

Whitewater River Watershed Municipal Stormwater Program

Stormwater Management Plan 2001 - 2006

Principal Permittees

- Riverside County Flood Control
& Water Conservation District
- County of Riverside

Co-permittees

- City of Banning
- City of Cathedral City
- City of Coachella
- City of Desert Hot Springs
- City of Indian Wells
- City of Indio
- City of La Quinta
- City of Palm Desert
- City of Palm Springs
- City of Rancho Mirage
- Coachella Valley Water District

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Executive Summary

Federal regulations implementing Clean Water Act section 402 (p) require operators of municipal separate storm sewer systems (MS4s) serving urbanized areas with populations of 100,000 or greater to obtain National Pollutant Discharge Elimination System (NPDES) permits for municipal stormwater discharges. A MS4 is defined as a publicly owned conveyance or system of conveyances - including roadways, catch basins, curbs, gutters, ditches, man-made channels and storm drains – designed or used for collecting and conveying stormwater. NPDES municipal stormwater permits require MS4 operators (permittees) to 1) effectively prohibit non-stormwater discharges to the MS4 and 2) implement controls to reduce the discharge of pollutants to the *maximum extent practicable*.

In May 1996, the Colorado River Basin Regional Water Quality Control Board (RWQCB) issued an initial "first-round" NPDES municipal stormwater permit (Permit) to the County of Riverside, the Riverside County Flood Control and Water Conservation District, the Coachella Valley Water District, and ten incorporated cities: Banning, Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs and Rancho Mirage, (Permittees). On November 20, 2000 the Permittees submitted a Report of Waste Discharge (ROWD) as an application for renewal of the Permit which was scheduled to expire on May 22, 2001. The RWQCB accepted the ROWD and application for Permit renewal as complete, and has scheduled a hearing on a new Permit for September 2001. Until a new Permit is adopted by the RWQCB, the Permittees will continue to operate under the existing Permit.

The Whitewater River watershed is generally situated in Riverside County within the Coachella Valley Planning Area of the Colorado River Basin RWQCB. The watershed is generally defined by the boundaries of the Whitewater Hydrologic Unit as described in the Water Quality Control Plan for the Colorado River Basin RWQCB (Basin Plan). Much of the watershed consists of sparsely populated mountains, desert, and agricultural lands. Urbanized areas are principally located on the valley floor between Banning and Indio along Interstate 10, and from Palm Springs to Coachella along State Highway 111.

The Phase I federal storm water regulations (40 CFR 122.26) require municipal stormwater permittees to develop and implement a comprehensive *stormwater management program* to reduce pollutants in municipal stormwater discharges to the *maximum extent practicable*. In 1994, the Whitewater Permittees submitted a proposed Stormwater Management Plan (SMP) to the RWQCB as part of their NPDES Permit application. The SMP included 25 Best Management Practices (BMPs) that were subsequently incorporated into the Permit by reference.

This Stormwater Management Plan, 2001 – 2006 presents an updated suite of BMPs that constitute the Permittees' proposed stormwater management program for the next Permit term. Programmatic improvements have been incorporated into the

proposed SMP based on experience gained under the initial Permit and feedback from the Permittees. Components of the original SMP that have proven most effective have been carried forward and incorporated into the proposed program. Taking into account the unique nature of the Coachella Valley's desert environment, the Permittees have identified a proposed SMP that continues to emphasize source control measures and strong public education/outreach efforts as being the most effective way to manage urban runoff in this highly arid region.

This SMP presents each major program area as a separate section, including a discussion of past program activities, identification of any proposals for additional program development during the term of the Permit, and corresponding BMPs. Where applicable, performance measures are included to assess SMP implementation and to measure progress toward the achievement of program goals.

Section 1

Program Structure

1.1 Introduction & Background

The California Regional Water Quality Control Board – Colorado River Basin Region (RWQCB) issued an area-wide NPDES Municipal Stormwater Permit (Permit) to the Riverside County Flood Control & Water Conservation District (RCFC&WCD), the County of Riverside, the Coachella Valley Water District (CVWD), and the Cities of Banning, Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage on May 22, 1996. The Permit was issued pursuant to the Part 1 application submitted on June 11, 1992, and the Part 2 application submitted on May 17, 1994. On November 20, 2000 the Permittees submitted a Report of Waste Discharge (ROWD) as an application for renewal of the Permit which was scheduled to expire on May 22, 2001. The RWQCB accepted the ROWD and application for Permit renewal as complete, and has scheduled a hearing on a new Permit for September 2001. Until a new Permit is adopted by the RWQCB, the Permittees will continue to operate under the existing Permit.

The initial Permit required the Permittees to implement the Stormwater Management Plan (SMP) that was submitted to the RWQCB in the Part 2 application. The SMP outlines 25 Best Management Practices (BMPs) that are used by the Permittees to manage and control stormwater runoff to the maximum extent practicable. The BMPs and a phased implementation schedule are listed in Attachment B to the Permit. This *Stormwater Management Plan, 2001 – 2006* presents an updated suite of BMPs that constitute the Permittees' proposed stormwater management program for the next Permit term. Programmatic improvements have been incorporated into the proposed SMP based on experience gained under the initial Permit and feedback from the Permittees. Components of the original SMP that have proven most effective have been carried forward and incorporated into the proposed program. Taking into account the unique nature of the Coachella Valley's desert environment, the Permittees have identified a proposed SMP that continues to emphasize source control measures and strong public education/outreach efforts as being the most effective way to manage urban runoff in this highly arid region.

1.2 Organization

The Permit identifies RCFC&WCD and the County of Riverside as Principal Permittees. The CVWD and Cities are identified as Co-permittees. Collectively, the entire group is referred to as the Permittees. A working organizational framework developed during the previous application process resulted in the Principal Permittees assuming responsibility for coordinating collective Permittee activities, including report preparation and submittals to the RWQCB. This working arrangement will remain in place for the next Permit term.

The Permittees have also convened the Colorado Region NPDES Task Force (Desert Task Force) to provide a working forum for coordination of NPDES issues. Initially formed to organize and submit the Part 1 and Part 2 applications, the Task Force meets on a regular basis to disseminate information, discuss issues, and coordinate Permittee actions to implement the SMP and achieve Permit compliance. The Desert Task Force will continue to meet as needed to coordinate activities required to implement this *Stormwater Management Plan, 2001 – 2006*.

To underpin the working framework among multiple agencies, the Permittees adopted an Implementation Agreement on March 4, 1998. The Implementation Agreement, a requirement of the Permit adopted by the RWQCB, reinforces the roles and responsibilities of each Permittee established by the Permit. Specific provisions of the agreement included cost sharing for public education activities and water quality monitoring. The implementation agreement expires coincident with expiration of the first Permit. The Permittees are committed to entering into a similar implementation agreement soon after the second Permit covering 2001 to 2006 is issued.

This *Stormwater Management Plan, 2001 – 2006* is referenced by and is an integral component of the NPDES Permit. Compliance with the Permit requires implementation of the SMP. The *Stormwater Management Plan, 2001 – 2006* is organized into the follow programs:

- **Illicit Connection/Illegal Discharge (IC/ID) Program (Section 2)** – This program involves screening, detection, and elimination of improper discharges to the storm drain system. This program is implemented at both the area-wide and individual municipal levels.
- **Commercial/Industrial Program (Section 3)** – The Commercial/Industrial program area is implemented primarily through area-wide outreach, education, and subsequent facility visits. The program includes technical training for municipal staff regarding BMPs and stormwater management at industrial and commercial sites.
- **New Development/Redevelopment and Construction Activities (Section 4)** – New Development/Redevelopment program requirements will focus on integrating stormwater management measures into current development review processes within the Permittees' Planning and Public Works Departments. The Construction program is closely linked to New Development/Redevelopment and will continue existing efforts for projects in the watershed.
- **Municipal Agency Activities (Section 5)** – This program area is targeted at municipal operations and activities throughout the watershed, including various departments within the Public Works framework. Employee training activities are a key aspect of stormwater management at the municipal agency level.

- **Residential (Section 6)** – The Residential program area is focused mainly at public education, encouraging watershed awareness, individual responsibility, and offering practical alternatives for citizens to properly dispose of household hazardous waste (HHW). The program is implemented primarily through area-wide education activities and HHW material collection efforts.
- **Public Education Program (Section 7)** – Public education is lead by the area-wide StormWater/CleanWater Protection Program. This media campaign takes advantage of countywide resources to develop and increase public awareness of urban runoff issues on a regional scale.
- **Water Quality Monitoring (Section 8)** – Water quality sampling and analysis is conducted throughout the watershed to characterize runoff and establish a baseline set of data.

1.3 Area-wide Programs

The Permittees employ four area-wide programs to implement certain BMPs. Each program is established by the execution of an agreement between RCFC&WCD and the agency providing the service.

- Hazardous Materials Spill Response

The Riverside County Fire Department’s Hazardous Materials Emergency Spill Response Team (HAZMAT Team) is a major component of the Permittees’ area-wide source control efforts. The HAZMAT Team responds to incidents of spills and illegal dumping of hazardous material throughout the watershed. HAZMAT directly oversees and directs incident response and clean up of hazardous material with the goal of preventing discharges into the municipal storm drain system. The HAZMAT Team efforts support BMPs for the IC/ID and Commercial/Industrial program areas. Details are presented in Section 2 (IC/ID).

- Commercial/Industrial Compliance Assistance Program

The recently introduced Commercial/Industrial Compliance Assistance Program (C/ICAP) was developed to support elements of the SWMP, and to fulfill requirements associated with Riverside County’s two other municipal stormwater permits. The C/ICAP consists of contract services provided by Riverside County’s Department of Environmental Health to utilize the current inspection programs of commercial and industrial facilities to facilitate stormwater program compliance. The program presently involves focused outreach to approximately 5,000 food service facilities through annual visits, and to over 1,800 hazardous materials and industrial facilities approximately once every two years. The C/ICAP directly supports the Commercial/Industrial and IC/ID program areas. The C/ICAP is discussed further in Section 3 (Commercial/Industrial).

- HHW/Anti-freeze, Batteries, Oil, Latex Paint (ABOP)

The HHW and ABOP programs are principal components of the Permittees' source control efforts. Both programs are implemented by Riverside County Department of Environmental Health, and provide practical alternatives to improper disposal of household hazardous wastes that might otherwise be disposed into the municipal storm drain system. The HHW and ABOP programs directly support BMPs for Residential and IC/ID program areas. Both programs are discussed further in Section 6 (Residential).

- StormWater/CleanWater Protection Program

The StormWater/CleanWater Protection Program (SW/CWPP) is a broad-based media campaign that communicates the importance of stormwater management and pollution prevention to the general public and to targeted commercial and industrial sources. The goal of the program is to perform outreach to citizens by presenting clear and consistent messages that explain the connections between every day activities and their impact on water quality. Section 7 (Public Education Program) of this SMP discusses the SW/CWPP in further detail.

1.4 Legal Authority

The initial Permit required the Permittees to establish adequate legal authority to implement the provisions of the Permit in accordance with federal regulations at 40 CFR 122.26. Legal authority was established during the initial Permit term.

A model ordinance was drafted and included with the Permittees' Part 2 application. Following Permit adoption, the Permittees examined their respective ordinance framework and adopted or modified existing ordinances to ensure adequate legal authority in accordance with the Permit requirements. RCFC&WCD and CVWD rely on the principle of "combined legal authority" as outlined in the United States Environmental Protection Agency's (USEPA's) Part 2 Permit Application Guidance and the Permittees' Part 2 application. Legal authority is then maintained and exercised by the appropriate governmental entities with jurisdiction for the storm drain system.

The Permittees have met the requirements for establishing adequate legal authority as outlined in the Part 2 application. Attainment of legal authority has been documented in the 1998-99 Annual Report and submitted to the RWQCB. The Permittees are committed to maintaining adequate legal authority for the implementation of the SMP throughout the next Permit term.

1.5 Fiscal Analysis

Fiscal resources for supporting the SMP in the Whitewater River watershed were established during the previous Permit term. The Permittees use three methods of fiscal support for the NPDES Municipal stormwater program:

1. Whitewater River Watershed Benefit Assessment Area
2. County Service Area 152
3. General Fund

These funding methods are summarized briefly below:

- **Whitewater River Watershed Benefit Assessment Area**

The Whitewater River Watershed Benefit Assessment Area (WWBAA) was established in 1991 as RCFC&WCD's funding source for NPDES program activities. The WWBAA covers the northwesterly portion of the watershed including County and city jurisdictions that lie within the RCFC&WCD service area. Assessments are calculated on the basis of proportional stormwater runoff and are enrolled on the property tax bills generated by the County Tax Assessor's office. WWBAA revenues fund both area-wide NPDES program and the RCFC&WCD's individual Permit compliance activities.

- **County Service Area 152**

The County of Riverside formed County Service Area (CSA) 152 in 1991 to provide funding for Permit compliance activities. The County developed a modified assessment methodology that was activated in FY-1995-96 and began using the Transportation and Land Management Agency's Geographic Information System to perform the assessment calculations. The cities of Banning, Cathedral City, Coachella, Desert Hot Springs, Indio, La Quinta, Palm Desert, Palm Springs, and Rancho Mirage are annexed into CSA 152. These municipalities determine their individual assessment rates and decide the method of allocating funds among their respective stormwater management functions.

- **General Fund**

As mentioned above, the cities of Banning, Cathedral City, Coachella, Indio, and Palm Desert are included in CSA 152. However, each city currently imposes a \$0.00 assessment annually. These Co-permittees, along with the County, City of Indian Wells and CVWD rely on general or "ad valorem" tax revenues to finance their NPDES programs.

The Permittees plan to use these existing funding sources to implement the SMP during the next Permit term.

Section 2

Illicit Connection/Illegal Discharge Program

The IC/ID program is designed to detect and eliminate improper discharges to the municipal storm drain system. The IC/ID program is incorporated in the SMP, and implemented at both the local and area-wide levels. IC/ID issues specific to Commercial/Industrial operations are presented in Section 3.

The IC/ID program includes:

- Current activities focusing on BMP implementation (2.1)
- BMPs to manage stormwater runoff and non-stormwater discharges for the next Permit term (2.2)
- Training for municipal staff in IC/ID BMPs (2.3)
- Evaluation & Assessment of BMPs (2.4)

The federal stormwater regulations (40 CFR 122.26) require that the IC/ID program include: “a description of a program, including inspections, to implement and enforce an ordinance, orders, or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges...”

Three types of releases, generally referred to as "improper discharges" to the storm drain system are addressed under this IC/ID program:

- **Illicit discharge:** An illicit discharge is any discharge that is not composed entirely of storm water except discharges pursuant to a NPDES Permit and other exempt discharges such as fire fighting flows and others. Illicit discharges can be considered any non-storm water discharges, which enter or have the potential to enter the storm drain system through illicit connections or illegal dumping.
- **Illicit connection:** An illicit connection is a direct physical connection to a storm drain, which allows prohibited discharges to enter the storm drain system. Examples include sanitary sewer connections, industrial process waters, and floor drains.
- **Illegal dumping:** Illegal dumping is the intermittent discharge of pollutants into the storm drain system through either legal connections, such as catch basins, or by direct dumping into creeks, streams, and channels. This could include the disposal of used oil, paint, and wash water. In addition, illegal dumping includes the illegal disposal of pollutant material in the drainage channels, creeks, and streams throughout the Whitewater drainage area such that stormwater can

eventually mobilize it and carry it to other portions of the storm drain system and to receiving waters.

2.1 Current Activities and Source Identification

During the initial Permit period, the Permittees implemented BMPs to perform public outreach, respond to field observations, and contain and clean up improper discharges when required. The specific activities used to address IC/ID issues are presented below.

2.1.1 Outreach

The purpose of this activity is to inform the public about the detrimental effects that illegal discharges have on stormwater quality. The SW/CWPP is the primary mechanism for IC/ID outreach. The SW/CWPP includes public education on the full scope of stormwater pollution prevention including encouraging the public to report suspected incidents of IC/ID. The SW/CWPP outreach activities are further described in Section 7, Public Education Program.

2.1.2 Field Screening/System Surveillance

Field Screening/System Surveillance consists of three elements:

- source identification
- routine field inspection/screening of storm drain
- routine inspection of facilities

Source identification was performed during the initial Permit term in accordance with Permit section D.2. The Permittees were required to update the source identification information that was initially provided in the Parts 1 and 2 applications. Specifically, the Permittees reported existing or new outfall locations, additions or modifications to major structural controls, and additions to the list of industrial operations covered under the General Industrial Permit. This updated information on new stormwater outfalls and structural controls is summarized in the Annual Reports. The Annual Reports also included a list of commercial establishments and industrial facilities as documented by the County Hazardous Materials Management Program. These source identification efforts are further described in section 3.2.1 and 3.2.2.

Current field inspection/screening of the storm drain system has been performed by various Permittees' department staff. Co-permittees' code enforcement staff routinely patrol and inspect municipal facilities, and report IC/ID incidents. Several Co-permittees have instructed other public works staff, such as building inspectors, fire department, and community service staff to report IC/ID incidents while in the field performing their specific duties. Public works department staff also inspect catch basins either as part of routine maintenance, or on a periodic (semi-annual/annual)

basis. RCFC&WCD and CVWD perform field inspections of their respective municipal storm drain system as part of ongoing facility maintenance programs.

RCFC&WCD NPDES staff also conduct periodic facilities reconnaissance targeting commercial/industrial areas and remote areas for IC/ID. Routine facility inspections are further addressed through the Commercial/Industrial Compliance Assistance Program described in Section 3.1.1.

In addition to field screening and surveillance, the Permittees address swimming pool discharges in one of two ways:

- Several Permittee cities issue permits for swimming pool drainage that require the discharger to stop chlorinating the pool for three to seven days, and to test the dechlorinated water for confirmation of an acceptable level of chlorine residual in the water prior to discharge.
- All Permittee cities have adequate legal authority to halt an IC/ID incident that results in the improper disposal of swimming pool discharges.

2.1.3 Reporting

The purpose of standardized reporting is to formalize the procedures followed for incident documentation and follow up. During the initial Permit term, the Permittees developed a program for reporting and documenting illegal discharges, spills, and dumping.

The Permittees have used internal log forms to document reports of IC/ID. The log forms are also used by staff to record observations in the field of improper discharge. Incidents involving hazardous materials are documented using a standard California Hazardous Material Incident Report form. Since IC/ID is usually reported to code enforcement, public works, or fire department staff, a case number is assigned to the reported incident.

2.1.4 Incident Response, Investigation, and Clean up

The purpose of this activity is to address the procedures followed for incident response, investigation, and cleanup. Presently, the Permittees' public works or code enforcement staff respond to notification of illegal discharges by taking phone calls, assessing the magnitude of the discharge, and either initiating direct follow-up or referring the call to County HAZMAT (if a significant quantity of hazardous materials is reported).

Staff of the various Permittee agencies handle response and initiate clean up in cases of minor spills involving non-hazardous materials. Examples include paint spills into the city streets. The County HAZMAT team responds directly to accidental spills or illegal dumping of hazardous materials, and provides support services to other agencies that encounter hazardous materials in the routine of their duties. An

example of support services includes assisting police during illegal narcotics investigations. The HAZMAT team operates 24 hours a day, seven days a week. The team's duties include, but are not limited to, directing the containment and clean up of spills that may enter surface waters or flow directly to the municipal storm drain system. During FY 1998-99, HAZMAT responded to 466 incidents countywide. Of these, 132 (28%) were considered to involve or threaten to discharge into a storm drain or channel facility. There were 18 incidents involving HAZMAT response in the Whitewater River watershed. A summary of HAZMAT team's activities is described in each Annual Report submitted to the RWQCB.

A toll-free "hotline" (1-800-506-2555) has been established in conjunction with the SW/CWPP to specifically receive public complaint calls regarding improper discharges. The hotline staff is trained to notify the appropriate responders of any hazardous or non-hazardous material release to the storm drain such as oil, paint, or other suspicious discharges.

2.2 Best Management Practices

2.2.1 Outreach

During the initial Permit term, Permittees developed informational materials that clearly defined illegal discharges, explained their impacts on stormwater, and described why such discharges should be prevented through the Public Education Program. These efforts support the educational BMPs shown below in Table 2-1. Available informational materials include audio and video Public Service Announcements, utility inserts, brochures, adult and classroom presentations, catch basin stenciling, water-drop magnets, print and radio advertisement campaigns, library displays, school programs, and workshops. A focused brochure entitled "Stormwater Pollution for Pool, Jacuzzi, and Fountain Maintenance" is currently being developed. The intent of this publication is educate citizens on proper procedures for chlorination and discharge of recreational pool water. Permittees will continue to distribute informational materials as detailed in Section 7 Public Education Program.

The Permittees also will continue to support the County's HHW/ABOP Collection Program described in Section 4. HHW Program provides mobile collection events, while the ABOP provides a fixed facility for disposal. Under these programs, residents can dispose of used motor oil and other types of HHW free of charge at both mobile and permanent collection facilities throughout the Permit area as detailed in Section 7 Public Education Program.

**Table 2-1
 Outreach BMP Summary**

Existing BMPs	Description
E1	Continue to educate/inform the general public on the proper application and management of pesticides, fertilizers and herbicides, as well as the proper management of irrigation systems to prevent runoff drainage to municipal storm drain system. Where appropriate, coordinate with the Soil Conservation Service, Resource Conservation Districts and UC Cooperative Extension.
E2	Educate/inform the general public on the impacts of litter and improper waste disposal.
E3	Educate/inform the general public on impacts from dumping pollutants into storm drainage system.
E4	Educate/inform the general public on impacts from leakage or dumping of gasoline, oil and grease, antifreeze and hydraulic fluid from vehicles into the streets.

2.2.2 Field Screening/System Surveillance

The Permittees are currently required to report additions or modifications of new outfalls, major structural controls, and the list of industrial operations subject to storm water regulations. The Permittees will continue to report and update these items. The list of industrial operations subject to storm water regulations can be updated through the C/ICAP and General Industrial Permit Coordination activities discussed in Section 3. Table 2-2 summarizes the BMPs for field screening/system surveillance.

During the next Permit term:

1. The Permittees will develop and use a standardized field inspection/reporting form for documenting IC/ID incidents (**BMP OM1B**).
2. The Permittees will establish an implementation schedule (**BMP OM1C, BMP OM1D**) for conducting IC/ID field inspections within their respective jurisdictions. The schedule will address:
 - the County Hazardous Materials Management facilities database
 - the RWQCB General Industrial Permit database
 - the major outfalls identified during the initial Permit term
3. The Permittees will conduct and document field inspections during the performance of existing field activities, recording IC/ID observations on the standardized inspection form (**BMP OM1E, BMP R16**).

Table 2-2
Field Screening BMP Summary

Existing BMPs	Description
OM1B	Develop forms (or other mechanism) for reporting the observations of field personnel of unauthorized dumping or spills so the information can be used to help locate the source of pollutants.
OM1C	Coordinate with County Health Department, local fire departments, Colorado RWQCB, and other departments as necessary to develop a target list of industries which are known to be contributing substantial pollutant loads to the storm drain system. Develop and/or enhance inspection and notification procedures for these facilities.
OM1D	Develop implementation schedule for conducting field inspections of storm drain system and targeted industrial facilities.
OM1E	Conduct field inspections to ensure identification and elimination of illegal dumping and discharge.
R16	Pollutants in runoff from landfills and SARA Title III facilities will continue to be monitored in compliance with existing Colorado RWQCB waste discharge requirements. This will also be used to assess compliance with the storm water requirements. Data compiled and provided to the Colorado RWQCB in compliance with the waste discharge requirements will be incorporated into the storm water compliance reports by reference.

2.2.3 Reporting

For the next Permit term, the Permittees will use the standardized reporting form described in section 2.2.2 to document IC/ID incidents. Table 2-3 summarizes the related BMP for IC/ID reporting. The present system for internal reporting will remain in effect, supported by the existing framework of routine inspections by public works staff.

For the next Permit term:

1. The Permittees field personnel will use the standardized form described in 2.2.2 for reporting the IC/ID observations. **(BMP OM1B)**.

Table 2-3
Reporting BMP Summary

Existing BMP	Description
OM1B	Develop forms (or other mechanism) for reporting the observations of field personnel of unauthorized dumping or spills so the information can be used to help locate the source of pollutants.

2.2.4 Incident Response, Investigation, and Clean up

The HAZMAT Team responds directly to accidental spills and illegal dumping of hazardous materials and provides support to other agencies that encounter hazardous materials in the course of their duties. The RCFC&WCD’s continued support of the HAZMAT Team helps ensure that spills or illegal dumping of hazardous material will be responded to in a timely and professional manner, thereby reducing the potential impact on municipal storm drain systems and receiving waters.

Over the next Permit term, the Permittees and RCFC&WCD will continue to contribute financially to support the County and local HAZMAT crews responding to IC/ID incidents. The corresponding BMP is shown below in Table 2-4.

Table 2-4
Incident Response, Investigation, and Cleanup BMP Summary

Existing BMP	Description
SW4	Continue to support the existing hazardous materials incident response programs implemented by the Riverside County Fire Department HAZMAT Team.

2.3 Training

During routine maintenance facility inspections, maintenance staff may come across evidence of potential stormwater pollution and/or illicit discharges. Therefore, training personnel to recognize and respond appropriately to stormwater pollution problems is an integral part of the IC/ID program.

In the past, training for Riverside County’s new employees to direct staff to follow procedures set up for the reporting and abatement of illegal dumping was conducted on an as-needed basis. For the Co-permittees, a variety of training methods including video presentations, formal staff meetings, informal briefings by code enforcement staff, and the fire department’s “First Responder Courses” have been used to educate personnel on urban runoff issues. Recently, the SW/CWPP developed and presented two employee training workshops that are available to all Permittee municipal staff. The workshops, entitled “Stormwater BMPs for Municipal Facilities & Roadway Operations” are devoted to address both stormwater and non-stormwater issues for IC/ID, materials storage and many other functional BMP areas, such as maintenance and public works construction activities. Based on the success of these workshops, additional workshops that address other aspects of municipal stormwater and non-stormwater issues will be developed and offered to all Permittee staff.

During the next Permit term:

- NPDES coordinators will document their respective staff training activities and forward the information to RCFC&WCD annually for inclusion in the Annual

Report. The documentation will include pertinent information such as, but not limited to, the number of staff in attendance and the type of training received.

- NPDES coordinators will attend at least one training session annually at any of the existing training forums available in the local area.
- NPDES coordinators will continue to use existing municipal staff forums to hold briefings for appropriate staff on commercial/industrial stormwater issues.
- Co-permittees will attend training workshops developed by the SW/CWPP.
- Co-permittees will use video presentations available from the SW/CWPP for internal staff training.

The corresponding BMP is shown in Table 2-5. This BMP incorporates general training instruction for all aspects of municipal stormwater management. Training for the IC/ID program may be conducted in conjunction with training for other portions of the municipal stormwater program discussed in Section 3 Commercial/Industrial; Section 4 Development and Construction; Section 5 Municipal Agency Activities; and Section 6 Residential.

Table 2-5
Training BMP Summary

Existing BMP	Description
OM1A	Develop and conduct a training program for field personnel (including in-field workshops) to conduct inspections. Training program may include development of appropriate field manuals, training materials, and field sampling techniques and procedures.

2.4 Evaluation/Assessment

Evaluation and assessment of BMP performance and Permittee compliance will be accomplished primarily through reporting and documentation. The proposed evaluation and assessment requirements for each BMP are shown below in Table 2-6.

Table 2-6
Evaluation & Assessment Summary

Existing BMPs	Assessment Target
<p>OM1A, OM1E OM1B,</p>	<p>Staff training – number of employees trained, by department or function</p> <p>Meet present BMP standards, such as use of standardized IC/ID reporting form</p> <p>Collect information on IC/ID reports:</p> <ul style="list-style-type: none"> ■ Number of reports received ■ Number of cases investigated/responded to ■ Source of IC/ID ■ Final outcome of case (e.g., spill/connection was terminated and cleaned up, source owner/operator educational visit, warning letter, referral to enforcement agency) ■ Number of enforcement actions issued/taken (e.g., notice of non-compliance, notice of violation and order to comply, referral to District Attorney for prosecution)
<p>E2, E3, E4</p>	<p>Number of education events conducted, by type (e.g., workshops, fairs, public counter assistance, etc.)</p> <p>Event attendance, by event type</p> <p>Number of outreach materials distributed through newspapers, direct mailings, and utility bill inserts.</p>

Section 3

Commercial/Industrial Program

The purpose of this program area is to conduct source identification and outreach to reduce discharge of pollutants from both commercial businesses and industrial operations.

The Commercial/Industrial section presents:

- Current activities that are the focus of BMP implementation (3.1)
- BMPs to manage stormwater runoff and non-stormwater discharges for the next Permit term (3.2)
- Training for municipal staff in Commercial/Industrial BMPs (3.3)
- Evaluation & Assessment of BMPs (3.4)

3.1 Current Activities and Source Identification

Ongoing activities by the Permittees for stormwater management are presented in this section. Continual source identification is critical to effective program implementation, as it helps the Permittees focus their management efforts. Four sectors targeted for outreach were restaurants, automotive businesses, mobile business operators, and industrial facilities.

3.1.1 Public Education

The Commercial/Industrial Compliance Assistance Program (C/ICAP) is a new component of the area-wide Stormwater Management Plan that was developed during the initial Permit term. The C/ICAP builds on the expertise of two existing inspection programs conducted by the County Department of Environmental Health to provide technical assistance to commercial operators in stormwater management and compliance. Program implementation involves focused public outreach for food service (approximately 5,000 facilities countywide), and hazardous waste Permittees, (1,800 facilities countywide) including auto repair, gas stations, etc.

The SW/CWPP developed a series of “focused” BMP brochures that target the commercial and industrial businesses. These brochures provide useful guidelines on proper clean-up and waste disposal procedures. Complementary posters illustrating recommended stormwater BMPs were also developed for automotive service facilities and restaurants to serve as visual reminders for employees. Distribution of these brochures and posters is currently accomplished through the C/ICAP, County and Co-permittee departments, and other agencies that regularly deal with commercial and industrial businesses.

Mobile cleaning businesses were also identified as a specific sector for outreach. As described in the Work Plan for Public Works Activities and Mobile Cleaning Businesses, a focused public outreach campaign targeting mobile businesses was

initiated. An outdoor cleaning activities brochure was developed for mobile business operators. This brochure has been provided to RWQCB staff and to the Permittees for their use. Additionally, the Public Education coordinator initiated an effort to generate a list of mobile cleaning services within each cities' jurisdiction, principally automotive detailing and carpet cleaning businesses. The SW/CWPP will use this information to distribute the mobile cleaning services BMP brochure to these providers.

A new brochure entitled "Did you know...your facility may need a Storm Water Permit?" provides information on how to submit a Notice of Intent (NOI) form for industrial facilities and lists certain manufacturing operations that may require coverage under the Industrial Activities Storm Water General Permit. This new brochure is being circulated via the Permittees permit counters and the area-wide C/ICAP.



3.1.2 General Industrial Permit Coordination

Many manufacturing and industrial operations are subject to the requirements of the State's General Permit for Discharges of Storm Water Associated with Industrial Activities (General Industrial Permit). BMP R14 requires the Permittees to obtain proof of compliance prior to issuance of a business license or a certificate of occupancy for new industrial facilities. Additionally, section D.2 of the existing Permit requires the Permittees to update the source identification information each year and list the updates in the Annual Report. A list of Coachella Valley Industrial NPDES permittees was included in the Part 2 application. An updated listing of commercial establishments and industrial facilities has been provided in the subsequent Annual Reports.

3.1.3 Hazardous Material Management Program

The County Environmental Health Hazardous Materials Management Division (HMMD) maintains a listing of commercial and industrial facilities that are included in the outreach program. The HMMD facilities listing is presented in an Appendix to the Annual Report.

3.1.4 Oil & Grease Evaluation for Additional Controls

During the initial Permit term, the Permittees were required to evaluate the need for additional controls for oil and grease. An evaluation was conducted, and concluded that additional oil and grease regulations and controls were not needed. The conclusion was based on the following factors:

- In general, low levels of oil and grease have been consistently reported in the Whitewater monitoring program during the initial Permit term

- The Permittees have developed a comprehensive strategy to address oil and grease that involves focused outreach, adequate legal authority, and source control BMPs
- Treatment controls for oil and grease are still not proven to be highly effective in controlling the relatively low concentrations typically found in stormwater runoff
- The Permittees are monitoring research efforts for various BMPs statewide programs.

The comprehensive public outreach program described in 3.1.1 combined with an accurate information base of facilities discussed in 3.1.2 and 3.1.3 was the basis for effective outreach and source identification during the initial Permit period. This program is planned to continue into the next Permit term.

3.2 Best Management Practices

Several of the BMPs that were developed in the initial Permit term support multiple program areas. Those that provide direct support to the commercial/industrial program are discussed in the subsections that follow. This section also identifies and describes BMPs proposed by the Permittees for the next Permit term. These consist of the existing BMPs and requirements included in the 1994 Part 2 Municipal Permit Application and subsequent NPDES Permit Number CAS617002.

BMP implementation in the commercial/industrial program area addresses:

- Source Identification (3.2.2)
- Outreach (3.2.3)

3.2.1 Source Identification

Source identification of commercial/industrial operations will involve continuing the present program of tracking businesses specific to the Whitewater River watershed that are potential pollutant sources. Table 3-1 shows the primary BMPs for accomplishing source identification.

During the next Permit term:

1. The Permittees will annually contact the RWQCB to obtain an updated list of commercial and industrial operations covered by the General Industrial Permit in their respective jurisdiction (**BMP OM1C**). The list will supplement the County Hazardous Materials Management Division Inspection Program list to target outreach for commercial and industrial activities.
2. RCFC&WCD will continue to coordinate with County Department of Environmental Health to obtain an updated list of Commercial and Industrial

Facilities in the Hazardous Materials Management Division Inspection Program **(BMP OM1C)**.

3. The Co-permittees will provide the Public Education Coordinator with the name, address, and telephone number of mobile cleaning services within their respective jurisdictions using available information sources including business license databases or telephone directories, etc., to conduct outreach **(BMP OM1C)**.
4. The Co-permittees will require new industrial facilities subject to the General Industrial Permit to show proof of compliance prior to issuance of a business license or a certificate of occupancy **(BMP R14)**.

Table 3-1
Source Identification BMP Summary

Existing BMPs	Description
OM1C	Coordinate with County Health Department, local fire departments, Colorado RWQCB, and other departments as necessary to develop a target list of industries which are known to be contributing substantial pollutant loads to the storm drain system. Develop and/or enhance inspection and notification procedures for these facilities.
R14A	Develop, implement, and enforce regulations that require all new industrial facilities subject to the General Industrial Permit to show proof of compliance (such as a file number from submittal of a Notice of Intent) prior to: 1) issuance of a business license (applicable only to municipalities which require business licenses) or 2) issuance of a certificate of occupancy for new developments.

3.2.2 Outreach

The BMPs highlighted below in Table 3-2 support the outreach component of the commercial/industrial program. Educational tools and materials for all of the BMPs shown were developed during the initial Permit term. During the upcoming Permit term, the Permittees will continue to distribute educational materials with content specific to controlling stormwater quality at restaurant, automotive service, and industrial facilities, as well as to mobile cleaning businesses.

During the next Permit term:

1. Outreach will be enhanced by the C/ICAP. The C/ICAP is presently performing outreach to commercial and industrial facilities. During the first year of the new Permit term, the Permittees will develop a target list of businesses likely to be contributing pollutant loads **(BMP OM1C)**. An implementation schedule for field visits will be developed using the County Environmental Health Department's existing inspection schedules **(BMP OM1D)**. It is anticipated that restaurants will be visited once a year, and HMMD facilities will be visited once every two years.

Beginning in the second year of the new Permit term, County Environmental Health inspections will include targeted commercial and industrial sites. These sites will be selected from the information base composed in **BMP OM1C**.

The site visits will be prioritized through **BMP OM1D**. The visits will include following elements:

- Confirm that a Stormwater Pollution Prevention Plan (SWPPP) is in place and being implemented if the activity is required to comply with the General Industrial Permit. If no SWPPP is on hand and being implemented, the owner will be informed of a potential violation and the need to comply.
 - Provide general guidance on BMPs for the site.
2. Through the SW/CWPP, target and direct outreach to specific activities based on the updated General Industrial Permit NOI list obtained from the RWQCB. Continue to supplement the industrial activity list with commercial businesses from County Environmental Health Hazardous Materials Management Program Listing of Commercial and Industrial facilities.

Table 3-2
Outreach BMPs Summary

Existing BMPs	Description
E2	Educate/inform the general public on impacts from littering and improper waste disposal.
E3	Educate/inform the general public on impacts from dumping pollutants into storm drainage system.
E4	Educate/inform the general public on impacts from leakage or dumping of gasoline, oil and grease, antifreeze and hydraulic fluid from vehicles into the streets.
E9	Educate/inform the landowners, tenants, business owners, and industrial operations (with special attention to facilities known to be contributing substantial pollutant loading to the storm drain system) regarding the need to provide covers (roofs, tarps) to keep rain off of areas which contain potential contaminants (such as chemical, waste and industrial storage areas) and keep runoff from draining through areas which contain contaminants.

3.3 Training

Information on staff training during the initial Permit term and proposed for the upcoming period are described in Section 2.3. The County Environmental Health personnel who conduct inspections through the Commercial/Industrial Compliance Assistance Program will receive an orientation pertaining to the General Industrial Permit and related BMPs.

3.4 Evaluation/Assessment

Evaluation and assessment of BMP performance and Permittee compliance will be accomplished primarily through reporting and documentation. Assessment measures shown in Table 3-3 below will reflect progress for Commercial/Industrial BMPs.

Table 3-3
Evaluation & Assessment Requirements

Existing BMPs	Assessment Target
OM1C	Number of commercial and industry facilities in the source database, by type: <ul style="list-style-type: none"> ■ Restaurant ■ Automotive Service ■ Industrial ■ Mobile Cleaning Business
OM1E	Number of commercial and industrial facilities visited (during Permit year 2, to continue each year through the Permit term): <ul style="list-style-type: none"> ■ Implement BMPs ■ Maintain a SWPPP (if required by the General Industrial Permit)

Section 4

New Development/Redevelopment and Construction Activities

The New Development/Redevelopment and Construction Activities section presents:

- Current activities that are the focus of BMP implementation (4.1)
- BMPs to manage stormwater and non-stormwater from new development, redevelopment, and construction activities for the next Permit term (4.2)
- Training for municipal staff in development/construction BMPs (4.3)
- Evaluation & Assessment of BMPs (4.4)

4.1 Current Activities and Source Identification

4.1.1 New Development and Redevelopment

Both stormwater peak flows and volume increase as the community is progressively built out and impervious surfaces replace the natural topography. In addition, new urban areas contribute to the runoff pollutant loads by creating new sources.

The new development and redevelopment program element is directed at reducing pollutant discharges from all types of land uses, including residential, commercial, and industrial. *New development* is considered construction on a previously undisturbed parcel. A *redevelopment* project is any project where major modifications to an existing site or structure requiring a permit is undertaken. Routine maintenance, interior remodeling, re-roofing, and parking lot maintenance are not included. A redevelopment project is not to be confused with the projects undertaken by a Redevelopment Agency.

During the initial Permit term, *New Development Guidelines* were developed as a cooperative effort with Riverside County, incorporated cities, CVWD, and RCFC&WCD and with input and participation from several business and industrial groups and collaboration with the San Diego and Santa Ana RWQCBs. A *New Development Guidelines* video was also produced and made available to the public. The Guidelines were developed as a supplement (Supplement “A”) to the Whitewater, Santa Ana, and Santa Margarita drainage area management plans and satisfy the requirements of BMP R15 from the May 1994, Part II Municipal Permit Application. Supplement “A” comprises the single largest component of the new development and redevelopment program element. Supplement “A” is presented as Appendix B.

4.1.2 Construction Activities

During the initial Permit term, the Permittees implemented two processes for construction as requirements of the Whitewater Municipal Permit:

1. For public works projects, the Permittees notify the RWQCB of any public works construction projects that would normally require coverage under the SWRCB Construction Activity Permit (General Construction Permit). Permittees develop and implement Storm Water Pollution Prevention Plans (SWPPPs) for construction activities that exceed five acres of disturbed soil. Following this process, the Permittees are not required to submit a NOI to the SWRCB for General Construction Permit coverage. Public works construction monitoring includes site inspections before anticipated storm events and after actual storm events to verify SWPPP implementation.
2. For private sector (non-public works projects) that require coverage under the General Construction Permit, the Permittees verify that applicants have filed a NOI prior to the issuance of a grading permit.

4.2 Best Management Practices

This section identifies and describes BMPs proposed by the Permittees.

4.2.1 New Development and Redevelopment

The purpose of this element is to reduce pollutant discharges from developing areas within the Permit area by incorporating applicable structural and non-structural BMPs into new development projects and significant redevelopment projects.

Supplement “A” contains planning review procedures to address stormwater management measures during the planning, construction, and completion phases of a development project. The development review process contained in Supplement “A”, Section 3.0 is summarized as follows:

1. Present procedures for approval of grading, building, and similar permits will be modified to include BMPs listed in Supplement “A” (Tables 1 and 2).
2. Permittees will make Supplement “A” available to development applicants as early in the permitting process as possible.
3. Permittees will develop implementation procedures for the new development BMP guidelines, including training and education for employees who will implement Supplement “A”.
4. Implementing staff will notify the development applicant at the earliest possible opportunity if there is a known water quality problem which might affect the proposed development.

The BMPs shown in Table 4-1 below reflect the Supplement “A” process to be implemented by the Permittees.

During the next Permit term:

1. The Permittees will include education on the *New Development Guidelines* in outreach to architects, engineers, and other land development personnel (BMPs E11, E12).
2. The Permittees will adopt and implement the planning review procedures outlined in Supplement “A” (**BMP R New**).

Table 4-1
New Development and Redevelopment BMP Summary

Existing BMPs	Description
E11	Inform contractors, operators, and agency staff about upcoming educational and training workshops on construction site erosion control and construction materials management sponsored by professional organizations and public agencies. Make associated public education materials available at the public counter and staff bulletin boards, as appropriate.
E12	Inform architects, engineers, building department personnel, and local government officials on water quality problems associated with urban runoff and the requirements for meeting NPDES laws and program goals for properly managing the quality of stormwater runoff. Provide information on upcoming training workshops and distribute educational materials as appropriate.
R (New)	Adopt and implement the development and approval review procedures outlined in the <i>New Development Guidelines</i> (Supplement “A”) using the process described in Section 3.0 of Supplement “A”.

4.2.2 Construction Activities

Construction related activities conducted at project sites such as storage and handling of materials, fueling, equipment maintenance, etc. present opportunities for introducing potential pollutants into the storm drain system. Therefore, the Permittees will continue to implement requirements set for public works related construction activities as directed by the current Permit that include:

- Reporting public works construction projects to the RWQCB that would otherwise necessitate coverage under the Statewide General Permit
- Preparing SWPPPs for public works projects
- Inspecting public works construction sites
- Verifying NOI submittal for non-public works (private sector) construction projects that require coverage under the General Construction Permit prior to the issuance of grading permits.

BMPs shown in Table 4-2 will be used to reduce pollutant discharges from construction sites.

During the next Permit term:

1. The Permittees will continue to require proof of permit coverage by private sector construction projects that require coverage under the General Construction Permit
2. The Permittees will continue to implement the requirements of the initial Municipal Permit for public works projects.

**Table 4-2
Construction BMP Summary**

Existing BMPs	Description
E11	Inform contractors, operators, and agency staff about upcoming educational and training workshops on construction site erosion control and construction materials management sponsored by professional organizations and public agencies. Make associated public education materials available at the public counter and staff bulletin boards, as appropriate.
R6	Review legal description section of Part I Permit Application and existing grading and erosion control ordinances, if any, to determine the adequacy of existing controls for construction site erosion, sedimentation, and construction material pollutants (i.e. paints, masonry wastes, etc.). The evaluation should also include an assessment of enforcement actions. (BMP Completed)
R7	Establish a model construction site control ordinance (if determined necessary based on BMP R6) for potential future adoption by the co-applicants in Riverside County. The ordinance will require control of pollutants from construction sites including erosion and construction material. (BMP Completed)
OM (New)	Identify priorities for inspecting sites and enforcing control measures for construction projects that disturb greater than 5 acres (Phase I requirements), between 1 and 5 acres (Phase II requirements), and sites disturbing less than 1 acre.

4.3 Training

To support effective stormwater and non-stormwater pollution prevention the Permittees will develop and provide informational and appropriate training sessions that can be provided to staff who conduct construction site inspections. Training outlined in Section 2.3 will include construction related stormwater and non-stormwater issues. New development/significant redevelopment and construction training modules will contain a construction stormwater orientation for plan check staff and field inspectors. Topics will cover:

- Phase I and Phase II regulations
- SWPPP preparation
- Site inspection criteria and priorities

4.4 Evaluation/Assessment

Evaluation and assessment of BMP performance and Permittee compliance will be accomplished primarily through reporting and documentation. The proposed evaluation and assessment measures shown in Table 4-3 will be used to evaluate progress for each BMP as follows:

Table 4-3
Evaluation & Assessment Requirements

Existing BMPs	Assessment Target
E11	Describe workshops and efforts to publicize them to the target audience.
E12	Describe educational materials developed in support of the New Development Guidelines.
R6(C)	Confirm that existing ordinances adequately address Phase I and Phase II requirements.
R7(C)	Adopt appropriate modifications, if necessary, to implement BMP R6.
R(New)(ND)	Each Permittee to confirm compliance with Supplement "A".
OM(New)(C)	List priorities, develop implementation schedule for inspections. Conduct site inspections within existing building/grading inspection framework based on priorities.

Legend:

ND New Development
C Construction
New New BMP proposed

Section 5

Municipal Agency Activities

The Municipal Agency Activities component is directed at reducing the potential for stormwater impacts from public works operations. Municipal and public works staff who carry out regular maintenance and operations throughout the watershed are directly involved in both source control pollution management and IC/ID detection in the field.

The Municipal Agency Activities section presents:

- Current activities that are the focus of BMP implementation (5.1)
- BMPs to manage both stormwater and non-stormwater for the next Permit term (5.2)
- Training for municipal staff in relevant BMPs (5.3)
- Evaluation & Assessment of BMPs (5.4)

Municipal operations can have various effects on stormwater quality. For example, storm drain system maintenance may remove pollutants from the storm drain system before they reach receiving waters. On the contrary, vehicle maintenance performed improperly or without adequate safeguards can result in pollutants entering the storm drain system.

This section addresses the following public facilities or municipal operations that may impact stormwater quality:

- Sewage Systems
- Municipal Facilities & Operations
- Streets and Roads
- Storm Drain Systems

5.1 Current Activities and Source Identification

5.1.1 Sewage Systems

Releases of untreated sewage contain potential pollutants that include organic matter, bacteria and other pathogens, soaps and detergents, oil and grease, and toxic substances, etc. Accidental releases of untreated sewage can be conveyed into the storm drain system that drains directly into receiving waters. Wastewater treatment and disposal plants are operated by various entities such as Valley Sanitary District, Coachella Valley Water District, Mission Springs Water District, Desert Water Agency, etc. These agencies maintain sewage response plans to prevent unintentional

sewage spills from entering the municipal storm drain system. The sewage response plan includes procedures for notifying the RWQCB and other appropriate agencies, containing and cleaning up the spill.

5.1.2 Municipal Facilities & Operations

During the initial Permit period, the Permittees have conducted employee training in both stormwater and non-stormwater BMPs related to municipal facilities and operations. The training has focused on numerous aspects of public works activities as highlighted below.

Maintenance and material storage areas that are used to conduct vehicle and equipment maintenance and store materials in areas may be exposed to rainfall or stormwater runoff. Facilities include:

- Areas used for servicing, fueling, or washing vehicles or equipment. Most often, these facilities are found at corporation yards, local or regional parks, golf courses, fire stations, police stations, and municipal facility areas.
- Outdoor storage areas for chemicals, construction materials, and waste products associated with municipal activities. These materials may include fuels and equipment fluids, wash waters, paving and base materials, pesticides, herbicides, and other substances that may affect water quality if released to the storm drain system.

Existing Permit requirement D.3.b.1.b directed that the Permittees to “Identify storm sewer systems which drain areas where fleet vehicles are stored and maintained”. The Permittees reviewed municipal fleet vehicle staging areas, and determined potential drainage paths for runoff to the storm drain system.

In support of D.3.b.1.b, the Permittees developed a work plan that was submitted to the RWQCB. The workplan described outreach to fleet vehicle operators that is currently being performed through the Commercial/Industrial Compliance Assistance Program.

Maintenance activities for landscape areas have the potential to contribute several types of pollutants to stormwater runoff. Municipal staff are currently briefed on proper material use and handling during landscaping operations. These topics are included in the ongoing training for public works staff.

Proposed BMPs for maintenance/materials storage and landscape maintenance are discussed in Sections 5.2.2 and 5.2.3.

5.1.3 Streets and Roads

The SW/CWPP has sponsored municipal employee training specifically designed to educate staff on pavement maintenance, repair, and cleaning. A contract service

provider, Sunline Transit Agency, performs sweeping for major streets. Other contractors perform catch basin clean-out services. Individual Co-permittee cities sweep the collector streets in their respective areas. Each city sweeps its streets at regular intervals, usually on a daily, weekly or monthly basis.

5.1.4 Storm Drain Systems

The program elements discussed in sections 5.1.1 through 5.1.3 focus on reducing or eliminating the water quality impacts of various public agency activities. This program element focuses on proactive BMPs the Permittees can implement to improve stormwater quality. Specifically, the storm drain systems element focuses on inspecting, and where necessary cleaning retention/detention basins, debris basins, open channels, drain inlets, and catch basins. The primary stormwater pollution control benefits include maintaining basin performance and removing sediments and other accumulated pollutants. This element shares a common purpose with prevention and inspection activities discussed in Section 2, IC/ID. As described in Section 2.1.3, RCFC&WCD and CVWD perform regular maintenance and inspections of their respective storm drain systems. Additionally, Co-permittee public works staff observe and report improper discharges to the storm drain system in the course of their regular field duties.

5.2 Best Management Practices

This section identifies and describes BMPs proposed by the Permittees to address Municipal Agency Activities.

5.2.1 Sewage Systems

The purpose of this program activity is to prevent sewage spills from reaching storm drain systems and receiving waters. This will be achieved by reviewing, modifying if necessary, and implementing sewage spill response plans for Permittees with jurisdiction over a wastewater collection system. Where sewer services are provided by a regional agency, the Permittees will coordinate with the regional agency for spill reporting procedures.

Table 5-1
Sewage Systems BMP Summary

Existing BMP	Description
OM(New)	Review, revise if necessary, and implement sewage spill response plans

5.2.2 Municipal Facilities & Operations

The BMPs proposed for Municipal Facilities & Operations address activities primarily involving maintenance and material storage and landscape maintenance. Two new

BMPs are proposed to reduce or eliminate pollutant discharges from outdoor facilities used by the Permittees for vehicle and equipment maintenance or materials storage.

Table 5-2
Areas for Maintenance and Materials Storage BMP Summary

Existing BMPs	Description
From Permit	Identify storm drain facilities that serve Permittee fleet vehicle storage/maintenance areas. (BMP completed)
OM(New)	Prepare a model pollution prevention plan for Permittee maintenance areas. Implement the plan at maintenance areas.
OM(New)	Incorporate BMPs from <i>New Development Guidelines</i> Supplement "A" on new maintenance and materials storage areas, where applicable.

The Permittees will continue to rely primarily on staff training and education to minimize pollutant discharges from publicly maintained landscaped areas such as parks, medians, and civic center areas. However, the Permittees will adopt a BMP to reinforce state regulations for pesticide use.

Table 5-3
Landscape Maintenance BMP Summary

Existing BMPs	Description
E1B	Educate/inform municipal agency personnel responsible for channel, park, golf course, and highway right-of-way maintenance about the proper use and management of pesticides, fertilizers, and herbicides. Alternative methods for controlling insects and weeds such as biological controls and the use of less toxic chemicals will be encouraged through internal workshops and guidance documents.
OM(New)	Each Permittee will require that pesticides are applied in conformance with existing state and federal regulations.

5.2.3 Streets and Roads

The focus of the streets and roads program is two-fold: reduce or eliminate pollutant discharges from road maintenance activities and continue the existing street sweeping program to remove accumulated pollutants that result from roadway operation. To accomplish these goals, the Permittees will implement a combination of existing and new BMPs.

Table 5-4
Streets and Roads BMP Summary

Existing BMPs	Description
OM6	Evaluate pavement repair and maintenance programs for public streets and parking areas (e.g., fill potholes, seal cracks, apply surface treatments). (Completed)
E(New)	Develop a model fact sheet of BMPs for common road maintenance activities. Each Permittee will require road maintenance personnel to review periodically and implement the BMPs.
OM(New)	Develop model specifications to incorporate appropriate elements from the fact sheet into road maintenance contracts. Each Permittee will incorporate applicable elements into road maintenance contracts.

5.2.4 Storm Drain Systems

The storm drain element focuses on a comprehensive combination of public education, illicit discharge/illegal dumping detection and cleanup, and facility maintenance to reduce the amount of pollutants that can enter receiving waters.

Table 5-5
Storm Drain Systems BMP Summary

Existing BMPs	Description
E3	Educate/inform the general public on impacts of dumping pollutants into storm drainage systems.
OM1	Develop a program, continue and/or expand an existing field program to detect and prevent dumping or routinely discharging pollutants into storm drains and drainage channels. This should involve re-evaluating, with regard to the NPDES permit, previous decisions to allow certain relatively clean waters such as swimming pool water to be discharged to the municipal storm water drainage systems.
OM2	Determine effectiveness of existing stormwater drainage system maintenance programs.
OM(New)	Establish measurable goals for stormwater drainage system maintenance programs for basins, inlets, and open channels, based on the results of OM2.

5.3 Training

To support effective stormwater education for municipal staff, the Permittees will continue to provide stormwater pollution prevention training sessions that address

municipal activities. The Permittees presently conduct comprehensive training sessions that focus on all aspects of municipal facilities and roadway operations for public works staff Annual refresher workshops are proposed, and will be held in conjunction with IC/ID training described in Section 2.3.

5.4 Evaluation/Assessment

Evaluation and assessment of BMP performance and Permittee compliance will be accomplished primarily through reporting and documentation. The proposed evaluation and assessment requirements for each BMP are shown in Table 5-6.

Table 5-6
Evaluation & Assessment Summary

Existing BMPs	Assessment Target
OM (New)(SWG)	Permittee with jurisdiction over a wastewater collection system to confirm the sewage spill response plans are developed and current.
OM(New)(MSA)	Show compliance by ensuring that vehicle maintenance & material storage yards develop and maintain a pollution prevention plan.
OM(New)(MSA)	Each Permittee to show compliance by listing vehicle maintenance & materials storage areas and indicating applicable sections of model plan (described above) that have been implemented.
E1B(LM)	Continue use of existing data collection form. (Confirm the form) Quantify percentage of Permittee landscape maintenance personnel that have received training/outreach. Document staff training activities.
OM(New)(LM)	Provide list of pesticide application personnel and verify certification.
OM6(SR)	Continue existing documentation. No additional evaluation/assessment proposed.
E(New)(SR)	Show compliance by providing copy of BMP fact sheet. Document fact sheet review by Permittee staff.
OM(New)(SR)	Document model specification. Each Permittee to verify that specifications included in applicable contracts.
E3B(SDS)	Verify that stencils are maintained on all inlets.
OM1(SDS)	See Section 2.
OM2(SDS)	Monitor statewide Phase 1 and 2 municipal program activities. Participate in evaluation activities.
OM(New)(SDS)	Describe maintenance activities.

Legend:

SWG Sewage Systems
MSA Maintenance/Materials Storage Areas
LM Landscape Maintenance
SR Streets & Roads
SDS Storm Drain System

Section 6

Residential

The Residential program is designed to educate the general public on the importance of stormwater pollution prevention. The program focuses on residential activities such as vehicle washing and maintenance, landscaping, home maintenance, illegal dumping, and pet ownership. This section presents:

- Current Activities and Source Identification that are the focus of BMP implementation (6.1)
- BMPs to manage both stormwater and non-stormwater discharges for the next Permit term (6.2)
- Education for general public on residential related stormwater quality issues (6.3)
- Evaluation and Assessment of BMPs (6.4)

6.1 Current Activities and Source Identification

6.1.1 Vehicle Washing and Maintenance

This category encompasses vehicle washing and maintenance activities that present opportunities for harmful pollutants such as soap, motor oil, radiator fluid, etc. to enter into the storm drain system. The SW/CWPP works cooperatively with the Permittees' motor oil recycling programs to distribute informational materials that address the importance of proper disposal of used motor oil. In addition, the SW/CWPP provides information on vehicle washing and maintenance related pollution prevention and control activities through distribution of brochures, utility inserts and newspaper advertisements, presentations to student and adult audiences, etc. Please refer to Section 7 Public Education Program for more information.

6.1.2 Landscaping

Landscaping related activities such as mowing, fertilizing, weeding, etc. are potential sources of stormwater pollution. The improper handling of grass clippings, chemical fertilizers and pesticides can introduce pollutants into stormwater system and jeopardize the quality of the receiving waters. The SW/CWPP has developed a home garden care brochure to inform residents of the adverse effects of stormwater pollution and to offer environmentally safe alternatives such as Integrated Pest Management, Companion Planting, Soil Solarization and Composting. The brochures are distributed to the general public via local nurseries, home improvement centers, garden workshops conducted by the Riverside County Resource Conservation District, the Agricultural Commissioner, and UC Riverside Cooperative Extension. Other environmental educational tools such as video, newspaper insert, poly bag for newspaper, etc. were also developed to help increase public awareness in stormwater pollution prevention. Please refer to Section 7 Public Education Program of this report and Section 6 Public Education Program of the Annual Progress Report for more information.

6.1.3 Home Maintenance

This category encompasses BMPs to facilitate the proper use and disposal of common household products such as insecticides, batteries, latex paints, varnishes, cleaners, etc. The SW/CWPP has developed a brochure to educate residents on the importance of proper disposal of household hazardous wastes as well as offer less toxic alternatives to commonly used household products. The SW/CWPP and several Permittee Cities also sponsor HHW Collection Events and ABOP Centers to encourage the proper disposal of household hazardous wastes. Please refer to Section 7 Public Education Program of this report and Section 6 Public Education Program of the Annual Progress Report for more information.

6.1.4 Illegal Dumping

This category covers the full array of activities by residents that involve the improper disposal of waste materials into the storm drain system. Environmental educational tools that include brochures, video, public services announcements, etc. have been developed to inform the general public on the detrimental effects of stormwater pollution. Other activity includes the use of "Notice of Violation" (NOV) door hanger notices specifically developed for the residential setting to inform residents of potential improper discharges from their properties. In addition, a catch basin stenciling program has also been implemented to remind residents that no dumping is allowed. Please refer to Section 7 Public Education Program of this report and Section 6 Public Education Program of the Annual Progress Report for more information.



6.1.5 Pet Ownership

The importance of proper clean-up and disposal of pet waste has been addressed and emphasized throughout the Public Education Program campaign in various formats include educational brochures, video presentations, radio commercials, etc. The intent is to educate both adults and children on the adverse effects of improper disposal of pet waste and to cultivate awareness of responsible pet care to prevent stormwater pollution and potential health hazard.

6.2 Best Management Practices

Program activities for these residential activities and the corresponding BMPs are discussed in the following sections.

6.2.1 Vehicle Washing and Maintenance

The Public Education Program will continue to inform the general public of pollution prevention and control methods related to vehicle washing and maintenance. The

Permittees will continue the motor oil recycling programs to encourage the proper disposal of used motor oil. In addition, the Permittees have contracted with Riverside-Corona Resource Conservation District (RCRCD) to conduct a "Car Wash Challenge" program for high schools. Please refer to Section 6 Public Education Program of the Annual Progress Report for detailed information. Applicable BMPs are summarized in Table 6-1 below.

Table 6-1
Vehicle Washing and Maintenance BMP Summary

Existing BMPs	Description
E2	Educate/inform the general public on the impacts of littering and other improper disposal.
E3	Educate/inform the general public on the impacts of dumping pollutants into the storm drainage system.
E4	Educate/inform the general public on impacts from leakage or dumping of gasoline, oil and grease, antifreeze and hydraulic fluid from vehicles into the streets.

6.2.2 Landscaping

The SW/CWPP will continue to offer the popular home gardening workshops at local nurseries and home improvement centers to educate the general public on the importance to reduce/eliminate the use of pesticides and fertilizers, to handle landscape wastes properly, and to avoid excessive irrigation. In addition, the SW/CWPP will continue to coordinate with RCRCD to develop an "environmentally friendly" garden exhibit for local fairground events. As part of the public education program, the RCRCD will continue to offer and conduct landscape training for contractors and groundskeepers through the University of California Cooperative Extension Workshops. The SW/CWPP will be placing display units with information on stormwater pollution, household hazardous waste, less toxic home gardening alternative products, etc. at public outreach events and libraries. Applicable BMPs are summarized in Table 6-2 below.

Table 6-2
Landscaping BMP Summary

Existing BMPs	Description
E1	Continue to educate/inform the general public on the proper application and management of pesticides, fertilizers and herbicides, as well as the proper management of irrigation systems to prevent runoff drainage to municipal storm drain system. Where appropriate, coordinate with the Soil Conservation Service, Resource Conservation Districts and UC Cooperative Extension.
E3	Educate/inform the general public on the impacts of dumping pollutants into the storm drainage system.
SW3	Continue to support the efforts of the County Household Hazardous Waste Program which provides a convenient means to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful chemicals.

6.2.3 Home Maintenance

The Permittees will continue to address home maintenance related issues through the public education program, HHW Collection Events and ABOP Centers. The public education efforts will include radio and cable television campaigns, utility bill inserts, newspaper inserts, brochures, presentations, etc. to inform the general public of the proper disposal of household hazardous wastes and to offer less toxic alternative products. Home maintenance BMPs are shown below in Table 6-3.

Table 6-3
Home Maintenance BMP Summary

Existing BMPs	Description
E3	Educate/inform the general public on the impacts of dumping pollutants into the storm drainage system.
SW3	Continue to support the efforts of the County Household Hazardous Waste Program which provides a convenient means to properly dispose of oil, antifreeze, pesticides, herbicides, paints, solvents, and other potentially harmful chemicals.

6.2.4 Illegal Dumping

The Permittees will continue to implement current BMPs include public education, catch basin stenciling program, NOV door hanger notices and the SW/CWPP "toll-free" hotline to curtail illegal dumping activities. Please refer to Section 2 Illicit Connections and Illegal Discharges of this report for more information. Table 6-4 summarizes applicable BMPs.

Table 6-4
Illegal Dumping BMP Summary

Existing BMPs	Description
E2	Educate/inform the general public on the impacts of littering and other improper disposal.
E3	Educate/inform the general public on the impacts of dumping pollutants into the storm drainage system.
SW1	Continue to provide, collect, and maintain litter receptacles in strategic public areas and during public events.
OM1	Develop a program, continue and/or expand an existing field program to detect and prevent dumping or routinely discharging pollutants into storm drains and drainage channels. This should involve re-evaluating, with regard to the NPDES permit, previous decisions to allow certain relatively clean waters such as swimming pool water to be discharged to the municipal storm water drainage systems.

6.2.5 Pet Ownership

The Permittees will continue to use an area-wide public education program to inform pet owners of the importance of responsible pet care and to curtail the improper disposal of pet wastes. As of last year, eight Permittee Cities have enacted leash laws into their ordinances. The SW/CWPP is also in the process of developing a "focused" brochure for pet owners on proper disposal of pet wastes. Table 6-5 describes applicable BMPs.

Table 6-5
Pet Ownership BMP Summary

Existing BMPs	Description
E7	Educate/inform the general public regarding the need to clean-up and properly dispose of pet waste.
R3	Continue to implement and enforce leash laws and other pet laws (i.e., pet waste clean-up, no pets in public areas) in selected public-use areas.

6.3 Education

The area-wide public education program will continue to present and offer environmental educational materials to the general public through various forms of media that include workshop, video, brochure, catch basin stenciling, NOV door hanger notices, radio and cable television campaigns, utility bill inserts and

newspaper inserts. Please refer to Section 7 Public Education Program for more information.

6.4 Evaluation/Assessment

The Permittees will use the following targets to provide consistency among the Permittees' programs to gauge effort and assess future outreach. The proposed evaluation and assessment requirements for each BMP are shown below in Table 6-6.

Table 6-6
Evaluation & Assessment Summary

Existing BMPs	Assessment Target
E1, E2, E3, E4, and E7	Document usage (call volume, type) of the SW/CWPP hotline.
SW3	Household Hazardous Waste Collection Program: (1) track event dates and number of days per event; (2) track type and amount of material collected; and (3) track advertisement expenditures by type (newspaper, television, radio, banners, flyers, etc.) for the Permittees' internal use.

Section 7

Public Education Program

The Permittees have a well-developed public education and outreach program, which they will continue to implement in the upcoming Permit term. The program is comprised of several BMPs that have been implemented since the early years of the initial Permit term. The implementation of these BMPs was accomplished primarily through the activities of the SW/CWPP. Through the SW/CWPP, the Permittees collectively developed numerous outreach materials and methods that target both general public as well as specific niche audiences. Significant accomplishments include:

- Focused brochures and stormwater management guides
- Mass-media stormwater educational campaigns
- School programs and classroom presentations
- Stormwater presentations to adult audiences
- Participation at Community Events

Pollution prevention strategies that are highlighted through the above educational tools include:

- Proper disposal of household hazardous wastes
- Proper disposal of used motor oil
- Practices to reduce excessive use of pesticides and fertilizers
- Good housekeeping BMPs for homeowners and business operators
- Proper disposal of pet waste

7.1 Best Management Practices

Each program area in the SMP is supported by multiple public education BMPs. The BMPs are implemented at either the regional or local level. Most of the BMPs are intended for multiple audiences and therefore apply to more than one stormwater management program area. See Table 7-1 for a listing of program areas and the educational BMPs that support those areas.

Table 7-1
Public Education Program BMP Summary

Program Area	Applicable BMPs	Intended Audiences	Implementation
Illicit Connection/Illegal Discharges	E1, E2, E3, E4	<ul style="list-style-type: none"> ▪ Residents ▪ Groundskeepers ▪ Nurseries ▪ Comm/Industrial facility owners/operators ▪ Students 	Local and Regional
Commercial/Industrial	E2, E3, E4, E9	<ul style="list-style-type: none"> ▪ Comm/Industrial facility owners/operators 	Regional
Development and Construction	E2, E3, E9, E11, E12	<ul style="list-style-type: none"> ▪ Contractors ▪ Architects ▪ Engineers ▪ Planning/Inspection staff 	Local and Regional
Municipal Agency Activities	E1, E2, E3, E4, E11, E12	<ul style="list-style-type: none"> ▪ Municipal maintenance staff 	Local and Regional
Residential	E1, E2, E3, E4, E7, E9	<ul style="list-style-type: none"> ▪ Residents ▪ Students 	Local and Regional

The sections that follow describe the outreach methods, proposed outreach activities, and program evaluation assessments. Sections 2 through 6 provide more detail about how the Permittees customize outreach activities for those individual program areas.

7.2 Outreach Methods

The Permittees developed outreach methods to effectively reach a variety of diverse audiences. The table below presents the various outreach methods applied to targeted audiences.

Table 7-2
Outreach Methods

Audience	Outreach Methods
<ul style="list-style-type: none"> ▪ Residents 	<ul style="list-style-type: none"> ▪ Flyers ▪ Brochures ▪ Radio, TV/Cable commercials ▪ Utility bill inserts ▪ Newspaper inserts and advertisements ▪ Community events & presentations ▪ Video presentations for adult audiences
<ul style="list-style-type: none"> ▪ Groundskeepers ▪ Nurseries 	<ul style="list-style-type: none"> ▪ Focused Brochures ▪ Posters ▪ Workshops
<ul style="list-style-type: none"> ▪ Commercial/Industrial 	<ul style="list-style-type: none"> ▪ Awareness Events (e.g. Pollution Prevention Week) ▪ Brochures ▪ Posters
<ul style="list-style-type: none"> ▪ Students 	<ul style="list-style-type: none"> ▪ Classroom presentations ▪ Teacher educational materials ▪ Learning contests ▪ Videos
<ul style="list-style-type: none"> ▪ Contractors 	<ul style="list-style-type: none"> ▪ Brochures at Permittee public counters
<ul style="list-style-type: none"> ▪ Architects/Developers 	<ul style="list-style-type: none"> ▪ Brochures at Permittee public counters

Audience	Outreach Methods
<ul style="list-style-type: none"> ▪ Permittee Engineers 	<ul style="list-style-type: none"> ▪ Workshops ▪ Training modules
<ul style="list-style-type: none"> ▪ General Public 	<ul style="list-style-type: none"> ▪ Newspaper inserts ▪ Television commercials ▪ Radio campaigns ▪ Adult presentations ▪ Awareness Events (e.g. Pollution Prevention Week)

- In addition to a multi-faceted media outreach effort, an NPDES web site is maintained at www.co.riverside.ca.us/depts/flood. The site features information related to SW/CWPP activities as well as water quality and stormwater management. The site features information on NPDES related programs that help educate the general public on the importance of stormwater pollution prevention and the environment.

7.3 Proposed Outreach Activities

7.3.1 Media Efforts

The SW/CWPP continues to collaborate with Los Angeles County to conduct multi-county regional radio advertising campaigns addressing stormwater pollution prevention. This effort to increase public awareness was conducted during the initial Permit term and will be supplemented by updated stormwater management information.

The SW/CWPP will continue to develop newspaper inserts, poly bags (plastic covers for newspapers used on rainy days) and other various advertisements to help increase public awareness. The SW/CWPP has also developed a new stencil or curb-marker to give the stenciling program a new look. New brochures will also continue to be developed addressing topics such as pool discharges and pet waste.



County Environmental Health Department will be distributing SW/CWPP materials to industrial and commercial facilities as part of the area-wide Compliance Assistance Program. This effort will supplement the ongoing BMP brochure distribution campaign of restaurant, food service, and construction stormwater brochures coordinated through Permittee staff, County departments, and other municipal personnel.

7.3.2 Presentations

The Riverside County Resource Conservation District (RCRCD) will continue to conduct garden workshops at local nurseries and home improvement centers. At these workshops residents will learn about insectary plants that help attract beneficial insects and other plants that help deter harmful pests. The workshop also includes information on composting and mulching for erosion control. RCRCD will also continue to provide SW/CWPP information and materials at workshops for landscape contractors, golf course superintendents and groundskeepers.

The RCRCD will also provide presentations to rotary/civic club gatherings. At the presentations club members are informed about the problem of stormwater pollution and what they can do to help prevent it. Presentations conclude with material distribution and a question and answer period. The RCRCD will soon be developing a second presentation outline that will be specific for homeowner associations. The presentation will focus on the topic of pesticides/fertilizers and erosion control in the home garden. The presentation will also cover the proper disposal of unwanted garden chemicals.

The California Conservation Corps (CCC) is contracted to conduct various community outreach for all Permittees. The CCC attend various events such as the Date Festival, the Tamale Festival, College of the Desert events, and numerous other events throughout the Coachella Valley area. The CCC distributes SW/CWPP materials to residents and also conducts surveys to help measure residents' knowledge of stormwater pollution.

7.3.3 Scholastic Events

The SW/CWPP has renewed its contract with the CCC to conduct classroom presentations to earth science and automotive shop classes in middle and high schools throughout the County. The presentation will identify the causes of stormwater pollution, its effects on surface waters, and what students can do to prevent it. Topics will include motor oil recycling, responsible car wash events, proper use of material according to label instructions, and proper disposal of Household Hazardous Waste (HHW), trash, yard clippings, and pet waste.

RCRCD continues to provide elementary school presentations to all public and private schools throughout the Coachella Valley. The interactive classroom presentation featuring "The Story of Fancy Fin the Fish" depicts various activities that can contribute to stormwater pollution and offers simple prevention solutions. The story involves classroom participation and hands-on demonstrations. The RCRCD distributes order forms for various stormwater educational materials to all schools. Available materials include videos, sing-a-long tapes, word-match sheets, workbooks, etc.

The SW/CWPP has recently contracted with the College of the Desert to develop an interactive Environmental Educational CD-ROM for high schools. The interactive

CD-ROM will focus on the problem of stormwater pollution and provide information on pollution prevention activities.

7.4 Evaluation / Assessment

The primary performance targets for public education and outreach activities are the number of the audiences reached and their level of knowledge for stormwater pollution prevention. The evaluation and assessment of the Public Education Program will be accomplished by collecting a list of data, categorized by the types of audiences and distribution media as follows.

- Number of educational materials distributed at community events
- Attendance at community events
- Number of educational materials distributed at school presentations
- Attendance at school presentations
- Number of adult presentations provided
- Attendance at adult presentations
- Number of educational materials distributed at Permittee public counters
- Number of construction and development-focused workshops conducted
- Attendance at construction/development workshops
- Number of development staff training sessions conducted
- Attendance at development staff training sessions
- Local television, radio, and newspaper circulation estimates

Section 8

Water Quality Monitoring

8.1 Introduction

The overall goal of the water quality monitoring program for the Whitewater River watershed is to characterize runoff into the municipal storm drain system. Monitoring is conducted by the RCFC&WCD and the CVWD. Each agency samples in its respective service area of the Whitewater River watershed. Monitoring in the watershed is coordinated with water quality sampling activities in two other Municipal Separate Storm Sewer Systems (MS4s) of Riverside County through the Consolidated Monitoring Program.

The water quality sampling activities were initiated in preparation for the Part 2 Permit Application in 1992. RCFC&WCD and CVWD coordinated field screening for representative land use areas and identified sampling sites to fulfill the Part 2 application requirements. Sampling occurred during the 1993-94 wet seasons to characterize runoff from the selected monitoring points.

The current sampling protocol was established when the RWQCB adopted Monitoring and Reporting Program No. 96-015 with the initial NPDES Municipal Permit in 1996. From the 1995-96 wet season until the present, the program has included monitoring wet and dry weather runoff, sampling receiving water quality, and collecting soil samples from a detention basin.

The water quality monitoring program elements are presented in this section as past characterization accomplishments (section 8.2), proposed program implementation (section 8.3), and performance goals for the next Permit term (section 8.4).

8.2 Characterization Accomplishments

In addition to the Whitewater NPDES Permit, the RCFC&WCD performs sampling in support of two other area-wide NPDES Permit programs. To manage the overall monitoring effort in a cost-effective manner, an integrated approach has been developed which consolidates the requirements of the three separate monitoring programs into a single program. The Consolidated Program for Water Quality Monitoring (Consolidated Program) was originally submitted to the RWQCB in October 1994. The Consolidated Program includes components shown in Table 8-1.

Table 8-1
Consolidated Program Components

Component	Purpose
<ul style="list-style-type: none"> ▪ Receiving water sampling ▪ Dry weather sampling ▪ Wet weather sampling 	Runoff monitoring
<ul style="list-style-type: none"> ▪ Sediment sampling 	Soil Sampling
<ul style="list-style-type: none"> ▪ Long list screening samples 	Additional Constituents of Concern
<ul style="list-style-type: none"> ▪ Illicit Connection/Illegal Discharge ▪ Complaint call response 	BMP support

Specific monitoring objectives set during the initial Permit term were designed to:

- Assess the influence of land use on water quality
- Detect illegal discharges and illicit connections
- Assess the effectiveness of water quality controls
- Identify problem areas and/or trends
- Identify pollutants of concern
- Identify baseline conditions
- Establish and maintain a water quality database

To accomplish the monitoring objectives specific to the Whitewater River watershed, the program has been active in the following areas:

- Data management (8.2.1)
- Source identification (8.2.2)
- Storm drain system characterization (8.2.3)
- Water quality monitoring (8.2.4)

8.2.1 Data Management

During the last Permit term, RCFC&WCD accomplished a successful migration of its water quality database from Lotus Approach into an integrated hydrology/water quality data management system known as Hydron. The transfer is expected to further improve data management and analysis capabilities. The RCFC&WCD

database contains more than 1,200 discrete samples, including analysis results for over 55 chemical constituents for most samples.

The Hydron system supports the export of water quality and hydrologic data in a variety of commonly used electronic formats, and is expected to greatly enhance dissemination of water quality data to interested parties.

8.2.2 Source Identification

The monitoring program includes dry weather sampling to characterize non-stormwater runoff throughout the watershed and to support efforts to identify and eliminate illicit connections and illegal discharges (IC/ID) to the municipal storm drain system. Sampling is directed to sources that may identify pollutants when visual observations or citizen complaints are made regarding a potential improper discharge. The dry weather portion of the monitoring program directly supports the BMPs implemented for IC/ID, Commercial/Industrial, Residential, and Municipal Agency Activities program areas.

8.2.3 Storm Drain System Characterization

RCFC&WCD has developed a system of maps to show County Flood Control storm drains using a Geographic Information System (GIS) application. The GIS application format includes the storm drain network depicted over aerial photographs of the watershed within the RCFC&WCD service area. Primary features are shown such as the Whitewater River and Tahquiz Creek.

8.2.4 Water Quality Monitoring

The urban runoff and receiving water monitoring program was implemented throughout the initial Permit term in accordance with the Monitoring and Reporting Program 96-015. Water quality monitoring focused on characterizing dry and wet weather runoff, sediment, and receiving water quality. Throughout the initial Permit term, 16 sites were identified as potential locations for water quality sampling; eight for outfalls and eight for receiving waters. One detention basin was selected for sediment quality sampling. The candidate sites and the detention basin are listed below in Table 8-2. Sampling sites and watershed boundaries are shown on the enclosed map (Figure 8-1).

Dry and wet weather outfall flows were monitored at three sites during two rainfall events each fiscal year (July 1 to June 30) for constituents listed in the Permit as “Category A” constituents. One of the three sites was also evaluated for a suite of constituents shown in the Permit as “Category B” constituents. Additionally, two sites were sampled for fecal coliform, once a year during dry weather, and twice a year for wet weather flows.

Due to the scarcity of rainfall throughout the watershed and the ephemeral nature of receiving waters, samples were taken at sites that offered the best opportunity to

manually sample runoff and receiving water flows. That is, sites were selected for monitoring where stormwater flows occurred.

**Table 8-2
Whitewater River Watershed Sampling Sites**

ID	Site Name	Receiving Water	Type	Year Sampled			
				95-96	96-97	97-98	98-99
407	Palm Springs Ln 27, Sunrise SD	Tahquitz Wash	Outfall	X	X	X	X
782	Ramsey Street Storm Drain	San Gorgonio River	Outfall	X	X	X	X
783	Barristo Channel	Tahquitz Wash	Outfall				
784	Tahquitz Channel at Sunrise	Whitewater River	Rec Water				
785	Avenue 52 Storm Drain	Whitewater River	Outfall				
798	Whitewater River at I-10	Whitewater River	Rec Water	X			
799	Whitewater River at Sinatra Drive	Whitewater River	Rec Water				
802	Farrel Basin	Chino Cyn Wash	Outfall		X	X	X
810	Chino Cyn Wash at Hwy 111	Whitewater River	Rec Water		X	X	
811	Date Palm Dr Storm Drain	Whitewater River	Outfall		X		
812	Tahquitz Cyn Wash at Hwy 111	Whitewater River	Rec Water		X	X	X
813	Whitewater River above Aqueduct	Whitewater River	Rec Water		X	X	X
814	Whitewater River at Avenue 72	Salton Sea	Rec Water		X	X	X
815	Palm Canyon Wash at Hwy 111	Whitewater River	Rec Water				
817	Portola Avenue Storm Drain, Indio	Whitewater River	Outfall		X	X	
818	Cook St Storm Drain at Whitewater River	Whitewater River	Outfall				
819	Monroe St Storm Drain, Indio	Whitewater River	Outfall				X

Receiving waters were sampled during dry weather at two sites, one located in the upper area of the basin and one in the lower portion of the basin. The upper and lower basin sites were selected on the basis of being representative of receiving water flow upstream and downstream of the urbanized permitted area.

The initial Monitoring and Reporting Program also required receiving water sampling upstream and downstream of outfalls during wet weather events once per year for “Category B” constituents. However, this requirement was removed following discussions between the Permittees and Regional Board staff.

A compilation of water quality monitoring results has been included in the Annual Reports submitted each year to the RWQCB since 1995. The most recent Annual Report (1998-99) contains a statistical summary for both outfall and receiving water monitoring conducted from 1995 to 1999.

The dry weather, wet weather, and receiving water monitoring results reported in the 1998-99 Annual Report have been formatted according to percentage of samples with

constituents detected for the total number of samples taken. These results are shown in Tables C-1, C-2, and C-3 of Appendix C to this report. These tables present a relative comparison of the occurrence of the respective constituents for the amount of samples tested. Percentage detection is shown for the following categories:

0% Detection	Constituent not detected in sample
25% or less	Constituent detected a minimum amount of samples
Between 25% and 50%	Constituent detected in minor amount of samples
Between 50% and 100%	Constituent detected in the majority of samples
100% Detection	Constituent detected in all samples

The purpose of the relative comparison is to provide a basis for decisions regarding future suites of constituents selected for water quality monitoring.

8.3 Proposed Program Implementation

The Permittees propose to continue the activities outlined in section 8.2 for the next Permit term to accomplish program performance goals. Additionally, it is proposed to continue dry and wet weather outfall monitoring for the same frequency as required by the initial Permit at sites that provide adequate runoff for sample collection.

8.3.1 Outfall Monitoring

The Permittees propose to continue outfall monitoring for dry and wet weather flows by selecting from the outfall sampling sites listed above in Table 8-2. Three sites will be used as primary sampling sites provided there is runoff for gathering samples. These primary sites are shown below in Table 8-3 with proposed sampling type, frequency, and constituent category. Grab samples will be taken at rotating sites that provide sufficient flow for sample collection. In the event that sufficient flows are not available for monitoring at the primary sites, alternative sites will be selected from the list in Table 8-2. The alternative outfall sites are shown below in Table 8-4.

The proposed dry and wet weather outfall sampling program is shown below.

Table 8-3
Proposed Dry and Wet Weather Outfall Sampling Sites (Primary sites)

Site ID	Sample type	Frequency	Constituents
407	Grab	Twice per fiscal year	Category A
782	Grab	Twice per fiscal year	Category A
819	Grab	Twice per fiscal year	Category A

Table 8-4
Proposed Dry and Wet Weather Outfall Sampling Sites (Alternate sites)

Site ID	Sample type	Frequency	Constituents
783	Grab	Twice per fiscal year	Category A
785	Grab	Twice per fiscal year	Category A
811	Grab	Twice per fiscal year	Category A
817	Grab	Twice per fiscal year	Category A
818	Grab	Twice per fiscal year	Category A

Modifications to the initial outfall monitoring program are proposed as follows:

- Discontinue analyzing dry and wet weather outfall samples for constituents that have resulted in “0% Detected” during the initial Permit term. A complete list of 0% Detected constituents is presented in Appendix C. The constituent categories and respective EPA testing method are listed below in Table 8-5. The Permittees propose to continue testing samples for “Category A” parameters that have been detected during the initial Permit term.

Table 8-5
Constituent Categories Proposed for Discontinued Sampling

Constituent Category	EPA Method	Category B	Outfall Type
Volatile Organic Compounds	524.2, 624, 8260B	Yes	Wet/Dry
Semi-volatile Organic Compounds	525.2, 625, 8270C	Yes	Wet/Dry
Pesticides & PCBs	608, 8080	Yes	Wet/Dry
Cyanide (Total & Amenable)	SM 4500, 9014 (for total)	Yes	Wet/Dry
Mercury	245.1, 7470A, 245.2, 7471A	No	Dry
Hydroxide (OH)	SM 2320B	No	Dry
Chlorine	330.0, SM 4500	No	Dry

- Include fecal coliform testing during the dry and wet weather sampling twice per year.
- Wet weather outfall samples will be conducted when stormwater discharges begin during scheduled working hours. This convention is consistent with the General Stormwater Permit for Industrial Activities (General Industrial Permit), and will allow monitoring activities to coincide with staff regular operating hours.

8.3.2 Receiving Water Monitoring

The Permittees propose to discontinue monitoring at receiving water sites that were identified and sampled during the initial Permit term. Due to the ephemeral nature of

the Whitewater River and its tributary drainages, water is present primarily as a result of overland flow and urban runoff during rainfall events, and agricultural irrigation. The practical significance of receiving water monitoring is significantly reduced because background surface water conditions do not exist without the presence of stormwater runoff or agricultural drainage.

Eight receiving water sites were initially proposed as options for sampling (Table 8-2). Four sites in the upper basin and one site in the lower basin were identified as primary sampling points. The initial Monitoring and Reporting program required that representative samples upstream and downstream of the urbanized portion of the permitted area (Whitewater River basin) were collected.

The Whitewater River above the Colorado River Aqueduct (site 813) was identified as a receiving water site at the upper portion of the basin typical of surface water quality upstream of urbanized areas. The reach of the Whitewater River above the aqueduct flows to a series of groundwater recharge basins that are located northeast of the urbanized watershed area. The basins are maintained by CVWD. This section of the Whitewater River rarely flows past the recharge basins, and does not contribute significantly to downstream water quality or quantity. Only during major extended rainfall events does the northern reach of the Whitewater River flow beyond the CVWD recharge basins. For these reasons, the upper Whitewater River (upstream of the CVWD recharge basins) does not provide a representative receiving water upstream of the urbanized watershed area.

Sites that were identified as receiving water sampling points in the central and southern basin are similarly ephemeral. These receiving waters convey surface water mainly during rainfall/runoff events. Low flow dry weather runoff constitutes the principal water source as a result of landscape irrigation and agricultural drainage.

Rainfall/runoff patterns in the Whitewater River watershed consist of two primary types of events. Summer thunderstorm systems develop and approach from the south-central area of the watershed. These events generally result in precipitation and runoff in the central urbanized areas of the watershed. Runoff from the storm drain system flows into the dry Whitewater River and percolates before reaching the Salton Sea.

Winter weather patterns generally consist of storm systems approaching the watershed west to east from the coastal area. These systems result in precipitation and runoff in the upper, the central urbanized, and lower basin. This rainfall pattern causes runoff in the upper Whitewater River to flow primarily into the recharge basins in the upper watershed. Flow through the remainder of the watershed is conveyed to the Whitewater River and percolates. Patterns of rainfall/runoff that result in continuous flow from the upper basin to the lower basin and on to the Salton Sea are infrequent, and generally occur during prolonged rainfall events.

Receiving water sampling is proposed to be discontinued based on the following rationale:

- The Whitewater River and its tributaries are dry unless supplied by stormwater, low flow urban runoff, or agricultural drainage. As such, background surface waters are not present without flows from stormwater, urban, or agricultural contributions.
- Due to watershed rainfall patterns, flow to surface waters in the upper basin generally terminates prior to reaching the urban storm drain system.
- Urban runoff that does flow through the central and southern area of the watershed is independent of upstream conditions.

8.4 Performance Goals and Objectives

The monitoring program goal will remain a characterization of runoff into the municipal storm drain system. Specific objectives to accomplish the program goal for the next Permit term are listed below in Table 8-5:

Table 8-6
2001-2006 Monitoring Program Objectives

<i>Objective</i>	<i>Monitoring Component</i>
Detect illegal discharges and illicit connections	Dry weather outfalls
Identify problem areas and/or trends	Dry/wet weather outfalls
Identify pollutants of concern	Dry/wet weather outfalls
Identify baseline conditions	Dry/wet weather outfalls
Establish and maintain a water quality database	Dry/wet weather outfalls

The Permittees will pursue the program objectives for the next Permit term as follows:

- Continue to develop and maintain drainage area mapping.
- Support and participate in the regional stormwater monitoring effort.
- Evaluate monitoring data to identify pollutants of concern in runoff from mixed used land areas in arid areas.

- Evaluate the monitoring data to isolate potential sources of pollutants of concern from mixed land use areas in arid areas.
- Continue to conduct dry weather monitoring at three sites, two times annually.
- Continue to conduct wet weather monitoring at three sites, two times annually.