City of Temecula Municipal Separate Storm Sewer System (MS4) Inspection Report

Background

PG Environmental, LLC, a USEPA Region IX contractor, with assistance from the California Regional Water Quality Control Board, San Diego Region (Regional Water Board), conducted inspections of the City of Temecula's Municipal Separate Storm Sewer System (MS4) program on September 20, 2007 and January 15-16, 2008. Mr. Scott Coulson of PG Environmental, LLC led the inspections and was assisted by Regional Water Board staff. Discharges from the City's MS4 are regulated by Regional Water Board Order No. R9-2004-001 (NPDES Permit No. CAS0108766) issued July 14, 2004. The purpose of the inspections was to determine the City of Temecula's (hereafter, City or permittee) compliance with requirements contained within Regional Water Board Order No. R9-2004-001 (hereafter, Order), and to assess the permittee's current implementation status with respect to their Individual Storm Water Management Plan (SWMP). The initial September 20, 2007 inspection identified discrepancies between the Order requirements and the City's MS4 program implementation. The intent of the January 2008 inspections was to further investigate and substantiate the previously noted discrepancies while expanding the assessment to include additional program areas.

The inspections focused specifically on the following sections of the Order: (1) Requirement F. Development Planning and the implementation of Standard Urban Storm Water Mitigation Plan (SUSMP) requirements; (2) Requirement G. Construction; (3) Requirement J. Illicit Discharge Detection and Elimination (IDDE) Program; and (4) Monitoring and Reporting Program No. R9-2004-001, Section II.B., Illicit Discharge Monitoring. The inspector did not evaluate or assess compliance with the following Requirements of the Order: H. Existing Development, I. Education, or K. Watershed-Based Activities. As such, the inspections were not intended to be a comprehensive evaluation of all components and requirements associated with the entire MS4 program.

The primary MS4 Program representative on September 20, 2007 was Mr. Aldo Licitra (Associate Engineer, NPDES). The weather on this day consisted of light rain showers and partly cloudy skies.

The primary MS4 Program representatives for the January 15-16, 2008 inspections were: Mr. Aldo Licitra (Associate Engineer, NPDES); Rudy Shabec (Public Works Inspector, NPDES); and Daniel York (Deputy Director of Public Works and City Engineer). The weather was sunny and dry on both of these days.

The inspection schedule was as follows:

Findings

Development Planning

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

1. Regional Water Board Order No. R9-2004-001, Requirement F.2.b., defines Priority Development Projects as: "(a) all new development projects, and (b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site, that are listed under the project

categories or locations in Requirement F.2.b.(1)." A number of the project categories or locations listed in Requirement F.2.b.(1) specify the use of two categorical thresholds, both 5,000 square feet of impervious surface and the "land area for development." In contrast, the permittee's WOMP Initial Checklist dated March 2005 (hereafter, City WOMP Applicability Checklist), only utilizes an impervious surface categorical threshold. For example, the City WQMP Applicability Checklist specifies that the non-residential or commercial development "category includes projects that create more than 100,000 square feet of impervious surface [emphasis added] (see attached Exhibit 1)." Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(1)(b) defines the commercial development category as "any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 100,000 square feet [emphasis added]" and that creates, adds or replaces at least 5,000 square feet of impervious surfaces. Additional categories where the City WQMP Applicability Checklist specifies an incorrect categorical threshold are: restaurants; and to a lesser extent parking lots; streets, roads, highways, and freeways (see attached Exhibit 1). By using an incorrect categorical threshold, the City may not be capturing all development projects which are applicable to the SUSMP requirements. Pursuant to Regional Water Board Order No. R9-2004-001, Requirement F.2.b., the City must implement a SUSMP to reduce pollutants to the maximum extent practicable (MEP) and to maintain or reduce downstream erosion and protect stream habitat from all Priority Development Projects [emphasis added].

2. Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(2)(d), requires that WQMP BMPs "be effective at removing or treating the pollutants of concern associated with the project." Pursuant to this requirement, the Riverside County Water Quality Management Plan for Urban Runoff dated September 17, 2004 (hereafter, Riverside WOMP Manual), Section 4.5.3 Treatment Control BMPs, states that "for identified Pollutants of Concern (POCs) that are causing impairments in receiving waters, the Project-Specific WQMP shall incorporate one or more Treatment Control BMPs of at least medium efficiency [emphasis added]." The Final 2006 CWA Section 303(d) List of Water Quality Limited Segments identifies the entire length of Murrieta Creek, a primary receiving water in the City's jurisdiction, as impaired for nitrogen and phosphorus (nutrients). As explained by Mr. Licitra, he does not strictly follow the Riverside WQMP Manual in his review of project proponent submittals for compliance with the WOMP requirements of Order No. R9-2004-001. In fact, Mr. Licitra explained that he has approved WOMP BMPs with a low or medium (L/M) removal efficiency when nutrients have been identified as a POC. Additionally, Mr. Licitra stated that he requires project proponents to expand the list of identified POCs to include all potential pollutants from a project, rather than targeting the POCs. The selection of BMPs which are protective of POC levels will be vitally important as TMDLs continue to be adopted and implemented in the permittee's jurisdiction. Furthermore, the selection of WQMP BMPs which are effective for the identified POCs is more likely to result in measurable and tangible water quality improvement. As discussed onsite, the City should advance its WOMP

- program to target POCs and local water quality issues in accordance with the intent of the SUSMP requirements.
- 3. Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(6), Implementation Process, requires the City to "develop a process by which SUSMP requirements will be implemented." Although a list of WQMP projects and hard copy project files are maintained, the City lacks a formal system to inventory the specific locations where BMPs are implemented, the corresponding maintenance obligations, and records demonstrating that maintenance has been performed. As a result, the City cannot ensure adequate long-term maintenance of the BMPs. As discussed onsite, the City should develop a formal system to track deployment, ownership, and maintenance history of WQMP BMPs to ensure adequate long-term maintenance of the BMPs.

Note: The inspection team visited a number of WQMP projects in various stages of development to generally observe BMP selection, placement, operation, and maintenance. The WQMP project sites that were visited include: (1) Industrial Condominiums of Temecula (ID No. PA05-0127), (2) Temecula Corporate Center (ID No. PA05-0036), (3) Nelson Auto Service Center (ID No. PA05-0086), (4) Rancho View Professional (ID No. PA07-0084), and (5) YMCA center (ID No. PA05-0365).

Construction

- 4. Regional Water Board Order No. R9-2004-001, Requirement G.7, Enforcement of Construction Sites, requires the City to "enforce its ordinances (grading, storm water, etc.) and permits (building, grading, etc.) at all construction sites as necessary to maintain compliance with the Order [No. R9-2004-001]." The Temecula Municipal Code, Chapter 18.15, Section 02, Construction runoff compliance, states that "all individually proposed construction and grading projects shall implement measures to ensure that pollutants from the site will be reduced to the maximum extent practicable." It was observed during the inspection that BMPs were not adequately installed and maintained to prevent the discharge of pollutants from the YMCA, MJW Property, and Hemmingway at Redhawk construction sites (see specifically Findings 7, 8, and 9 below). As a result, the City exhibited a lack of adequate private construction oversight to prevent the discharge of pollutants from these locations. Findings 7, 8, and 9 were considered collectively in making this determination. The City must correct Findings 7, 8, and 9 through prompt and effective enforcement of its ordinances.
- 5. Regional Water Board Order No. R9-2004-001, Requirement G.5, requires the City to designate a set of minimum BMPs that ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at all construction sites, etc.... "Each Permittee shall implement, or require the implementation of, the designated minimum BMPs at each construction site within its jurisdiction year round." The City's Erosion and Sediment Control (ESC) Notes dated September 27, 2005 (hereafter, Standard ESC Notes) in combination with its

Administrative and Technical Procedures for Grading, Erosion, and Sediment Control dated 2004 (hereafter, Grading Manual) are what the City considers as its minimum BMPs. However, the Grading Manual does not include design criteria for ESC, only for grading. Furthermore, the Standard ESC Notes do not specify criteria for BMP design. As a result, neither of these documents includes design criteria and adequate installation and maintenance specifications for construction site BMPs. In order to address this issue, the City generally refers project proponents to the California Stormwater BMP Handbook for Construction dated January 2003 (hereafter, California BMP Handbook). As described by Mr. Licitra, however, the City does not reference or require the use of the California BMP Handbook. The combination of the Grading Manual, Standard ESC Notes, and California BMP Handbook may create confusion as to what standards the development community is held accountable. For example, it was observed during the inspection that BMPs were not adequately installed and maintained to prevent the discharge of pollutants from the YMCA, MJW Property, and Hemmingway at Redhawk construction sites (see specifically Findings 7, 8, and 9 below), which may be attributed the lack of a unified set of minimum BMPs and subsequent implementation. Formal adoption of such minimum BMP standards (e.g., California BMP Handbook, self-developed standards, or otherwise) would provide a more enforceable basis to the City staff in making inspection determinations and would also alleviate the burden of providing compliance assistance in an ad-hoc manner. Ultimately, adoption of minimum BMP standards may help to deliver a clear message to the development community on the City's expectations for BMP implementation. The City must formally designate an adequate set of minimum BMPs and ensure their implementation at each construction site within its jurisdiction year round.

6. Regional Water Board Order No. R9-2004-001, Requirement G.4, Source Identification, requires the City to "annually develop and update, prior to the rainy season, an inventory of all construction sites within its jurisdiction regardless of site size or ownership." The City of Temecula Stormwater Management Plan dated July 2005 (hereafter, Individual City SWMP), Section 7.1 Construction Site Inventory, states that "prioritized construction sites are tracked by using monthly Inspection Frequency sheets that list the active prioritized private and public development projects in the City." As provided by Mr. Licitra, the City's construction site inventory only includes those sites which maintain an active grading permit. Exhibit 2 displays the January 2008 Inspection Frequency sheet which is limited to the prioritized private and public development projects having an active grading permit. The City must maintain an inventory of all construction sites within its jurisdiction regardless of site size or ownership.

Site: YMCA site located at 29229 Margarita Street in Temecula, CA

7. Regional Water Board Order No. R9-2004-001, Requirement G.5, requires the City to designate a set of minimum BMPs that ensure erosion prevention, slope stabilization, and maintenance of all source control and treatment control BMPs at all construction sites, etc.... "Each Permittee shall implement, or require the implementation of, the

designated minimum BMPs at each construction site within its jurisdiction year round." It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment from the disturbed slope area at the northern perimeter of the site (see attached Photograph 1). Adequate BMPs were not implemented to dissipate flow velocity on the slope and the surface of the slope was not stabilized. Slope erosion was observed, including rill and gulley formation at the base of the slope (see attached Photograph 2). Furthermore, evidence of a previous failure event was observed, including a section of silt fence at the base of the slope that had been undercut (see attached Photograph 3) and erosion beyond the silt fence BMP (see attached Photograph 4). As a result, there was a discharge of sediment from the disturbed slope area leading offsite toward Empire Creek. BMPs must be adequately installed, inspected, and maintained to prevent the discharge of sediment from the disturbed slope area leading offsite toward Empire Creek. Moreover, the City must ensure erosion prevention, slope stabilization, and maintenance of all source control and treatment control BMPs at the YMCA project site.

Site: MJW Property located near the intersection of the Rio Nedo and Via Industria roadways on Avenue Alvardo in Temecula, CA

8. Regional Water Board Order No. R9-2004-001, Requirement G.5, requires the City to designate a set of minimum BMPs that ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at all construction sites, etc.... "Each Permittee shall implement, or require the implementation of, the designated minimum BMPs at each construction site within its jurisdiction year round." It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment from a large expanse of disturbed area located up-gradient of a sediment trap BMP serving both the MJW Property and the adjacent Temecula Corporate Center construction site. Evidence of a previous runoff event discharging sediment to this structural control was observed; including sediment laden water in the structural control and gulley erosion at the inlet area (see attached Photograph 5). Rill and gulley formations were also present on the disturbed slope leading to the sediment trap BMP (see attached Photograph 6). Moreover, temporary erosion and sediment control BMPs were not present on the site and a large area of exposed soil was observed down-gradient and outside the area served by the sediment trap BMP (see attached Photograph 7). As a result, there was a potential for the discharge of sediment from the site. Mr. Shabec explained that the project proponent/site operator's business had dissolved and the site had since been abandoned. In conjunction with the site conditions, this situation indicates the need for increased City oversight to ensure site owner/operator accountability through the life of a construction project. Adequate BMPs must be implemented to prevent the discharge of sediment from the large expanse of exposed soil located throughout the MJW project site. Moreover, the City must ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at the MJW Property.

Site: Hemmingway at Redhawk by Centex Homes located on Via Puebla roadway in Temecula, CA

9. Regional Water Board Order No. R9-2004-001, Requirement G.5, requires the City to designate a set of minimum BMPs that ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at all construction sites, etc.... "Each Permittee shall implement, or require the implementation of, the designated minimum BMPs at each construction site within its jurisdiction year round." It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment from a large expanse of disturbed area located throughout the project site. The silt fence BMPs implemented as perimeter control were not installed in accordance with best engineering practice requirements in general, or those specified in either the Standard ESC Notes or the California BMP Handbook. Specifically, the silt fence was not installed on the contour and stakes were incorrectly positioned on the up-gradient side of the silt fence (see attached Photograph 8). Sediment had accumulated in the down-gradient landscaping (see attached Photograph 9) and subsequent drainage conveyance (see attached Photograph 10) leading to the curb and gutter flow-line. Evidence of a previous failure event was observed, including sediment that had been discharged to a down-gradient storm drain inlet (see attached Photograph 11). BMPs must be adequately installed, inspected, and maintained to prevent the discharge of sediment from the disturbed areas of the site and the sediment discharged to the inlet must be removed and disposed of properly. Furthermore, the City must ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at the Hemmingway at Redhawk site.

Illicit Discharge Detection and Elimination (IDDE) Program

Site: Redhawk Golf Course located near the intersection of Peachtree and Deer Hollow roadways in Temecula, CA

10. Regional Water Board Order No. R9-2004-001, Requirement B.1, requires the City to "effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate NPDES permit; or are authorized in accordance with Requirements B.2 and B.3 [of the Order]." It was observed during the inspection that pond draining activities were actively causing an unauthorized non-storm water discharge to a drainage inlet located southwest of the pond. The water drained from the golf course irrigation pond was from a non-potable reclaimed water source (see attached Photograph 12), and potentially contained high levels of nutrients, pesticides, and other pollutants. Actively operating pumps (see attached Photograph 13) were discharging the reclaimed water across a grass drainage swale (see attached Photograph 14) to a storm drain inlet leading to the Pechanga Parkway Drainage Channel. As provided by Mr. Ben Neill (Water Resource Control Engineer, Regional Water Board), this discharge was not authorized by a separate NPDES permit. As a result, there was an illicit non-storm water discharge to the storm drain

and subsequent Pechanga Parkway Drainage Channel (see attached Photographs 15 and 16). The Temecula Municipal Code, Chapter 8.28, Section 200, Prohibited discharges, does not clearly prohibit this type of non-storm water discharge into the City's MS4 (see attached Exhibit 3). In addition, a fuel can filled with gasoline was stored outdoors where it could be exposed to storm water contact (see attached Photograph 12). The City must effectively prohibit all types of illicit non-storm water discharges into its MS4. Furthermore, the City's Illicit Discharge Detection and Elimination Program must be designed to emphasize frequent, geographically widespread inspections, monitoring, and follow-up investigations to detect illicit discharges such as the non-storm water discharge described above.

- 11. Regional Water Board Order No. R9-2004-001, Requirement J.2., requires the City to "develop or obtain an up-to-date labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction....The accuracy of the MS4 map shall be confirmed and updated at least annually." The City has developed a map of its MS4 but the corresponding drainage areas for specific storm drainage system mains and outfalls were not delineated. Ideally, dry weather screening and analytical monitoring of outfalls or targeted locations within the MS4 would utilize the drainage infrastructure map as a base-level tool for investigation and identification of any illicit pollutant sources. The City must develop or obtain an up-to-date labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction.
- 12. Monitoring and Reporting Program No. R9-2004-001, Section II.B.1.(a), states that "[Illicit Discharge Monitoring] stations shall be accessible points in the MS4 (i.e., outfalls, manholes or open channels) located downstream of potential sources of illicit discharges (i.e., commercial, industrial, and residential areas). Permittees shall use the MS4 map, developed pursuant to section J.2 of Order No. R9-2004-001, to help locate dry weather monitoring stations and to determine the number necessary to adequately represent the entire MS4." The City has selected four primary Illicit Discharge Monitoring stations. The following stations are located in a natural waterway: Empire Creek at Del Rio Road Bridge (hereafter, EC1), Pechanga Creek at Rainbow Canyon Road Bridge (hereafter, PC1), and Temecula Creek at the confluence with Murrieta Creek (hereafter, TC1). The final primary station, Pechanga Parkway Drainage Channel outlet behind Canterfield and Trotsdale (hereafter, PP1), is located in the open channel drainage system. Station PP1 was flowing and/or contained ponded water during City inspections conducted on April 7, 2006 (see attached Exhibit 4); August 31, 2006 (see attached Exhibit 5); June 15, 2007 (see attached Exhibit 6); and August 27, 2007 (see attached Exhibit 7). This data indicates that Station PP1 has flowing water the majority of the year and therefore is not representative of dry weather flow. Furthermore, Stations EC1, PC1, and TC1 are not appropriate points in the MS4 and are instead located in natural waterways. These sites hold little value for identifying unauthorized dry weather discharges to the MS4 and eliminating their respective source(s). As discussed onsite, the City must select dry weather monitoring stations at accessible points in the MS4, the number of which are adequate to represent the entire MS4 under dry weather conditions.

- 13. Monitoring and Reporting Program No. R9-2004-001, Section II.B.1.(a), requires that each Illicit Discharge Monitoring station be inspected at least twice between May 1st and September 30th of each year. In 2006, none of the monitoring stations were inspected twice during the May 1st to September 30th required time period. Specifically, inspections at all monitoring stations were conducted once within the May 1st to September 30th time period and once outside this time frame. As provided by Mr. Licitra, the City's Illicit Discharge Monitoring stations were only inspected twice during 2006. Exhibit 8, an excerpt from the Annual Progress Report dated October 20, 2006, provides documentation of the second inspection event of 2006 which was conducted outside the May 1st to September 30th required time period. The City must inspect each Illicit Discharge Monitoring station at least twice between May 1st and September 30th of each year.
- 14. Monitoring and Reporting Program No. R9-2004-001, Section II.B.3, states that "Permittees shall develop numeric criteria for field screening and analytical monitoring results that will trigger follow-up investigations to identify the source causing the exceedance of the criteria." As provided by Mr. Licitra, the City is utilizing the Riverside County Consolidated Monitoring Program for Water Quality Monitoring dated December 15, 2003 (hereafter, Consolidated Monitoring protocol) as its procedure for Illicit Discharge Monitoring. The Consolidated Monitoring protocol does not contain numeric criteria for laboratory analysis (see attached Exhibit 9). As a result, numeric criteria were not developed for the following required laboratory analysis parameters: total hardness, oil and grease, ammonia nitrogen, total phosphorus, copper (total and dissolved), surfactants (MBAS), diazinon and chlorpyrifos, lead (dissolved), nitrate nitrogen, E. coli, total coliform, and fecal coliform.

Monitoring and Reporting Program No. R9-2004-001, Section II.B.3, also requires the City to develop numeric criteria for field screening activities. The Consolidated Monitoring protocol Section 3.4.9 states that "if the inspector is not able to apply BPJ [Best Professional Judgment] to determine if impairment may be occurring based on field water quality measurements, the following numeric guidance may be used." These numeric criteria are displayed in Exhibit 9, which demonstrates that the City had not developed a numeric criterion for temperature, a required field screening analysis parameter. The City must develop numeric criteria for field screening and analytical monitoring results that will trigger follow-up investigations to identify the source causing any exceedance of the criteria.

15. Monitoring and Reporting Program (MRP) No. R9-2004-001, Section II.B.2.(a), requires the City to record the following general information at each inspected dry weather monitoring site: time since last rain, quantity of last rain, site descriptions, flow estimation, and visual observations. For all dry weather monitoring site inspections conducted in 2006 (see attached Exhibits 10 and 11) and 2007 (see attached Exhibits 12 and 13), inspection records did not document: (1) time since last rain, (2) site descriptions, or (3) flow estimation. Furthermore, because City staff had not recorded time since the last rain, the City cannot demonstrate that at least seventy-

- two hours of dry weather had elapsed prior to conducting field screening analysis, a requirement of Section II.B.2.(b) of the MRP. The City must record the minimum general information at each dry weather monitoring site inspected.
- 16. Monitoring and Reporting Program No. R9-2004-001, Section II.C.(c), requires that records of monitoring information include: (1) the date, exact place, and time of sampling or measurements; (2) the individual(s) who performed the sampling or measurements; (3) the date(s) analyses were performed; (4) the individual(s) who performed the analysis; (5) the analytical techniques or methods used; and (6) the results of such analyses. For all dry weather monitoring site inspections conducted in 2006 and 2007, monitoring records did not document the units for the results obtained. Exhibit 16 displays an example of the 2006 records lacking units. Records of monitoring information must include the information specified in Section II.C.(c) of the MRP.
- 17. Monitoring and Reporting Program No. R9-2004-001, Section II.B.3, states that "Permittees shall develop numeric criteria for field screening and analytical monitoring results that will trigger follow-up investigations to identify the source causing the exceedance of the criteria." Pursuant to this requirement, the Consolidated Monitoring protocol Section 3.4.9 establishes the following numeric criteria: "pH below 6 or above 9.5" and "Dissolved Oxygen [DO] below 4 mg/L" (see attached Exhibit 14). The Annual Progress Report dated October 20, 2006 states "No indications of illicit discharges" in April 2006 (see attached Exhibit 15). However, an exceedance of the pH numeric criterion was reported at the Long Canyon station located at "Box Culvert on Pina Colada" (hereafter, LC2) on April 19, 2006 (pH = 9.68). In addition, an exceedance of the DO numeric criterion was reported at the Empire Creek station located at "Box Culvert on Yukon" (hereafter, EC2) on April 19, 2006 (DO = 2.50). Exhibit 16 provides documentation of these exceedances. As provided by Mr. Licitra, the City's "Dry Weather Discharge Monitoring Log" for 2006 represents the only dry weather monitoring conducted in that year. As a result, the City had not conducted follow-up investigations to identify the source causing the April 19, 2006 exceedances. Monitoring and Reporting Program No. R9-2004-001, Section II.B.3, states that "in the event of an exceedance of the criteria, Permittees shall implement the follow-up investigation procedures developed pursuant to section J.4 of Order No. R9-2004-001."
- 18. Monitoring and Reporting Program No. R9-2004-001, Section II.B.2.(b), states that "if flow or ponded water is observed at a station and there has been at least seventy-two hours of dry weather, a field screening analysis...shall be conducted." As discussed in Finding 15, because City staff had not recorded time since the last rain, the City cannot demonstrate that at least seventy-two hours of dry weather had elapsed prior to conducting the field screening analysis. Furthermore, field screening analyses were conducted when flow or ponded water was observed at a station, but there had not been at least seventy-two hours of dry weather on the following occasions: (1) at Station PP1 on April 7, 2006 when a maximum of sixty-two hours of dry weather could have elapsed; (2) at Station TC1 on April 7, 2006 when a

maximum of sixty-four hours of dry weather could have elapsed; (3) at Station EC1 on August 27, 2007 when a maximum of thirty-nine hours of dry weather could have elapsed; (4) at Station PP1 on August 27, 2007 when a maximum of thirty-seven hours of dry weather could have elapsed; and (5) at Station TC1 on August 27, 2007 when a maximum of thirty-eight hours of dry weather could have elapsed. Exhibit 17 and 18 provide documentation of the field screening analyses conducted on April 7, 2006 and August 27, 2007, respectively. Exhibit 19 shows the method used for calculating the maximum amount of dry weather that could have elapsed between the precipitation and inspection events. The City must allow at least seventy-two hours of dry weather to elapse prior to conducting dry weather monitoring inspections. If flow or ponded water is observed at a station and there has been at least seventy-two hours of dry weather, a field screening analysis must be conducted in accordance with Section II.B.2.(b) of the MRP.

Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 1: View of the disturbed slope area at the northern perimeter of the YMCA site



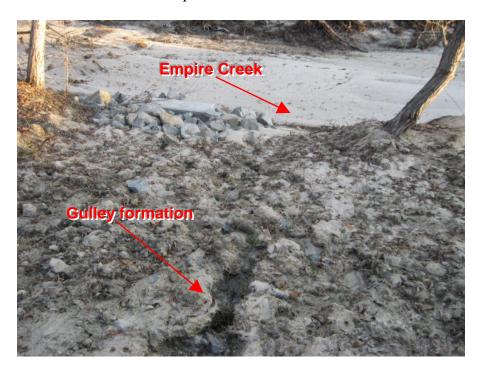
Photograph 2: Slope erosion was observed, including rill and gulley formation at the base of the slope

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Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 3: A section of silt fence at the base of the slope had been undercut by a previous flow event



Photograph 4: Erosion beyond the undercut section of silt fence BMP shown in Photograph 3

Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 5: Sediment laden water in the structural control and gulley erosion present at the inlet area



Photograph 6: Rill and gulley formations on the disturbed slope leading to the sediment trap BMP

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Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 7: A large area of exposed soil was observed down-gradient of the sediment trap BMP



Photograph 8: The silt fence was not installed on the contour and stakes were incorrectly positioned on the up-gradient side of the silt fence

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Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 9: Sediment accumulated in the down-gradient landscaping



Photograph 10: Sediment accumulated in the drainage conveyance located down-gradient of Photographs 8 and 9

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Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 11: Evidence of a previous failure event was observed, including sediment that had been discharged to a down-gradient storm drain inlet



Photograph 12: The water drained from the golf course irrigation pond was from a non-potable reclaimed water source

Inspection Dates: September 2007 and January 2008 Page 6 of 8

Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 13: Actively operating pumps used to drain the golf course pond



Photograph 14: Non-potable reclaimed water was pumped to a grass drainage swale and subsequent storm drain inlet leading to the Pechanga Parkway Drainage Channel

Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 15: View of discolored discharge to a down-gradient storm drain inlet



Photograph 16: View inside storm drain inlet leading to the Pechanga Parkway Drainage Channel

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)





WATER QUALITY MANAGEMENT PLAN (WQMP) INITIAL CHECKLIST

Applicant Name:	
Planning Application Number:	
Project Name:	

	Describe annual anniari incompania ann africa fill anniar anniari		
	Does the proposed project incorporate any of the following categories?	Yes	No
	(All questions must be answered)		
	Modifications to Existing Developments — This category includes projects that create, add, or replace 5,000 sq. ft. or more of impervious surface on an already developed site. This category includes: (a) Expansion of a building footprint, or addition or replacement of a structure;		
	(b) Increase in the gross floor area, or major exterior construction or remodeling;		
.1	(c) Replacement of impervious surfaces that are not part of routine maintenance activities;		-
	(d) Land disturbing activities related to a structure or impervious surface.		
	Note: If modifications create less than 50% of the impervious surface of a previously existing development, and the existing development was not originally subject to WQMP requirements, a WQMP shall be required only to the addition, and not to the entire development.		
2	Residential Development - This category includes subdivisions of single-family homes, multi-family homes, condominiums, and apartments consisting of 10 or more dwelling units.		
3 .	Non-Residential Development - This category includes projects that create more than 100,000 sq. ft. of impervious surface.		
4	Automotive Maintenance and Repair Shops - This category includes facilities engaged in general maintenance and mechanical repairs; body and upholstery repair; painting; transmission and exhaust repair; tire servicing; glass	-	
5a	Restaurants - This category includes all eating and drinking establishments that create more than 5,000 sq. ft. of impervious surface.		
5b	Restaurants creating less than 5,000 sq. ft. of impervious surface are only required to follow the site design and source control requirements of the WQMP.		
6	Hillside Development – This category includes any developments that create more than 5,000 sq. ft. of impervious surface, are located in an area with known crosive soil conditions, and where the project will require grading natural slopes of 25% (4:1) or steeper.	-	
7	Environmentally Sensitive Areas (ESAs) – This category includes all development located within or directly adjacent to or discharging directly to an ESA which either creates 2,500 sq. ft. of impervious surface or increases the area of imperviousness by 10% or more of its naturally occurring condition.		
.,	Note: "Directly adjacent" means within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or modification, and not commingled with flows from adjacent lands.		
8	Parking Lots – This category includes projects that create 5,000 sq. ft. or more of impervious surface for temporary parking or storage of motor vehicles. This category includes parking areas associated with any of the developments outlined above. Routine maintenance, including removal and replacement, is exempt.		
9	Streets, Roads, Highways & Freeways – This category includes projects that create 5,000 sq. ft. or more of impervious surface for transportation of motor vehicles. Routine maintenance, including removal and replacement, is exempt.	7	
10	Retail Gasoline Outlets – This category applies if either of the following criteria is met: (a) 5,000 sq. ft. or more of impervious surface, or (b) a projected 'Average Daily Traffic' count of 100 or more vehicles per day.		

If you answered "YES" to any of the questions above, a project-specific Water Quality Management Plan must be prepared and submitted.

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Rev. 00 (03/05)

Exhibit 1 – The City WQMP Applicability Checklist specifies a number of incorrect categorical thresholds

Inspected by: Scott Coulson (PG Environmental, LLC)

High Priority Sites (Inspect once every two	weeks during the wet s		6 17 18 19 20 21 22 23	24 25 26 27 28 20	Inspector
	0 4 5 6 7 0 8	10 11 (12:10:14 15)	0 17 10 19 20 21 22 23	24 25 220 220 20 25	
Wolf Creek-1					Pat
Woodside Homes-Mahogany					04-122
6 ac park 45896 W.C. Dr N.		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			05-062
Wolf Creek-2	- A B B B B B B B B B B B B B B B B B B				
Standard Pacific-Cottonwood			A-		06-042&043
Standard Pacific-Redwood					30264
Standard Pacific-LLC	2000	10000		2000	
Stanard Pacific-Laurel	99839		0.000	20000000	05-224
Woodside - Ironwood	5,500,000	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		10000000	05-211
Woodside - Sycamore	2006	5666	10000000	- 200	30264-6
Woodside Homes- Hawthorne	33875	(8)8988	1000		05-227
Woodside - Tamerack					06-018
Lennar - Stonebriar					06-103
Crowne Hill					Doug
Pacific Century Homes - The Reserve		1		1999	01-139
Roripaugh Ranch					Jack
Panhandle					
Ashby - 1A					05-139
Davidson - 2			\$10° 0000	100000	04-222
Key Bank -3					
Vineyard Bank - 4A					
Downey Bank - 4B					
Pan	366	55.66	2.75.26.65		
Ashby LLC -					02-138
6 Ac Park					03-327
Harveston					Doug
William Lyons - Charleston Ln					04-209
Meritage - Aberdeen Meritage - Charveston	V(1007-2)	16798758			05-117
				39835	05-121
Lennar - Prescott Lennar - Barrington					06-022
Lennar - Barrington Lennar - Emery					06-082
Temecula Estates - K&B Homes					06-101
Serafina and Murrieta Hot Springs					Doug
Reserve -Gallery Homes					loof:
Santiago Road e/o John Warner	0.500	10000000			Jack 05-133
Januago 130au 670 John Warrier			- 1 - 12 12 14 14 14 14 14 14 		05-133
I = Inspected V = Verbal N = Inspection Notice Issued	RB	C = Citation Issued = SDRWQCB Rep Prese ** = New Site	nt	1 \$600000000	1 of 2

Exhibit 2 – Prioritized construction sites are tracked by using monthly Inspection Frequency sheets such as the one shown above

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

8.28.200 Prohibited discharges.

Page 1 of 1

Temecula Municipal Code

Previous

Title 8 HEALTH AND SAFETY

Chapter 8.28 STORMWATER/URBAN RUNOFF MANAGEMENT AND DISCHARGE CONTROLS Article II. Prohibited and Exempted Discharges, Illicit Connections and Liabilities

[remove highlighting]

8.28.200 Prohibited discharges.

- The following discharges are prohibited:
- Discharges into storm drains in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC Section 13050), in water of the state;
- 2. Discharges into storm drains that cause or contribute to exceedances of water quality objectives for surface water or groundwater:
- 3. Discharges into storm drains containing pollutants which have not been reduced to the maximum extent practicable (MEP).
 - B. Discharges including, but not limited to, the following are prohibited from entering any storm drain:
- 2. Wash water resulting from the hosing or cleaning of gas stations, auto-repair garages, or other types of fueling or automotive services facilities;
- 3. Runoff resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility, including motor vehicles, cement-related equipment, port-a-potty servicing, etc.;
- 4. Wash water resulting from mobile operations, such as mobile automobile washing, steam cleaning, power washing and carpet cleaning, etc.;
- Wash water resulting from the cleaning or hosing of impervious surfaces in municipal, industrial, and commercial areas, including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
- 6. Runoff resulting from material storage areas containing chemicals, fuels, grease, oil, other hazardous materials;
- 7. Pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water:
 - 8. Sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
- 9. Food-related wastes (e.g., grease, fish processing and restaurant kitchen mat and trash bin wash water, etc.). (Ord. 05-13 § 20 (part): Ord. 05-12 § 20 (part))

http://www.qcode.us/codes/temecula/view.php?topic=8-8_28-ii-8_28_200&highlightWord... 1/29/2008

Exhibit 3 – The Temecula Municipal Code, Chapter 8.28, Section 200, Prohibited discharges, does not clearly prohibit this type of non-storm water discharge into the City's MS4

Inspection Date: September 2007 and January 2008 Page 3 of 18

Inspected by: Scott Coulson (PG Environmental, LLC)

_		2003 Thomas	Station I.D.	it Discharge Monitor	Inspected (M/D/Y)	Date of Last	Quantity of Last Rain	Flow	Data
	Watercourse	Brothers			(MUDIT)	ivaii _	Lust rum	Width /	Velocity Rate
	Primary Stations (To	wice between May	1 and Septem	ber 30) :				Depth	Rate
1	Empire Creek	958 H6	EC1	Del Rio Rd. bridge	3:30 4/19/06	9/15/06	0.06"	3/0.51	
	Mdu trait	70			,				
_				Rainbow Canyon Road &	3:00	115/50	0.61"		
2_	Pechanga Creek	979 B3 🔥	PC1	Pechanga Creek	4/7/06	4/5/06	0.61		
	Aldo hait	ra						2'/11	
_	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Intersection of Canterfield & Trotsdale	2:00	4/5/06	0.61 "	7 2.71;	
3		-	1	Journal of Trotage	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
_	Ado hici	ra		Confluence into Murrieta	4:00			-	
4	Temecula Creek	979 A3	TC1	Creek	4/7/06	4/5/06	0.61"	15'/3'	
	Aldo tici	tra							
	Secondary Stations	(As needed) :							
5	Empire Creek	959 B5	EC2	Box culvert on Yukon	4:00	04/15/06	0.06	2 /0.5'	
	, Mdo tie	tra							
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada	4/19/06	4/15/06	0.06"	3'/1'	
<u> </u>	1	drø			, ,	,	1	'	
_	Santa Gertrudis	958 H2	SG2	WINCHESTER RD. BRIDGE	2:00	4/15/06	0.06	101/0.5	
7	Creek	900 FIZ	1 002	Inner Galling I van arrada	7 27 30				
-		h BOTOD.							
_	Stations Monitored	By RCPCD:			2.40	Alieti	0.06"	30'/0.5'	
8	Long Canyon	958 G5	LC1_	Commerce Ctr. Dr. bridge USGS station at end of Pujo	4:30	4/15/06	0.06"		
9	Murrieta Creek	978 J2	MC1	Street 3	4/7/06	4/5/06	0.61"	40'/5'	
			RH1	Confluence of Redhawk channel and Temecula	4/20/06	4/15/06	0.06	8'/0.5'	
10	Redhawk Channel Santa Gertrudis	979 F3			-11 -4 40	1,13,00			
	Creek	958 F4	SG1	Jefferson Av. Bridge	1	I	1	1	

Exhibit 4 – Station PP1 was flowing and/or contained ponded water during a City inspection conducted on April 7, 2006

Inspected by: Scott Coulson (PG Environmental, LLC)

	-								
			Dry Wea	ther Illicit Discharge	Monitorir	ng Log			
	Watercourse	2003 Thomas Brothers	Station I.D.		Inspected time/(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow	Data
	Primary Stations (Tv				umor(m.c.r.)			Width / Depth	Velocity / Rate
1	Empire Creek	958 H6	EC1	Del Rio Road Bridge	8/31/06 4:15	3/22/06	0.46"	2′/0.5′	
	Aldo ti	tro							
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road Bridge	8/31/06	7/22/06	0.46''		
	Ado licita	'h				-			1
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Canterfield & Trotsdale	8/31/06 1:45	7/22/06	0.46"	18"/6"	
	Alda licita	A						,	
4	Temecula Creek	979 A3	TC1	Confluence with Murrieta Creek	8/31/06 3:30	7/22/06	0.46	15'/3'	
-	Aldo -	ficitra							
	Secondary Stations			-					
5	Empire Creek	959 B5	EC2	Box culvert on Yukon					
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada					
7	Santa Gertrudis Creek	958 H2	SG2	Winchester Road Bridge					
						<u> </u>		L	
	Stations Monitored	by RCFCD:							
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge USGS station at end of Pujol					· .
9	Murrieta Creek	978 J2	MC1	Street					
10		979 F3	RH1	Confluence of Redhawk channel and Temecula	8/31/06 2:36	7/22/06	0.46	2/6"	1'/5
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge	1			1	

Exhibit 5 – Station PP1 was flowing and/or contained ponded water during a City inspection conducted on August 31, 2006

Inspected by: Scott Coulson (PG Environmental, LLC)

									_ (
		ξ .	Dry Wea	ther Illicit Discharge					
	Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected time/(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flour	Data
	vvatercourse	Diotiers	Station i.b.	Location	dine/(m/D/1)	Rain	Last Rain	Width /	Velocity /
	Primary Stations (T	wice between May	1 and Septem	iber 30) :				Depth	Rate
1	Empire Creek	958 H6	EC1	Del Rio Road Bridge	6/15/07 3:00	4/23/07	0.02"	5'/2'	
	Isto ticit	ra						-	
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road Bridge	6/15/03	4/23/07	0.02"	DRY	
	Aldo tici	Ī _{rn}					-		
3	Pechanga Rd, stormdrain channel	979 C3	PP1	Behind Canterfield & Trotsdale	6/15/07	4/23/07	0.02"	2'/1/2'	20.1
-	Aldo tíci	ha							
4	Temecula Creek	979 A3	TC1	Confluence with Murrieta Creek: ENTED 428 3777,6265	6/15/07	4/23/07	0.02"	3/12	
	Mdo tícil							,	
_	J'1110 41CO	JUL		NEW LOCATION ACROSS	CONFLUENC	5			
	Secondary Stations	(As needed):							
5	Empire Creek	959 B5	EC2	Box culvert on Yukon					
			,						
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada					
7	Santa Gertrudis Creek	958 H2	SG2	Winchester Road Bridge					
	Stations Monitored	by RCFCD:							ı
В	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge USGS station at end of Puiol					
9	Murrieta Creek	978 J2	MC1	Street					
0	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula					
	Santa Gertrudis								

Exhibit 6 – Station PP1 was flowing and/or contained ponded water during a City inspection conducted on June 15, 2007

Inspected by: Scott Coulson (PG Environmental, LLC)

	$\overline{\mathbb{C}}$								01/10
			Dry Wea	ther Illicit Discharge	Monitori	na Loa -20	007		
		2003 Thomas	T				Quantity of		
	Watercourse	Brothers	Station I.D.	Location	time/(M/D/Y)	Rain	Last Rain		Data
	Duimour, Ctotions (7		4 4 6 4					Width /	Velocity /
	Primary Stations (T	wice between May	1 and Septem	iber 30) :	0.407.407		· · · · · ·	Depth	Rate
1	Empire Creek	958 H6	: ECT	Del Rio Road Bridge	8/27/07	8/26/07	0.05"	3/2'	
	Mdo	Hicitra	LOCAL Y	VATER DISTRICT HAS		HARGING	WELL WA	TER INTO M	UIZRIETA
_		+ avra	CREEK	NATER DISTRICT HAS HIS MONTH. Rainbow Canyon Road	12:30				
2	Pechanga Creek	979 B3.	PC1	Bridge	8/27/07	8/26/07	0.05"	DRY	
	I Aldo !	licitro.							_
	Pechanga Rd.		nn.	Behind Canterfield &	8/27/07			211.111	
3	stormdrain channel	979 C3	PP1	Trotsdale	8/21/01	8/26/07	0.05"	2/1/2'	c
	Mdo	Lication							
-	A 1, 2 A 1 A 2	And all a parties		Confluence with Murrieta	1:35			31/11/21	
4	Temecula Creek	979 A3	/ TC1	Creek: EMWD - 928 3777	8/27/07	8/26/07	0.05"	-7 .72	
	Mdo !	Hicitra.		EXT 6265 L 3437 PALA II					
	Secondary Stations	(As needed):		JACK/OURE x 6312				-	
5	Empire Creek	959 B5	/ EC2	Box culvert on Yukon					
	Empire order	000 00	LOZ	DOX CUITOR OF TUROF					
_			T	I					
6	Long Canyon	959 B4	· LC2	Box culvert on Pina Colada					
_	Santa Gertrudis		T						
7	Creek	958 H2	SG2	Winchester Road Bridge					
	Stations Monitored	by RCFCD:							
	Lang Capyon	OES GE	· LC1	Commerce Ctr. Dr. bridge					
8	Long Canyon	958 G5	LUI	USGS station at end of Pujol					
9	Murrieta Creek	978 J2	MC1	Street					
^	Double Change	070 50	, BH1	Confluence of Redhawk					
0	Redhawk Channel Santa Gertrudis	979 F3	' RH1	channel and Temecula					
1	Creek	958 F4	sG1	Jefferson Av. Bridge	l		i		

Exhibit 7 – Station PP1 was flowing and/or contained ponded water during a City inspection conducted on August 27, 2007

Inspection Date: September 2007 and January 2008 Page 7 of 18

Inspected by: Scott Coulson (PG Environmental, LLC)

). <	mercula								
2	47	Dry We	eather Illic	it Discharge Monitor	ing Log -	2006 Base	line		
٦	Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected (M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow I	Data Velocity
	Primary Stations (T	wice between May	1 and Septem	ber 30) :				Depth	Rate
\neg	Empire Creek	958 H6	EC1	Del Rio Rd. bridge	3:30 4/19/06	4/15/06	0.06"	31/0.51	
	Md Lint	70							
2	Pechanga Creek	979 B3 🔥	PC1	Rainbow Canyon Road & Pechanga Creek	3:00 4/7/06	4/5/06	0.61		
	Aldo licit	Tura.						0////	
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Intersection of Canterfield & Trotsdale	2:00 4/7/06	4/5/06	0.61 "	2'./1'	
	Mdo hici	tro							
4	Temecula Creek	979 A3	TC1	Confluence into Murrieta Creek	4:00 4/7/06	4/5/06	0.61"	15'/3'	
-	Aldo tici	tia				-			
	Secondary Stations	(As needed):					г—-	· ·	
5	Empire Creek	959 B5	EC2	Box culvert on Yukon	04/19/06	04/15/06	0.06"	2 /0.5	
	. Mdo tic	itra							
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada	4/19/06	4/15/06	0.06"	3,/1,	
	Alde to	ilm							
7	Santa Gertrudis Creek	958 H2	SG2	WINCHESTER RD. BRIDGE Margarita Rd. bridge	2:00	4/15/06	0.06	10// 0.5	
	Stations Monitored	by RCFCD:			0.40				
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge	2:40 4/20/06 4:30	4/15/06		30//0.5	
9	Murrieta Creek	978 J2	MC1	Street 3	4/7/06	4/5/06	0.61"	40'/5'	
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula	4/20/06	4/15/06	0.06	8'/0.5'	
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge	1	1	1	1	

Exhibit 8 – Illicit Discharge Monitoring Log for the Annual Progress Report dated October 20, 2006, documenting the inspection event conducted outside the May 1st to September 30th required time period

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)



3.4.9.2.1 Specific Conductance >25% higher than WQO 3.4.9.2.2 Total Dissolved Solids >25% higher than WQO 3.4.9.2.3 Turbidity >25% higher than the long-term average 3.4.9.2.4 pH below 6 or above 9.5

3.4.9.2.5 Dissolved Oxygen below 4 mg/L

3.4.9.3 Sample Measurement

See Section 3.G for general sample collection procedures

4. Field Procedures for Stormwater Monitoring

Stormwater monitoring is routine monitoring that is required for MS4 Permit compliance. Many of the procedures outlined for IC/ID monitoring can be followed for stormwater monitoring.

- 4.1 Prior to sampling
 - 4.1.1 Field monitoring equipment should be checked at regular intervals and repaired promptly if needed.
 - 4.1.2 Bottle supplies should be replenished after each sampling event. Supplies should be checked prior to the storm season and extra bottles ordered as anticipated.
 - 4.1.3 Supplies should be checked at regular intervals. Damaged or worn-out supplies should be replaced.
- 4.2 Schedule monitoring activities
 - 4.2.1 Put together sampling team. Two person teams are required for wet-weather sampling. A single person may collect dry-weather samples as long as a means of communication (e.g., radio or cell phone) with base is constantly available.
 - 4.2.2 Bottle list varies depending on:
 - 4.2.2.1 Watershed
 - 4.2.2.2 Wet- or dry-weather sampling event
- 4.3 Day of sampling
 - 4.3.1 Calibrate monitoring equipment (see Section 4.B.3.4.1)
 - 4.3.2 Notify members of sampling team (see Section 4.B.3.4.2)
 4.3.3 Notify Babcock Labs (see Section 4.B.3.4.3)

 - 4.3.4 Load equipment and sample bottles into vehicle (see Section 4.G.4). The laboratory contains boxes pre-filled with sampling equipment, ice chests, and a binder with the bottle sets required. David Ortega (951-955-4390) has keys to the laboratory.
 - 4.3.5 Fill ice chest(s) with ice
- 4.4 Sample collection
 - 4.4.1 Arrive at sampling location
 - 4.4.2 Follow the procedure outlined in Section 4.G.5. The sample category (Section 4.G.5.1.1.1) will vary according to the sampling event (e.g., wet or dry weather). The sample type (Section 4.G.5.1.1.2) may be "Grab" or "Composite" depending on permit requirements.
 - 4.4.3 Collect a field screening sample and record the results on the Field Data Sheet (Appendix D.2). Section 4.B.3.4.9.1 contains a list of field parameters.
 - 4.4.4 Calculate or estimate flow and record the results on the Field Data Sheet
 - 4.4.5 Collect samples (see Section 4.G.3) and place the filled bottles in the ice chest. During wet weather, or if there are high flow during dry weather, it may not be safe to stand in the flow (see Section 4.G.5.1.10). Use a pole sampler to collect the sample.

Consolidated Monitoring Program

Exhibit 9 – The Consolidated Monitoring protocol Section 3.4.9 lacks a number of numeric criteria

Inspection Date: September 2007 and January 2008 Page 9 of 18

Inspected by: Scott Coulson (PG Environmental, LLC)

				**					
		Dry W	eather Illic	it Discharge Monito	ring Log -	2006 Base	eline		
	Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected (M/D/Y)	Date of Last Rain	Last Rain	Flow	Data Velocity
	Primary Stations (T	wice hetween May	1 and Septem	ber 30) :	-			Width / Depth	Rate
	Empire Creek	958 H6	EC1	Del Rio Rd. bridge	3:30 4/19/06	4/15/06	0.06"	31/0.51	
	Alda Licit	TO.							
_	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road & Pechanga Creek	3:00 4/7/06	4/5/06	0.61 "		
_	Aldo hici	he.							-
3	Pechanga Rd. stormdrain channel	979 C3	. · PP1	Behind Intersection of Canterfield & Trotsdale	2:00 4/7/06	4/5/06	0.61 "	2'./1'	
	Aldo fici	tra							
4	Temecula Creek	979 A3	TC1	Confluence into Murrieta Creek	4:00	4/5/06	0.61"	15'/3'	
	Mdo Lici	tin							
_	Secondary Stations								
5	Empire Creek	959 B5	EC2	Box culvert on Yukon	4:00	04 15/06	0.06	2 /0.5	
		itra			· ' '				
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada	4/19/06	4/15/06	0.06"	3'/1'	
_	111	Sina					1		
7	Santa Gertrudis Creek	958 H2	SG2	WINCHESTER RD. BRIDGE Margarita Rd. bridge	2:00	4/15/06	0.06	10/ 0.5	
Ė									
_	Stations Monitored	by RCFCD:							
8		958 G5	LC1	Commerce Ctr. Dr. bridge	4/20/06	4/15/06	0.06"	30//0.5	
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujo	4/7/06	4/5/06	0.61"	40'/5'	
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula	4/20/06	4/15/06	0,06	8'/0.5'	
	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge	1	1			

Exhibit 10 – For all dry weather monitoring site inspections conducted in 2006, inspection records did not document the required information

Inspected by: Scott Coulson (PG Environmental, LLC)

	-								
			Dry Wea	ther Illicit Discharge					
	Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected time/(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow	Data
t				1 20				Width / Depth	Velocity /
П	Primary Stations (Ty	958 H6	EC1	Del Rio Road Bridge	8/31/06	3/22/06	0.46"	2'/0.5'	
-									
-	Aldo ti	atra		Rainbow Canyon Road	0 /21 /06				
2	Pechanga Creek	979 B3	PC1	Bridge	8/31/06	7/22/06	0.46''		
	Aldo liciti	h							
-	Pechanga Rd.	<u>u</u>	T	Behind Canterfield &	8/31/06	2/22/21	. 46*	1011111	
	stormdrain channel	979 C3	PP1	Trotsdale	9/31/06 1:45	7/22/06	0.46"	18"/6"	
	Aldo licita								
	CHOIN WOM	<u> </u>	T	Confluence with Murrieta	8/31/06 3:30			151/21	
4	Temecula Creek	979 A3	TC1	Creek	3:30	7/22/06	0.46	15'/3'	
.	Aldo -	ficitra				<u></u>			<u> </u>
	Secondary Stations	(As needed):							
5	Empire Creek	959 B5	EC2	Box culvert on Yukon					
		050 D4	LC2	Box culvert on Pina Colada					
6	Long Canyon	959 B4	LUZ	Box culvert on Fina Colada					
7	Santa Gertrudis Creek	958 H2	SG2	Winchester Road Bridge					
	Creek.	330112	1 002						
	-								
	Stations Monitored	by RCFCD:	· · · · · · · · · · · · · · · · · · ·	1		T	Г	1	
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge					·
-0	Long Ganyon			USGS station at end of Pujo	1				
9	Murrieta Creek	978 J2	MC1	Street Confluence of Redhawk	0/21 /60	 		-	
10	Redhawk Channel	979 F3	RH1	channel and Temecula	8/31/06 2:36	7/22/06	0.46	2/6"	1'/5
10	Santa Gertrudis	0.0.0					,	1	
	Creek	958 F4	SG1	Jefferson Av. Bridge	1	1	1	1	1

Exhibit 11 – For all dry weather monitoring site inspections conducted in 2006, inspection records did not document the required information

Inspection Date: September 2007 and January 2008 Page 11 of 18

Inspected by: Scott Coulson (PG Environmental, LLC)

npire Creek Ado Licit changa Creek Ado Licit changa Rd, changa Rd, changa Rd, changa Rd, changa Rd, changa Rd,	979 B3 Lra 979 C3	Station I.D.	Del Rio Road Bridge Rainbow Canyon Road Bridge	Monitorin Inspected time/(M/D/Y) 6/15/01 3:00	Date of Last Rain 4/23/01	Quantity of Last Rain		Data Velocity / Rate
imary Stations (Toping Creek Addo Ticit changa Creek Addo Ticit changa Rd, ormdrain channel	Brothers wice between M y 958 H6 70 979 B3 70 979 C3	Station I.D. 1 and Septem EC1	Location aber 30): Del Rio Road Bridge Rainbow Canyon Road Bridge	Inspected time/(M/D/Y) 6/15/07 3:00	Date of Last Rain	Quantity of Last Rain	Flow Width / Depth	Velocity /
npire Creek Ado Licit changa Creek Ado Licit changa Rd, changa Rd, changa Rd, changa Rd, changa Rd, changa Rd,	958 H6 70 979 B3 10 979 C3	EC1	Del Rio Road Bridge Rainbow Canyon Road Bridge				Depth	
npire Creek Ado Licit changa Creek Ado Licit changa Rd, changa Rd, changa Rd, changa Rd, changa Rd, changa Rd,	958 H6 70 979 B3 10 979 C3	EC1	Del Rio Road Bridge Rainbow Canyon Road Bridge					
changa Creek Lldw Lici changa Rd, ormdrain channel Lldw Lici	979 B3 Lra 979 C3		Bridge	6/15/01 1:00	4/23/07	0.02"		
Aldo Ici changa Rd, ormdrain channel	579 C3		Bridge	6/15/03	4/23/07	0.02"		
changa Rd, ormdrain channel	979 C3	PP1	IDabiad Contestinid 8				DRY	
Mdo Vici		PP1						
			Behind Canterfield & Trotsdale	6/15/07	4/23/07	0.02"	2'/1/2'	51
	Jul .		Confluence with Murrieta	4 45 63				
mecula Creek	979 A3	TC1	Creek: EMWD 428 3777,6265	6/15/07 2:00	4/23/07	0.02"	3/1/2'	
Mdo tícit	ra		NEW LOCATION ACROSS					
condary Stations	(As needed):	т						
npire Creek	959 B5	EC2	Box culvert on Yukon					
		T	·					-
ng Canyon	959 B4	LC2	Box culvert on Pina Colada					
nta Gertrudis eek	958 H2	SG2	Winchester Road Bridge					
ations Monitored	by RCFCD:							,
ng Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge			,		
1	978 J2	MC1	Street					
urrieta Creek	979 F3	RH1	channel and Temecula					
	Canyon eta Creek	eta Creek 978 J2	Canyon 958 G5 LC1 eta Creek 978 J2 MC1 nawk Channel 979 F3 RH1	Canyon 958 G5 LC1 Commerce Ctr. Dr. bridge USGS station at end of Pujol eta Creek 978 J2 MC1 Street Confluence of Redhawk channel 979 F3 RH1 channel and Temecula	Canyon 958 G5 LC1 Commerce Ctr. Dr. bridge USGS station at end of Pujol USGS station at end of Pujol eta Creek 978 J2 MC1 Street Confluence of Redhawk channel and Temecula Confluence of Redhawk channel and Temecula	Canyon 958 G5 LC1 Commerce Ctr. Dr. bridge uSGS station at end of Pujol USGS station at end of Pujol eta Creek 978 J2 MC1 Street confluence of Redhawk channel and Temecula Channel and Temecula	Canyon 958 G5 LC1 Commerce Ctr. Dr. bridge uSGS station at end of Pujol USGS station at end of Pujol street Street cawk Channel 979 F3 RH1 channel and Temecula	Canyon 958 G5 LC1 Commerce Ctr. Dr. bridge USGS station at end of Pujol

Exhibit 12 – For all dry weather monitoring site inspections conducted in 2007, inspection records did not document the required information

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Inspected by: Scott Coulson (PG Environmental, LLC)

	\mathbb{C}								01/
	-		Drv Wea	ther Illicit Discharge	Monitori	na Loa -20	007		-
	Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected time/(M/D/Y)	Date of Last Rain			/ Data
	Primary Stations (T	wice between May	1 and Septem	ber 30) :				Width / Depth	Velocity / Rate
1	Empire Creek	958 H6	∴ EC†	Del Rio Road Bridge	8/27/07 2:30	8/26/07	0.05"	50/2	·
	Mdo	Hicitra	LOCAL W	ATER DISTRICT HAS HIS MONTH. Rainbow Canyon Road		HARGING	WELL WA	TER INTO N	UNRIETA
2	Pechanga Creek	979 B3.	PC1	Rainbow Canyon Road Bridge	12:30 8/27/07	8/26/07	0.05*	DRY	
	Aldo!	licitra	-						
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Canterfield & Trotsdale	12:55 8/27/07	8/26/07	0.05"	2/1/2'	ô · .
	Mdo	ticitra			1				
4	Temecula Creek	979 A3	/ TC1	Confluence with Murrieta Creek: FMWD 509 928 3777	1:35 8/27/07	8/26/07	0.05"	31/11/21	
	Mdo !	dcitra		EXT 6265 L 3437 PALA II JACK/DUKE x 6332					
	Secondary Stations		-	JACK/OUNE x 6332				-	
5	Empire Creek	959 B5	/ EC2	Box culvert on Yukon					
6	Long Canyon	959 B4	, LC2	Box culvert on Pina Colada				-	
	zong conyon	0000		post darrett on I ma doudd					
7	Santa Gertrudis Creek	958 H2	SG2	Winchester Road Bridge					
	Stations Monitored	by RCFCD:							
8	Long Canyon	958 G5	1 LC1	Commerce Ctr. Dr. bridge USGS station at end of Puiol					
9	Murrieta Creek	978 J2	1 MC1	Street Confluence of Redhawk					,
10	Redhawk Channel Santa Gertrudis	979 F3	' RH1	channel and Temecula					
11	Creek	958 F4	sG1	Jefferson Av. Bridge		,			

Exhibit 13 – For all dry weather monitoring site inspections conducted in 2007, inspection records did not document the required information

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Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)



3.4.9.2.1 Specific Conductance >25% higher than WQO 3.4.9.2.2 Total Dissolved Solids >25% higher than WQO 3.4.9.2.3 Turbidity >25% higher than the long-term average

3.4.9.2.4 pH below 6 or above 9.5

3.4.9.2.5 Dissolved Oxygen below 4 mg/L

3.4.9.3 Sample Measurement

See Section 3.G for general sample collection procedures

4. Field Procedures for Stormwater Monitoring

Stormwater monitoring is routine monitoring that is required for MS4 Permit compliance. Many of the procedures outlined for IC/ID monitoring can be followed for stormwater monitoring.

- 4.1 Prior to sampling
 - 4.1.1 Field monitoring equipment should be checked at regular intervals and repaired promptly if needed.
 - 4.1.2 Bottle supplies should be replenished after each sampling event. Supplies should be checked prior to the storm season and extra bottles ordered as anticipated.
 - 4.1.3 Supplies should be checked at regular intervals. Damaged or worn-out supplies should be replaced.
- 4.2 Schedule monitoring activities
 - 4.2.1 Put together sampling team. Two person teams are required for wet-weather sampling. A single person may collect dry-weather samples as long as a means of communication (e.g., radio or cell phone) with base is constantly available.
 - 4.2.2 Bottle list varies depending on:
 - 4.2.2.1 Watershed
 - 4.2.2.2 Wet- or dry-weather sampling event
- 4.3 Day of sampling
 - 4.3.1 Calibrate monitoring equipment (see Section 4.B.3.4.1)
 - 4.3.2 Notify members of sampling team (see Section 4.B.3.4.2)
 4.3.3 Notify Babcock Labs (see Section 4.B.3.4.3)

 - 4.3.4 Load equipment and sample bottles into vehicle (see Section 4.G.4). The laboratory contains boxes pre-filled with sampling equipment, ice chests, and a binder with the bottle sets required. David Ortega (951-955-4390) has keys to the laboratory.
 - 4.3.5 Fill ice chest(s) with ice
- 4.4 Sample collection
 - 4.4.1 Arrive at sampling location
 - 4.4.2 Follow the procedure outlined in Section 4.G.5. The sample category (Section 4.G.5.1.1.1) will vary according to the sampling event (e.g., wet or dry weather). The sample type (Section 4.G.5.1.1.2) may be "Grab" or "Composite" depending on permit requirements.
 - 4.4.3 Collect a field screening sample and record the results on the Field Data Sheet (Appendix D.2). Section 4.B.3.4.9.1 contains a list of field parameters.
 - 4.4.4 Calculate or estimate flow and record the results on the Field Data Sheet
 - 4.4.5 Collect samples (see Section 4.G.3) and place the filled bottles in the ice chest. During wet weather, or if there are high flow during dry weather, it may not be safe to stand in the flow (see Section 4.G.5.1.10). Use a pole sampler to collect the sample.

Consolidated Monitoring Program

Exhibit 14 – The Consolidated Monitoring protocol Section 3.4.9 establishes the following numeric criteria: "pH below 6 or above 9.5" and "Dissolved Oxygen below 4 mg/L"

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Inspected by: Scott Coulson (PG Environmental, LLC)

6) Summary of Illicit Discharge Monitoring Program results, including: 1) All inspection, field screening, and analytical monitoring results; 2) All follow-up and elimination activities; and 3) Any proposed changes to station locations and/or sampling frequencies:

Date	Location	Monitoring Results	Follow-up and Elimination	Proposed Changes
April 2006	Primary and secondary Locations	No indications of illicit discharges	None	No Changes Comment(s):
August 2006	Primary Locations	No indications of illicit discharges	None	No Changes Comment(s):

7) Assessment of overall program effectiveness based on the measurable goals established in the SWMP:

Overall, all of the primary dry-weather monitoring locations were monitored, and all SORs were investigated. The City did not encounter any illicit discharges or connections into or at any of the monitoring locations, and all of the SORs resulted in citations or written warnings.

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Exhibit 15 – The Annual Progress Report dated October 20, 2006 states "No indications of illicit discharges" in April 2006

Inspected by: Scott Coulson (PG Environmental, LLC)

	400	D	ry Weather	Illicit Disch	arge Monit	oring Log - 2006 Reseline		
	Specific Conductance	Turbidity	pН	Temperature	Dissolved Oxygen	COMMENTS: (include odors, color, clarity, floatables, stains,		
	Primary Stations	s (Twice betwee	n May 1 and Se	ptember 30) :	· · · · · · · · · · · · · · · · · · ·	oil, sheen, surface scum, vegetation, etc at each station)		
+	111	15	7.90	22.3	155	SLIGHTLY GREEN/GROWN, CLEAR		
2	_	85				No FLOW, DRY CREEK BED		
3	0.59	360	8.65	18.2	8.65	BROWN , CLOUDY		
4	0.77	95	8.19	20.6	5.89	LIGHT BROWN, TRANSLICENT		
	Secondary Station	ons (As needed):	L				
5	0.77	2.0	8.76	17-9°C	à.50	LIGHT BROWN, CLEAR, FLORTING PARTICLES.		
6	0.64	٩	9.68	25.8	15.04	BROWN , CLEAR		
7	1.21	4	8.58	23.9	6.55	LIGHT BROWN, CLEAR		
	Stations Monitor	ed by RCFCD:	-					
8	1.45	10	8.64	30.0	16.01	LIGHT BROWN, CLEAR		
9	0.95	65	8,15	20.6	6.17	LIGHT BROWN , TRANSLUCENT		
0	01.1	10	9.76	26.9	15.50	" " , CLEAR		

Exhibit 16 –Illicit Discharge Monitoring Log for 2006 showing exceedances of the pH and DO numeric criteria

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Inspected by: Scott Coulson (PG Environmental, LLC)

_	2003 Thomas			Discharge Monitor	Inspected (M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
	Watercourse	Brothers	Station I.D.	Location	(M/D/T)	Kam	Last Nam	Width /	Velocity /
	Primary Stations (T	wice between May	1 and Septem	ber 30) :				Depth	Rate
	Empire Creek	958 H6	EC1	Del Rio Rd. bridge	3:30 4/19/06	4/15/06	0.06"	31/0.51	
	Md Lint	710		-					
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road & Pechanga Creek	3:00 4/7/06	4/5/06	0.61"		
	Aldo ha	nn.							
3	Pechanga Rd. stormdrain channel	979 C3	. PP1	Behind Intersection of Canterfield & Trotsdale	2:00 4/7/06	4/5/06	0.61 "	2'./1'	
	Ado his	tro							
4	Temecula Creek	979 A3	TC1	Confluence into Murrieta Creek	4:00 4/7/06	4/5/06	0.61"	15'/3'	
	Aldo tici	tra							
	Secondary Stations	s (As needed) :							
5	Empire Creek	959 B5	EC2	Box culvert on Yukon	04/19/06	04/15/06	0.06"	2 /05'	
	, Mdo to	itra							
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada	4/19/06	4/15/06	0.06"	3'/1'	
	111	alno							
7	Santa Gertrudis Creek	958 H2	SG2	WINCHESTER RD. BRIDGE Margarita Rd. bridge	2:00	4/15/06	0.06	10/ 0.5	
	Stations Monitored	by RCFCD:			2.40		1		
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge USGS station at end of Pujo	4/20/06	4/15/06	0.06"	30/0.5	
9	Murrieta Creek	978 J2	MC1	Street St	4/7/06	4/5/06	0.61"	40'/5'	
10	Redhawk Channel	979 F3	RH1	channel and Temecula	4/20/06	4/15/06	0.06	8'/0.5'	
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge					

Exhibit 17 –Field screening analyses conducted on April 7, 2006 without allowing at least seventy-two hours of dry weather to elapse

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Inspected by: Scott Coulson (PG Environmental, LLC)

				\sim					- 0
			Dry Wea	ther Illicit Discharge	Monitorir	na Loa -20	007		/_3
		2003 Thomas			Inspected	Date of Last			
	Watercourse	Brothers	Station I.D.	Location	time/(M/D/Y)	Rain	Last Rain		Data
	Primary Stations (wice between May	1 and Septem	ber 30) :				Width / Depth	Velocity Rate
1	Empire Creek	958 H6	∴ EC↑	Del Rio Road Bridge	8/27/07 2:30	8/26/07	0.05"	50/2.	·
	Mdo	hicitra	LOCAL V	MIS MONTH.	BEEN PIS	HAROINO		TER INTO M	U IZRIETA
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road Bridge	12:30 8/27/07	8/26/07	0.05"	DRY	
	Aldo.	licitra			-				
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Canterfield & Trotsdale	12:55 8/27/07	8/26/07	0.05"	2/1/2	ô
	Mdo	Licitra		8 1 m	1.				
4	Temecula Creek	979 A3	/ TC1	Confluence with Murrieta Creek: FMWD 109 928 3737	1:35 8/27/07	8/26/07	0.05"	3'/11/2'	
	Mdo .	Hicitura.		EXT 6265 L3437 PALA II	. ,				
	Secondary Stations								
5	Empire Creek	959 B5	/ EC2	Box culvert on Yukon					
						~~~			
6	Long Canyon	959 B4	· LC2	Box culvert on Pina Colada				-	
		-			1				
7	Santa Gertrudis Creek	958 H2	SG2	Winchester Road Bridge					
								-7	
	Stations Monitored	by RCFCD:							
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge USGS station at end of Puiol					
9	Murrieta Creek	978 J2	MC1	Street			-		
10	Redhawk Channel	979 F3	' RH1	Confluence of Redhawk channel and Temecula					
11	Santa Gertrudis Creek	958 F4	✓ SG1	Jefferson Av. Bridge	- 1				

Exhibit 18 –Field screening analyses conducted on August 27, 2007 without allowing at least seventy-two hours of dry weather to elapse

#### **Exhibit 19: FIELD SCREENING TABLE**

Station I.D.	Date/Time of Last Rain ¹	Date/Time of Inspection ²	Maximum Time of Dry Weather ³
PP1	April 5, 2006 @ 12:00 A.M.	April 7, 2006 @ 2:00 P.M.	62 hours
TC1	April 5, 2006 @ 12:00 A.M.	April 7, 2006 @ 4:00 P.M.	64 hours
EC1	August 26, 2007 @ 12:00 A.M.	August 27, 2007 @ 2:30 P.M.	38.5 hours
PP1	August 26, 2007 @ 12:00 A.M.	August 27, 2007 @ 12:55 P.M.	37 hours
TC1	August 26, 2007 @ 12:00 A.M.	August 27, 2007 @ 1:35 P.M.	37.5 hours

Date obtained from the City's Dry Weather Monitoring Log. Assumed time of last rain occurred at 12:00 A.M. on the date reported

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Values obtained from the City's Dry Weather Monitoring Log. Assumed time of inspection occurred during normal City working hours

Values calculated from time elapsed between the time of last rain and inspection. Values were rounded up to the nearest half hour when used in the text of accompanying inspection report