00 /
12/05/08	SDTEC:	TEMECULA	1020 :	76 /	47 /	0.00 /
12/06/08	SDTEC:	TEMECULA	1020 :	79 /	43 /	0.00 /
12/07/08	SDTEC:	TEMECULA	1020 :	65 /	57 /	0.00 /
12/08/08	SDTEC:	TEMECULA	1020 :	59 /	53 /	0.00 /
12/09/08	SDTEC:	TEMECULA	1020 :	67 /	40 /	0.00 /
12/10/08	SDTEC:	TEMECULA	1020 :	78 /	40 /	0.00 /
12/11/08	SDTEC:	TEMECULA	1020 :	82 /	42 /	0.00 /
12/12/08	SDTEC:	TEMECULA	1020 :	74 /	46 /	0.00 /
12/13/08	SDTEC:	TEMECULA	1020 :	55 /	52 /	0.00 /
12/14/08	SDTEC:	TEMECULA	1020 :	56 /	37 /	0.04 /
12/15/08	SDTEC:	TEMECULA	1020 :	53 /	44 /	2.18 /
12/16/08	SDTEC:	TEMECULA	1020 :	58 /	40 /	0.43 /
12/17/08	SDTEC:	TEMECULA	1020 :	47 /	42 /	0.98 /
12/18/08	SDTEC:	TEMECULA	1020 :	56 /	36 /	0.59 /
12/19/08	SDTEC:	TEMECULA	1020 :	56 /	32 /	0.00 /
12/20/08	SDTEC:	TEMECULA	1020 :	61 /	32 /	0.00 /
12/21/08	SDTEC:	TEMECULA	1020 :	67 /	34 /	0.00 /
12/22/08	SDTEC:	TEMECULA	1020 :	53 /	40 /	0.15 /
12/23/08	SDTEC:	TEMECULA	1020 :	55 /	44 /	0.16 /
12/24/08	SDTEC:	TEMECULA	1020 :	54 /	38 /	0.00 /
12/25/08	SDTEC:	TEMECULA	1020 :	54 /	45 /	0.79 /
12/26/08	SDTEC:	TEMECULA	1020 :	52 /	36 /	0.04 /
12/27/08	SDTEC:	TEMECULA	1020 :	56 /	31 /	0.00 /
12/28/08	SDTEC:	TEMECULA	1020 :	67 /	31 /	0.00 /
12/29/08	SDTEC:	TEMECULA	1020 :	76 /	38 /	0.00 /

construction complete @ Scott Rd

01/01/09	SDTEC:	TEMECULA	1020 :	76 /	38 /	0.00 /
01/02/09	SDTEC:	TEMECULA	1020 :	63 /	38 /	0.00 /
01/03/09	SDTEC:	TEMECULA	1020 :	56 /	48 /	0.12 /
01/04/09	SDTEC:	TEMECULA	1020 :	59 /	42 /	0.00 /
01/05/09	SDTEC:	TEMECULA	1020 :	59 /	29 /	0.00 /
01/06/09	SDTEC:	TEMECULA	1020 :	68 /	34 /	0.00 /
01/07/09	SDTEC:	TEMECULA	1020 :	74 /	38 /	0.00 /
01/08/09	SDTEC:	TEMECULA	1020 :	76 /	39 /	0.00 /
01/09/09	SDTEC:	TEMECULA	1020 :	74 /	39 /	0.00 /
01/10/09	SDTEC:	TEMECULA	1020 :	73 /	48 /	0.00 /
01/11/09	SDTEC:	TEMECULA	1020 :	82 /	47 /	0.00 /
01/12/09	SDTEC:	TEMECULA	1020 :	82 /	47 /	0.00 /
01/13/09	SDTEC:	TEMECULA	1020 :	83 /	55 /	0.00 /
01/14/09	SDTEC:	TEMECULA	1020 :	84 /	40 /	0.00 /
01/15/09	SDTEC:	TEMECULA	1020 :	83 /	38 /	0.00 /
01/16/09	SDTEC:	TEMECULA	1020 :	79 /	42 /	0.00 /
01/17/09	SDTEC:	TEMECULA	1020 :	84 /	41 /	0.00 /
01/18/09	SDTEC:	TEMECULA	1020 :	80 /	44 /	0.00 /
01/19/09	SDTEC:	TEMECULA	1020 :	79 /	53 /	0.00 /
01/20/09	SDTEC:	TEMECULA	1020 :	80 /	46 /	0.00 /
01/21/09	SDTEC:	TEMECULA	1020 :	74 /	53 /	0.00 /
01/22/09	SDTEC:	TEMECULA	1020 :	68 /	50 /	0.00 /
01/23/09	SDTEC:	TEMECULA	1020 :	65 /	54 /	0.08 /
01/24/09	SDTEC:	TEMECULA	1020 :	65 /	54 /	0.00 /
01/25/09	SDTEC:	TEMECULA	1020 :	60 /	50 /	0.00 /
01/26/09	SDTEC:	TEMECULA	1020 :	59 /	44 /	0.08 /
01/27/09	SDTEC:	TEMECULA	1020 :	60 /	35 /	0.00 /
01/28/09	SDTEC:	TEMECULA	1020 :	75 /	32 /	0.00 /
01/29/09	SDTEC:	TEMECULA	1020 :	73 /	40 /	0.00 /
01/30/09	SDTEC:	TEMECULA	1020 :	83 /	48 /	0.00 /
01/31/09	SDTEC:	TEMECULA	1020 :	81 /	39 /	0.00 /
02/01/09	SDTEC:	TEMECULA	1020 :	81 /	38 /	0.00 /
02/02/09	SDTEC:	TEMECULA	1020 :	85 /	42 /	0.00 /
02/03/09	SDTEC:	TEMECULA	1020 :	85 /	41 /	0.00 /
02/04/09	SDTEC:	TEMECULA	1020 :	81 /	39 /	0.00 /
02/05/09	SDTEC:	TEMECULA	1020 :	63 /	43 /	0.03 /
02/06/09	SDTEC:	TEMECULA	1020 :	56 /	52 /	0.83 /
02/07/09	SDTEC:	TEMECULA	1020 :	56 /	46 /	0.63 /
02/08/09	SDTEC:	TEMECULA	1020 :	54 /	45 /	0.12 /
02/09/09	SDTEC:	TEMECULA	1020 :	50 /	44 /	0.71 /
02/10/09	SDTEC:	TEMECULA	1020 :	57 /	31 /	0.04 /
02/11/09	SDTEC:	TEMECULA	1020 :	63 /	32 /	0.00 /
02/12/09	SDTEC:	TEMECULA	1020 :	59 /	42 /	0.00 /
02/13/09	SDTEC:	TEMECULA	1020 :	54 /	35 /	0.00 /
02/14/09	SDTEC:	TEMECULA	1020 :	60 /	39 /	0.23 /
02/15/09	SDTEC:	TEMECULA	1020 :	59 /	36 /	0.00 /
02/16/09	SDTEC:	TEMECULA	1020 :	52 /	41 /	0.87 /
02/17/09	SDTEC:	TEMECULA	1020 :	58 /	39 /	0.21 /
02/18/09	SDTEC:	TEMECULA	1020 :	64 /	36 /	0.00 /
02/19/09	SDTEC:	TEMECULA	1020 :	78 /	41 /	0.00 /
02/20/09	SDTEC:	TEMECULA	1020 :	77 /	37 /	0.00 /
02/21/09	SDTEC:	TEMECULA	1020 :	74 /	41 /	0.00 /
02/22/09	SDTEC:	TEMECULA	1020 :	62 /	53 /	0.00 /
02/23/09	SDTEC:	TEMECULA	1020 :	75 /	48 /	0.00 /
02/24/09	SDTEC:	TEMECULA	1020 :	72 /	42 /	0.00 /
02/25/09	SDTEC:	TEMECULA	1020 :	64 /	48 /	0.00 /
02/26/09	SDTEC:	TEMECULA	1020 :	65 /	39 /	0.00 /
02/27/09	SDTEC:	TEMECULA	1020 :	70 /	48 /	0.00 /
02/28/09	SDTEC:	TEMECULA	1020 :	87 /	46 /	0.00 /
03/01/09	SDTEC:	TEMECULA	1020 :	87 /	47 /	0.00 /
03/02/09	SDTEC:	TEMECULA	1020 :	82 /	46 /	0.00 /
03/03/09	SDTEC:	TEMECULA	1020 :	70 /	50 /	0.00 /
03/04/09	SDTEC:	TEMECULA	1020 :	64 /	40 /	0.00 /

11/17/09	SDTEC:	TEMECULA	1020 :	82 /	39 /	0.00 /
11/18/09	SDTEC:	TEMECULA	1020 :	71 /	38 /	0.00 /
11/19/09	SDTEC:	TEMECULA	1020 :	81 /	41 /	0.00 /
11/20/09	SDTEC:	TEMECULA	1020 :	74 /	39 /	0.00 /
11/21/09	SDTEC:	TEMECULA	1020 :	68 /	43 /	0.00 /
11/22/09	SDTEC:	TEMECULA	1020 :	73 /	42 /	0.00 /
11/23/09	SDTEC:	TEMECULA	1020 :	80 /	40 /	0.00 /
11/24/09	SDTEC:	TEMECULA	1020 :	79 /	40 /	0.00 /
11/25/09	SDTEC:	TEMECULA	1020 :	81 /	38 /	0.00 /
11/26/09	SDTEC:	TEMECULA	1020 :	83 /	44 /	0.00 /
11/27/09	SDTEC:	TEMECULA	1020 :	74 /	39 /	0.00 /
11/28/09	SDTEC:	TEMECULA	1020 :	54 /	47 /	0.60 /
11/29/09	SDTEC:	TEMECULA	1020 :	67 /	37 /	0.08 /
11/30/09	SDTEC:	TEMECULA	1020 :	75 /	40 /	0.00 /
12/01/09	SDTEC:	TEMECULA	1020 :	69 /	37 /	0.00 /
12/02/09	SDTEC:	TEMECULA	1020 :	64 /	51 /	0.00 /
12/03/09	SDTEC:	TEMECULA	1020 :	72 /	44 /	0.00 /
12/04/09	SDTEC:	TEMECULA	1020 :	71 /	39 /	0.00 /
12/05/09	SDTEC:	TEMECULA	1020 :	58 /	38 /	0.00 /
12/06/09	SDTEC:	TEMECULA	1020 :	55 /	47 /	0.00 /
12/07/09	SDTEC:	TEMECULA	1020 :	54 /	47 /	1.75 /

ATTACHMENT 19

REGIONAL BOARD STAFF COSTS

Date	Description of Activity	Staff Last Name	Staff Hours	Hourly Rate	Cost
June 5, 2008	Audit report review	Neill	3	$142	$427
June 9, 2008	NOV R9-2008-0073 draft	Neill	8	$142	$1,137
June 10, 2008	NOV review	Smith	4	$119	$474
June 11, 2008	NOV edit	Neill	1	$142	$142
June 12, 2008	NOV review and signature	McCann	1	$196	$196
August 21, 2008	13267 Report Review	Neill	8	$142	$1,137
August 25, 2008	Enforcement meeting	Neill	2	$142	$284
		Smith	2	$119	$237
September 2, 2008	Comment response draft	Neill	4	$142	$569
September 4, 2008	Review and sign comment letter	Smith	2	$119	$237
October 7, 2008	County response review	Neill	1	$142	$142
October 9, 2008	Scott Road inspection	Neill	8	$142	$1,137
October 20, 2008	Inspection report	Neill	8	$142	$1,137
October 21, 2008	Enforcement meeting	Neill	2	$142	$284
		Haas	2	$108	$216
		Smith	2	$119	$237
October 27, 2008	Inspection report review and sign	Smith	4	$119	$474
October 31, 2008	Park inspection	Neill	8	$142	$1,137
November 5, 2008	Inspection report	Neill	8	$142	$1,137
November 24, 2008	13267 letter draft	Neill	8	$142	$1,137
November 26, 2008	13267 letter review	Smith	3	$119	$356
December 1, 2008	13267 letter edit	Neill	1	$142	$142
December 1, 2008	13267 letter reviewed and signed	Barker	1	$177	$177
January 7, 2009	Report review	Neill	8	$142	$1,137
January 16, 2009	Enforcement meeting	Smith	1	$119	$119
	Enforcement meeting	Haas	1	$108	$108
	Enforcement meeting	McCann	1	$196	$196
February 4, 2009	ACL draft	Neill	8	$142	$1,137
February 5, 2009	ACL draft	Neill	8	$142	$1,137
February 9, 2009	ACL draft	Neill	8	$142	$1,137
February 10, 2009	ACL draft	Neill	8	$142	$1,137
February 11, 2009	ACL draft	Neill	4	$142	$569
February 13, 2009	ACL draft	Neill	4	$142	$569
February 17, 2009	ACL draft	Neill	4	$142	$569
February 18, 2009	ACL draft	Neill	8	$142	$1,137
		Loflen	4	$85	$341
		Smith	8	$119	$949
February 19, 2009	ACL draft	Neill	8	$142	$1,137
		Smith	4	$119	$474
		Loflen	8	$85	$682
February 25, 2009	ACL draft review	Haas	2	$108	$216
February 25, 2009	ACL draft review	Okamoto	4	$189	$756
March 5, 2009	Enforcement meeting	Smith	1.5	$119	$178
		Neill	1.5	$142	$213
		Okamoto	1.5	$189	$283
		Haas	1.5	$108	$162
March 9, 2009	ACL draft	Neill	7	$142	$995
March 19, 2009	Enforcement meeting	Neill	1	$142	$142
		Haas	1	$108	$108

Date	Description of Activity	Staff Last Name	Staff Hours	Hourly Rate	Cost
		McCann	1	$196	$196
		Carrigan	1	$189	$189
		Barker	1	$177	$177
April 27, 2009	Enforcement meeting	Neill	1	$142	$142
		Barker	1	$177	$177
		Okamoto	1	$189	$189
		Carrigan	1	$189	$189
May 3, 2009	ACL draft	Neill	8	$142	$1,137
May 4, 2009	ACL draft	Neill	8	$142	$1,137
May 22, 2009	Pre-issuance meeting	Carrigan	0.5	$189	$94
		Okamoto	0.5	$189	$94
		Haas	0.5	$108	$54
		Smith	0.5	$119	$59
		Barker	0.5	$177	$89
		Neill	0.5	$142	$71
		Arias	0.5	$142	$71
June 3, 2009	Enforcement meeting	Okamoto	1	$189	$189
		Smith	1	$119	$119
		Neill	1	$142	$142
		Arias	1	$142	$142
June 4, 2009	Pre-issuance meeting prep	Arias	8	$142	$1,137
June 5, 2009	Pre-issuance meeting	Carrigan	3	$189	$567
		Okamoto	3	$189	$567
		Haas	3	$108	$324
		Smith	3	$119	$356
		Barker	3	$177	$532
		Neill	3	$142	$427
		Arias	3	$142	$427
June, 2009	ACL file review	Arias	12	$142	$1,706
July 30, 2009	Enforcement meeting	Neill	1	$142	$142
		Smith	1	$119	$119
		Okamoto	1	$189	$189
		Haas	1	$108	$108
		Carrigan	1	$189	$189
		Arias	1	$142	$142
September 3, 2009	Enforcement meeting	Neill	0.5	$142	$71
		Smith	0.5	$119	$59
		Okamoto	0.5	$189	$94
		Haas	0.5	$108	$54
		Carrigan	0.5	$189	$94
		Arias	0.5	$142	$71
September 8, 2009	Scott Road inspection	Neill	8	$142	$1,137
		Arias	8	$142	$1,137
September 9, 2009	Inspection report	Arias	8	$142	$1,137
September 16, 2009	Inspection report	Arias	2	$142	$284
September 16, 2009	Inspection report review and sign	Smith	4	$119	$474
September, 2009	ACL file review and re-write	Arias	55	$142	$7,820
October, 2009	ACL file review and re-write	Arias	45	$142	$6,398
October, 2009	ACL re-write and review	Smith	12	$119	$1,423

Date	Description of Activity	Staff Last Name	Staff Hours	Hourly Rate	Cost
October, 2009	ACL re-write and review	Okamoto	12	$189	$2,267
November 12, 2009	Enforcement meeting	Smith	0.5	$119	$59
		Arias	0.5	$142	$71
		Okamoto	0.5	$189	$94
		Carrigan	0.5	$189	$94
November 16, 2009	ACL document preparation	Arias	8	$142	$1,137
November 17, 2009	ACL document preparation	Arias	4	$142	$569
November 19, 2009	ACL review	McCann	4	$196	$783
	TOTAL:		459.5		$64,291

ATTACHMENT 20

EXCERPT FROM CALTRANS BMP RETROFIT STUDY

BMP Retrofit Pilot Program

FINAL REPORT

REPORT ID CTSW - RT - 01 - 050
JANUARY 2004
California Department of Transportation
CALTRANS, DIVISION of ENVIRONMENTAL ANALYSIS
1120 N Street
Sacramento, CA 95814

14 CAPITAL, OPERATION, AND MAINTENANCE COSTS

14.1 Introduction

An important objective of this study was to establish design, construction, and maintenance costs for retrofit of structural BMP devices in existing highway infrastructure. The actual cost data developed through this study have been analyzed for two purposes: 1) to develop a relative ranking with respect to water quality volume treated in order to assist in selecting the most cost-effective BMP technology for a given set of conditions, and 2) to provide general guidance for future BMP retrofit applications by itemizing the significant independent cost items unique to retrofit construction and operation. Project delivery costs such as siting, design and construction management are excluded from the costs reported in this study. Procedures for cost estimation are presented in Appendix C.

The pilot program construction cost figures represented throughout this report are directly applicable only to Caltrans and its operations. The unique environment and constraints associated with retrofitting BMPs into the California Highway system makes comparisons to other possible applications of the same BMPs difficult. Furthermore, even within the Caltrans system, information on construction costs will undoubtedly increase greatly as BMPs continue to be developed and implemented, such that the construction cost information in this report will be of limited value over time. It should be recognized that the Operations and Maintenance cost information was based partly upon estimates and projections of future needs.

It is also recognized that the construction costs compiled as a part of the program represent stand-alone retrofit projects that, with some exceptions, do not take advantage of potential economies that would occur if the devices were constructed as a part of a new highway, or a highway undergoing substantial reconstruction. During the process of reviewing the costs incurred for this study, additional cost data from other programs throughout the country were compiled. In the interest of providing a complete record, these additional cost data also are provided.

14.2 Pilot Program Construction Cost

The costs incurred for constructing the BMPs in this pilot study have been documented in detail in the Caltrans *Construction Cost Data Summary Districts 7 and 11*, report no. CTSW-RT-01-003, included in Appendix C of this report. The *Construction Cost Data Summary Districts 7 and 11* provides cost breakdown by site, differentiates between those items constructed as a part of the original bid and those constructed by change order, and distributes the actual cost into 'site-specific' cost categories. The *Construction Cost Data Summary Districts 7 and 11* report makes no estimate of costs that might be incurred in a future retrofit program, or what steps might be taken to reduce future implementation costs.

14.2.1 Actual Construction Cost

The construction costs for each of the BMPs have been normalized by the WQV rather than tributary area to account for the significant differences in design storm depth used for sizing the controls in different parts of the study area and the differences in the runoff coefficient at each site. For the flow-through devices, such as swales, the water quality volume was calculated as if a capture and treat type device (e.g., detention basin) were implemented at the site. Where more than one facility of the same type was constructed, the mean cost per unit WQV is reported.

The capital cost of the BMP types (in cost per unit WQV) is shown in Table 14-1. The costs shown are based on the actual construction cost incurred at each site, less the cost of monitoring and sampling equipment. No site-specific cost reductions or other allowances were made for the costs shown in Table 14-1.

Table 14-1 Actual Construction Cost of BMP Technologies (1999 dollars)

BMP Type	Cost/m^3 of the Design Storm $
Delaware Sand Filter	3,472
Multi-chambered Treatment Train	847
Wet Basin	2,670
Oil-Water Separator	2,540
Austin Sand Filter	2,009
Infiltration Trench	1,954
Storm-Filter™	1,575
Swales	951
Unlined Extended Detention Basin	877
Strips	835
Infiltration Basins	639
Lined Extended Detention Basin	348
Continuous Deflective Separator	220
Drain Inlet Inserts	33

14.2.2 General Cost Guidance – BMP Retrofit Construction Cost

The site-specific costs shown in the *Construction Cost Data Summary Districts 7 and 11* were further reviewed on a site-by-site basis by a technical work group comprised of

water quality specialists, construction managers and design engineers. The goal of the work group was to develop 'generic' retrofit costs that could reasonably be applied to other BMP retrofit projects. The costs were developed by reviewing the specific construction items for each site, eliminating those that were atypical and reducing the costs that were considered to be in excess of what would 'routinely' be encountered in a retrofit situation. Where there is not complete flexibility in selecting a BMP for a specific site, the cost reduction strategies (Section 14.2.4) are not sufficient in preventing cost from exceeding the costs used for planning (i.e. the 'adjusted' construction cost). Specific construction items that were reduced or eliminated from the actual costs are discussed in the individual device chapters. The results of the adjusted cost are summarized in Table 14-2.

14.2.3 Considerations for Future Projects

The technical work group that reviewed the construction cost data also identified fundamental approaches and strategies to reduce the capital cost of BMP retrofit. Many of the identified cost reduction strategies are consistent with normal evolutionary economies realized as technology and application methods mature over the course of more intensive implementation. Other strategies summarize some of the lessons learned associated with the implementation of the pilot program. The identified cost reduction strategies presented below may be useful for implementation on future projects.

In addition to the recommendations enumerated below for reducing costs of installing structural BMPs, it is generally assumed that source control is the most cost-effective stormwater best management practice. Many source control practices applicable to maintenance stations avoid contact between polluting agents and rainfall or runoff. These practices include covering materials and wastes; maintaining, fueling, and cleaning vehicles where rain and surface runoff will not contact contaminating residues; spill and leak prevention and clean-up; stabilizing bare ground; and general good housekeeping. Pollutants in runoff can be decreased on highways and in park-and-ride lots through designs that reduce impervious surfaces and retain natural soil and vegetation. However, source controls alone may not be sufficient to protect water bodies and their beneficial uses fully, and stormwater treatment BMPs may also be needed. The following cost reduction strategies can save substantially in implementing structural BMPs.

Table 14-2 Adjusted Construction Costs by BMP Type (1999 dollars)

BMP Type		Adjusted Construction Cost $	Adjusted BMP Cost per WQV, $/m^3
EDB (4)	Avg	172,737	590
	High	356,300	1,307
	Low	91,035	303
IB (2)	Avg	155,110	369
	High	171,707	397
	Low	138,512	340
WB		448,412	1,731
MFSTF		305,356	1,572
MFSD		230,145	1,912
MFSA (5)	Avg	242,799	1,447
	High	314,346	2,118
	Low	203,484	746
MCTT (2)	Avg	275,616	1,875
	High	320,531	1,895
	Low	230,701	1,856
BSW (6)	Avg	57,818	752
	High	100,488	2,005
	Low	24,546	182
BSTRP (3) [a]	Avg	63,037	748
	High	67,099	1,237
	Low	58,262	384
IT/STRP (2)	Avg	146,154	733
	High	156,975	775
	Low	135,333	691
OWS		128,305	1,970
CDS® (2)	Avg	40,328	264
	High	42,875	353
	Low	37,782	174
DII (6) [b]	Avg	370	10
	High	371	21
	Low	369	2

[a] Unit costs for strips varied widely because the unit loading ratio, or tributary area/treatment area, varied significantly in the study, ranging from 4 at the I-605/SR-91 biofilter strip in District 7 to 43 at the Altadena Maintenance Station in District 7.

[b] Unit cost for drain inlet inserts varied widely because the treatment area varied significantly.

14.2.4 Cost Reduction Strategies

1. Integration of stormwater BMP projects with larger construction projects is one of the keys to reducing costs over the long term. This principle applies to both retrofits and new construction. Long-range, integrated planning will almost always result in the most cost-effective project. Based on the experience of other state transportation agencies, including the Maryland State Highway Administration, incorporating stormwater management as an integral part of highway construction and operation and maintenance programs offers a variety of benefits, including:

   a) More opportunities to locate BMPs in conjunction with other features (e.g., drainage systems, interchanges)

   b) Enhanced experience of engineering staff with respect to stormwater BMP design, construction, operation, and maintenance

   c) Reduction of mobilization, traffic-control, and equipment costs, as well as economies of scale during the construction process

   d) Regulatory compliance cost savings through the use of single permits for the entire project

   An example from the BMP Pilot Retrofit Program of this strategy was the construction of the biofiltration swale at Palomar Road in District 11. This site was built as a part of a larger project to construct an auxiliary lane in the same vicinity as the pilot swale. The Palomar Road site had the smallest unit construction cost ($246/m^3) of any swale in the program, with unit costs for swales ranging as high as $2,192/m^3 at I-605/SR-91 in District 7. It is reasonable to assume that some of the economy realized at the Palomar Road site was achieved by integrating the swale into a larger construction project.

2. There is an economy of scale in treating runoff from the largest possible drainage catchment. The unit costs for many of the BMPs evaluated in this study declined sharply as the water quality volume approached 400 m^3. There are insufficient data beyond that point to determine whether there is additional advantage with greater size.

   The unit cost of Austin sand filters decreased at the rate of approximately $6.60 per m^3 of additional water quality volume up to about 300 m^3, the largest volume treated. Unit costs of extended-detention basins and biofiltration swales also declined substantially in a similar range, although not as uniformly as the unit costs of Austin sand filters. The units costs of an extended-detention basin and a biofilter each treating approximately 400 m^3 were lower than the unit costs of the smallest devices of each type by factors of about four and ten, respectively.

Figure 14-1 provides a graph of unit cost vs. water quality volume for three of the pilot technologies to illustrate this point. The graphed data clearly indicate that as the water quality volume increases, the cost per unit volume for the device decreases. While it is likely that the curves shown in Figure 14-1 cannot be accurately extrapolated, it is apparent from the data that economies of scale can be realized.

3. The various BMP types do differ in the amount of runoff, and therefore catchment size, they can serve. For example, biofiltration swales cannot practically serve drainage areas as large as extended-detention basins can. Treating a larger area, and gaining the consequent economy of scale, should be considered in selection and siting of the BMP. Economies may also be gained by simultaneously constructing several BMPs of the same type to treat runoff from neighboring catchments or implementing even larger numbers of BMPs across wider geographic areas as part of a large-scale implementation program. It is probable that the significance of economy of scale is amplified for devices that serve relatively small watersheds, such as in a retrofit situation. This is because the fixed costs account for a relatively greater portion of the overall cost as compared to a site serving a relatively larger watershed.

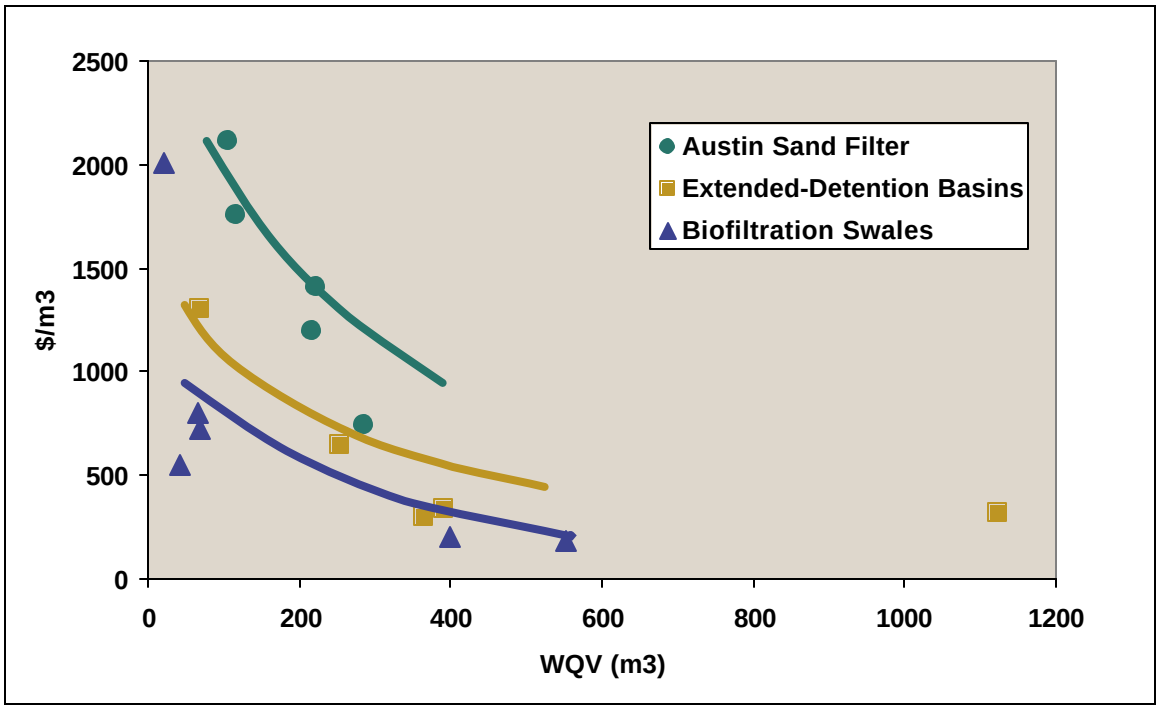


Figure 14-1 Unit Cost vs. Water Quality Volume for Selected Technologies

Two examples from the BMP Pilot program can serve to illustrate this point. The extended detention basin at I-15/SR-78 in District 7 served a tributary area of 5.42 ha and had an adjusted unit cost of $\$317/m^3$. The extended detention basin at I-605/SR-91 in District 7 served a watershed of 0.4 hectares and had an adjusted unit cost of $\$1,307/m^3$. Similarly, for biofilter swales, the site at Melrose Drive in District 11 served 0.96 ha (the largest tributary watershed for swales in the study) and had an adjusted unit cost of $\$204/m^3$, and the biofilter swale at I-605/SR-91 in District 7 served a tributary watershed of only 0.08 ha and had an adjusted unit cost of $2,005/ha.

4. The BMP sizing criterion (e.g., water quality volume) also plays a role in determining BMP costs. The criterion can be set based on hydrologic analysis for the climatological setting and is normally prescribed by regulation. Where space constraints or other factors make capture of the entire WQV infeasible, BMP implementation should still be pursued consistent with the efforts to maximize pollution reduction.

5. Engineering design and construction experience is a major cost-savings factor for state and local transportation and stormwater agencies throughout the United States. In common with most engineering programs, as the experience level of an agency increases, so does the cost effectiveness of highway stormwater projects. Contributing to higher costs, before personnel gain experience, are lack of familiarity with BMP technologies; inexperience with their selection, siting, and design; and modification of existing standard operating procedures.

6. Cross-jurisdictional partnerships within watersheds where highways are located have the potential for creating significant cost savings and water quality improvements. They must, however, be implemented in a way that ensures receiving water protection. Cost sharing and cooperation between Caltrans and other agencies in constructing joint stormwater treatment facilities should result in greater cost effectiveness for several reasons:

    a) Economies of scale associated with construction of BMP facilities that serve large drainage areas, reducing the percentage influence of fixed costs;

    b) Sharing design, construction, and operation and maintenance costs;

    c) Avoidance of traffic-control costs where jurisdictional cooperation allows for constructing BMPs outside the highway right-of-way;

    d) Other opportunities for locating BMPs, with possible avoidance of costs associated with construction of BMPs at sites constrained by space limitations within the right-of-way;

e) More hydraulic flexibility, with possible avoidance of costs associated with construction of BMPs at sites where extensive drainage system modifications are required; and

f) More flexibility in BMP design and opportunities for BMP "treatment trains," where multiple BMPs are shared by several jurisdictions.

7. The development of standardized BMP designs has the potential to reduce the costs of materials needed for building BMPs. Standardizing BMP components (e.g., inlet and outlet structures, pre-cast vaults, etc.) have resulted in substantial cost savings in other parts of the country. Continued improvement in BMP selection guidance should lead to reduced costs and better BMP performance in the field. Particular highway-related facilities often have common water quality problems. If a standard BMP suite can be developed for specific types of highway facilities or locations (e.g., maintenance stations, clover leafs, center medians, highway shoulders, etc.), there can be cost savings realized throughout the planning, design, and implementation processes.

8. BMP design complexity should be minimized. In general, non-structural (vegetation-based) BMPs are less costly than structural devices. These types of BMPs (biofiltration swales and filter strips) also tend to have pollutant removal efficiencies comparable to more expensive structural BMP devices like extended-detention ponds or sand filters. Experience in other locations in the nation supports emphasizing vegetative controls where appropriate based on site conditions. The use of distributed biofiltration and bioretention was found to be a significant component of several state transportation agency stormwater programs. Biofiltration systems can also be integrated more easily into the highway landscape (medians, shoulders, intersections, etc.), thus requiring less right-of-way space. In addition, potentially expensive piping modifications are usually minimal with these types of treatment devices.

9. Specialized BMP devices, such as the oil-water separator, multi-chamber treatment train (MCTT), and Storm-Filter™, may not be as cost-effective as other BMPs for highway installation due to the unique aspects of that environment. They do have potential application, however, in site-specific situations (such as a unique site or specific pollutant of concern), or when the benefits of installation outweigh the costs (such as for protection of a sensitive water body or endangered species). There are situations where proprietary devices are merited, but they are generally not the most cost-effective selection for widespread highway deployment and should be lower priority choices than the other BMPs covered in the pilot program. These technologies are constantly improving, so this observation applies strictly to the experience with the BMPs evaluated in this study.

10. While all BMP categories are amenable to cost reductions through the strategies recommended herein, the type offering the greatest potential for savings is

probably biofiltration (i.e., swales and filter strips). These BMP facilities can frequently do double duty as both drainage conveyances and runoff treatment devices. To the extent they can replace single-purpose conveyance conduits, they can ameliorate the costs normally expended for conveyance while fulfilling water quality objectives. Since structural conveyance elements (e.g., pipes) are more costly than vegetated channels and slopes, there is great potential to lower the costs exclusive to complying with stormwater management requirements through building vegetated drainage systems as part of reconstruction or new construction.

11. The following general guidelines also have potential to improve overall BMP cost effectiveness for retrofits and new construction. Generally, these guidelines are recommended when their use would not otherwise delay the implementation of structural BMPs.

    a) Utilize the natural topography and terrain to maximize BMP performance and to achieve an aesthetic balance in design and siting.

    b) Use natural landscape features and materials instead of concrete and other structural components.

    c) Perform adequate site and geotechnical surveys to avoid unexpected costs and ensure post-construction BMP effectiveness, especially for infiltration BMPs and wet basins.

    d) Select BMPs that do not require pumping, extensive shoring, or both to overcome constraints imposed by available space and head.

    e) Minimize support features such as fencing, access roads, and gates to those necessary for safety and O&M purposes.

    f) Minimize access road surfaces to what is necessary for O&M and use permeable materials for access roads where feasible. It should be noted that permeable materials for access roads may have a higher capital and O&M cost as compared to AC.

    g) Include vector-control features in design and O&M plans.

    h) Utilize prefabricated components as much as possible.

    i) Purchase common BMP components in bulk to save on shipping and other related costs.

    j) A site selection and assessment process should help to avoid hidden costs associated with obstructions like utility conflicts and buried objects.

    k) Cost savings can be realized by integrating BMPs with future flood-control systems. Certain tasks would be performed if a BMP or flood control project

were constructed alone, such as mobilization, clearing and grubbing, and some excavation, piping, and concrete work. Both projects would benefit from the efficiency of sharing these costs.

l) During long-range planning and integration, some BMP retrofits will be identified that are critical to improving water quality at ecologically significant or environmentally sensitive sites. Many potential cost savings would be lost if these projects were constructed as stand-alone retrofits. In these cases future highway repair and upgrade needs should be evaluated. If potential reconstruction projects are identified, they should be considered for early installation along with BMPs for greatest overall efficiency.

In summary, analysis of the program cost data indicates that the cost to retrofit structural BMPs is highly site-specific and does not readily lend itself to normalization for application to other studies or projects. The finding itself is a valuable conclusion, and it must be stressed that accurate BMP retrofit costs may best be determined with a complete unit cost estimate based on design plans for the site.

14.2.5 BMP Construction Costs from Other Projects

A review of BMP installation costs in other jurisdictions indicates the potential for lower unit prices ($/WQV) than were realized in this study, for BMPs constructed in a non-project-specific retrofit environment. Table 14-3 presents mean unit costs ($/m^3 of water quality volume) calculated by the Third Party cost workgroup from data collected in a nationwide survey (see Appendix C). One set of columns lists the statistics from the Caltrans Pilot Study, a second set lists statistics of all nationwide data (excluding Caltrans), and a third set gives statistics only from BMP construction by the Maryland State Highway Administration (MD SHA). The MD SHA projects were singled out because they were BMP retrofits installed under a policy that limited cost in conjunction with broader highway reconstructions, therefore representing a potentially more efficient and less costly approach to BMP retrofit compared to other retrofit programs. The survey was not able to obtain specific line-item costs for these BMPs, because their costs were combined with those of other features of the overall projects. As a result, the authors of this study were unable to independently verify the accuracy of the data through review of the bid tabulations. The database is small, containing between one and three examples of each BMP type, except for wet ponds (five). Site-specific anomalies have a strong effect on a small data set, which can be seen where, contrary to expectation, the average cost of extended-detention basins exceeds the costs of wet ponds and wetlands.

Despite the limitations of the Maryland database, it is worth considering as an example of costs that could be realized with the application of cost-saving strategies like those listed in section 14.2.4. In addition to cost savings associated with integrating BMP retrofits with larger projects as was done in Maryland, a second likely reason for the costs being relatively low is the larger water quality volumes generally treated. This observation

supports the finding that it is important to treat the largest watershed possible to maximize economies of scale of the device.

14.3 Pilot Program Operation Cost

An important element in selecting the most appropriate BMP for a site is an understanding of the amount and type of maintenance required. BMPs that require less maintenance are preferred, other factors being equal. Table 14-4 summarizes the annual maintenance performed for each of the tested devices. This level of effort is related to the requirements of the earlier versions of the MID. Vector control district hours were high for all devices. Unless constructed of concrete, the largest maintenance item for each of the BMPs was vegetation management. Details on the type of activity at each site are contained in the relevant BMP chapter.

The hours shown in Table 14-4 do not correspond to the effort that would routinely be required to operate the piloted BMPs or reflect the design lessons learned during the course of the study. Table 14-5 summarizes the expected maintenance costs that would be incurred under the final version of the MID for a device serving about 2 ha, and constructed following the recommendations in each chapter. A detailed breakdown of the hours associated with each maintenance activity is included in Appendix D.

Table 14-3 Comparison of Mean Unit Costs and Water Quality Volumes from Nationwide Survey to Adjusted Mean Unit Costs and Water Quality Volumes in Caltrans Retrofit Pilot Program (1999 dollars)

	Pilot Study		Nationwide[a]		MD SHA[b,e]	
BMP	**Adjusted Cost $/m³**	**WQ Volume m³**	**Cost $/m³**	**WQ Volume m³**	**Cost $/m³**	**WQ Volume m³**
Austin sand filter	1,447	168	82	12,123	32.81[c]	1,140[c]
Delaware sand filter	1,912	120	200	1,836		
Extended-detention basin	590	293	5.25	99,537	18.37	32,279
Infiltration trench	733	199	46	2,485	11.48	4,304
Biofiltration swale	752	748	8.86[c]	2,066[c]		
Wet pond	1,731	259	7.55	44,833	9.19	20,391
Wetland			4.59	416,695	3.94	4,877
Storm-Filter™	1,572	194	19[d]	2,350[d]		

[a] Means for all entries in the Third Party Cost nationwide survey where water quality volume is available.

[b] Means for all Maryland State Highway Administration BMPs where water quality volume is available.

[c] Based on a single installation.

[d] Based on compost filters in nationwide survey

[e] MD SHA had a retrofit policy that capped retrofit costs at $12,000 per acre

Table 14-4 BMP Actual Annual Maintenance Effort for Caltrans BMP Retrofit Pilot Program

BMP	Equipment & Materials, $	Average Labor Hours
Sand Filters	872	157
Extended Detention Basin	958	188
Wet Basin	2,148	485
Infiltration Basin	3,126	238
Infiltration Trench	723	98
Biofiltration Swales	2,236	246
Biofiltration Strips	1,864	233
Storm-Filter™	308	106
Multi-Chambered Treatment Train	2,812	299
Drain Inlet Inserts	563	121
Oil-water Separator	1,066	139
Continuous Deflective Separator	785	254

Some of the estimated hours in Table 14-5 are higher than those documented during the study because certain activities, such as sediment removal, were not performed during the relatively short study period. Design refinements may eliminate the need for activities such as vector control. Equipment generally consists of a single truck for the crew and their tools.

The relative ranking of BMP types with known life-cycle costs is shown in Table 14-6. The table includes the adjusted annualized capital cost and total annualized maintenance cost based on a 20 yr life-cycle and a 4 percent discount rate.

Table 14-5 Projected Future Annual Maintenance Requirements for Caltrans BMP Retrofit Pilot Program

BMP	Equipment & Materials, $	Average Labor Hours
Sand Filters	1,013	43
Extended Detention Basin	668	56
Wet Basin	4,875	273
Infiltration Basin	562	56
Infiltration Trench	251	27
Biofiltration Swales	492	51
Biofiltration Strips	492	51
Storm-Filter™	5,731	55
Multi-Chambered Treatment Train	4,222	62
Drain Inlet Inserts	136	22
Oil-Water Separator	180	26
Continuous Deflective Separator	1,037	56

Table 14-6 Projected Present Worth of BMP Capital, Maintenance and Total Cost Requirements for Caltrans BMP Retrofit Pilot Program

BMP	Present Worth Adjusted Capital Cost /m^3 - $	Present Worth Maintenance Cost /m^3 [a] - $	Present Worth Total Cost /m^3 $
Wet Basin	1,731	452	2,183
MCTT	1,875	171	2,046
OWS	1,970	21	1,991
Delaware Sand Filter	1,912	78	1,990
Storm-Filter™	1,572	204	1,776
Austin Sand Filter	1,447	78	1,525
Biofiltration Swale	752	74	826
Biofiltration Strip	748	74	822
Infiltration Trench	733	71	804
Extended Detention Basin	590	83	673
Infiltration Basin	369	81	450
Continuous Deflective Separator	264	99	363
Drain Inlet Inserts	10	29	39

[a] Total maintenance cost based on life cycle of 20 years and 4% discount rate.