California Regional Water Quality Control Board
San Diego Region

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http://www.waterboards.ca.gov/sandiego

September 22, 2008

VIA CERTIFIED MAIL
7007 1490 0003 8753 5247

Mr. Dan Ferons
Chief Engineer of Engineering and Operations
Santa Margarita Water District
P.O. Box 7005
Mission Viejo, CA 92690-7005

In reply refer to:
CAU:01-0771:jcofran
Place ID: 631542

Dear Mr. Ferons:

NOTICE OF HEARING AND ISSUANCE OF COMPLAINT NO. R9-2008-0057 FOR ADMINISTRATIVE CIVIL LIABILITY AGAINST SANTA MARGARITA WATER DISTRICT FOR VIOLATION OF ORDER NOS. 2006-0003-DWQ AND R9-2007-0005

Enclosed find Administrative Civil Liability Complaint No. R9-2008-0057 against the Santa Margarita Water District (Discharger) for the discharge of untreated sewage from a 16-inch diameter Ortega Force Main located on Ortega Highway within the City of San Juan Capistrano, California, and the discharge of untreated sewage from a 16-inch diameter Talega Force Main located within Rancho Mission Viejo Ecological Reserve in the City of San Clemente, California. The discharge of untreated sewage occurred in violation of Regional Board Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region.* The Complaint proposes an amount of $133,190 be imposed for violations of these Orders. A Staff Report that explains the basis for the issuance of this Complaint is also included.

Waiver of Hearing

Pursuant to California Water Code Section 13323, the California Regional Water Quality Control Board, San Diego Region (Regional Board) will hold a hearing on the Complaint no later than 90 days after it is served. The Discharger may elect to waive its right to a hearing before the Regional Board. Waiver of the hearing constitutes admission of the validity of the allegations of violation in the Complaint and acceptance of the assessment of civil liability in the amount of $133,190 as set forth in the Complaint. For the Regional Board to accept the waiver of the Discharger's right to a public hearing, the Discharger must submit the following by 5 P.M., **October 24, 2008**.

1. The enclosed waiver form signed by an authorized agent of the Discharger;

2. A check for the full amount of civil liability of $133,190 made out to the "State Water Resources Control Board Cleanup and Abatement Account"; and

3. Verification that the enclosed public notice has been published in a newspaper circulated in the project's area.

Public Hearing

Alternatively, if the Discharger elects to proceed to a public hearing, a hearing is tentatively scheduled to be held at the Regional Board meeting on December 10, 2008. The meeting is scheduled to convene at the Regional Board Office, 9174 Sky Park Court, Suite 100, San Diego, CA and the meeting will begin at 9 A.M. At that time, the Regional Board will accept testimony and public comment and decide whether to affirm, reject, or modify the proposed liability, or whether to refer the matter for judicial civil action.

Enclosed you will find a draft of the procedures I am recommending that the Regional Board follow in conducting the hearing. Please note that comments on the proposed procedures are due by **October 1, 2008** to the Regional Water Board's advisory attorney, Catherine Hagan (mailing address shown below).

The heading portion of this letter includes a Regional Board code number noted after "In reply refer to:" In order to assist us in the processing of your correspondence please include this code number in the heading or subject line portion of all correspondence and reports to the Regional Board pertaining to this matter.

If you have any questions, please contact State Water Resources Control Board Office of Enforcement Attorney Cris Carrigan at 916 322 3626, Jeremy Haas at 858 467-2735, or Joann Cofrancesco at 858 637-5589 or JCofrancesco@waterboards.ca.gov.

Respectfully,

David T Barker

for MICHAEL P. McCANN
Assistant Executive Officer

MPM:ma:jlc

Attachments: 1. ACL Complaint No. R9-2008-0057
2. Waiver of Hearing Forms
3. Public Notice of Waiver of Hearing
4. Staff Report
5. Proposed Hearing Procedures

CIWQS:
Reg Msr: 213965 (Enrollee), 352429 (R9-2008-0057)
Violation IDs: 497417 (April 2007 SSO), 576607 (July 2007 SSO)
Place ID: 631542
Party ID: 39979

cc (by email):

Ms. Erinn Wilson
Environmental Scientist Habitat Conservation
Department of Fish and Game
ewilson@dfg.ca.gov

Mr. Reed Sato / Mr. Cris Carrigan
Director, Office of Enforcement
State Water Resources Control Board
RSato@waterboards.ca.gov
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Ms. Sharon Taylor
Division Chief
United States. Fish & Wildlife Service
Sharon_Taylor@fws.gov

Ms. Catherine Hagan
Office of Chief Counsel
State Water Resources Control Board
CHagan@waterboards.ca.gov

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

IN THE MATTER OF:	)	
	)	
SANTA MARGARITA WATER DISTRICT	)	**COMPLAINT NO. R9-2008-0057**
SANITARY SEWER SYSTEM	)	**FOR**
ORANGE COUNTY	)	**ADMINISTRATIVE CIVIL LIABILITY**
	)	
	)	**VIOLATION OF**
	)	**ORDER NO. R9-2007-0005**
Place ID: 631542	)	
Reg Msr: 213965	)	**September 22, 2008**

SANTA MARGARITA WATER DISTRICT, SANITARY SEWER SYSTEM, HEREBY GIVEN NOTICE THAT:

1. The Santa Margarita Water District (Discharger) is alleged to have violated provisions of law for which the California Regional Water Quality Control Board, San Diego Region (Regional Board) may impose civil liability pursuant to the Porter-Cologne Water Quality Control Act, Section 13350 of the California Water Code (CWC). The violation alleged herein is a violation of a prohibition in waste discharge requirements for the discharge of untreated sewage into waters of the State.

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

3. The Discharger owns and operates approximately 537 miles of sewer lines and is required to operate and maintain its sewage collection systems to prevent sanitary sewer overflows and spills in compliance with requirements of State Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*, and Regional Board Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region*. Prohibition B.1 of Order No. R9-2007-0005 states that the discharge of sewage from a sanitary sewer system at any point upstream of a sewage treatment plant is prohibited.

ALLEGATIONS

4. The Discharger violated Prohibition B.1 of Order No. R9-2007-0005 by discharging a total of 392,000 gallons of sewage from April 5-8, 2007 from the 16-inch diameter Ortega Force Main located on Ortega Highway, City of San Juan Capistrano, California. The discharge entered San Juan Creek, waters of the State. The details of this violation are set forth in full in the accompanying Staff Report, which is incorporated herein by this reference as if set forth in full.

5. The Discharger violated Prohibition B.1 of Order No. R9-2007-0005 by discharging a total of 495,934 gallons of sewage from July 3 to July 4, 2007 from the 16-inch diameter Talega Force Main located within Rancho Mission Viejo Ecological Reserve in the City of San Clemente, California. The discharge went to Cristianitos Creek, waters of the State. The details of this violation are set forth in full in the accompanying Staff Report, which is incorporated herein by this reference as if set forth in full.

6. Persons or entities that discharge waste in violation of Waste Discharge Requirements are subject to civil liability pursuant to CWC Section 13350, either on a daily basis, not to exceed five thousand dollars ($5,000) for each day the violation occurs, or on a per gallon basis, not to exceed ten dollars ($10) for each gallon of waste discharged, but not both. The statutory maximum ACL amount is as follows:

Source of Discharge	**Dates of Discharge**	**Volume of sewage discharged**	**Maximum Liability**
Ortega Force Main	April 5 to 8, 2007	392,000	$3,920,000
Talega Force Main	July 3 to July 4, 2007	495,934	$4,959,340
TOTAL		**887,934**	**$8,879,340**

PROPOSED CIVIL LIABILITY

8. It is recommended that pursuant to CWC Section 13350(e), the Regional Board should impose a civil liability of one hundred thirty three thousand one hundred ninety dollars ($133,190) on the Santa Margarita Water District for the discharge of 887,934 gallons of untreated sewage from April 5-8 and July 3-4, 2007 ($0.15 per gallon).

Dated this 22th Day of September 2008

David T Barker

MICHAEL P. McCANN
Assistant Executive Officer

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

WAIVER OF 90-DAY HEARING REQUIREMENT FOR ADMINISTRATIVE CIVIL LIABILITY COMPLAINT

By signing this waiver, I affirm and acknowledge the following:

1. I am duly authorized to represent Santa Margarita Water District (hereinafter "Discharger") in connection with Administrative Civil Liability Complaint No. R9-2008-0057 (hereinafter the "Complaint");

2. I am informed that California Water Code Section 13323, subdivision (b), states that, "a hearing before the regional board shall be conducted within 90 days after the party has been served" with the Complaint;

3. I hereby waive any right the Discharger may have to a hearing before the California Regional Water Quality Control Board, San Diego Region (Regional Water Board) within ninety (90) days of service of the Complaint; and

4. □ ***(Check here if the Discharger will waive the hearing requirement and will pay the fine)***

   a. I certify that the Discharger will remit payment for the civil liability imposed in the amount of One hundred thirty three thousand, one hundred and ninety dollars ($133,190.00) by check, which contains a reference to "ACL Complaint No. R9-2008-0057" and is made payable to the "State Water Resources Control Board Cleanup and Abatement Account" Payment must be received by the Regional Water Board by October 24, 2008, or this matter will be placed on the Regional Water Board's agenda for adoption as initially proposed in the Complaint.

   b. I understand the payment of the above amount constitutes a settlement of the Complaint, and that any settlement will not become final until after the 30-day public notice and comment period mandated by Federal regulations (40 CFR 123.27) expires. Should the Regional Water Board receive new information or comments during this comment period, the Regional Water Board's Assistant Executive Officer may withdraw the complaint, return payment, and issue a new complaint. New information or comments include those submitted by personnel of the Regional Water Board who are not associated with the enforcement team's issuance of the Complaint.

   c. I understand that payment of the above amount is not a substitute for compliance with applicable laws and that continuing violations of the type alleged in the Complaint may subject the Discharger to further enforcement, including additional civil liability.

-or-

5. □ ***(Check here if the Discharger will waive the 90-day hearing requirement, but will not pay at the current time)*** I certify that the Discharger will promptly engage the Regional Water Board staff in discussions to resolve the outstanding violation(s). By checking this box, the Discharger is not waiving its right to a hearing on this matter. I understand that this waiver is a request to delay the hearing so the Discharger and Regional Water Board staff can discuss settlement. It does not constitute the Regional Water Board's agreement to delay the hearing. A hearing on the matter may be held before the Regional Water Board if these discussions do not resolve the liability proposed in the Complaint. The Discharger agrees that this hearing may be held after the 90-day period referenced in California Water Code section 13323 has elapsed.

6. If a hearing on this matter is held, the Regional Water Board will consider whether to issue, reject, or modify the proposed Administrative Civil Liability Order, or whether to refer the matter to the Attorney General for recovery of judicial civil liability.

_____
(Print Name and Title)

_____
(Signature)

_____
(Date

NOTICE OF WAIVER OF PUBLIC HEARING

California Regional Water Quality Control Board, San Diego Region
Issuance of Administrative Civil Liability (ACL) Order
Against
Santa Margarita Water District
San Juan and Cristianitos Creek Sewage Discharges
within City of San Juan Capistrano and San Clemente, California

On September 22, 2008, the California Regional Water Quality Control Board, San Diego Region (Regional Board) issued Complaint No. R9-2008-0057 to the Santa Margarita Water District (Discharger) in the amount of $133,190 for alleged violations of Regional Board Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region.* The Discharger has elected to waive its right to a public hearing in this matter. Waiver of the hearing constitutes admission of the validity of the allegation of violations in the Complaint and acceptance of the assessment of civil liability in the amount of $133,190 as set forth in the Complaint. The Regional Board may consider accepting the Discharger's waiver at its December 10, 2008 meeting.

Written comments regarding the allegations contained in Complaint No. R9-2008-0057, and/or acceptance of the waiver, will be accepted through Monday, November 24, 2008.

The Regional Board's December 10, 2008 meeting will be at the Regional Board office located at 9174 Sky Park Court, San Diego, California. The meeting will begin at 9:00 a.m. Oral comments for this item may be made during the meeting upon receipt of a request to speak slip. For more information regarding this matter please contact Ms. Joann Cofrancesco at (858) 637-5589, or at JCofrancesco@waterboards.ca.gov or visit the Regional Board's web site at www.waterboards.ca.gov/sandiego.

MICHAEL P. McCANN
Assistant Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

TECHNICAL ANALYSIS

Proposed Administrative Civil Liability Contained in Complaint No. R9-2008-0057 Santa Margarita Water District Sewage Collection System

Noncompliance with Order No. R9-2007-0005 Waste Discharge Requirements for Sewage Collection Agencies in the San Diego Region

September 22, 2008

1. INTRODUCTION

This report provides a summary of factual and analytical evidence that form the basis for findings to support an administrative assessment of civil liability in the amount of $133,190 against the Santa Margarita Water District (Discharger) for violations of State Board Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements* (hereafter the "State Board Order"), and Regional Board Order No. R9-2007-0005, *Waste Discharge Requirements for Sewage Collection Systems San Diego Region* (hereafter the "Regional Board Order"), as alleged in Complaint No. R9-2008-0057.

2. BACKGROUND

The Discharger owns and operates approximately 537 miles of sewer lines and is required to operate and maintain their sewage collection systems to prevent sanitary sewer overflows (SSOs) in compliance with requirements of both the State Board Order and the Regional Board Order. Regional Board Order Prohibition B.1 states that the discharge of sewage from a sanitary sewer system at any point upstream of a sewage treatment plant is prohibited.

The Discharger reported two SSOs to the Regional Board that resulted in significant discharges to San Juan Creek and Cristianitos Creek, both waters of the State. The arroyo toad (*Bufo californicus*) has been identified in the areas where both sewage discharges occurred. The arroyo toad is listed as an endangered species under the federal Endangered Species Act by the United States Fish and Wildlife Services (USFWS) and as a "Species of Special Concern" by the State of California under the state Endangered Species Act.

The Water Quality Control Plan for the San Diego Region (9) (hereafter the "Basin Plan") designates the beneficial uses of San Juan Creek to include wildlife habitat, warm and cold freshwater habitat, contact and non-contact water recreation, agricultural supply, and industrial service supply. The Basin Plan designates the beneficial uses of Cristianitos Creek to include wildlife habitat, warm freshwater habitat, contact and non-contact water recreation.

3. ALLEGATIONS

3.1. April 5 – 8, 2007 Ortega Force Main Sanitary Sewer Overflow

Between April 5 and April 8, 2007, an estimated 392,000 gallons of untreated sewage were discharged from a portion of the Discharger's sewage conveyance system, referred to as the Ortega Force Main, located on Ortega Highway in San Juan Capistrano, California, into San Juan Creek, a water of the State (see Attachment 1 for location map). The sewage spill violates Prohibition B.1 of the Regional Board Order because it is a prohibited discharge from a sanitary sewer system upstream of a sewage treatment plant.

3.2. July 3 and 4, 2007 Talega Force Main Sanitary Sewer Overflow

On July 3 and 4, 2007 an estimated 495,534 gallons of untreated sewage were discharged from a portion of the Discharger's sewage conveyance system, referred to as the Talega Force Main, located within Ranch Mission Viejo Ecological Reserve in the City of San Clemente, California, into Cristianitos Creek, a water of the State (see Attachment 1 for location map). The sewage spill violates Prohibition B.1 of the Regional Board Order because it is a prohibited discharge from a sanitary sewer system upstream of a sewage treatment plant.

4. DETERMINATION OF ADMINISTRATIVE CIVIL LIABILITY

4.1 Maximum Civil Liability

Persons or entities that discharge waste in violation of waste discharge requirements are subject to Administrative Civil Liability (ACL) pursuant to California Water Code (CWC) Section 13350 on either a daily basis, not to exceed five thousand dollars ($5,000) for each day the violation occurs, or on a per gallon basis, not to exceed ten dollars ($10) for each gallon of waste discharged.

4.1.1. April 5 - 8, 2007 Ortega Force Main Sanitary Sewer Overflow

The April SSO occurred over a period of four calendar days for a maximum per day civil liability of forty thousand dollars ($40,000). The SSO discharged 392,000 gallons of sewage to waters of the State for a maximum per gallon civil liability of three million nine hundred twenty thousand dollars ($3,920,000). Therefore the maximum possible civil liability for this violation is three million nine hundred twenty thousand dollars ($3,920,000) for the April 5 to 8, 2007 sewage discharge.

4.1.2 July 3 and 4, 1007 Talega Force Main Sanitary Sewer Overflow

The July SSO occurred over a period of two calendar days for maximum per day civil liability of twenty thousand dollars ($20,000). The SSO discharged 495,934 gallons of sewage to waters of the State for a maximum per gallon civil liability of four million nine hundred fifty nine thousand three hundred forty dollars ($4,959,340). Therefore, the maximum civil liability for this violation is four million nine hundred fifty nine thousand three hundred forty dollars ($4,959,340).

4.2 Factors to be Considered When Determining Administrative Civil Liability (ACL)

CWC Section 13327 requires the Regional Board to consider several factors when determining the amount of civil liability to impose. These factors include: "...the nature, circumstance, extent, and gravity of the violation or violations, whether the discharge is susceptible to cleanup and abatement, the degree of toxicity of the discharge, and, with respect to the violator, the ability to pay, the effect on ability to continue in business, any voluntary cleanup efforts undertaken, any prior history of violations, the degree of culpability, economic benefit or savings, if any, resulting from the violation, and other matters as justice may require."

4.2.1 April 5 to 8, 2007 Ortega Force Main Sanitary Sewer Overflow

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

The Discharger was notified via a phone call from an employee of Rancho Mission Viejo at approximately 3:00 p.m. on Sunday, April 8, 2007 of an SSO occurring at a manhole located on the Rancho Mission Viejo property near the Ortega Lift Station.

The Regional Board conducted an inspection of the spill site on April 8, 2007 (Attachment 2), and issued Investigative Order No. R9-2007-0069 (Attachment 3) directing the Discharger to submit technical information about the circumstances of the sewage discharge and the impacts of the sewage discharge to water quality pursuant to the authority of CWC Section 13267. The Discharger provided its technical report (dated May 31, 2007) (Attachment 4) and an additional map in an email dated June 4, 2007 (Attachment 5). The technical report contained supplemental information about the nature and impacts of the sewage discharge and augmented the information in the original SSO Report (Attachments 6).

Based on a review of the Ortega Lift Station pumping charts the Discharger estimated the SSO started at approximately 5:30 p.m. on April 5, 2007. The discharge lasted for approximately 70.5 hours and was caused by a broken PVC flange on a ductile-iron pipe force main.

The Discharger estimated the discharge volume of untreated sewage based on comparison of influent flows into the Santa Margarita Water District Chiquita Water Reclamation Plant prior to the SSO with those during the SSO event. The average flow into the plant before the SSO (April 1 to 5, 2007) was 6.28 million gallons per day (MGD). The average flow into the plant during the SSO (April 6 to 8, 2007) was 6.15 MGD. The difference before and during the SSO was 0.13 MGD, or approximately 5,556 gallons per hour. The total estimated SSO volume is approximately 392,000 gallons (5,556 gallons per hour times 70.5 hours).

Three days after the SSO was terminated, the Discharger collected surface water samples from four locations within San Juan Creek. The sample results indicated that the spill was contained to approximately three and one half linear miles in an area of San Juan Creek that has no public access. The Discharger reported that the creek in the area of the SSO was dry prior to the spill.

USFWS notified the Regional Board that the SSO was located in occupied habitat of the arroyo toad (*Bufo californicus*), an endangered species. USFWS further indicated that, while the creek may have been dry during the spill, toads were likely burrowed and aestivating in soils where sewage was absorbed into the ground and direct contact likely occurred (Attachment 7).

Raw sewage contains a mixture of pollutants. Pollutants have been identified as stressors that have contributed to direct mortality of amphibians as well as the decline of amphibian populations. Pollutants have also been identified as one of the four major causes in amphibian malformations. USFWS reports that the discharge of raw sewage would release high levels of nitrate, which could be toxic to amphibians such as the arroyo toad.

Sewage-polluted water contains viruses and bacteria that are a potential vehicle for transmission of disease to ecological receptors. Following a major sewage SSO event, high concentrations of fecal indictor bacteria are persistent in the sediment and remain in the sediment for several weeks. Amphibians are known to be susceptible to infection from bacteria, including those that potentially could be found in human sewage. Bacteriological analyses for the San Juan Creek sampling locations confirm that high levels of total fecal and enterococcus bacteria were present in the discharge.

The Discharger reported that it inspected the SSO site over a two week period and did not observe any impacted wildlife. The Discharger did not employ a qualified professional to assess the SSO site after the incident.

The discharge of large amounts of raw sewage to occupied endangered species habitat and waters of the state with beneficial uses, including wildlife habitat, warm and cold freshwater habitat, contact and non-contact recreation and agricultural supply, the nature, extent and gravity of the violation, indicate a substantial penalty should be imposed.

4.2.1.2 Susceptibility to Cleanup or Abatement

In this instance, the Discharger reported that cleanup of the spilled sewage was not possible due to the location of the discharge and how quickly the sewage was absorbed into the soil. Residual solid waste resulting from the sewage spill was cleaned up after the discharge was terminated. Accordingly, this penalty factor is neutral, and does not weigh either for or against a substantial penalty.

4.2.1.3 Degree of Toxicity

The USFWS has provided information indicating that the discharge of raw sewage into the arroyo toad habitat could result in harmful effects on the federally protected species. The Discharger did not perform adequate sampling to determine the long or short term impacts of the release. Water quality monitoring did not begin until three days after the termination of the SSO and a biologist was not available to help evaluate the immediate impact(s) to the arroyo toad and its habitat. Since high levels of total fecal and enterococcus bacteria were present three days after the discharge, and because the Discharger failed to perform adequate sampling to determine the short or long term effects of the release on beneficial uses, including wildlife habitat, this penalty factor indicates a substantial penalty should be imposed.

4.2.1.4 Ability to Pay and Ability to Continue in Business

At this time, the Regional Board has no information that the Discharger is unable to pay the proposed ACL or how payment of the proposed ACL would affect the Discharger's ability to provide essential services. It is not anticipated that the ACL proposed would cause a financial hardship for the Discharger. Accordingly, this penalty factor is neutral and does not weigh either for or against a substantial penalty.

4.2.1.5 Voluntary Cleanup Efforts

The Discharger reported that the following corrective actions were taken:

1. Sewage flow in the sewer line was diverted to a backup ten-inch diameter Ortega Force Main prior to reaching the failed 16-inch diameter Ortega Force Main;

2. The spill was stopped at approximately 4:00 p.m. on Sunday, April 8, 2007;

3. Three Vactor trucks were called in an attempt to contain the sewage discharge;

4. The remaining sewage was evacuated from the damaged force main into the lift station wet well;

5. Sewage debris was cleaned up with the help of a landscape contractor; and

6. The force main was repaired by replacing the broken poly-vinyl chloride (PVC) flange with a steel flange.

The Discharger made good-faith efforts to terminate and to cleanup the discharge of raw sewage by taking the following steps: (1) diverting the sewer flow from the failed 16-inch diameter Ortega Force Main to the backup ten-inch diameter Ortega Force Main; (2) calling in three Vactor trucks to try to contain the sewage discharge; (3) evacuating the remaining sewage in the damaged force main to the lift station wet well; (4) cleaning up the SSO debris with the help of a landscape contractor; and (5) repairing the force main by replacing the broken PVC flange with a steel flange.

Because the Discharger made substantial voluntary cleanup efforts, this penalty factor weighs in favor of a substantial reduction from the statutory maximum penalty amount.

4.2.1.6 Prior History of Violation

Prior to April 2007, the Discharger's records indicate that ruptures from PVC flanges and force mains have not been a prevalent problem with the sewage conveyance system.

During the fiscal year (FY) 2005-06, the Discharger had four SSOs. One of the SSOs was over 1,000 gallons and three of the SSOs entered a storm drain or surface waters. The volume of the remaining three SSOs totaled less than 300 gallons. The SSOs were caused by roots, grease, and power failures.

During FY 2006-07, the Discharger had three SSOs in addition to the April 5 to 8, 2007 incident. The volumes of these SSOs were all less than 1,000 gallons and two of the SSOs entered a storm drain or surface water. The SSOs were caused by roots and the rupture of a PVC flange (June 2007).

During FY 2007-08, the Discharger had five SSOs in addition to the July 3 to 4, 2007 incident. Two of the SSOs were over 1,000 gallons and three entered surface waters (Cristianitos Creek). Two of the SSOs occurred on the same Ortega Force Main as the July 3 to 4, 2007 incident, on August 20 (20,700-gallon spill) and September 14, 2007 (10,000-gallon spill), possibly by the same cause. The other three SSOs were caused by a power outage, a pump station failure, and operator error.

Because the operator has a reasonably good record of violations for the size of its system, the penalty factor weighs in favor of a reduction from the statutory maximum penalty amount.

4.2.1.7 Degree of Culpability

The Discharger could have implemented measures to reduce the amount of the discharge. According to an email received from the Discharger and dated June 11, 2007, the Discharger's staff inspected the Ortega Lift Station mid-day on April 5, 2007 (before the estimated start of the SSO), and again mid-morning on April 8, 2007 (during the SSO but prior to discovery) (Attachment 8). The Discharger's *Sewer System Management Plan* identifies tasks that are to be completed during routine preventive maintenance at sewage lift stations (Attachment 4). One of the tasks listed is to check the operation of all recording devices and charts. The Discharger failed to detect the force main rupture during the inspection on April 8, 2007 when the recording device charts were supposed to be checked. These are the same charts that the Discharger used after the spill to identify when the spill started. Based on this information it is reasonable to conclude that checking the charts during the inspection should have lead to the discovery of the SSO. The Discharger has since installed alarm set points in the Supervisory Control and Data Acquisition (SCADA) that alert staff to an unusually high pump discharge flow at the Ortega Lift Station.

CONTINUED

The cause of the SSO was a broken PVC flange on a ductile-iron pipe force main. The PVC flange and ductile-iron pipe have been in place since 1991. It is not standard practice to mix metal and plastic materials at the same connection pipe. It is noted, however, this is the first problem encountered by the Discharger with these PVC flanges.

Because the Discharger is solely responsible for the safe maintenance and operation of its system and because it should have detected the spill earlier, it has a high degree of culpability for this spill. However, newly-installed preventative measures should enhance early spill detection in the future. Accordingly, this penalty factor weighs in favor of imposing a substantial penalty.

4.2.1.8 Economic Savings

At this time, the Regional Board does not have information to determine the specific amount of economic benefit or savings of avoiding the cost of needed measures to prevent and reduce the sewage discharges.

4.2.1.9 Other Matters as Justice May Require

To date, the Regional Board costs for investigating this SSO incidents and preparing the necessary enforcement orders and directives have been $19,500 as of the date of this complaint.

4.2.2 July 3-4, 2007 Talega Force Main Sanitary Sewer Overflow

4.2.2.1 Nature, Circumstances, Extent, and Gravity of the Violation

The SSO was discovered on July 4, 2007, at approximately 10:00 a.m. by an employee of the Discharger during an inspection. The employee discovered the discharge after noticing the pump discharge flow from the Talega Lift Station was abnormally high and determined that a force main break had caused the abnormality.

The Regional Board inspected the site on July 5, 2008 (Attachment 9), and issued Investigative Order No. R9-2007-0108 on July 20, 2007 (Attachment 10). The Discharger submitted its Technical Report in response to Order No. R9-2007-0108 on September 11, 2007 (Attachment 11), and submitted additional information requested by the Regional Board on October 12, 2007 (Attachment 12.)

According to the Discharger's report, based on a review of the pumping charts of the Talega Lift Station, the discharge of untreated sewage likely began on July 3, 2007 at 11:30 a.m. The pumping charts documented a maximum flow rate of 1,100 gallons per minute (gpm) and the pump hours as 3.4 hours. The majority of the sewage discharge, occurring prior to diverting the sewer flow from the failed 16-inch diameter force main to the back up 10-inch diameter force main, was calculated as 224,000 gallons.

After the diversion to the back-up force main, residual sewage drained out of the 16-inch diameter force main by gravity through the broken section of pipe. Based on the diameter and length of the force main from the broken section, the Discharger calculated 175,534 gallons of residual untreated sewage drained out of the force main pipe.

After the diversion to the back-up force main was completed, the Discharger discovered that the 10-inch diameter force main was leaking into the 16-inch diameter force main. The leak occurred at a joint summit manhole where both of the force mains end from the isolation valve of the 16-inch diameter force main. Based on visual observation, the Discharger estimated flow of untreated sewage at 200 gpm was leaking from the 10-inch diameter force main into the 16-inch diameter force main and out of the broken section of pipe. This leak occurred for eight hours resulting in an estimated discharge of 96,000 gallons.

According to the Discharger, Cristianitos Creek was dry at the time of the spill and the discharge quickly soaked into the ground. The Discharger did not collect samples at that time.

Approximately a month after the discharge, a contractor was hired by the Discharger to evaluate the environmental impacts of the discharge. The contractor concluded that potential impacts to aestivating toads resulting from percolation would be low in areas that support aestivating toads. The contractor did not evaluate potential impacts until a month after the discharge.

The discharge of large amounts of raw sewage to occupied endangered species habitat and waters of the state with beneficial uses, including wildlife habitat, warm and cold freshwater habitat and contact and non-contact recreation, the nature, extent and gravity of the violation indicate a substantial penalty should be imposed.

4.2.2.2 Susceptibility to Cleanup or Abatement

The Discharger reports that approximately 15,000 gallons of sewage (approximately 3% of the spill) was recovered from a V-notch weir in the creek that was contained by sand bags being place around the weir. Accordingly, this penalty factor is neutral, and does not weigh either for or against a substantial penalty.

4.2.2.3 Degree of Toxicity

The USFWS has provided information indicating that the discharge of raw sewage into the arroyo toad habitat could result in harmful effects on the federally protected species (see Section 4.1.3). The Discharger did not perform any sampling to determine the nature and impact of the release. A month after the overflow, a biologist was hired to help evaluate the impact(s) to the arroyo toad and its habitat. Since the Discharger failed to perform timely sampling to determine the short or long term effects of the release on beneficial uses, including wildlife habitat, this penalty factor indicates a substantial penalty should be imposed.

4.2.2.4 Ability to Pay and Ability to Continue in Business

See Section 4.2.1, above, for analysis of this penalty factor.

4.2.2.5 Voluntary Cleanup Efforts

The Discharger reported that the following actions were taken once the SSO was identified:

1. Sewage flow in the sewer line was diverted to a backup ten-inch diameter Talega Force Main prior to reaching the failed 16-inch diameter Talega Force Main;

2. Constructed a make-shift berm prior to the Cristianitos Creek in a failed attempt to stop the flow;

3. Constructed a berm in the Cristianitos Creek at a V-notch weir to prevent downstream migration;

4. Recovered 15,000 gallons of the untreated sewage;

5. Cleaned up visible sewage debris; and

6. Positioned two Vactor trucks at two lift stations that are tributary to the Talega Force Main, to reduce the amount of flow reaching the damaged force main.

Because the Discharger made substantial voluntary cleanup efforts, this penalty factors weighs in favor of a substantial reduction from the statutory maximum penalty amount.

4.2.2.6 Prior History of Violation

See Section 4.2.1, above, for an analysis of this penalty factor.

4.2.2.7 Degree of Culpability

The cause of the SSO was a catastrophic failure of an entire joint of pipe, possible due to a water-hammer effect. Because the Discharger is solely responsible for the safe maintenance and operation of its system, it has a high degree of culpability for this spill. Accordingly, this penalty factor weighs in favor of imposing a substantial penalty

4.2.2.8 Economic Savings

At this time, the Regional Board does not have information to determine the specific amount of economic benefit or savings of avoiding the cost of needed measures to prevent and reduce the sewage discharges.

4.2.2.9 Other Matters as Justice May Require

See Section 4.2.1 above for an analysis of this penalty factor.

4.3 Proposed Civil Liability Per Violation

4.3.1 April 5 - 8, 2007 Ortega Force Main Sanitary Sewer Overflow

Based on this analysis of the statutory penalty factors, the proposed civil liability is fifteen cents ($0.15) per gallon for 392,000 gallons for a total of $58,800 for the April 5 to 8, 2007 Ortega Force Main SSO.

4.3.2 July 3 and 4, 2007 Talega Force Main Sanitary Sewage Overflow

Based on this analysis of the statutory penalty factors, the proposed civil liability is fifteen cents ($0.15) per gallon for 495,934 gallons for a total of seventy four thousand three hundred ninety dollars ($74,390) for the July 3 and 4, 2007 Talega Force Main SSO.

4.4. Total Proposed Civil Liability

The total proposed civil liability in this matter is one hundred thirty three thousand one hundred ninety dollars ($133,190).

PROPOSED DRAFT

NOTICE OF PUBLIC HEARING
TO CONSIDER ADMINISTRATIVE CIVIL LIABILITY COMPLAINT

NO. R9-2008-0057
ISSUED TO

Santa Margarita Water District

NOTICE IS HEREBY GIVEN THAT A HEARING WILL BE HELD BEFORE THE REGIONAL WATER QUALITY CONTROL BOARD, SAN DIEGO REGION, ON **DECEMBER 10, 2008**

Background

The Assistant Executive Officer of the Regional Water Quality Control Board, San Diego Region (Regional Board) has issued an Administrative Civil Liability (ACL) Complaint pursuant to California Water Code Section 13350 (CWC) against Santa Margarita Water District (Discharger) alleging that it has violated CWC Section 13350 by failing to comply with provisions of State Board Order No. 2006-0003-DWQ and Regional Board Order No. R9-2007-0005. The Complaint proposes that administrative civil liability in the amount of $133,190 be imposed as authorized by CWC Section 13350(e)(1). Unless the Discharger waives its right to a hearing and pays the proposed liability, a hearing will be held before the Regional Board during its meeting of December 10, 2008, in San Diego.

Purpose of Hearing

The purpose of the hearing is to receive relevant evidence and testimony regarding the proposed ACL Complaint. At the hearing, the Regional Board will consider whether to adopt, modify, or reject the proposed assessment, or whether to refer the matter to the Attorney General's Office to seek recovery of judicial civil liability. If it adopts an assessment, the Regional Board will issue an Administrative Civil Liability Order.

The public hearing on December 10, 2008, will commence as announced in our Regional Water Board meeting agenda. The meeting will be held at the Regional Board Office at 9174 Sky Park Court, Suite 100, in San Diego. An agenda for the meeting will be issued at least ten days before the meeting and will be posted on the Regional Board's web page at: www.waterboards.ca.gov/sandiego.

Hearing Procedures

A copy of the procedures governing an adjudicatory hearing before the Regional Board may be found at Title 23 of the California Code of Regulations, § 648 et seq., and is available at http://www.waterboards.ca.gov or upon request. Except as provided in Title 23 of the California Code of Regulations (CCR), § 648(b), Chapter 5 of the Administrative Procedures Act (commencing with § 11500 of the Government Code) does not apply to adjudicatory hearings before the Regional Board. This Notice provides additional requirements and deadlines related to the proceeding. THIS NOTICE MAY BE AMENDED BY THE ADVISORY STAFF AS NECESSARY. FAILURE TO COMPLY WITH THE DEADLINES AND REQUIREMENTS CONTAINED HEREIN MAY RESULT IN THE EXCLUSION OF DOCUMENTS AND/OR TESTIMONY FROM THE HEARING.

Hearing Participation

Participants in this proceeding are designated as either "parties" or "interested persons." Designated parties to the hearing may present evidence and cross-examine witnesses and are subject to cross-examination. Interested persons may present non-evidentiary policy statements, but may not cross-examine witnesses and are not subject to cross-examination. Both designated parties and interested persons may be asked to respond to clarifying questions from the Regional Board, staff or others, at the discretion of the Board.

The following participants are hereby designated as parties in this proceeding:

(1) San Diego Regional Water Board Prosecution Staff

(2) Santa Margarita Water District

Contacts

Advisory Staff:

Catherine Hagan (George), Esq.
Senior Staff Counsel
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4353
CGeorge@Waterboards.ca.gov

John Robertus
Executive Officer
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4353

Prosecution Staff:

Christian Carrigan
Senior Staff Counsel
State Water Resources Control Board
Office of Enforcement
P.O. Box 100
Sacramento, CA 95812

Michael McCann
Assistant Executive Officer
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4353

Mark Alpert
Acting Environmental Program Manager
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4353

Jeremy Haas
Acting Senior of the Compliance Assurance Unit
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4353

Joann Cofrancesco
Water Resource Control Engineer
Regional Water Quality Control Board, San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4353

Discharger:

Mr. Dan Ferons
Chief Engineer of Engineering Operations
Santa Margarita Water District
P.O. Box 7005
Mission Viejo, CA 92690-7005

Separation of Functions

To help ensure the fairness and impartiality of this proceeding, the functions of those who will act in a prosecutorial role by presenting evidence for consideration

by the Regional Board (Prosecution Staff) have been separated from those who will provide advice to the Board (Advisory Staff). Members of the Advisory Staff are: Catherine George, Senior Staff Counsel, and John Robertus, Executive Officer. Members of the Prosecution Staff are: Christian Carrigan, Senior Staff Counsel, Michael McCann, Assistant Executive Officer, Mark Alpert, Acting Environmental Program Manager, Jeremy Haas, Acting Senior of the Compliance Assurance Unit, and Joann Cofrancesco, Water Resource Control Engineer. **Unless the Discharger objects to and/or comments on this notice to Advisory Staff Member Catherine Hagan by October 1, 2008 or the Advisory Staff issues an alternative Notice of Hearing Procedure, the procedures set forth herein will govern the December 10, 2008 ACL Complaint Hearing.**

Ex Parte Communications

The designated parties and interested persons are forbidden from engaging in *ex parte* communications regarding this matter with members of the Advisory Staff or members of the San Diego Water Board. An *ex parte* contact is any written or verbal communication pertaining to the investigation, preparation, or prosecution of the ACL Complaint between a member of a designated party or interested party on the one hand, and a Regional Board member or an Advisory Staff member on the other hand, unless the communication is copied to all other designated and interested parties or made at a proceeding open to all other parties and interested persons (if verbal). Communications regarding non-controversial procedural matters are not *ex parte* contacts and are not restricted. Communications among the designated and interested parties themselves are not ex parte contacts.

Requesting Designated Party Status

Persons who wish to participate in the hearing as a designated party, and not already be listed above, shall request party status by submitting a request in writing (with copies to the designated parties) no later than 5 p.m. on **October 10, 2008**, to Catherine Hagan, Senior Staff Counsel, at the address set forth above. The request shall include an explanation of the basis for status as a designated party (e.g., how the issues to be addressed in the hearing and the potential actions by the Regional Board affect the person) and a statement explaining why the party or parties designated above do not adequately represent the person's interest. Any opposition to the request must be submitted by 5 p.m. on **October 17, 2008**. The parties will be notified by 5 p.m. on **October 22, 2008**, as to whether the request has been granted or denied.

Hearing Time limits

To ensure that all participants have an opportunity to participate in the hearing, the following time limits shall apply: each designated party shall have 20 minutes

to testify, present evidence, and cross-examine witnesses, and each interested person shall have 3 minutes to present a non-evidentiary policy statement. Participants with similar interests or comments are requested to make joint presentations, and participants are requested to avoid redundant comments. Additional time may be provided at the discretion of the hearing officer upon a showing that additional time is necessary.

Written Evidence, Exhibits and Policy Statements

Designated parties shall submit in writing 20 copies of the following information to Catherine Hagan at the above-referenced address no later than 5 p.m. on **November 21, 2008**.

1. All documentary evidence and exhibits proposed to be offered at the hearing.

2. All legal and technical arguments or analysis.

In addition to the foregoing, each designated party shall send (1) one copy of the above written materials to each of the other designated parties at the address or addresses provided above by 5 p.m. on **November 21, 2008**.

Interested persons may submit one (1) copy of non-evidentiary policy statements by the close of the hearing.

Evidentiary Objections

A designated party objecting to evidence proposed by another party must submit a written objection by 5 p.m. on **December 1, 2008**, to Catherine Hagan, Senior Staff Counsel, at the above-referenced address, with a copy to all other designated parties. The Advisory Staff will notify the parties about further action to be taken on such objections.

Questions

Questions concerning this proceeding may be addressed to Frances McChesney, Senior Staff Counsel, State Water Resources Control Board, P.O. Box 100, Sacramento, CA, 95812.

IMPORTANT DEADLINES

September 22, 2008	ACL Complaint issued to Discharger by Prosecution Team; Prosecution Team Sends draft Hearing Notice to Discharger and Advisory Team.

October 1, 2008	Comments due on draft Hearing Notice
October 10, 2008	Deadline for submission of request for designated party status.
October 17, 2008	Deadline for opposition to request for designated party status.
October 22, 2008	Decision issued on request for designated party status, if any.
November 21, 2008	Deadline for submission of evidence and legal argument.
December 1, 2008	Deadline for submission of evidentiary objections.
December 8, 2008	Rulings on evidentiary objections, if any.
December 10, 2008	Hearing Date

draft _____
John Robertus
Executive Officer

_____
DATE

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Sent To: Mr. Dan Ferons
Street, Apt. No.; or PO Box No.: P.O. Box 7005
City, State, ZIP+4: Mission Viejo, CA 92690-7005

PS Form 3800, August 2006 — See Reverse for Instructions

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. *Article Addressed to:*

Mr. Dan Ferons
Santa Margarita
Water District
P.O. Box 7005
Mission Viejo, CA
92690-7005

COMPLETE THIS SECTION ON DELIVERY

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X ☐ Agent ☐ Addressee

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2. Article Number *(Transfer from service label)* 7007 1490 0003 8753 5247

PS Form 3811, February 2004 — Domestic Return Receipt — 102595-02-M-1540

Attachment 1 -
Location map of Sanitary Sewer Overflows (SSO)

Attachment 2

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

FACILITY INSPECTION REPORT

INSPECTION DATE: 4/8/2007 TIME: 1300 WDID: 900000783

FACILITY REPRESENTATIVE(S) PRESENT DURING INSPECTION: Joann Cofrancesco (SDRWQCB), Dave Seymour (Santa Margarita WD)

Santa Margarita Water District
NAME OF OWNER, AGENCY OR PARTY RESPONSIBLE FOR DISCHARGE

OWNER CONTACT NAME AND PHONE #

Sanitary Sewer System
FACILITY OR DEVELOPER NAME (if different from owner)

FACILITY OR DEVELOPER CONTACT NAME AND PHONE #

Ortega Highway
FACILITY STREET ADDRESS

San Juan Capistrano, Orange County
FACILITY CITY AND STATE

APPLICABLE WATER QUALITY LICENSING REQUIREMENTS

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

INSPECTION TYPE (Check One)

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

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

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

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

04 **X** Complaint--Inspection made in response to a complaint.

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

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

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

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

INSPECTION FINDINGS

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

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

I. COMPLIANCE HISTORY:
Over million gallon SSOs in 1994 & 1997. ACL Complaint in 1995

FACILITY: Santa Margarita Water District (WDID) 900000783 INSPECTION DATE: 4/8/2007

II. FINDINGS

-Ortega Lift Station has two force mains: the main one (16 inches) and a backup (10 inches). The flange on the 16-inch force main broke, causing the sanitary sewer overflow (SSO). The force main had been repaired and there was a crew working on cleaning up the debris (Photo 1).
-The start of the spill was based on the paper graphs of the pump rate at the Ortega Lift Station. Based on the graphs, there was more pumping into the 16-inch force main starting at 5:30 p.m. on April 5, 2007, indicating the possible start of the SSO.
-There was a small flow in San Juan Creek in the area where the SSO occurred (Pictures 2-7).
-There was also flow in San Juan Creek about 100 feet upstream of the SSO (Pictures 8) and 200 feet upstream of the SSO (Pictures 9-12).
-There was no surface flow observed 800 feet upstream of the SSO (Pictures 13).
-There was a small flow in San Juan Creek downstream of the SSO, between the SSO and Antonio Parkway (Pictures 14-17).
-Flow and heavy vegetation was observed from Ortega Highway underpass (Pictures 18-20).
-Flow and light algae growth was observed from Camino Capistrano (Pictures 21).
-The flow in San Juan Creek ended at a berm before the Pacific Ocean (Pictures 22-23).

III. RECOMMENDATIONS AND ADDITIONAL COMMENTS.

-Notified Santa Margarita Water District that 13267 request for technical report would be sent soon.

Figure 1 – Area between Lift Station and San Juan Creek

Figure 2 – Looking downstream from point where spill entered San Juan Creek

Figure 3 - Looking downstream from point where spill entered San Juan Creek

Figure 4 - Area where spill entered San Juan Creek

Figure 5 - Looking upstream from point where spill entered San Juan Creek

Figure 6 - Looking upstream from point where spill entered San Juan Creek

Figure 7 - Area where spill entered San Juan Creek

Figure 8 - Approximately 100 feet upstream from spill

Figure 9 – Approximately 200 feet upstream from spill

Figure 10 - Approximately 200 feet upstream from spill

Figure 11 - Approximately 200 feet upstream from spill

Figure 12 - Approximately 200 feet upstream from spill

Figure 13 - Approximately 400 feet upstream from spill

Figure 14 – Approximately 1.5 miles downstream from spill

Figure 15 - Approximately 1.5 miles downstream from spill

Figure 16 - Approximately 2 miles downstream from spill

Figure 17 - Approximately 2 miles downstream from spill

Figure 18 – Upstream side of San Juan Creek from Ortega Highway overpass (approximately 3.5 miles downstream of spill)

Figure 19 - Upstream side of San Juan Creek from Ortega Highway overpass (approximately 3.5 miles downstream of spill)

Figure 20 - Upstream side of San Juan Creek from Ortega Highway overpass (approximately 3.5 miles downstream of spill)

Figure 21 - Upstream side of San Juan Creek from Camino Capistrano overpass (approximately 6 miles downstream of spill)

Figure 22 – Mouth of the San Juan Creek (approximately 9 miles from spill)

Figure 23 - Mouth of the San Juan Creek (approximately 9 miles from spill)

Linda S. Adams
Secretary for
Environmental Protection

California Regional Water Quality Control Board

San Diego Region

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http:// www.waterboards.ca.gov/sandiego

April 19, 2007

In reply refer to:
NCRU:01-0783:jcofran

Mr. Dave Seymour
Santa Margarita Water District
P.O. Box 2279
Mission Viejo, CA 92690-0279

CERTIFIED MAIL
Registration Number
7006 3450 0003 7392 6902

Dear Mr. Seymour:

INVESTIGATIVE ORDER NO. R9-2007-0069, DISCHARGE OF UNTREATED SEWAGE INTO SAN JUAN CREEK, SAN JUAN CAPISTRANO, SAN DIEGO

Enclosed is Investigative Order No. R9-2007-0069 (Order) of the California Regional Water Quality Control Board, San Diego Region (Regional Board) concerning the discharge of approximately 392,000 gallons of untreated sewage into San Juan Creek. The Order is issued pursuant to California Water Code (CWC) sections 13267 and directs Santa Margarita Water District to submit a technical report **by May 11, 2007** that provides information about the sanitary sewage discharge and its impact to San Juan Creek.

Please review the requirements contained within the Order and note that all technical reports submitted to the Regional Board must be accompanied by the certification, under penalty of law, that the information is true, accurate, and complete. Failure to meet the requirements may subject you to enforcement action by the Regional Board, including administrative civil liability pursuant to CWC sections 13268 and 13385.

The heading portion of this letter includes a Regional Board code number noted after "In reply refer to:" In order to assist us in the processing of your correspondence please include this code number in the heading or subject line portion of all correspondence and reports to the Regional Board pertaining to this matter. If you have any questions regarding this letter, please contact Mrs. Joann Cofrancesco at 858-637-5589 or jcofrancesco@waterboards.ca.gov.

Respectfully,

JOHN H. ROBERTUS
Executive Officer

JHR:rwm:jlc

Enclosure

cc: John Richards, Staff Counsel, Office of Chief Counsel (OCC), State Water Resources Control Board, 1001 "I" Street, 22nd Floor, Sacramento, CA 95814

Ms. Kathi Moore, Manager, Clean Water Act Compliance Office (WTR-7), Water Division, 75 Hawthorne Street, San Francisco, CA 94105

Mark Alpert, Senior EG, Compliance Assurance Unit, San Diego Water Board

Mr. Benjamin Frater, U.S. Fish and Wildlife Service, 6010 Hidden Valley Road Carlsbad, CA 92009

Mr. Brian Bernados, District Engineer, Department of Health Services, Southern California Drinking Water Field Operations Branch, 1350 Front Street, Room 2050, San Diego, CA 92101

Erinn Wilson, Environmental Scientist, Habitat Conservation, California Dept. of Fish and Game, 4665 Lampson Avenue, Suite C, Los Alamitos, CA 90720

Mr. Larry Honeybourne, Orange County Health Care Agency, Environmental Health, 1241 E. Dyer Road, Suite 120, Santa Ana, CA 92705

Judy Ann Gibson, Environmental Contaminants Biologist, Field Spill Coordinator, U.S. Fish & Wildlife Service, 6010 Hidden Valley Rd., Carlsbad, CA 92011

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

INVESTIGATIVE ORDER NO. R9-2007-0069
FOR
SANTA MARGARITA WATER DISTRICT
DISCHARGE OF UNTREATED SEWAGE
WITHIN IN THE CITY OF SAN JUAN CAPISTRANO
ORANGE COUNTY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board) finds that:

1. Santa Margarita Water District (hereinafter the Discharger) owns and operates a 16-inch force sewer main located northwest of the intersection of Ortega Highway (public road) and Ortega Highway (private road, entrance to Rancho Mission Viejo) in the City of San Juan Capistrano, California. The Discharger's sanitary sewer system is regulated by State Board WDRs Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*. Order No. 2006-0003-DWQ prohibits the discharge of untreated or partially treated wastewater to waters of the United States, or that creates a nuisance as defined in California Water Code Section 13050 (m).

2. On April 5, 2007 and continuing through April 8, 2007, approximately 392,000 gallons of untreated sewage from the 16-inch force sewer main was discharged into the San Juan Creek in violation of Order No. 2006-0003-DWQ.

3. Pursuant to California Water Code Sections 13267, this Regional Board may investigate the quality of waters of the state by requiring dischargers to submit technical or monitoring reports.

4. Due to the Discharger's violation of Order No. 2006-0003-DWQ, submittal of technical information is necessary to determine the nature, circumstances, extent and gravity of the illicit discharge of sewage to the San Juan Creek.

5. The costs associated with providing the information, including sampling, analysis, and reporting is reasonable for assessing the circumstances of an illicit discharge of sewage of the magnitude of this incident to waters of the U.S.

6. This action is for information gathering purposes and, as such, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 2100 Et seq.) in accordance with Section 15306, Chapter 3, Title 14, California Administration Code.

IT IS HEREBY ORDERED, that pursuant to section 13267 of the California Water Code, the Discharger shall conduct a technical investigation, and prepare and submit the following technical report to the Regional Board:

The technical report shall contain, but is not limited to, the following information, and shall be submitted **no later than May 11, 2007**.

Cause and Circumstances of the Discharge

1. A complete, detailed explanation of how and when the overflow from the sewer main was discovered, including the tabular and graphical summaries of the daily total influent flows to the Chiquita Wastewater Reclamation Plant and flow data from the Ortega Lift Station from April 5, 2007 through April 8, 2007.

2. A detailed chronological description of all actions taken by the Discharger to terminate the discharge, repair the force sewer main, and mitigate its impacts. Please include an evaluation of the results of these actions.

3. A detailed report of the total volume discharged, including the assumptions and methods used in making the determination.

Pollution Prevention Measures

4. Identification of the design and construction standards and specifications that were applied for the installation of the 16-inch force sewer main.

5. Identification of the procedures and standards for inspecting and testing the installation of the 16-inch force sewer main.

6. Copy of the Operation and Maintenance Program and Overflow Emergency Response Plan prepared in accordance with Order No. 2006-003-DWQ. Please describe how the Operation and Maintenance Program and Overflow Emergency Response Plan was implemented before and during the overflow from the sewer main. As a result of the overflow, please describe any changes, if any, that will be made in the Operation and Maintenance Program and Overflow Emergency Response Plan.

Nature and Impact of the Discharge

7. Any water quality monitoring data for the following areas: in receiving water both upstream and downstream from where the discharged water merges with the San Juan Creek.

8. An assessment of the impacts on arroyo toad, other species, and the overall ecosystem in the San Juan Creek, and any short and long term effects resulting from the discharge including, but not limited to, impacts on public health and the environment. Please provide supporting rationale for any conclusions, discuss what steps were taken, or will be taken, to mitigate these impacts.

9. Any other pertinent information that will assist in evaluation of the nature, circumstances, extent, and gravity of the discharges.

All information provided to the Regional Board shall include the following signed certification:

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

JOHN H. ROBERTUS
Executive Officer

4/18/07
Date

JHR:rwm:jlc

Santa Margarita Water District

May 31, 2007

Mr. John Robertus, Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

Reference: NCRU:01-0783:jconfran

Response to Investigative Order No. R9-2007-0069

Dear Mr. Robertus:

We have received and reviewed your Investigative Order No. R9-2007-0069 regarding the sewage spill that occurred adjacent to San Juan Creek on April 5 through April 8, 2007. We have completed the Technical Report as requested and are forwarding it herewith for your use. If you have any questions please do not hesitate to call or email me at (949) 459-6540 or daves@smwd.com.

Sincerely,

Dave Seymour
Director of Operations

DS/mlw

Enclosures: Technical Report

c: Joann Cofrancesco – Regional Board Staff

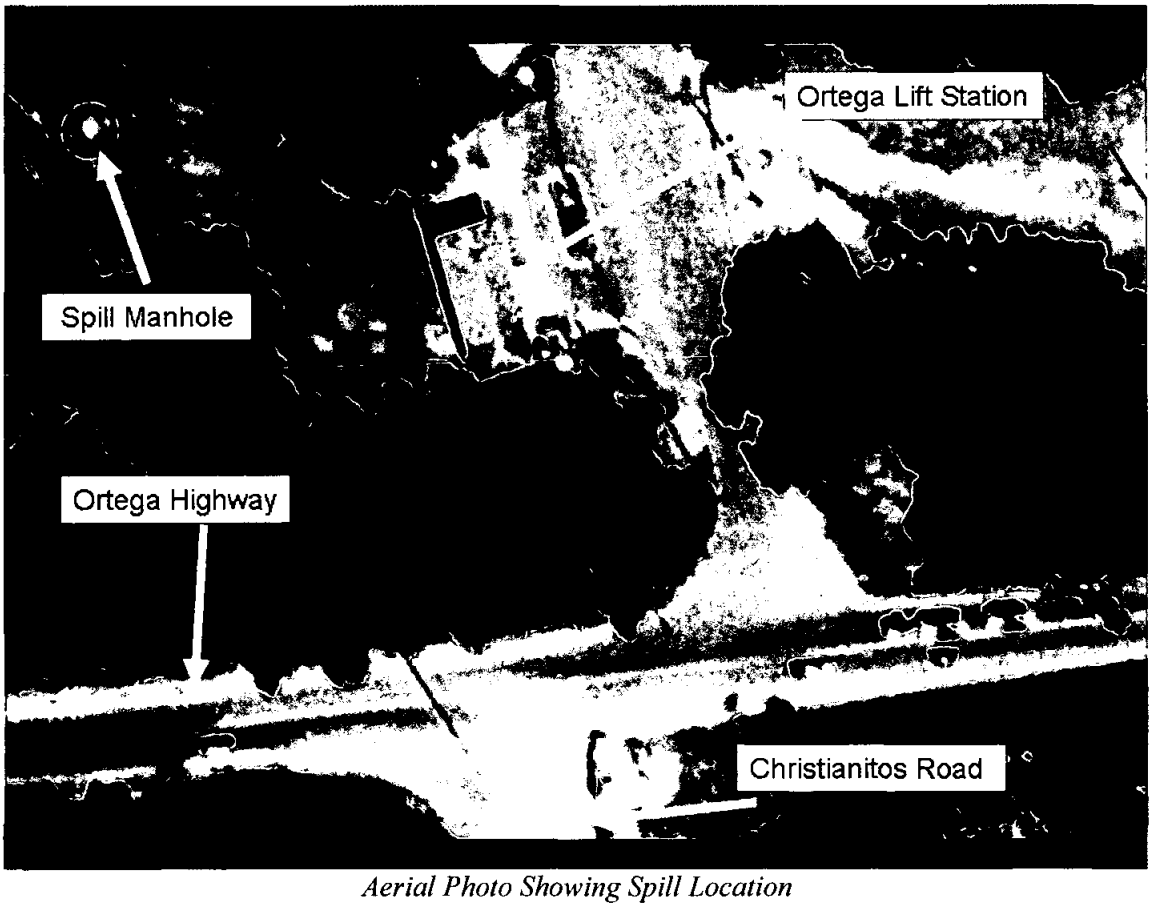
Santa Margarita Water District
Technical Report
Ortega Force Main and Sewer Spill
April 5 through April 8, 2007

Regional Board Reference: NCRU:01-0783:jcofran

Cause and Circumstance of the Discharge

1. A complete, detailed explanation of how and the when overflow from the sewer main was discovered, including tabular and graphical summaries of the daily total influent flows to the Chiquita Wastewater Reclamation Plant and flow data from the Ortega Lift Station from April 5, 2007 through April 8, 2007.

On Sunday, April 8th at approximately 3:00 p.m., a District Inspector received a phone call from an employee of Rancho Mission Viejo advising him that there was sewage bubbling up from a manhole located in a field on Ranch property. As our Inspector was driving to investigate the report he placed a call to one of the District's Superintendents and a standby operator; both of them also went out to investigate the report. Upon arrival at approximately 3:30 p.m., the standby man found sewage bubbling up out of a manhole in a field behind the Ortega Lift Station. The sewage would flow when the pumps in the station started, and then would subside when the pumps shut off. After quickly determining the cause of the overflow to be a failure of the force main the standby man—now joined by a Superintendent—shut off the station and switched from the sixteen-inch force main to a smaller ten-inch force main at approximately 4:00 p.m. and stopped the overflow. Once the overflow ceased a review of the station pumping charts showed that the spill most likely began on April 5th at 5:30 p.m.



Aerial Photo Showing Spill Location

Reference: NCRU:01-0783:jconfran
Response to Investigative Order No. R9-2007-0069

The Flows to the Chiquita Plant and Ortega Lift Station for the period requested is as follows:

Date	Chiquita Influent Flow	Ortega Lift Station Flow
April 5, 2007	6.64 Million Gallons	.268 Million Gallons
April 6, 2007	5.71 Million Gallons	.269 Million Gallons
April 7, 2007	6.71 Million Gallons	.270 Million Gallons
April 8, 2007	6.02 Million Gallons	.270 Million Gallons

Graphical flow charts for both facilities are attached for your review.

2. A detailed chronological description of all actions taken by the Discharger to terminate the discharge, repair the force sewer main, and mitigate its impacts. Please include an evaluation of these impacts.

District personnel arrived on site at approximately 3:30 p.m. and immediately began to investigate the cause of the overflow. Within a matter of a few minutes they determined the force main had ruptured and began to open valves to place the smaller ten-inch force main in place. That task was completed and the ruptured force main was isolated at about 4:00 p.m., effectively stopping the overflow. Concurrently with their attempts to determine the reason for the overflow, the on-site supervisor called in three Vactor trucks to come and try and contain the spilled sewage; by the time the Vactor trucks arrived on site the spill had already stopped and the sewage had either soaked into the ground or flowed into the adjacent creek.

District crews worked through the night to install emergency pumps to evacuate the remaining sewage from the damaged force main and return it to the lift station wet well. Concurrently with the pump installation crews cleaned up debris that had spilled from the dirt around the manhole. The following morning the pipeline was empty and the District hired a contractor to repair the force main. The repair consisted of making a confined space entry to remove a plastic blind flange that had ruptured (the cause of the spill) and replace it with a steel blind flange. In addition, the District hired a contractor specializing in working in sensitive environmental habitat areas to clean up the area of the spill from the discharge manhole to San Juan Creek. The contractor's employees raked the entire area to remove any debris, bagged it, and then took the bags to the Chiquita Plant for proper disposal. This effort was very effective in removing any visible debris from the area.

Reference: NCRU:01-0783:jconfran
Response to Investigative Order No. R9-2007-0069

Contractor Cleaning Site

3. A detailed report of the total volume discharged, including the assumptions and methods used in making the determination.

On the evening of the spill we estimated the volume spilled to be approximately 250,000 gallons over the three days the spill had occurred based on visual observation and estimated pumping times; that volume was reported to the County Health Care Agency with the caveat that we would evaluate the flow data from the Chiquita Plant on Monday and revise the estimate if necessary.

On Monday morning the plant foreman reported the flows for the period beginning on April 1 through April 5 had averaged 6.28 million gallons per day (MGD), and the period during the spill, April 6, 7 and 8, averaged 6.15 MGD—a difference of .13 MGD. A flow rate of .13 MGD over three days equates to 400,000 gallons, or 5,556 gallons per hour. The spill duration was actually slightly less than three days—70.5 hours—which calculated out to an estimated spill volume of just under 392,000 gallons. Staff called the health department and revised the spill volume accordingly.

Pollution Prevention Measures

4. Identification of the design and construction standards and specifications that were applied for the installation of the 16-inch force sewer main.

The 16-inch force main was constructed in 1991 by a contractor hired by the District. The design and construction standards used were the *Santa Margarita Standard Special Provisions and Standard Drawings for Water and Sewer Construction—1987*, and the *Standard Specifications for Public Works Construction—1988 edition.*

The force main material in the area of the spill is ductile-iron pipe. The flange that failed was on a cleanout that was designed as a maintenance access point. The 16-inch flange was made of approximately ½" thick poly-vinyl chloride (PVC) material, as per the plan specifications. The PVC flange had been used to prevent corrosion—staff replaced it with a steel flange that was coated to minimize corrosion, and used a rubber gasket to further minimize the potential for corrosion. There was no evidence of a pressure surge or anything else to indicate why the PVC flanged cracked.

5. Identification of the procedures and standards for inspecting and testing the installation of the 16-inch force main.

The force main was pressure tested in accordance with the *Santa Margarita Standard Special Provisions and Standard Drawings for Water and Sewer Construction—1987* that were in place at the time of construction. Those specifications call for the pressure testing of pressure sewer mains at 120 percent of their maximum working pressure.

6. Copy of the Operations and Maintenance Program and Overflow Emergency Response Plan prepared in accordance with Order No. 2006-003-DWQ. Please describe how the Operations and Maintenance Program and Overflow Emergency Response Plan was implemented before and during the overflow from the sewer main. As a result of the overflow, please describe any changes, if any, that will be made in the Operation and Maintenance Program and Overflow Emergency Response Plan.

A copy of our *Sewer System Management Plan* (SSMP) is attached.

Prior to receiving notification of the spill, staff followed the procedures contained within the plan by:

- Maintaining the lift station in proper working order
- Understanding the goals and procedures contained within the SSMP
- Trained for response to spill events

Once the spill was reported, responding staff followed the procedures contained within the plan by:

- Immediately notified supervisory staff
- Immediately assessed the spill classification and available resources
- Immediately began implementing measures to stop the spill
- Immediately initiated spill containment and control measures (by calling for Vactor trucks and work crews)
- Stopped pumping at the lift station until the force main could be diverted
- Diverted flow in the force main by diverting flow to an alternate force main
- Initiated clean up efforts to remove debris in the overflow location

As a result of following the procedures contained within the SSMP, staff quickly ended the spill and was able to return the lift station and force main to service. The SSMP adequately

addressed the preparation and sewer spill response; accordingly, no changes are required to update the plan. However; as a result of reviewing the events that lead up to the spill, staff determined that additional alarm set points could be added to the Supervisory Control and Data Acquisition (SCADA) system that would have alerted staff to a problem at the station at the time the break occurred. Accordingly, staff added set points to SCADA that will notify staff when a pump is pumping in excess of its rated capacity. This change will not prevent an overflow from occurring, but will provide much earlier notification and allow a quicker response.

Nature and Impact of the Discharge

7. Any water quality monitoring data for the following areas: in receiving water both upstream and downstream where the discharged water merges with San Juan Creek.

A spreadsheet showing water quality sampling in the area of the spill as well as above and below the spill site is attached. There was no contiguous flow from above stream; the area of the spill had been dry prior to the spill. We did take two samples from a rock quarry area about 4,000 feet upstream, but there was no contiguous flow from that location to the site where the spill entered the creek. Likewise, downstream of the overflow the flow in the creek disappeared underground. Side stream flows and the confluences of Gubernadora and Chiquita Creeks introduced water back into San Juan Creek, but it does not appear that the sewage spill had any impact on the flow downstream since the Enterococcus and E. Coli levels measured in San Juan Creek near the Chiquita Well site were actually lower than those in Chiquita Creek at the Arizona Crossing (Chiquita Creek was not impacted by the spill). The fluctuations in Enterococcus and E. Coli levels in San Juan Creek downstream of the spill mimicked those of Chiquita Creek, leading us to believe they were naturally occurring and not related to the spill[1].

The area directly impacted by the spill had high levels of Enterococcus and E. Coli that dissipated to background levels within about two weeks. At the recommendation of the County Health Care Agency District staff contacted Erin Wilson and John O'Brien with the California Department of Fish and Game to inquire about the possibility of trying to recover some of the spilled sewage. The area in question does not have vehicle access to the creek, so moving equipment on to the site would have required disturbing critical environmentally sensitive habitat. We discussed several possibilities including adding fresh water to the creek upstream of the spill and pumping it out downstream to flush out the sewage, and building a small road down to the spill site to pump out any standing sewage. According to Mr. O'Brien the area west of the Antonio Parkway crossing is the most critical habitat area. If we were to try and move the sewage downstream to a point where it could be recovered we would risk significant negative impact to this most critical area.

After evaluating the available options and weighing the likelihood of destroying habitat and Arroyo Toad tadpoles and considering the fact that testing was indicating the spill had not impacted downstream waters, we decided the best course was to allow the sewage to dissipate naturally.

8. An assessment of the impacts on Arroyo Toad, other species, and the overall ecosystem in the San Juan Creek, and any short and long term effects resulting from the discharge including, but not limited to, impacts on public health and the environment. Please provide supporting rationale for any conclusions, discuss what steps were taken, or will be taken, to mitigate these impacts.

[1] The entire area in question is occupied by grazing cattle which would account for the Enterococcus and E. Coli readings in the unaffected areas.

Reference: NCRU:01-0783:jconfran
Response to Investigative Order No. R9-2007-0069

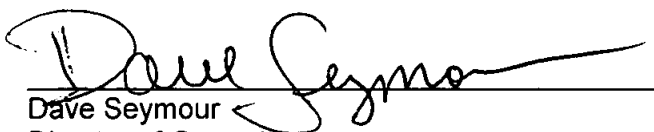
This spill did not appear to have any negative short or long-term impacts on Arroyo Toads or other species since the affected area was relatively localized. Staff inspected the site over a two week period and did not observe any impacted wildlife.

In regards to public health, as mentioned in our response to number 7 (above) sampling and analysis indicate that the spill did not reach the area where San Juan Creek passes Antonio Parkway. As such, the spill did not reach areas of public access and the entire spill site was contained within private property. Accordingly, there was no short or long-term impact to public health.

9. Any other pertinent information that will assist in evaluation of the nature, circumstances, extent, and gravity of the Discharges.

The San Juan Creek bed in the vicinity of the spill was dry prior to the spill and returned to its dry state within a few weeks of the spill. There is no evidence of impact to the environment, and it appears that the area of the spill was contained within the creek bed a few hundred yards down stream.

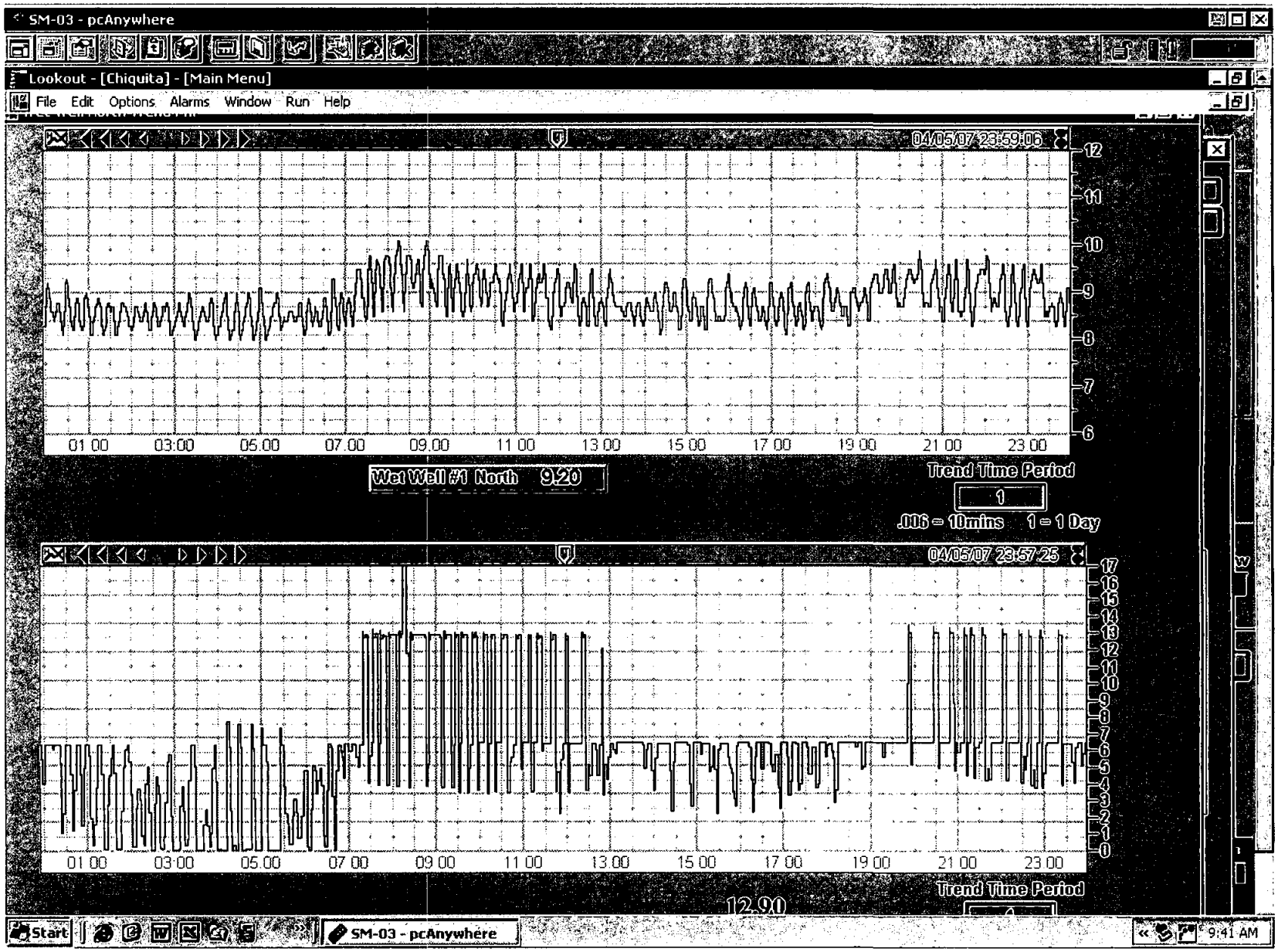
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage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



May 31, 2007

Dave Seymour
Director of Operations

Attachments: Influent Flow Charts for the Chiquita WRP for April 5 through April 8
Flow Chart for Ortega Lift Station for the Week of April 5 through April12
Bacteriological Tests for Creek Samples
Santa Margarita Water District Sewer System Management Plan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12
11
10
9
8
7
6
01 00 03:00 05.00 07.00 09.00 11 00 13 00 15 00 17 00 19 00 21 00 23 00
Wet Well #1 North 9.20
Trend Time Period
1
.006 = 10mins 1 = 1 Day
04/05/07 23:57:25
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
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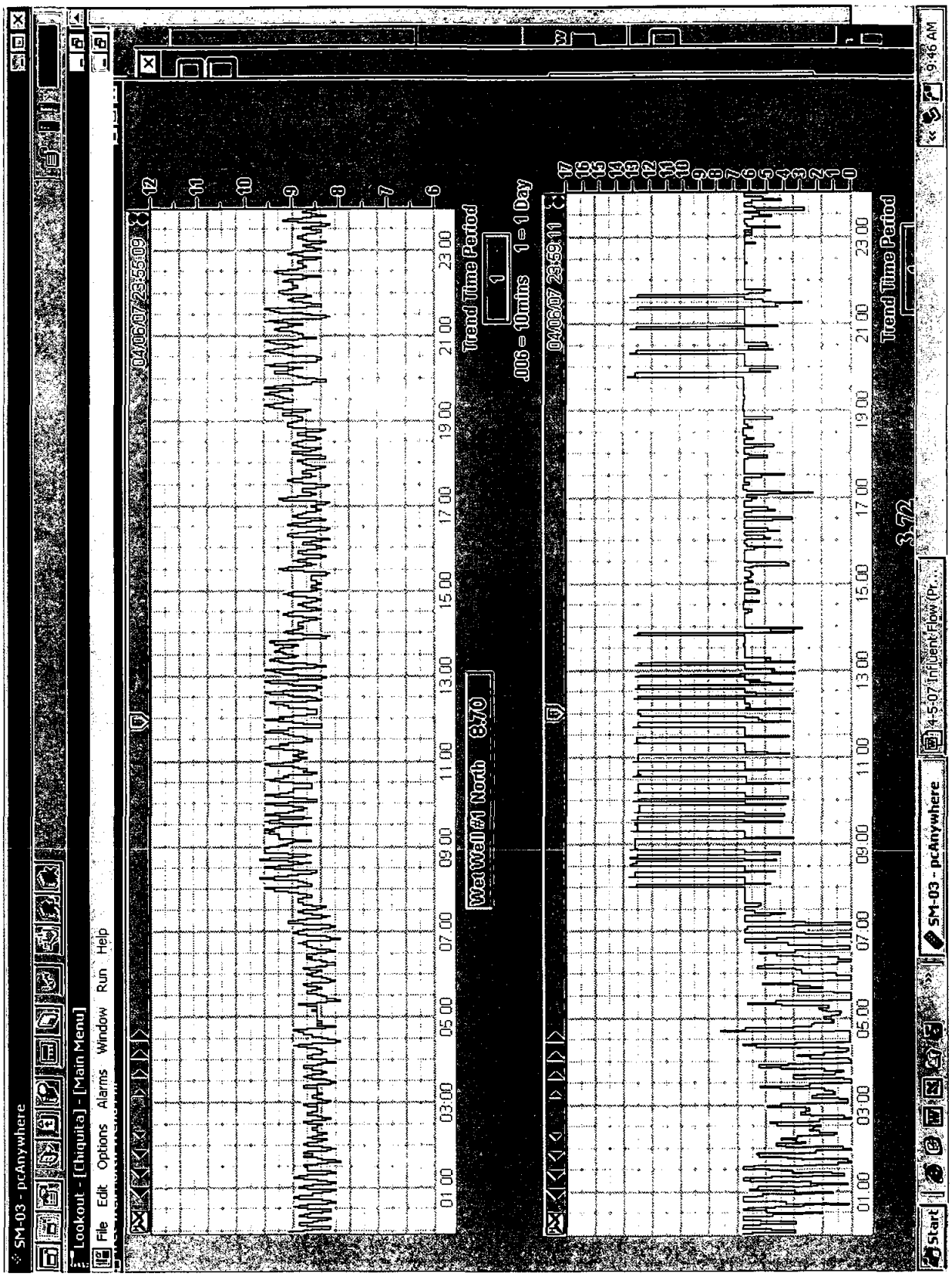
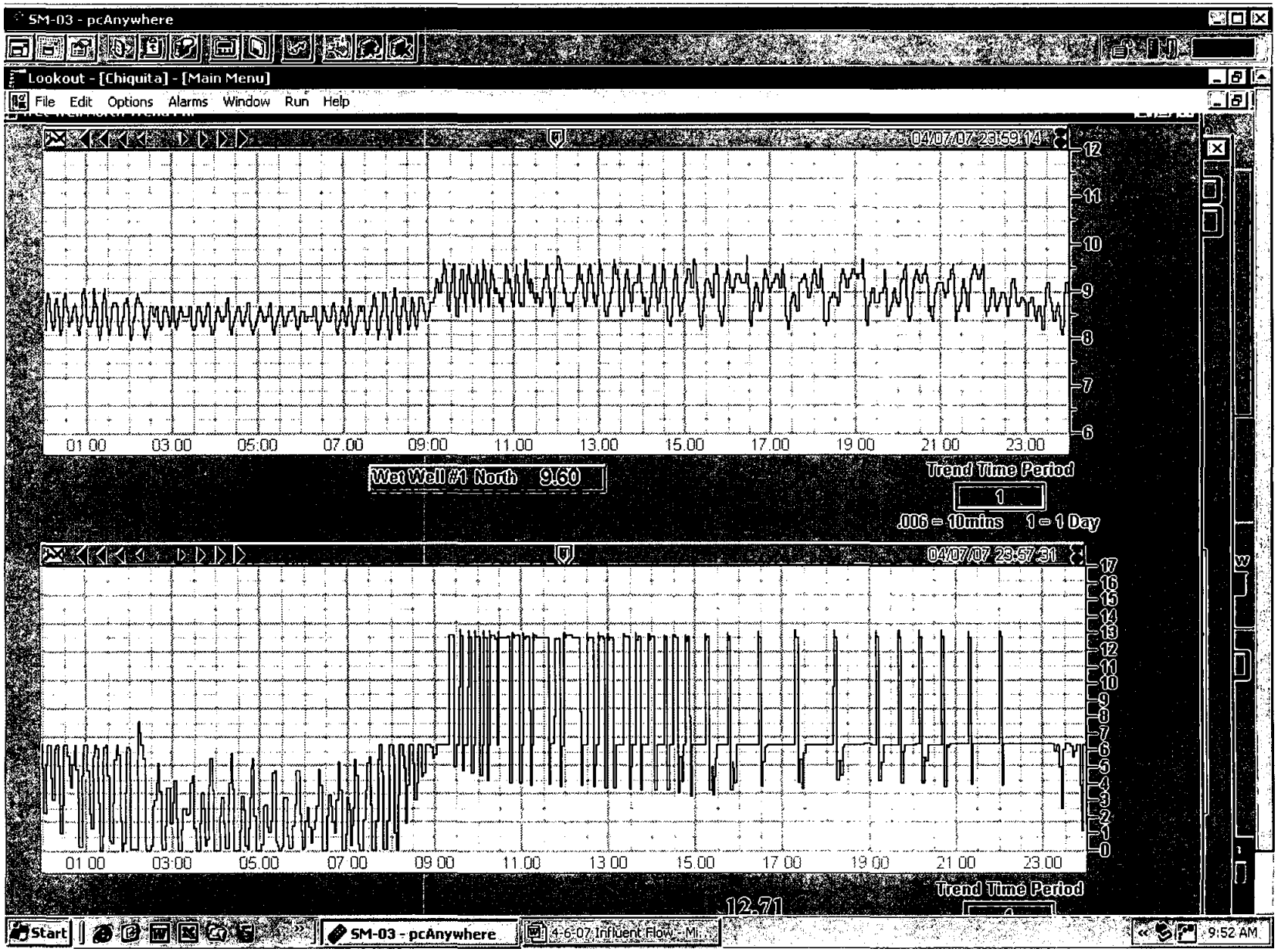
Reference: NCRU:01-0783:jconfran
Response to Investigative Order No. R9-2007-0069

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Trend Time Period
1
.006 = 10mins 1 = 1 Day
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01:00 03:00 05:00 07:00 09:00 11:00 13:00 15:00 17:00 19:00 21:00 23:00
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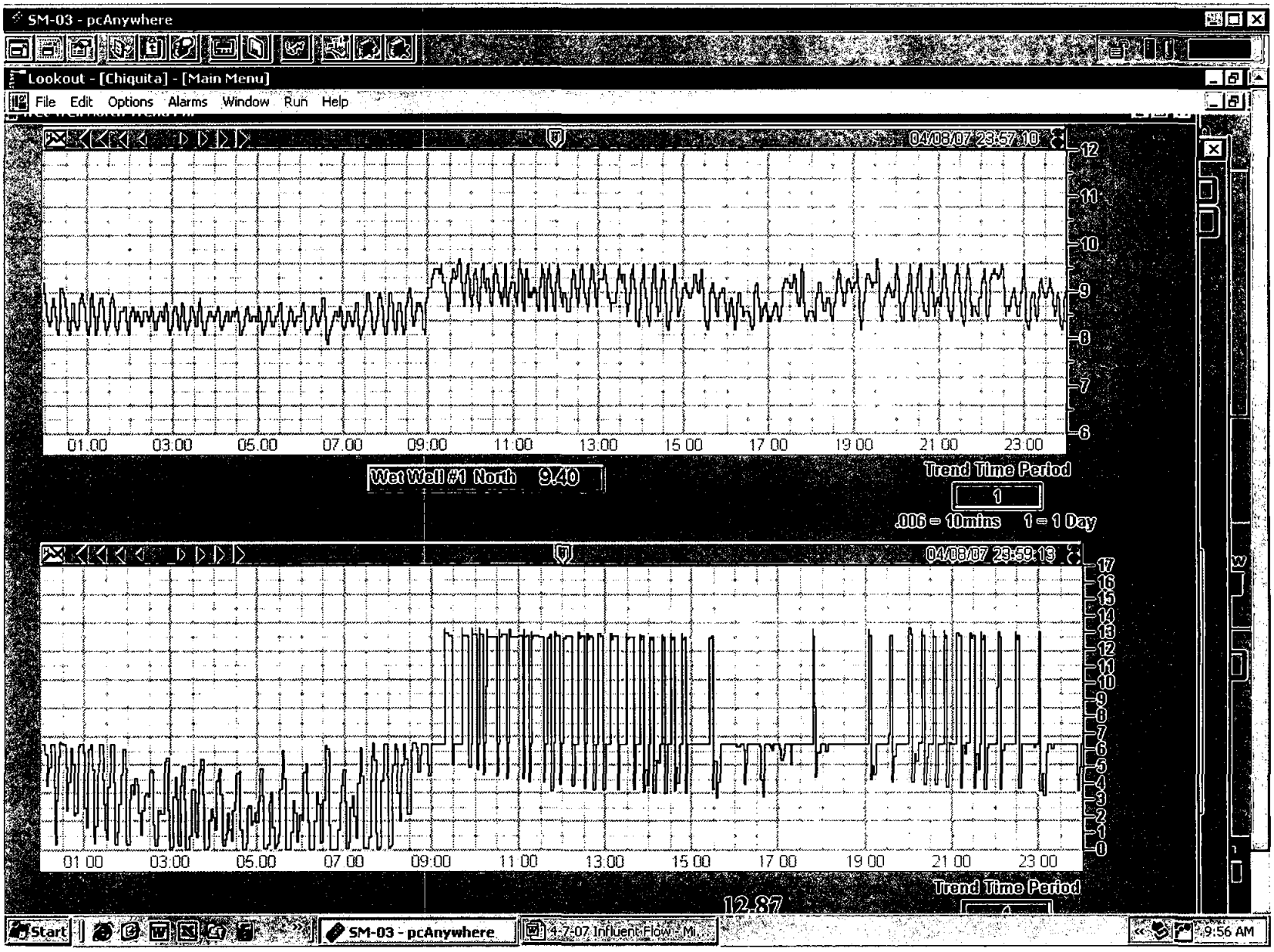

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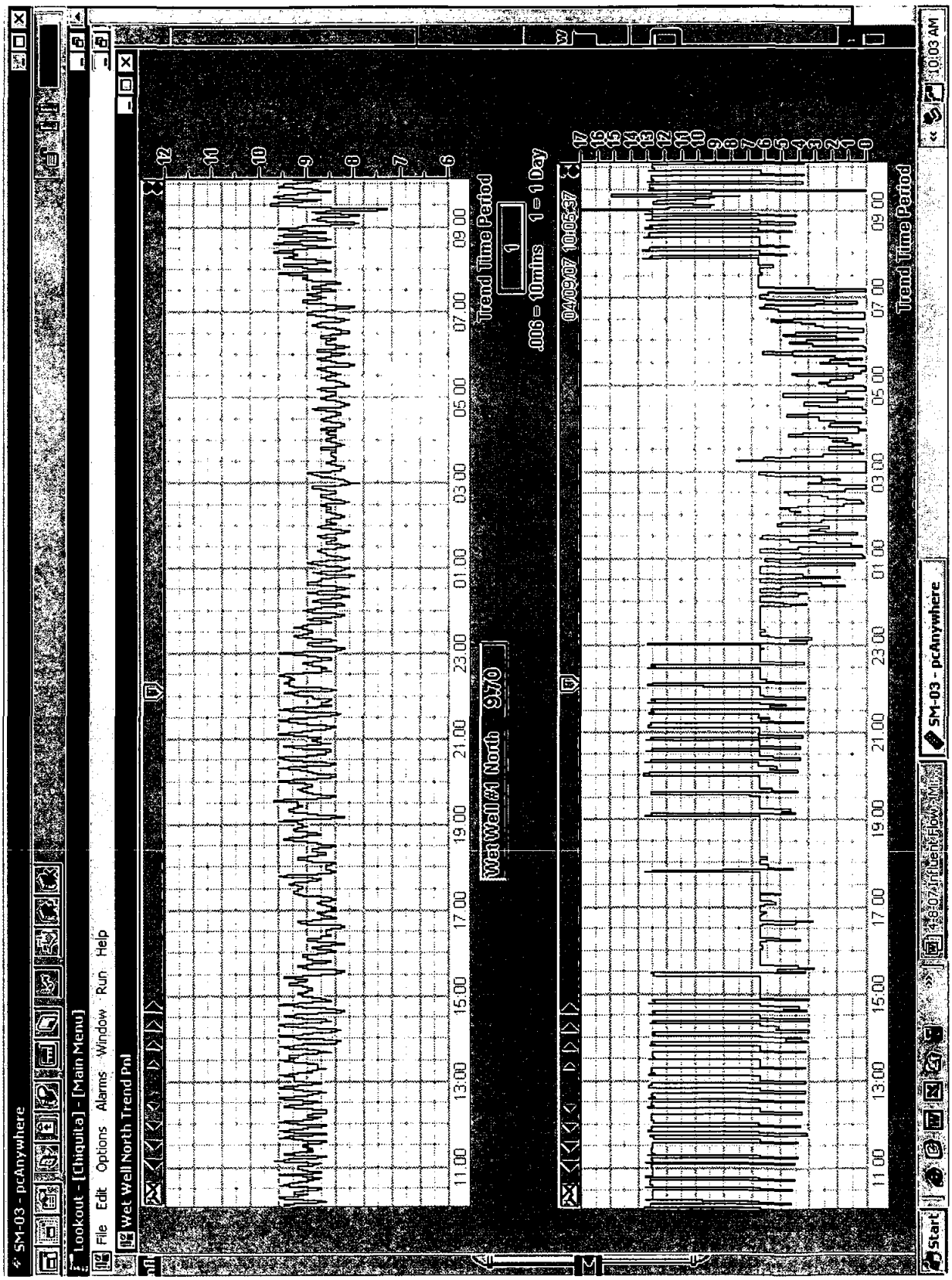
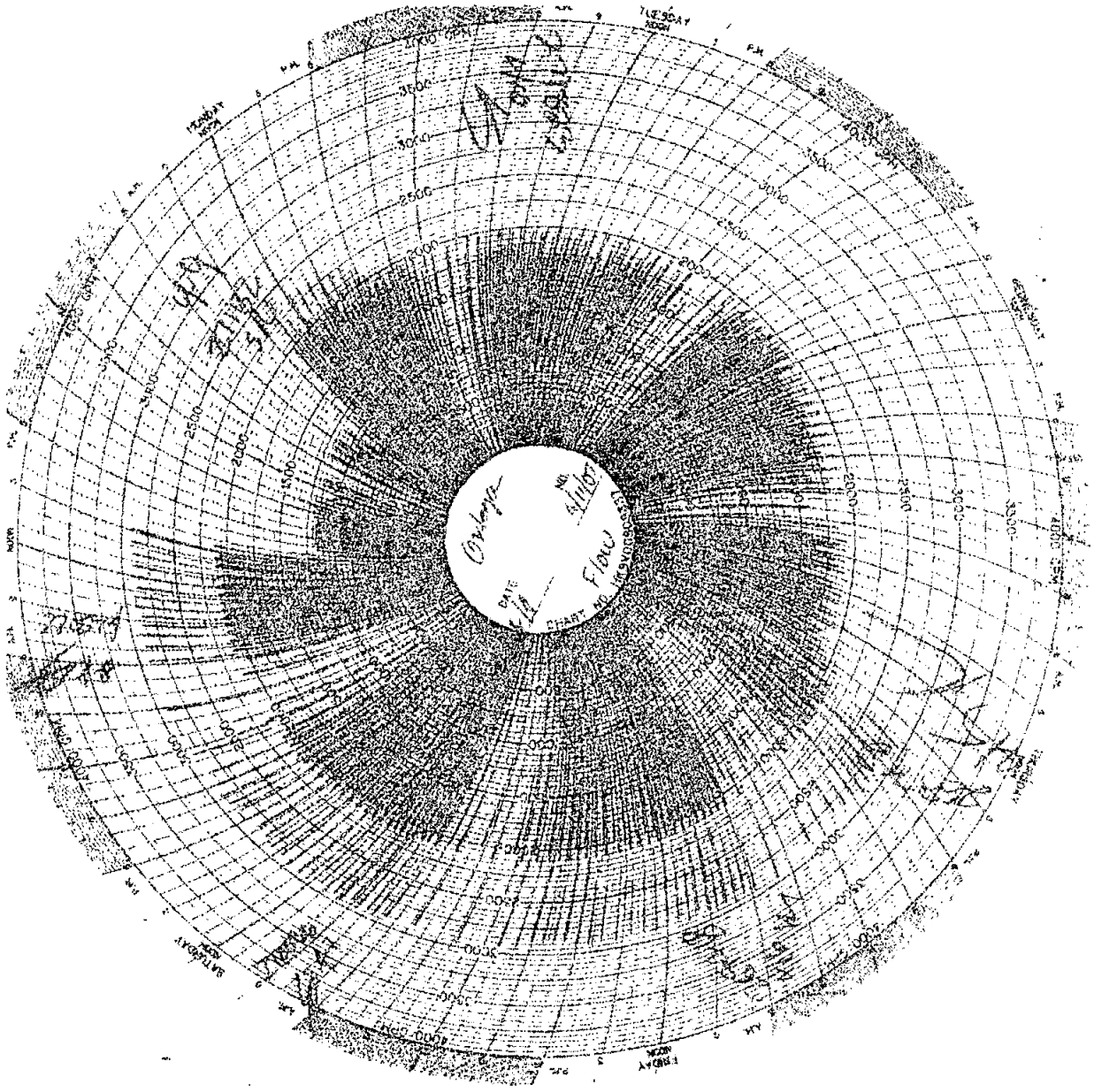
Response to Investigative Order No. R9-2007-0069





Reference: NCRU:01-0783:jconfran
Response to Investigative Order No. R9-2007-0069

SANTA MARGARITA WATER DISTRICT

BACTERIOLOGICAL TEST FOR CREEK SAMPLES

		SAMPLING POINT	COORDINATES North	West	DO mg/L	TOTAL COLIF mpn	E. COLI mpn	ENTERO-COCCUS mpn
		San Juan Creek						
		1st Puddle after LS	N 33°30.904'	W117°34.981'				
		4/11/2007			2.0	98,040	2,850	4,140
		4/12/2007			2.7	98,040	1,850	2,620
		4/13/2007			3.6	32,550	1,220	1,700
		4/16/2007			3.6	27,550	520	687
		4/17/2007			4.0	29,090	326	328
		4/19/2007			na	34,480	310	1,120
		4/24/2007			4.8	19,560	520	1,300
		4/26/2007			4.8	8,820	86	727
		Quarry	N 33°30.950'	W117°34.200'				
		4/11/2007			2.7	1,986	1.0	39
		4/12/2007			3.5	1,986	1.0	93
		Chiquita Well	N 33°31.646'	W117°36.510'				
		4/11/2007			13.0	1,414	62	81
		4/12/2007			13.0	1,203	47	27
		4/13/2007			9.0	152	57	74
		4/16/2007			10.0	1,733	74	71
		4/17/2007			7.8	1,553	52	57
		4/19/2007			na	>2420	365	172
		4/24/2007			10.8	1986	68	105
		4/26/2007			11.0	>2420	150	261
		Arizona Crossing	N 33°32.114'	W117°36.645'				
		4/11/2007			9.5	1986	86	248
		4/12/2007			9.5	1986	88	71
		4/13/2007			9.8	2420	86	82
		4/16/2007			9.4	>2420	165	517
		4/17/2007			8.4	2420	81	461
		4/19/2007			na	1986	461	96
		4/24/2007			9.8	1733	111	178
		4/26/2007			8.6	1986	70	248

SANTA MARGARITA WATER DISTRICT

SEWER SYSTEM MANAGEMENT PLAN

SANITARY SEWER OVERFLOW PREVENTION PLAN (SSOPP)

SANITARY SEWER OVERFLOWRESPONSE PLAN (SSORP)

September 2006

SSMP
September 2006

Introduction

These collective plans (hereinafter, PLAN) establish the procedures by which SMWD personnel shall operate and maintain their sewage collection facilities and respond to any type of sanitary sewage overflow (SSO). District staff shall maintain this PLAN, and amend or update it as necessitated by the addition of new facilities, or changes in operation or maintenance of the sewer system that may materially affect the potential for an SSO. District staff shall review this PLAN after any SSO and amend it as deemed appropriate. Staff shall ensure that this PLAN is readily available to sewer system maintenance personnel, and that said personnel are familiar with the PLAN and comply with it at all times.

The SSMP is in compliance with the State Water Resources Control Board Order 2006-003-DWQ; the SSORP and SSOPP are in compliance with California Regional Water Quality Board, San Diego Region, Order 96-04.

Objectives

The District's Board of Directors is committed to providing the resources necessary to implement this PLAN. The primary objective is to delineate the responsibilities of individuals, and identify proper maintenance and operation activities, notification procedures, field activities, spill monitoring, record keeping and training necessary for compliance with the State and Regional Board orders.

District Collection System Organization

1. The name of the person responsible for implementation of this PLAN is:
   a. Dave Seymour, Director of Operations
2. The names and telephone numbers for management, administrative and maintenance positions responsible for implementing specific measures in this PLAN are:
   a. Dave Seymour, Director of Operations (949) 459-6540
   b. Steve Francis, Operations Superintendent (949) 459-6539
   c. Gerre Bedell, Operations Superintendent (949) 459-6541
   d. Merry Wilson, Administrative Analyst (949) 459-6558
3. The Chain of communications for all SSO reporting is as follows:
   a. All field personnel who are notified of or observe a SSO must immediately notify an Operations Superintendent or the Director of Operations. It is the responsibility of the Operations Superintendents and/or the Director of Operations to assure that proper notification and reporting forms as outlined in this PLAN are completed, including any necessary follow-up report.
   b. The Administrative Analyst will be responsible to submit all SSO notification and reporting forms to the appropriate regulatory agencies.

Legal Authority

1. The Santa Margarita Water District possesses the legal authority to:

a. Prevent illicit discharges into its sanitary sewer system

   i. *Santa Margarita Water District Rules and Regulations for Sewer and Water Service*

   ii. Santa Margarita Water District Industrial Waste Discharge Permit

b. Require that sewers and connections be properly designed and constructed

   i. *Santa Margarita Water District Design Criteria and Standard Drawings for Water and Sewer Facilities*

   ii. *Santa Margarita Water District Rules and Regulations for Sewer and Water Service*

c. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District

   i. *Santa Margarita Water District Rules and Regulations for Sewer and Water Service*

d. Limit the discharge of fats, oils and grease, and other debris that may cause blockages

   i. *Santa Margarita Water District Rules and Regulations for Sewer and Water Service*

   ii. Santa Margarita Water District Industrial Waste Discharge Permit

e. Enforce any violation of its sewer ordinance

   i. *Santa Margarita Water District Rules and Regulations for Sewer and Water Service*

2. Each of the aforementioned documents are available for review upon request, and by reference are incorporated into this PLAN.

Operation and Maintenance Program

System Mapping

The District maintains a comprehensive atlas map for the sewer collection system and appurtenant facilities, commonly referred to as *grid maps*. These maps are updated as necessary (usually biennially) and are bound into a single volume. The grid maps show all gravity lines and force mains, manholes, sewage pump stations, valves and air relief lines. Typically, each field vehicle is assigned a set of grid maps.

In addition to the grid maps the District maintains a collection of as-built drawings for its entire sewage conveyance system.

Routine Preventive Maintenance

Lift Stations

General—The District's sewer collection system is continuously monitored by a Supervisory Control and Data Acquisition System (SCADA). This SCADA system tracks pump operation, wetwell levels, alarms, and other critical operational parameters. As such our sewer facilities are capable of unmanned operation. If SCADA detects an unusual condition or fault in operation, an alarm is automatically sent to system operators so corrective action can be taken.

Lift stations are visited for a visual inspection at least once a week. During that inspection, staff should complete the following tasks:

1. Check operation of atmospheric gas detector. Report any malfunctions to your foreman.
2. Clean influent bar rack if station is so equipped.
3. Housekeeping as required keeping stations neat, clean, and safe. Pick up any rubbish, litter, etc. in or around station. If excessive cleaning is necessary (as in the case of graffiti or dumping of rubbish) notify your foreman immediately.
4. Stop, look and listen. Check all machinery, piping, fittings, and equipment for loose hardware, excessive vibration, leaks, clogged drains, etc.
5. Check chemical feed for stations so equipped.
6. Maintain all packing glands at proper adjustment for a slight weep. Adjust those with excessive weep; report those requiring more than three or four turns of adjusting nuts. Take extra care to avoid bending glands or breaking packing bolts.
7. Check all packing lubrication lines and grease cups for proper operation.
8. Check all bearings for excessive heat and/or vibration while the equipment is running. Report questionable bearings to your foreman.
9. Check all motors (if running) for excessive heat and noise while in operation. Report questionable findings to your foreman.
10. Check the operation of all-recording devices and charts.
11. Check the operation of all sump pumps for stations so equipped.
12. Check diesel fuel level at all stations equipped with generators.
13. Check the operation of air compressors, and compressor oil level at all stations so equipped. Drain compressor receiver tanks.

14. Check all vent fans for proper operation.
15. Check surge tanks for proper operation, water level, and/or leaks.
16. Make correct and concise log entries if any changes or maintenance occurred.

Once each month each lift station should be checked for:

1. Test station alarms - verify operation with SCADA.
2. Hose down station wet well to prevent grease build up (if necessary).
3. Exercise all station suction and discharge valves through full range of motion.
4. Clean wetwells, Vactor accumulated grit and debris if needed.

Spare Parts Inventory—The District's mechanical staff shall keep in inventory, sufficient parts and materials to completely rebuild or repair one pump rotating unit for each sewage pump station. In addition, electrical staff shall keep on hand critical repair and replacement electrical components for the pump controllers.

Sewer Mains

General—All District sewer mains shall be cleaned biennially (every other year) utilizing high-pressure water jetting equipment. Where it has been determined that large deposits of debris, root growth, grease and/or other material which would require more than routine jetting, then heavy equipment will be used to facilitate cleaning and removal of such deposits, such as root cutters, or high-pressure/high volume jetting equipment shall be used in heavy duty line cleaning. Collection system personnel shall maintain a log (work order) of all mainline maintenance. The cleaning information will be entered into the District's computerized maintenance database for easy retrieval.

Trouble spots—Areas where visual or video inspections indicate repeated or unusual accumulation of grease, grit or other debris or in areas with a past history of sewage blockages are considered trouble spots. Trouble spots shall be cleaned as frequently as necessary to prevent sewer line blockages and spills; however; in no case shall the interval be greater than once every year. Trouble spots are entered into the computerized maintenance database and a work order shall automatically be generated to notify staff of the need to perform maintenance activity.

When a Trouble spot is identified it shall be video inspected to determine if the cause is due to damage, root intrusion, breakage or separation, etc., and corrective repair and/or replacement action should be initiated if practical.

Sand traps—Sand traps shall be placed in the down stream section of any receiving manhole in all areas under construction, or in areas being serviced which have not yet been accepted by the District. The District Inspector shall be responsible to check the sand trap as necessary to prevent clogging. The sand traps will be removed when the tract or building is released for occupancy.

Lateral Connections

General—Typically, the District's responsibility for sewer line maintenance is limited to the main line in the street. The customer is responsible for the cleaning obstructions (including, but not limited to grease, grit, roots, rags, and other debris) of the lateral connection all the way to the District's main line.

The District is responsible for any repairs to the lateral line from the main to the end of the public right-of-way; however, if the damage to the lateral is caused by roots originating from trees or other plants on the customer's property, then the customer will be backcharged for all costs associated with the repairs.

Capital Improvement Rehabilitation and Replacement Program

System Inspection

General—the District will use a sewer video camera and recording device to inspect the condition of its sewer system, with a goal of completing a system-wide inspection once every eight years. If the inspection reveals a defect in the pipe (sagging, cracks, root intrusion, separated pipes, etc.) staff will make a determination if repairs must be made immediately or if the rehabilitation can be deferred (in cases where there is a sewage leak or imminent threat of an SSO the defect will be corrected immediately).

Five-year Capital Improvement Plan (CIP)—Those repairs that can be safely deferred will be added to the five-year CIP, and shall be ranked in order of the potential for SSO. Each year the Board of Directors shall review and approve an updated five-year CIP and authorize staff to implement the necessary rehabilitation and/or replacement.

Design and Performance Provisions

Standards and Specifications—the District's *Design Criteria and Standard Drawings for Water and Sewer Facilities* contains the standards and specifications for all improvement projects within the SMWD, including sewer system and pump station design, construction and rehabilitation. For larger capital improvement projects a design engineer develops criteria specific to that particular task. The document also specifies inspection and testing criteria for all sewer facilities and equipment.

On-Site Supervisor

The Operations Field Superintendent or the Chief Wastewater Treatment Plant Operator is designated as the On-Site Supervisor for sewage spill events and has the immediate responsibility to protect people, property, and the environment from the effects of a sewage release. To meet these objectives in a rapid, efficient and organized manner, District personnel will respond to the directions given to them by the On-Site Supervisor regardless of their regular reporting assignments. The most senior plant operator or field employee (or Standby person in the event of an after-hour spill) will act as the On-Site Supervisor until the arrival of the Operations Field Superintendent, Chief Wastewater Treatment Plant Operator, or other management personnel.

The Duties of the On-Site Supervisor are as follows:

1. Assess spill information and establish spill control priorities.
2. Request assistance from other crews within the District and delegate responsibilities.
3. Mobilize field crews and equipment for spill abatement activities.
4. Perform initial assessment of the extent of on-site and off-site migration.
5. Identify the potential impacts to the public and environment.

6. Direct immediate spill control and containment measures at all on-site storm drains and off-site flood control facilities.
7. Establish ingress and egress routes to protect the public from contact.
8. Oversee all work and cleanup activities.
9. Provide situation assessments to the Operations Manager in a timely manner.

Operations Superintendent

1. Assume primary management and coordination of all emergency actions.
2. Notify all necessary agencies and provide immediate spill information.
3. Notify and coordinate outside contractors as necessary.
4. Coordinate field activities with the On-Site Supervisor.
5. Coordinate sample collections with the Water Quality Manager as necessary.
6. Document all spill and remediation activities.
7. Perform on-site field inspections.
8. Prepare monitoring reports for the Regional Board and health agencies.
9. Conduct an after-event assessment of this SSORP and make changes in policy and implementation as necessary.
10. Submit status reports on spill abatement activities to the General Manager and Board of Directors.
11. Provide information to the General Manager for press and public (as necessary).
12. Provide the Regional Board Executive Officer with required status reports.
13. In the absence of the Operations Manager, the Field Operations Supervisor or the Chief Wastewater Treatment Plant Operator will assume the aforementioned duties.

Water Quality Manager

The Water Quality Manager's responsibilities include:

1. Provide immediate analytical support as requested.
2. Assist in sample collection and handling.
3. Advise staff of the physical and chemical hazards of a spill.
4. Provide long-term water quality monitoring data on the impacted area or facility if required.

Chief Engineer

The Chief Engineer is instrumental in assuring that necessary engineering resources are available to the On-Site Supervisor. The Chief Engineer will assure that Engineering Department staff:

1. Provide as-built drawings of all facilities.

2. Assist in assessing damage to facilities.
3. Provide input for appropriate technical specifications and recommendations for emergency repairs.
4. Assist as requested in contract development, bid, and coordination of repairs and remediation efforts.

Finance Manager

If conditions warrant, the Operations Manager or the On-Site Supervisor may request assistance from the Finance and Accounting Division to aid in tracking costs associated with the clean-up, by-passing, or hauling of sewage; or with remedial measures taken to restore personal property or residences which may have been damaged as a result of a sewage overflow. If requested, the Finance Manager will assure that Finance and Accounting staff:

1. Issue a special *project code* for the event to track all costs associated with the spill.
2. Maintain all copies of invoices, time cards, contracts, and any other documentation, in a single file, which may be beneficial in attempting to obtain reimbursement from negligent parties, insurance carriers, the Office of Emergency Services (OES) or the Federal Emergency Management Agency (FEMA).
3. Contact the District's liability insurance carrier and coordinate all activities involving reimbursement to the District or third parties.
4. Initiate and coordinate reimbursement through the Office of Emergency Services and/or FEMA, if applicable.
5. Provide a final accounting of incurred cost related to the event.

Note: Since each sewage spill is unique, the personnel directing the spill response effort may modify the roles as required. It is imperative that any modifications to the roles are made with the involvement of the On-Site Supervisor and Operations Manager, and are understood by all responding staff.

Mandatory Notification Procedure

Internal Communication

When the District is notified of a possible sewage spill it is imperative that all information known about the spill is forwarded to the On-Site Supervisor as soon as possible. In order to facilitate the flow of communication throughout the District, it is essential that responding personnel be familiar with and understands the SSORP organizational structure.

The On-Site Supervisor or his designee will contact all necessary District personnel. An *Employee Phone List* is included in this plan **(Appendix B)** for use in contacting District personnel. This phone list contains all of the direct office phone (and voice mail), pager, mobile phone, cellular phone, and home phone numbers of key District personnel. Since these numbers change frequently, it is important that the most recent version of the list be kept in the Plan.

External Communication

Once essential District personnel have been contacted, the required regulatory agencies must be notified of the spill. The Operations Manager is responsible for verifying that these agencies have been

contacted either by calling them himself, or by delegating the task to someone else. A list of necessary regulatory contacts and phone numbers is included **(Appendix C).** The Operations Manager will assure that remedial actions recommended or mandated by regulatory agencies are implement.

Field Activities

Introduction

This section of the SSORP describes measures intended to assist in controlling or limiting the volume of sewage discharge, and details the steps to respond to a spill. The guidelines and procedures outlined in this plan are provided to direct the actions of staff, maintain waste discharge compliance, and ensure the health and safety of the public and environment. They include:

- Spill classification – Non-Threatening vs. Threatening
- Assess available resources
- Determine optimal use of resources
- Identify and assess the area and extent of the spill
- Assess available crews and resources to handle the spill
- Determine the optimal use of resources
- Establish and initiate response priorities
    - ✓ Containment
    - ✓ Control
    - ✓ Cleanup
- Recommend immediate and long-term abatement activities
- Notify regulatory agencies and other impacted agencies
- Maintain liaison with responding agencies
- Document remedial actions
- Authorize and oversee contractor activities

Spill Classification: Non-Threatening vs. Threatening Spills

The initial classification of a spill as "threatening" or "non-threatening" enables the responding participants to quickly gauge the severity of the spill and the depth of their involvement.

A ***non-threatening*** spill is a spill that appears to *not* have the potential to threaten public health, cause property damage, or impact the environment. An example of a non-threatening spill would be a broken sewer main where none of the flow has left the trench. While this determination can be somewhat subjective, the On-Site Supervisor should be able to determine the potential hazards of a spill relatively quickly. If this determination cannot be made, or the On-Site Supervisor has any suspicion that the spill could cause damage, then the spill should be classified as "threatening". The maximum size of non-threatening spills is 1,000 gallons.

One clean-up crew with a Vactor truck can usually handle the response to the non-threatening spill. **The On-Site Supervisor must always report to the site and the required agencies must always be contacted.** It is also important to monitor the location in the future, and review and adjust preventive maintenance schedules on the pipelines, if necessary, so that the incident will not occur again.

Threatening spills are those spills that present a potential threat to public health, cause property damage, or impact the environment. Any spill reaching surface water or any spill in excess of 1,000 gallons is a threatening spill. The rest of this section describes the steps to take in the event of a threatening spill.

In-Plant spills are spills within a wastewater treatment plant. At Chiquita, in-plant spills generally return to the headworks and are re-treated. At the Oso Creek plant, most in-plant spills are diverted to the trunk sewer for treatment at SOCWA's J. B. Latham plant. At the Nichols plant, in-plant spills do not return to any re-treatment system. If the entire in-plant spill is being diverted to a re-treatment facility, it is considered non-threatening. If any of the spill reaches surface water or is not recovered and is in excess of 1,000 gallons, it is considered a threatening spill. (Wade's insert)

Assess Available Resources

The On-Site Supervisor should attempt to determine necessary resources within a few minutes, and then alert other key employees of the spill. These people will supply the On-Site Supervisor with information regarding the availability of the following resources: field personnel, material and equipment.

The most important resource to the On-Site Supervisor is field personnel. The availability of personnel will depend on when the spill occurs, but a certain number of employees are always on standby throughout the District. In the event of a large spill where many employees are required, the On-Site Supervisor or Operations Manager may assist by contacting additional employees.

Equipment is available for emergency spills and is staged at the District's Headquarters and Wastewater Treatment Plants. The equipment in use must be maintained in good operating condition. The equipment in storage should be inspected monthly to ensure that it will be available in the event of an emergency.

Other resources that can be used to respond to a sewage spill include contractors, material suppliers to provide repair items, consultants to provide maps or construction details, and other agencies with available personnel, material or equipment.

Determine Optimal Use of Resources

One of the responder's goals is to safely and competently respond to a spill with the appropriate resources and capabilities. Once the On-Site Supervisor has determined what resources are available, the next step is to determine the best use of those resources. Swift action is required to contain the spill as soon as possible.

Establishment of Priorities in the Event of Multiple Spill Events

The On-Site Supervisor must be prepared to handle multiple spill events. The first step in establishing response priorities when more than one site is effected is to consider the impact that each site will have on the public health if a spill occurs. **Appendix D** lists each sewage lift station, wet well sizes, and

estimated flow rates. Using this table will assist the On-Site Supervisor in estimating which sites will spill first, and which sites have the most on-site storage.

Other major factors to consider when responding to multiple events include:

- ✓ The impact the site has on receiving waters. Does the site drain into a storm drain? If so, is the storm drain dry, or is water flowing all the way to the ocean?
- ✓ The ease with which a spill can be contained for each site. If quick "berming" or "sandbagging" will contain a spill, it is advantageous to do so, and then move on to the next site.
- ✓ The resources available (manpower and equipment) to assign to each spill. The On-Site Supervisor or Standby person should contact additional staff while en-route to reported sewage spills or high wetwell alarms at lift stations. This extra staff can transport generators, Vactors, or other equipment while the On-Site Supervisor inspects the facilities.
- ✓ Utilize resources available from non-impacted agencies (such as neighboring water districts) when District resources are inadequate for multiple spills.

Initiate Spill Containment and Control

The primary objective of the responders to a sewage spill is to protect public health. Therefore, the initial actions in any sewage spill response effort are to isolate the public from coming into contact with the sewage; this includes vehicular traffic as well as pedestrians. The clean-up crew must establish perimeters and control zones with cones, barricades, vehicles or terrain.

In the initial stages of a sewage spill the On-Site Supervisor must estimate the spill volume. The simplest way to estimate the volume of sewage spilled is by approximating the flow rate and logging the amount of time the sewage flowed at that rate.

Another step that must be taken during the initial response is the notification of appropriate agencies. **In the event of a sewage spill of ANY size, the Orange County Health Department shall be notified as soon as possible, regardless of the volume or final destination of the spill.** For any spill reaching surface waters, or spills of more than 1,000 gallons, notify the California Regional Water Quality Control Board (CRWQCB), Region 9, and the Office of Emergency Services (OES) as soon as possible. For spills of less than 1,000 gallons that do not reach surface waters, complete the Sanitary Sewer Overflow Report form and forward it to the Operations Manager as soon as possible; this information is reported to the Regional Board on a quarterly basis. For a list of reporting requirements refer to **Appendix "C"**.

Establish Response Priorities

Containment

After the public has been isolated from the sewage spill, the clean-up crews must then proceed with containment of the spill, if possible. The Crews must contain the discharged sewage to the maximum extent possible—every effort must be made to prevent the discharge of sewage into surface waters. The following are some suggestions on how discharges can be contained:

1. Install air plugs on storm drains, whenever appropriate, to contain the spill.
2. Divert the spill by building a berm to change the direction of flow of the sewage back to the sewer.

3. Divert the spill by pumping around overflow and return to the sewer.
4. Retain the spill by letting it collect in a natural low area and recover it when time permits.
5. Dike or dam the spill through the use of sandbags or by building a dirt berm to contain and collect the spill.

These suggestions should be adapted for each spill situation given the environmental conditions and material availability.

Control

Once the spill is contained, the responding crews should focus their attention on controlling the spill. Controlling the spill includes relieving the source of blockage in the line, repairing the broken pipe, or eliminating whatever the cause of the spill may be. Procedures that can be used to remedy the cause of the sewage spill include:

1. Relieving the spill by mechanically or hydraulically rodding the sewer (e.g., using the District's hydrocleaner or Vactor truck).
2. Rectifying the problem at the lift station, if a faulty lift station causes the problem.
3. Diverting the flow to another pipe using transfer pumps, vacuum trucks, tankers, etc.
4. Stop pumping at the lift station, if the spill is in the force main.

Crews should be able to contain most spills before proceeding with control activities. If two crews respond to the sewage spill, then efforts to contain the spill can be conducted concurrently with efforts to control the spill. However, if the spill is too large to contain, the available resources efforts should be focused on controlling the spill first.

Cleanup

As much of the spilled sewage as possible should be returned to the sewer system. The sewage should be directed back into the sewer manhole by gravity flow or pressurized water. When this is not possible, the Vactor Truck can be used to return contained sewage to the sewer.

Important Note: Do not add disinfectant (HTH or others) to spills that will reach creek beds or other sensitive environmental areas. Only use disinfectants when the disinfectant and flush water can be recaptured and returned to the sewer system. When in doubt, contact the California Department of Fish and Game listed in **Appendix "C"**.

Spilled sewage returned to the sewer must be disinfected in order to protect human health and minimize impact on the environment. The District utilizes granular HTH (calcium hypochlorite) as a disinfectant.

After a sewage spill, pavements and hardscapes shall always be swept or raked and then flushed with water. Flush-water and disinfectant should be contained and returned to the sewer. Do not remove barricades until the entire clean-up operation is complete. Creek beds must be raked to remove solid material left over from the spill. Solids must be bagged and disposed of properly (with grit and screenings at the Chiquita Water Reclamation Plant.)

Recommended Immediate and Long-Term Abatement Activities

Abatement activities are any steps taken to prevent the recurrence of the sewage spill. The nature of the spill determines what immediate and long-term abatement activities may be required. Short-term steps may be as simple as jetting the line to clean out grease build-up, grit, etc., or they may be as involved as re-routing the flow of sewage over the course of a few days in order to repair a line.

Long-term abatement activities imply some type of preventive maintenance on the line or lift station, or changes in maintenance practices. Preventive Maintenance includes frequent jetting to clean grease build-up and solids from the lines, or running a rooter through a line to clear out tree roots. Periodic inspection of lines with a remote sewer camera may also be required. The District conducts an on-going preventive maintenance program that involves periodic cleaning of all sewer lines and routine inspection, and additional maintenance procedures for designated *hot spots.*

Notify Regulatory Agencies and Other Impacted Agencies

In the event of any sewer spill the county Health Care Agency must be notified right away. As soon as a spill occurs the On Site Supervisor should notify the Operations Manager (day or night, 365 days a year). In the event the Operations Manager is unavailable, notify the Chief Plant Operator or Field Superintendent or Standby Supervisor.

The Operations Manager (or Chief Plant Operator, Field Superintendent or Standby Supervisor) will notify regulatory agencies as outlined in Appendix "D". If you cannot reach the Operations Manager, Chief Plant Operator, Field Superintendent or Standby Supervisor within one hour of the time you first learned of the spill, you must notify the County Health Care Agency and other regulatory agencies as outlined in **Appendix "C"**. Continue to try and contact one of the managers listed above even after you contact the regulatory agencies.

Maintain Liaison with Regulatory Agencies

The Operations Manager has the option of appointing one person to act on their behalf as the District's liaison to the regulatory agencies.

Document Remedial Actions

Records kept for remedial actions can be a valuable tool for preventing similar sewage spills. These records may be required by regulatory agencies, and they also can protect the District in the event of any subsequent lawsuits. Some of the information that should be recorded includes:

- Provide accurate flow measurements and duration of the spill and document the methodology you used to calculate the volume.
- Provide a map of problem locations (manholes involved) and where the spill discharged (e.g., storm drain, field, stream, etc.).
- Take photos of the event, especially of the flow source(s).
- Describe the cause if the spill (e.g., blockage due to roots, grease or breakage of the line due to contractor, etc.).
- Report when the crew was on site, when the spill was stopped, and when the cleanup was completed.
- Report the type of disinfectant used.

- Report the size of line where stoppage occurred, if applicable.
- Record information regarding any third-party involvement, such as the name and phone number of a contractor who may have caused the spill, etc.

In the event of a sewage spill of any size, the above information is to be recorded in the District's *Sewer Overflow Report Form* **(Appendix E).** The Report, when completed, will contain all information regarding the spill. Additional information regarding the spill such as sectional maps or lab results should be attached to the Report. This report is the principle document which will be submitted to the regulatory agencies.

In addition, make sure to complete a District workorder so the information can be entered into the Maximo system. That workorder will then become the means by which we can modify our maintenance activities if necessary.

Authorize and Oversee Contractor Activities

In the case of a spill requiring major construction or repair efforts beyond the capacity of District resources, mobilization of contractors may be required. In such cases, the authorization to mobilize a contractor rests with the General Manager or a District staff member delegated by the General Manager. In the event of the General Manager's absence, the On-Site Supervisor, Operations Manager, or Chief Engineer has the authority to retain contract services for labor, equipment and materials necessary to protect the public health and safety, and to preserve and protect District assets.

Spill control work that required mobilization of contractors will most likely continue for a number of hours or days. The On-Site Supervisor must supervise all work by the contractor until this responsibility is delegated to another Supervisor or the District's Inspection Staff.

It is important that all information regarding supervising or inspecting the work of contractors be documented by the District. Keep notes on the number of contractor staff, the number and type of equipment on site, materials used, subcontractors, etc., and turn the notes over to the Operations Manager This information will be useful if we try and recover costs from our insurance company or FEMA.

Spill Monitoring

If required by regulators or requested by the District's staff, samples for bacteriological and/or chemical analyses should be collected in a timely manner to determine public health or environmental impact. In order to obtain accurate information, Laboratory staff should be notified immediately to provide assistance in sample collection, preservation and storage. The number of sampling sites and their locations must be carefully selected to ensure that they adequately represent the area being sampled.

Coordination with the local public health agency, California Regional Water Quality Board (CRWQCB) and other appropriate regulatory agencies should also be made.

Record Keeping

Maintenance of Files

The file for all original documents regarding the sewage spill will be maintained in the Operations Master File.

Reporting Requirements and Documentation

The Operations Manager is responsible for submitting a written report to the CRWQCB for all spills (for small spills a faxed copy of the Sanitary Sewer Overflow Report Form is sufficient).

The report shall include:

- An estimate of the total volume of discharged sewage.
- An estimate of the total volume of sewage that was contained and returned to the sewer.
- The size of line where the spill occurred, if applicable.
- The events or circumstances that resulted in the sewage spill.
- The impacts of the spill on public health and the environment.
- A summary of cleanup activities and any mitigation measures taken to protect public health and the environment.
- A log of the time the cleanup crew arrived, when the spill was relived, and when the cleanup was completed.
- Corrective actions to prevent the recurrence of such incidents.

This information should be recorded and submitted on *The Sewer Overflow Report form* ***(Appendix "E").***

Training

Personnel at all levels of responsibility should understand the components and goals of the *Sanitary Sewer Overflow Response Plan.* Properly trained personnel are more capable of responding safety and effectively when a spill event occurs. It is important to test the plan by scheduling regular exercises to promote preparedness.

The purpose of training is for participants to become familiar with the facilities, equipment, procedures and conditions of an emergency, to practice response roles, and to address procedural conflicts and make appropriate recommendations. Benefits of the exercise include:

- Determine planning weaknesses
- Identification of resources and staffing
- Clarification of roles and capabilities
- Improvement in coordination, performance, and confidence
- Development of teamwork

Ways to test the plan include these three simulation techniques:

Orientation Exercise

Briefing through lecture or visual training. This is an introductory session to instruct employees on planning and required documentation.

Tabletop Exercise

A sewage spill event is simulated without the use of equipment or deployment of resources. The steps taken are explained orally. Exercise effectiveness is determined by the feedback from the participants and impact on revisions to plans, procedures, and systems.

Functional Full Scale Exercise

A sewage spill event is simulated *with* the use of equipment and deployment of resources. Crews monitor and record actions and events. This type of exercise not only allows for the evaluation of plan objectives, but it also tests equipment, response time training, and resource and staff capabilities.

Conclusion

The primary objective of all responders to a sewage spill is to protect public health, environment, and property from sewage, and to restore the area back to normal as soon as possible after the event. This goal is best achieved through planning, training, and the coordinated efforts of the District's staff. With thorough understanding of the methods and procedures outlined in this *Sanitary Sewer Overflow Response Plan*, the efficiency of these efforts is maximized.

SSMP
September 2006

Appendix "A" – List of Sewage Lift Stations

No.	Facility Name	Address	Capacity GPM	Standby Power
1.	Chiquita	28793 Ortega Highway, San Juan Capistrano 92675		
2.	Coral Gardens	28129 St. Kitts, Mission Viejo 92692	560	P
3.	Cordova	26198 Crown Valley Parkway, Mission Viejo 92692	1,420	P*
4.	Coto de Caza	24263/24261 Coto de Caza, Coto de Caza 92679	3,900	SSB
5.	Felipe	27656 Camden, Mission Viejo 92692	1,240	P
6.	Golf	24233 Antonio Parkway, Rancho Santa Margarita 92688	600	P
7.	Horno			
8.	Ladera	27925 O'Neil, Ladera 92688		
9.	Ladera Interim	30383 Sienna Parkway, Ladera Ranch 92688		
10.	Las Flores	29424 Oso Parkway, Rancho Santa Margarita 92688	2,028	P
11.	Meadow Ridge	20157 Meadow Ridge, Mission Viejo 92692	220	P
12.	North Beach	22698 Formentor, Mission Viejo 92692	490	P
13.	Ortega	31563 Ortega Hwy@ Christianitos, San Juan Capistrano 92675	1,660	SSB
14.	Pico	1048 Avenida Pico, San Clemente 92672		
15.	Plano	24152 Antonio Parkway, Rancho Santa Margarita 92688	11,100	SSB
16.	San Juan	29255 Ortega Highway, San Juan Capistrano 92675		
17.	South Ranch	27058 South Bend, Coto de Caza 92679		
18.	Talega I	31828 Avenida Pico, San Clemente 92673		
19.	Talega Interim	1076 ½ Avenida Hermosa, San Clemente 92672		
20.	Trabuco	22352 Alicia Parkway, Rancho Santa Margarita 92688	5,460	SSB
21.	Tres Vistas	27641 San Blas, Mission Viejo 92692	180	P

Appendix "A.1" – List of Recycled Reservoirs, Pump Stations, and Wastewater Reclamation Plants

No.	Facility Name	Address	Capacity GPM	Standby Power
1.	Portola Reservoir	Trigo Trail/Coto Drive, Coto de Caza 92679		
2.	Talega Reservoir (Zone A)	Via Belleza, San Clemente 92673		
3.	Trabuco Hills Reservoir (Zone D)	Los Alisos @ Altisima, Rancho Santa Margarita 92688		
4.	Upper Oso Reservoir	20731 El Toro Road, Mission Viejo 92691		
5.	Barrier Pump Station	26687 Oso Parkway, Mission Viejo 92691		N
6.	Zone B Reservoir	27204 E. LaPaz, Mission Viejo 92692		
7.	Canyon Crest Pump Station	22344 Canyon Crest, Mission Viejo 92692	2400 gpm	N
8.	Eastbrook Pump Station	28186 Santa Margarita Pkwy, Mission Viejo 92691	960 gpm	Planned
9.	Finisterra Pump Station	23140 Marguerite Parkway, Mission Viejo 92691	8670 gpm	N
10.	La Paz Pump Station	27204 La Paz, Mission Viejo 92692	7000 gpm	Y
11.	Monterey Villa Pump Station	28826 Los Alisos, Mission Viejo 92692	760 gpm	N
12.	Chiquita Water Reclamation Plant	28793 Ortega Highway, San Juan Capistrano 92675	6 mgd	Y
13.	Nichols Water Reclamation Plant	33608 E. Ortega Hwy, San Juan Capistrano 92675	.065 mgd	Y
14.	Oso Creek Water Reclamation Plant	27204 East La Paz Road, Mission Viejo 92692	3.0 mgd	Y

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Appendix "B" – Employee Phone List

Name	Title OPERATIONS DEPARTMENT	Office	Pager	Nextel	Call	Home Number
Abbott, Leonard	Instrumentation Systems Engineer	459-6538	595-1863	279-4878	11	(760) 724-3262
Alvarez, Manny	Maintenance Mechanic	459-6605		283-8694	126	(714) 547-3310
Aquirre, Carlos	Senior Wastewater TP Operator	493-5225	729-5346			(949) 369-9629
Barnes, Jim	Maintenance Mechanic	459-6604		678-8348	94	(949) 460-0602
Bay, Steve	Maintenance Mechanic	459-6614		283-8698	130	(949) 462-9872
Bedell, Gerre	Maintenance Foreman	459-6541		279-4867	4	(949) 837-3573
Borroel, Eric	Senior Maintenance Mechanic	459-6622		289-3287	100	(949) 661-6916
Bradley, Tom	Senior Maintenance Mechanic	487-0478	203-8492			(949) 548-6383
Cain, Chad	Customer Service Field Specialist	459-6534		283-8702	133	(714) 649-3275
Carreira, Tony	Maintenance Technician	487-0478	767-2951			(949) 459-0363
Castaneda, Armando	Maintenance Mechanic	487-0478	203-8494			(714) 534-6009
Chrysler, Paul	Senior Maintenance Mechanic	459-6535		283-3489	98	(949) 768-6017
Czernizer, Giorgio	Maintenance Mechanic	459-6614		283-3488	97	(949) 360-4623
DeVera, Leo	Maintenance Mechanic	459-6605		283-8695	127	(714) 531-0486
Dugan, Jodey	Fleet Mechanic	459-6618		283-8713	140	(949) 661-0912
Dziecielski, Stanley	Senior Elect/Instrumentation Technologist	487-0685	203-8491			(949) 586-7567
Ferguson, Owen	Maintenance Mechanic	459-6644		289-3384	105	(714) 649-3005
Francis, Steve	Operations Field Superintendent	459-6539		279-4866	3	(949) 858-3138
Gaetano, Tony	Maintenance Mechanic	459-6605		283-8699	131	(949) 462-0935
Glover, Rick	Customer Service Field Specialist	459-6534		283-8715	142	(949) 233-8293
Guttenbeil, Gerry	Senior Wastewater TP Operator	493-5225	729-2037			(714) 744-2728
Hansen, Scott	Maintenance Foreman	459-6562	203-8490	279-4674	91	(949) 492-4915
Hayes, Dan	Maintenance Mechanic	459-6605	737-0924	283-8696	128	(949) 737-0924
Heydt, Jayson	Maintenance Mechanic	459-6604		283-8706	135	(949) 661-1915
Hidalgo, Tony	Maintenance Foreman	459-6559		279-4876	14	(949) 858-5311
Hobson, Brian	Senior Maintenance Mechanic	459-6620		283-3328	102	(949) 595-1790
Hodge, Rob	Maintenance Technician	459-6534	817-5215	283-8682	116	(909) 609-0507
Houck, Dan	Senior Wastewater TP Operator	493-5225	595-1809			(714) 892-2922
Ingram, Chris	Senior Wastewater TP Operator	581-4872	595-1826			(949) 360-9255
Johnson, James	Customer Service Field Specialist	459-6534		254-1488	25	(714) 523-2719
Johnson, Ron	Wastewater TP Foreman	581-4872	595-1849	283-8716	141	(949) 361-8629
Jordan, Bob	Water Quality Manager	493-6180	595-6843	289-3486	19	(949) 361-1175
Kissee, Rich	Maintenance Foreman	459-6561		279-4868	5	(949) 858-7174
Leatherby, Stuart	Maintenance Mechanic	487-0478	203-4307			(949) 360-7283
Loiaza, Steve	Senior Maintenance Mechanic	459-6525	203-8493	279-4870	7	(949) 858-4171
Lomeli, Jeff	Maintenance Mechanic	459-6604		283-3449	136	(949) 458-2355
Mahar, Clif	Senior Maintenance Mechanic	459-6620		283-3917	107	(714) 971-5037
Mastroianni, Joe	Customer Service Field Specialist	459-6534		283-8725	145	(949) 858-5752
Mazurki, Bob	Maintenance Foreman	459-6526	203-1697	279-4869	6	(949) 348-7648
Musich, Doug	Senior Maintenance Mechanic	459-6560		289-3485	16	(949) 380-0232
Nortz, John	Senior Elec/Instrumentation Technologist	459-6613	716-3091	283-3323	96	(760) 434-8999
Notch, Steve	Senior Maintenance Mechanic	459-6522		279-4872	9	(949) 916-1507
Patterson, Larry	Electrical Maintenance Foreman	487-0685	203-8453	283-3322	95	(760) 751-0838
Pettinato, Frank	Maintenance Mechanic	459-6515		283-8709	138	(949) 366-1503
Prentice, Robert	Maintenance Mechanic	459-6605		283-8697	129	(949) 498-6305
Pulles, Jim	Laboratory Technologist	493-6180				(949) 855-1990
Quiroz, John	Electrical Instrumentation Technician II	487-0478				(714) 832-7056
Rex, Miles	Customer Service Field Specialist	495-6534		283-8723	143	(949) 459-1830
Reynolds, Niki	Instrumentation Systems Technician	459-6548	595-1802	279-4873	10	(949) 713-2191
Rudesill, Steve	Senior Maintenance Mechanic	459-6644		279-4877	15	(949) 587-9653
Russell, Gary	Customer Service Field Supervisor	459-6533		678-8158	93	(949) 581-5440
Salb, Karen	Office Assistant	459-6551	322-6934	279-8895	90	(949) 766-9818
Schnaubelt, Irina	Laboratory Supervisor	493-6180				(619) 487-6287
Schwebach, Rick	Maintenance Mechanic	459-6615		283-8726	146	(949) 458-2276
Seymour, Dave	Operations Manager	459-6540		279-4865	2	(949) 589-5616
Shepard, Paul	Maintenance Mechanic	459-6534		283-8712	139	(949) 458-8076
Shinkle, Chad	Elec./instrumentation Tech II	487-0478	203-8469			(949) 597-1913
Smith, Eric	Maintenance Mechanic	459-6534		283-8811	147	(949) 631-0302
Smith, Jim	Senior Wastewater TP Operator	728-0637	203-1795			(949) 496-2823
Specht, Wade	Chief Wastewater TP Operator	493-5234	595-1461	279-4874	12	(760) 630-6079
Veyna, James	Customer Service Field Specialist	459-6534		254-1486	24	(949) 360-7729
Villarreal, Joe	Senior Elec/Instrumentation Technologist	459-6612		289-3468	106	(714) 750-5304
Wallace, Tracy	Wastewater TP Foreman	493-6175	595-1489	233-8870	134	(714) 531-6149
Webster, Bill	Senior Maintenance Mechanic	459-6614		289-3327	101	(949) 361-9310
Wilburn, Dave	Wastewater TP Operator	493-5225				(949) 510-6077
Wilson, Merry	Administrative Analyst	459-6558		279-4875	13	(949) 498-3603

SSMP
September 2006

STAND-BY						
Name	**Title**	**Office**	**Pager**	**Nextel**	**Call**	**Home Number**
Field Stand-by 1				279-4871	8	
Field Stand-by Truck				(714) 328-6909		
Lift Station			203-8911			
Ops Stand-by			203-6041			
Supervisor			203-1581			
TP Stand-by			595-1482	233-8870		
TP Stand-by Weekends				422-8133		
ENGINEERING/INSPECTION						
Name	Title	Office	Pager	Nextel	Call	Home Number
Aguilar, Jamie	Project Engineer	459-6582		283-8685	118	
Badir, Dia	Construction Inspector	459-6514	595-9957	283-3923	113	
Daxon, Tom	Senior Construction Inspector	459-6503	588-5237	289-3329	103	
Dorame, Ray	Senior Engineer Technician	459-6587				
Ferons, Dan	Chief Engineer	459-6589		279-4868	1	
Freese, John	Senior Construction Inspector	459-6510	595-9205	283-3919	109	
Garcia, Hector	Senior Project Engineer	459-6583		283-8687	119	
Gillivan, Dixie	Construction Inspector	459-6507	588-5236	283-3921	111	
Haberchak, Laurel	Office Specialist	459-6505		279-7611	18	
Howe, Ken	Senior Cross Conn. Specialist	459-6513		283-8693	124	(949) 733-2851
Hutter, Clay	Senior Engineering Associate	459-6581		279-5476	120	
Lantz, Bart	Construction Services Manager	459-6505		678-8095	92	
Marin, Franco	Non-Domestic Specialist	459-6592		283-8690	122	(949) 770-4389
Puckett, Don	Underground Facility Locator	459-6502	588-5240	283-9320	110	
Sanchez, Raul	Construction Inspector	459-6508	595-6917	283-3922	112	
Stroebel, Diane	Engineering Technician	459-6512		283-8691	123	
Waltz, Steve	Non-Domestic Specialist	459-6595		283-8689	121	
ADMINISTRATION/FINANCE						
Name	Title	Office	Pager	Nextel	Call	Home Number
Bergara, Jorge	Facilities Coordinator	459-6511		279-4916	21	(760) 231-9472
Boulton, Eddie	Senior Customer Relation Specialist	459-6579		283-8680	114	
Bowers, Bryan	Information System Specialist	459-6545		283-3585	99	
Marin, Luca	Service Worker	459-6591		283-8708	137	(949) 458-6714
Geldert, Beth	Customer Relations Supervisor	459-6536		283-8681	115	
Hansen, Susan	Customer Accounts Specialist	459-6554		279-7638	20	
Megara, Carol	Finance Manager	459-6567		795-6234	22	
Varney, Kristi	Contracts Coordinator	459-6576		283-8429	150	

Appendix "C" - Regulatory Agency Notification List

Agency	Telephone Number	Criteria
Orange County Health Care Agency, Environmental Health Division	Larry Honeyborne (714) 667-3750 Monica Mazur (714) 667-3751 Control 1 (for after hours) (714) 834-7208	• Notify whenever a sewage spill of any size occurs in the County
California Regional Water Quality Control Board, Region 9 – San Diego	Phone (858) 467-2952 Fax (858) 571-6972	• Notify by phone or fax within 24 hours in the event of a spill of over 1,000 gallons. • Notify by quarterly report for spills of less than 1,000 gallons
California State Office of Emergency Services	(800) 852-7550	• Notify in the event of a spill of over 1,000 gallons
California Department of Fish and Game	(310) 590-5132 (310) 590-5133	• Notify whenever a sewage spill impacts or threatens state waters
Orange County Environmental Management Agency	(714) 567-6363 After Hours (714) 834-7200	• Notify whenever a sewage spill impacts the storm drain system
California State Health Department, Office of Drinking Water	Frank Hamamura (714) 558-4410 Fahad Rizk (714) 567-7261	• Notify whenever a sewage spill impacts or threatens to impact the drinking water supply
Capistrano Valley Water District	(949) 493-1515	• Notify whenever a sewage spill impacts waters in the lower San Juan Basin (CVWD operates domestic water wells along San Juan Creek)

PLEASE BE PREPARED TO PROVIDE THE FOLLOWING INFORMATION:

- ☐ Your Name
- ☐ Your Agency (Santa Margarita Water District)
- ☐ Date and Time Spill Began
- ☐ Address and Cross Street of Spill
- ☐ Thomas Guide Page and Grid Number of Spill
- ☐ Preliminary Estimated Volume of Spill
- ☐ Cause of Spill
- ☐ Status of Spill Response

Appendix "D" – Lift Station Wet Well Size & Estimated Flow

Facility Name	Emergency Generator Power?[1]	Wet Well Capacity (approximate)	Average Daily Flow Rate GPM	Estimated Retention Time (average flows)	Peak Flow Rate[2] GPM	Estimated Retention Time (at Peak flows)
Chiquita Lift Station[3]	Y	33510	2950	11.4	7000	4.8
Coral Gardens Lift Station	N	3590	41	87.6	143	25.1
Cordova Lift Station	Y	7500	455	16.5	710	10.6
Coto Lift Station	Y	41000	674	60.8	2359	17.4
Felipe Lift Station	N	1870	183	10.2	549	3.4
Golf Lift Station	N	1800	73	24.7	300	6
Horno Lift Station						
Ladera Lift Station	Y	6670	50	133.4	1280	5.2
Ladera Interim Lift Station						
Las Flores Lift Station	N[4]	4170	220	19	1953[5]	2.1
Meadow Ridge Lift Station	N	1750	21	83.3	100	17.5
North Beach Lift Station	N	1680	14	120	110	15.3
Ortega Lift Station	Y	16156	25	646.2	75	215.4
Pico Lift Station						
Plano Lift Station	Y	27450	2252	12.2	7800	3.5
San Juan Lift Station						
South Ranch Lift Station	Y	12566	61	206	250	50.3
Talega I Lift Station	Y	12500	25	500	75	166.7
Talega Interim Lift Station						
Trabuco Lift Station	Y	17300	913	18.9	3600	4.8
Tres Vistas Lift Station	N	1650	26	63.5	75	22

[1] The color red indicates critical facilities during power failures.

[2] Peak Flow Rate assumes worst-case scenario, high flow period plus infiltration from storm flows.

[3] Does not include surcharging (flooding) lower mezzanine.

[4] Under design, planned for in summer/fall 2000.

[5] Assumes Ladera Lift Station pumping to Las Flores Lift Station.

Appendix "E" - Sanitary Sewer Overflow Report Form

California Regional Water Quality Control Board – San Diego Region

1. Sanitary Sewer Overflow Sequential Tracking Number: _____

The first 3 digits will represent the State fiscal yar from July through June. The next 3 digits will represent a unique sequential number assigend to each overflow. The first overflow for each agency in the 1999-00 fiscal year will be number 990001. The second overflow for each agency in the 1999-00 fiscal year will be number 990002.

2. Reported to: _____

If reported, name of the Regional Board staff contact who was notified of the sanitary sewer overflow or one of the following terms: Voice Mail and Phone Number, or Fax.

Date Reported: _____ / _____ / _____ (MM/DD/YY)

3. Time Reported: _____ / _____ / _____(Military or 24 Hour Time)

4. Reported by: _____

Name of contact at the responsible sewer agency who has more information on the sanitary sewer overflow

5. Phone: (_____) _____ - _____

Phone number where responsible sewer agency contact can be reached.

6. Responsible Sewer Agency: Santa Margarita Water District

Name of responsible sewer agency

7. Overflow Start: Date: _____ / _____ / _____*(MM/DD/YY)*

Time: _____ / _____ / _____ *(Military or 24 Hour Time)*

8. Overflow End: Date: _____ / _____ / _____
(MM/DD/YY)

Time: _____ / _____ / _____ *(Military or 24 Hour Time)*

9. Total Overflow Volume: _____ (Gallons)

10. Overflow Volume Recovered: _____ (Gallons)

Sanitary Sewer Overflow Location:

11. Street: _____

_____

12. City: _____

_____

13. County: OR (SD, RI, OR)

14. Zip Code: _____

15. Sanitary Sewer Overflow Structure I.D.:

_____

List location of overflow, i.e., lift station, manhole, etc.

16. Number of overflows at this location in past 12 months: _____

17. Overflow cause – short description – circle one

ROOTS	GREASE	LINE BREAK	INFILTRATION
ROCKS	BLOCKAGE	POWER FAILURE	PUMP STATION FAILURE
DEBRIS	VANDALISM	FLOOD DAMAGE	MANHOLE FAILURE
	OTHER	CONSTRUCTION	

18. Overflow cause – Detailed description of cause

_____
_____
_____
_____
_____
_____
_____
_____

19. Sanitary Sewer Overflow Correction – Description of all preventive and corrective measures taken or planned:

_____
_____
_____
_____
_____

_____

_____

20. Initial and Secondary Receiving Waters:

21. Did the Sanitary Sewer Overflow reach surface waters? _____ Y or N

22. Did the Sanitary Sewer Overflow enter a storm drain? _____ Y or N

23. Name or description of initial receiving waters: (If none, type none)

_____

24. Name or description of secondary receiving waters: (If none, type none)

_____

Notification:

25. Was the local health services agency notified? ____ Y or N

26. If the overflow was over 1,000 gallons to surface water, was the Office of Emergency Services (OES) notified? ____ Y or N if not applicable, enter NA ***(OES Incident Tracking Number _____)***

Affected Area Posting:

27. Were signs posted to warn of contamination? ____ Y or N

28. How many days were the warning signs posted? ____ days

29. Remarks:

_____

_____

_____

_____

_____

_____

_____

_____

NOTE:

IF THE SANITARY SEWAGE OVERFLOW EVENT RESULTS IN A DISCHARGE OF MORE THAN 1,000 GALLONS TO SURFACE WATERS, THIS FORM MUST BE RECEIVED BY THE REGIONAL BOARD NO LATER THAN FIVE DAYS AFTER THE OVERFLOW START DATE.

The following Certification must be completed with the five-day notice:

I swear under penalty of perjury that the information submitted in this document is true and correct. I certify under penalty of perjury that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

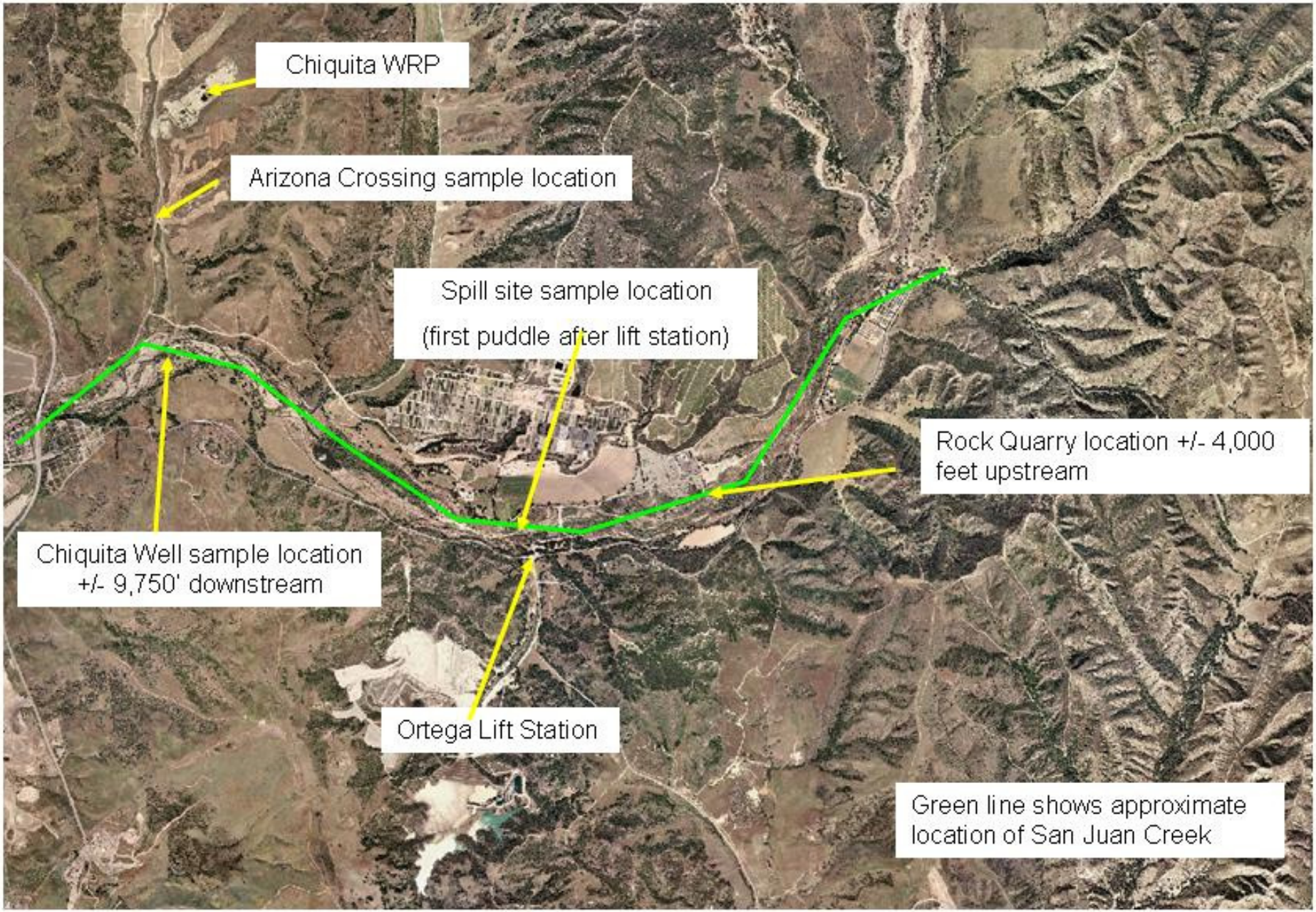
_____
Signature

_____
Name

_____
Title

_____
Date

Sampling Location Map
Ortega Force Main Spill – April 2007



You are logged-in as: PUBLIC.

SSO - General Information

SSO Event ID:	649189	**Regional Water Board:**	9
Spill Location Name:	Ortega Force Main	**Agency:**	Santa Margarita WD
		Sanitary Sewer System:	Santa Margarita Water District CS

- General Info

*Note: Questions with "*****" are required to be answered to certify this report.*

SSO Type: Category 1
Version: Certified

Physical Location Details

***Spill location name:** Ortega Force Main
*** Latitude of spill location:** 33
*** Longitude of spill location:** 117
Address: Ortega
City: San Juan Capistrano **State:** CA **Zip:** 92675
*** County:** Orange
Spill location description: Ortega Highway, 13,004 feet east of Antonio Parkway
*** Regional Water Quality Control Board:** 9

Spill Details

* **Spill appearance point:**	Force main or pressure sewer
Spill appearance point explanation: (Required if spill appearance point is "Other")	
* **Did the spill discharge to a drainage channel and/or surface water?**	Yes
* **Did the spill reach a storm drainpipe?**	Yes
* **If spill reached to a storm drainpipe, was all of the wastewater fully captured and returned to the sanitary sewer system?**	No
* **Private lateral spill?**	No
Name of responsible party (for private lateral spill only, if known):	
* **Final spill destination:** (Hold Ctrl key to Select Multiple answers from the list)	Surface water
Explanation of final spill destination: (Required if final spill destination is "Other")	
* **Estimated spill volume:**	392000 gallons
* **Estimated volume of spill recovered:**	0 gallons
* **Estimated volume of spill that reached surface water, drainage channel, or not recovered from a storm drain:**	392000 gallons
Estimated current spill rate (if applicable):	0 gallons per minute
***Estimated spill start date/time:**	2007-04-05 00:00:00.0
* **Date and time sanitary sewer system agency was notified of or discovered spill:**	2007-04-08 15:00:00.0
* **Estimated Operator arrival date/time:**	2007-04-08 15:30:00.0
* **Estimated spill end date/time:**	2007-04-08 16:00:00.0
* **Spill cause:**	Pipe structural problem/failure
Spill cause explanation: (Required if spill Cause is "Other")	
Where did failure occur?	
Explanation of Where failure occured: (Required if where failure occur is "Other")	
If spill caused by wet weather, choose size of storm:	
Diameter of sewer pipe at the point of blockage or spill cause (if applicable):	0
Material of sewer pipe at the point of blockage or spill cause (if applicable):	N/A
Estimated age of sewer pipe at the point of blockage or spill cause (if applicable):	19
Description of terrain surrounding the point of blockage or spill cause (if applicable):	Mixed
* **Spill response activities:** (Hold Ctrl key to Select Multiple answers from the list)	Cleaned-up (mitigated effects of spill);Restored flow

Explanation of spill response activities: (Required if spill response activities is "Other")	
* **Spill response completion date:**	2007-04-09 17:00:00.0
Visual inspection results from impacted receiving water:	Water flowing clean one mile downstream.
* **Health warnings posted?**	No
* **Name of impacted beach(es) (enter NA if not applicable):**	N/A
* **Name of impacted surface water(s) (enter NA if not applicable):**	San Juan Creek
* **Is there an ongoing investigation?**	No
* **Water quality samples analyzed for:** (Hold Ctrl key to Select Multiple answers from the list)	Not applicable to this spill;Other (specify below)
Explanation of water quality samples analyzed for: (Required if water quality samples analyzed for is "Other chemical indicator(s)", "Biological indicator(s)", or "Other")	County Health is monitoring water at Doheny Beach
* **Water quality sample results reported To:** (Hold Ctrl key to Select Multiple answers)	Not applicable to this spill
Explanation of water quality sample results reported to: (Required if water quality sample results reported to is "Other")	
* **Spill corrective action taken:** (Hold Ctrl key to Select Multiple answers from the list)	Repaired sewer
Explanation of spill corrective action taken: (Required if spill corrective action is "Other")	Replaced broken blind flange.
Overall Spill Description:	Blind flange on 16-inch force main broke and released sewage. Crews switched to smaller force main and replaced the flange.

Notification Details

OES Control Number (Required for **Category 1** spill report if estimated spill volume >= 1000 Gals and spill reached surface water or storm drainpipe):	072199
OES Called Date/Time (Required for **Category 1** spill report if estimated spill volume >= 1000 Gals and spill reached surface water or storm drainpipe):	2007-04-08 19:37:00.0
* **County health agency notified:**	yes
County health agency notified date/time: (required if County health agency notified is "Yes")	2007-04-08 18:30:00.0
Regional Water Quality Control Board notified date/time:	2007-04-08 18:52:00.0
Other Agency Notified:	
Was any of this spill report information submitted via fax to the Regional Water Quality Control Board?	no
Date and time spill report information was submitted via fax to the Regional Water quality Control Board: (required if spill report information submitted via fax to Regional Water Board is "Yes")	

*NOTE: questions with "*****" are required to be answered to certify this report.*

From: <Sharon_Taylor@fws.gov>
To: <JCofrancesco@waterboards.ca.gov>
CC: <Scott_Sobiech@fws.gov>, <Judy_Gibson@fws.gov>, <Jill_Terp@fws.gov>, <Ke...
Date: 6/14/2007 5:25 PM
Subject: San Juan Creek Sewage Spill, OES -07-2199

Ms. Confrancesco,

Thank you for your coordination on the San Juan Creek Sewage Spill, (OES -07-2199) with Ms. Judy Gibson of my Environmental Contaminants Division staff. We have reviewed the Discharger's Technical Report and two maps you provided on May 31, 2007 and June 4, 2007, respectively.

As we advised in our email of May 31, 2007, we have concerns for the federally endangered arroyo toad (Bufo californicus), a designated resource under the Service's trusteeship. Based on our evaluation of the Technical Report, maps, and our arroyo toad survey records for the spill site, it is likely that there are impacts to the arroyo toad that would be present in the impact area. This could include impacts to the adult and/or one or more stages of the life cycle. On page 6, of the Technical Report dated May 31, 2007, the statement that there were no short or long-term impacts on arroyo toads. We are in disagreement with this statement, since at the time of the incident, even if the creek bed was dry, the metamorphs, juveniles, and adults would have been likely buried in the substrate and potentially exposed to the spill during this time based on existing survey data.

Based on research by USGS, contaminants and diseases have been identified as stressors that have contributed to direct mortality of amphibians as well as the decline of amphibian populations. Contaminants have been identified as one of the four major causes in amphibian malformations. Raw human sewage contains a mixture of contaminants including a variety of bacteria, protozoans, viruses, and numerous toxic chemicals, as well as high concentrations of nitrogen and phosphorus (Mallin et al. 2007). Amphibians are sensitive to elevated levels of nitrate. The discharge of untreated sewage would release high levels of nitrate that could cause amphibian toxicity (Rouse et al. 1999). Sewage-contaminated water contains viruses and bacteria that are a potential vehicle for disease transmission to ecological receptors (Botero et al. 1996, Kinde et al. 1996, Hamilton 2007, and Friend 1985). Amphibians are known to be susceptible to infection from a number of bacteria, including those that potentially could be found in human sewage (Taylor et al. 2001). In addition, high concentrations of fecal indicator bacteria are persistent in the sediment and remain in the sediment for several weeks following a major spill event (Mallin et al. 2007). Wildlife concerns from exposure and/or infection from untreated sewage also include suppression of the immune response system, alterations in the defense mechanisms, and depression of essential biological activity that can lead to susceptibility to disease and latent infections (Friend 1985). Bacteriological analyses for the San Juan Creek sampling locations confirm that there were high levels of total fecal and enterococcus bacteria present in the wastewater discharge.

We request that soil/sediment samples be collected at: 1) the spill site, 2) one-fourth mile downstream, 3) at Antonio Parkway, and 4) at a reference site upstream from the spill site. Samples should be analyzed

for fecal bacteria as well as aerobic cultures should be grown and all isolates be identified. We request the Discharger provide a list of chemical contaminants known to be present in the influent of the wasterwater and also analyze the samples for those chemical contaminants. If the list of chemical contaminants in the wastewater is not available , the samples should be analyzed for the toxic pollutants, or priority pollutants, defined in Section 307(a)(1) of the Clean Water Act.

As a Co-Trustee of the natural resources in this area, the U.S. Fish and Wildlife Service is beginning to identify our concerns of the complex impacts of the San Juan Creek Sewage Spill on our natural resources (OES -07-2199). I wanted you to know of the U.S. Fish and Wildlife Service's desire to be present in any possible natural resource damage settlement discussions. Our Agency looks forward to cooperatively working with you as we all move forward to assess the natural resource impacts of this sewage spill and move towards restoration and monitoring efforts.

Sincerely,
Sharon K. Taylor, DVM, PhD

Sharon K. Taylor, DVM, PhD
Environmental Contaminants Division Chief
Carlsbad Fish & Wildlife Office
U.S. Fish & Wildlife Service
6010 Hidden Valley Road
Carlsbad, CA 92011
Phone: 760-431-9440 ext 220
Fax: 760-431-9170
Email: sharon_taylor@fws.gov

References:

Botero, L., M. Montiel, and L. Porto. 1996. Enteroviruses in shrimp harvested from contaminated marine waters. International Journal of Environmental Health Research. Vol. 6 (2): 103-108 pp.

Friend, M. 1985. Wildlife health implications of sewage disposal in wetlands. Pages 262-269 in Godfrey, P. J., E. R. Kaynor, S. Pelczarski, and J. Benforado, eds., Ecological Considerations in Wetlands Treatment of Municipal Wastewaters. Van Nostrand Reinhold Co. Inc. New York.

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Kinde, H. D., H. Read, A. Ardans, R.E. Breitmeyer, D. Willoughby, H. E. Little, D. Kerr, R. Gireesh, and K. V. Nagaraja. 1996. Sewage effluent: likely source of Salmonella enteritidis, phage type 4 infection in a commercial chicken layer flock in southern California. Avian Dis. 40 (3), 672-676 pp.

Mallin, M. A., L.B. Cahoon, B.R.Toothman, D. C. Parsons, M.R. McIver, M.L. Ortwine, and R. N. Harrington. 2007. Impacts of raw sewage spill on water and sediment quality in an urbanized estuary. Marine Pollution Bulletin. Vol.54 (1), 81-88 pp.

Rouse, J. D., C. A. Bishop, and J. Struger. 1999. Nitrogen Pollution: An Assessment of Its Threat to Amphibian Survival. Environmental Health Perspectives. Vol. 107, No. 10.

< http://www.nwhc.usgs.gov/our_research/amphibian_research_and_monitoring_initiative.jsp >.

< http://www.nwhc.usgs.gov/disease_information/amphibian_malformation_and_decline/index.jsp >

Taylor, S. K., D. E. Green, K. M. Wright and B. R. Whitaker. 2001. Chapter 13, Bacterial Diseases. In: Amphibian Medicine and Captive Husbandry, K. M. Wright and B. R. Whitaker (eds.). Krieger Publications, Malabar, Florida. Pp. 159-179.

From: "Seymour, Dave" <DAVES@smwd.com>
To: "Joann Cofrancesco" <JCofrancesco@waterboards.ca.gov>
CC: "Wilson, Merry" <MERRYW@smwd.com>
Date: 6/11/2007 2:13 PM
Subject: RE: SMWD Sampling Map

Hello Joann,

As far as when the station was last checked before the spill, I'm not sure if you mean before the spill started on 4/5, or before it was discovered on 4/8, so I'll give you both answers. I don't have the hour they were checked, but the station was checked mid-day on 4/5, and mid-morning on 4/8.

The spill in January 2005 was the same force main but it was not caused by a broken flange. The 2005 spill was due to the force main washing out in the creek as a result of a bridge washing out up stream from the heavy rains. The break was never found because it was in the creek bed; that section of the pipe was replaced in 2006. We had not experienced a problem with the PVC flanges prior to the April 2007 spill; they have since been replaced with steel flanges.

The PVC flange was originally installed in 1991, so it is about 16 years old.

The contractor we used was a landscape contractor who works with landscape mitigation. They were cleaning up visible debris among the plant material and we didn't want any sensitive plants disturbed. They do not have any expertise or do any work with water quality.

Thanks,

Dave Seymour
Director of Operations
Santa Margarita Water District

-----Original Message-----
From: Joann Cofrancesco [mailto:JCofrancesco@waterboards.ca.gov]
Sent: Monday, June 11, 2007 9:46 AM
To: Seymour, Dave
Subject: Re: SMWD Sampling Map

Thanks for sending the maps and clarifying the locations.

I have a few more questions:

When was the Ortega LS last check before the sewage spill?

Was the spill on January 11, 2005 from the same force main? Was it also due to a broken PVC flange? The quarterly report states that it was a broken line but the break could not be found.

How old was the PVC flange that broke on April 6-8, 2007?

The report states that the district hired a contractor specializing in

working in sensative environmental habitat areas to clean up the area of the spill. Was this contractor a biologist? Why didn't the contractor help advise you on sampling as well?

Thanks,
Joann

>>> "Seymour, Dave" <DAVES@smwd.com> 6/4/2007 5:01 PM >>>
Joann:

Sorry for the confusion. I revised the map to indicate the first puddle sample site; on the original map it was just called "Spill site sample location". I included an enlarged map of the area as well, but it doesn't show much since the creek was dry when the aerial photo was taken. The area is basically the location where you and I walked to (in the mud) when you visited the site.

As for the Arizona Crossing location, we included that location to show that the Enterococcus and E. Coli levels in Chiquita Creek (which was not impacted by the spill but is tributary to San Juan Creek) are actually higher than the areas of San Juan Creek near the Chiquita Well (which is downstream of the spill). It is explained in the text of the report as follows:

"...Side stream flows and the confluences of Gubernadora and Chiquita Creeks introduced water back into San Juan Creek, but it does not appear that the sewage spill had any impact on the flow downstream since the Enterococcus and E. Coli levels measured in San Juan Creek near the Chiquita Well site were actually lower than those in Chiquita Creek at the Arizona Crossing (Chiquita Creek was not impacted by the spill). The fluctuations in Enterococcus and E. Coli levels in San Juan Creek downstream of the spill mimicked those of Chiquita Creek, leading us to believe they were naturally occurring and not related to the spill..."

I hope this helps clear things up.

Dave Seymour
Director of Operations
Santa Margarita Water District

Attachment 9

Memo to File No. 01-0783: Santa Margarita Water District Sewage Collection System Estimated 600,000-gallon sewage discharge

By Charles Cheng, Northern Core Regulatory Unit, July 5, 2007

On July 4, 2007, the Regional Board received a phone call from Mr. Steve Frances of Santa Margarita Water District, informing the RB of an estimated 600,000-gallon sewage discharge.

On July 5, 2007, Charles Cheng conducted a field investigation for the reported discharge. Mr. Dave Seymour, head of the Operations Department and Mr. Steve Frances were present through out the investigation.

The following are some facts obtained from interview with Mr. Seymour and Mr. Frances and from staff observations.

1). The Discharge – About 600,000 gallons of untreated raw sewage were spilled from the District's 16" force main into the Cristianitos Creek in the City of San Clemente. The discharge occurred in the Rancho Mission Viejo Ecological Reserve (see Thomas Guide page 973, Orange County) where sensitive fauna and flora species exist. The discharge started at about 11:30 am on July 3, 2007 and ended at about 5 pm on July 4, 2007.

2) Cause of the discharge – A break or rupture in the 16" force main caused the discharge. How the break occurred was not know at the time of investigation. The pipeline is buried about 8 feet below ground. The District was in the process of digging out the pipe (Fig. 1). According to Mr. Seymour, these were C900 PVC pipes installed in the 90's.

3). Destination of the discharge – The raw sewage flew along a dirt road into the Cristianitos Creek (Fig. 2 & 3) for a total estimated distance of about 1,000 feet. Because the Cristianitos Creek was dry, most spilled sewage percolated into the ground through creek bed; small ponds were visible at the time of investigation (Fig. 4 & 5).

4). Corrective actions – The District discovered the discharge on July 4 and started to isolate the 16" force main for repair. Flow was diverted into a parallel 10" pipe, and vactor trucks were deployed to pump sewer from a lift station about 1 mile downstream (Fig 6). According to Mr. Seymour, sewer was dammed near a bridge (Fig 7), vacuum trucks were used, and about 15,000 gallons were recovered by the District.

5). Potential Environmental Impact

- Water Quality – Since there is no surface water observed at the spill site, it is unlikely that any surface water body is impacted by the spill. However, groundwater in the vicinity of the spill location may have been impacted by the infiltrating sewage.
- Biological Impact – Since sensitive biological species are present at this Ecological Reserve, such as the arroyo toad, it is potential that the spill may cause biological

impact. Visible white sand spots were observed in the stream bed that are suspected arroyo toad burial holes (Fig 8). If so, these burial holes could have been inundated and arroyo toad could have been suffocated during the spill.

Fig 1

Fig 2

Fig 3

Fig 4

Fig 5

Fig 6

Fig 7

Fig 8

Linda S. Adams
Secretary for Environmental Protection

California Regional Water Quality Control Board
San Diego Region

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Arnold Schwarzenegger
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http:// www.waterboards.ca.gov/sandiego

July 20, 2007

In reply refer to:
NCRU:01-0783:jcofran

Mr. David Seymour
Santa Margarita Water District
P.O. Box 7005
Mission Viejo, CA 92690-7005

CERTIFIED MAIL
Registration Number
7004 2890 0002 6407 5381

Dear Mr. Seymour:

INVESTIGATIVE ORDER NO. R9-2007-0108, DISCHARGE OF UNTREATED SEWAGE, CITY OF SAN CLEMENTE, CALIFORNIA.

Enclosed is Investigative Order No. R9-2007-0108 (Order) issued by the California Regional Water Quality Control Board, San Diego Region (Regional Board) to the Santa Margarita Water District. The Order concerns the investigation and reporting of information related to the unauthorized discharge of approximately 600,000 gallons of untreated sewage within the Rancho Mission Viejo Ecological Reserve and into Christianitos Creek. The Order is issued under authority of California Water Code (CWC) section 13267, and directs Santa Margarita Water District to submit a technical report, **by August 17, 2007,** providing information about the sanitary sewage discharge and its impact to Rancho Mission Viejo Ecological Reserve and Christianitos Creek.

Please review the requirements contained within the Order and note that all technical reports submitted to the Regional Board must be accompanied by the certification, under penalty of law, that the information is true, accurate, and complete. Failure to meet the requirements may subject you to further enforcement action by the Regional Board, including administrative civil liability pursuant to CWC sections 13268 and 13385.

The heading portion of this letter includes a Regional Board code number noted after "In reply refer to:" In order to assist us in the processing of your correspondence please include this code number in the heading or subject line portion of all correspondence and reports to the Regional Board pertaining to this matter.

If you have any questions regarding this letter, please contact Mrs. Joann Cofrancesco at 858-637-5589 or jcofrancesco@waterboards.ca.gov.

Respectfully,

JOHN H. ROBERTUS
Executive Officer

JHR:jro:jlc

Enclosure

cc: John Richards, Staff Counsel, Office of Chief Counsel (OCC), State Water Resources Control Board, 1001 "I" Street, 22nd Floor, Sacramento, CA 95814

Kathi Moore, Manager, Clean Water Act Compliance Office (WTR-7), Water Division, 75 Hawthorne Street, San Francisco, CA 94105

Mark Alpert, Senior EG, Compliance Assurance Unit, San Diego Water Board

Benjamin Frater, U.S. Fish and Wildlife Service, 6010 Hidden Valley Road Carlsbad, CA 92009

Brian Bernados, District Engineer, Department of Health Services, Southern California Drinking Water Field Operations Branch, 1350 Front Street, Room 2050, San Diego, CA 92101

Erinn Wilson, Environmental Scientist, Habitat Conservation, California Dept. of Fish and Game, 4665 Lampson Avenue, Suite C, Los Alamitos, CA 90720

Larry Honeybourne, Orange County Health Care Agency, Environmental Health, 1241 E. Dyer Road, Suite 120, Santa Ana, CA 92705

Judy Ann Gibson, Environmental Contaminants Biologist, Field Spill Coordinator, U.S. Fish & Wildlife Service, 6010 Hidden Valley Rd., Carlsbad, CA 92011

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

INVESTIGATIVE ORDER NO. R9-2007-0108
FOR
SANTA MARGARITA WATER DISTRICT
DISCHARGE OF UNTREATED SEWAGE
WITHIN IN THE CITY OF SAN CLEMENTE
ORANGE COUNTY

The California Regional Water Quality Control Board, San Diego Region (hereinafter Regional Board) finds that:

1. Santa Margarita Water District (hereinafter the Discharger) owns and operates a 16-inch force sewer main located within the Rancho Mission Viejo Ecological Reserve, near Christianitos Road, City of San Clemente, California. The Discharger's sanitary sewer system is regulated by State Board WDRs Order No. 2006-0003-DWQ, *Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*. Order No. 2006-0003-DWQ prohibits the discharge of untreated or partially treated wastewater to waters of the United States, or that creates a nuisance as defined in California Water Code Section 13050 (m).

2. On July 3, 2007 and continuing through July 4, 2007, approximately 600,000 gallons of untreated sewage from the 16-inch force sewer main was discharged within Rancho Mission Viejo Ecological Reserve into the Christianitos Creek in violation of Order No. 2006-0003-DWQ.

3. The arroyo toad has been identified in the Christianitos Creek in the area of the sewage discharge. The arroyo toad was listed as an endangered species under the federal Endangered Species Act by United States Fish and Wildlife Services and as a "Species of Special Concern" by the State of California under the state Endangered Species Act.

4. Raw sewage contains a mixture of pollutants. Pollutants have been identified as stressors that have contributed to direct mortality of amphibians as well as the decline of amphibian populations. Contaminants have also been identified as one of the four major causes in amphibian malformations.

5. Sewage-polluted water contains viruses and bacteria that are a potential vehicle for transmission of disease to ecological receptors. Following a major sewage spill event, high concentrations of fecal indictor bacteria are persistent in the sediment and remain in the sediment for several weeks. Amphibians are known to be susceptible to infection from bacteria, including those that potentially could be found in human sewage.

6. Pursuant to California Water Code Sections 13267, this Regional Board may investigate the quality of waters of the state by requiring dischargers to submit technical or monitoring reports.

7. The Discharge of raw sewage, described in Finding No. 1 of this Order, is a violation of Order No. 2006-0003-DWQ. The size and location of the raw sewage discharge potentially impacted sensitive fauna and flora species, including the Arroyo Toad. The Discharger must submit additional technical information for the Regional Board to effectively evaluate the nature, circumstances, extent, and gravity of the illicit discharge of sewage within Rancho Mission Viejo Ecological Reserve to the Christianitos Creek.

8. The costs associated with providing the information, including sampling, analysis, and reporting is reasonable for assessing the circumstances of an illicit discharge of sewage of the magnitude of this incident to waters of the U.S.

9. This action is for information gathering purposes and, as such, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 2100 *et seq.*) in accordance with Section 15306, Chapter 3, Title 14, California Code of Regulations.

IT IS HEREBY ORDERED, that pursuant to section 13267 of the California Water Code, the Discharger shall conduct a technical investigation, and prepare and submit the following technical report to the Regional Board:

The technical report shall contain, but is not limited to, the following information, and shall be submitted **no later than August 17, 2007**.

Cause and Circumstances of the Discharge

1. A complete, detailed explanation of how and when the overflow from the force sewer main was discovered, including tabular and graphical summaries of the daily total influent flows to the Chiquita Wastewater Reclamation Plant and flow data from the Telega Lift Station from July 3, 2007 through July 4, 2007.

2. A detailed chronological description of all actions taken by the Discharger to terminate the discharge, repair the force sewer main, and mitigate its impacts. The narrative must include an evaluation of the results of these actions.

3. A detailed description of the cause of the pipe structural problem/failure.

4. A detailed report of the total volume of sewage discharged, including the assumptions and methods used in making the determination.

Pollution Prevention Measures

5. The date the 16-inch force sewer main was installed.

6. Identification of the design and construction standards and specifications that were applied for the installation of the 16-inch force sewer main.

7. Identification of the procedures and standards for inspecting and testing the installation of the 16-inch force sewer main.

8. Copy of the "Operation and Maintenance Program and Overflow Emergency Response Plan" (the Plan) prepared in accordance with Order No. 2006-003-DWQ, if the plan has been updated since last submittal. Please describe how the Plan was implemented before and during the overflow from the sewer main. Your response should include a description of any changes/improvements that will be made in the Plan as a result of experiences gained from responding to the spill that occurred between July 3 and 4, 2007.

Nature and Impact of the Discharge

9. Detailed map of the discharge location, path of the discharge, and location of sampling points.

10. An assessment of the impacts upon the arroyo toad population, sensitive fauna, flora species, and other species; the overall ecosystem in Rancho Mission Viejo Ecological Reserve, and the Christianitos Creek; and any short and long-term effects resulting from the discharge, including, but not limited to, impacts on public health and the environment. Your assessment must include supporting rationale for your conclusions, discuss what steps were taken, or will be taken, to mitigate these impacts.

11. Any other pertinent information that will assist the Regional Board in evaluating the nature, circumstances, extent, and gravity of the sewage discharge.

14. All reports and information submitted to the Regional Board shall be signed and certified as follows:

a. *Use of Registered Professionals* - The Discharger shall provide documentation that plans and reports required under this Order are prepared under the direction of appropriately qualified professionals. California Business and Professions Code Sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of registered professionals. A statement of qualifications and registration numbers of the responsible lead professional shall be included in all plans and reports submitted by the Discharger. The lead professional shall sign and affix their registration stamp to the report, plan or document.

b. *Use of qualified technical professionals*. The Discharger shall ensure that plans and reports, required under this Order, are prepared under the direction of technical professionals who are appropriately qualified to evaluate short and long-term impacts to ecological receptors.

c. *Signatory Requirements* – All reports required under this Order shall be signed and certified by either a principal executive officer or ranking elected official or the person with overall responsibility for environmental matters for that municipality.

(i) ***Certification Statement*** – Any person signing a document under this provision shall make the following certification:

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

14. Reporting to the Regional Board

All monitoring and technical reports shall be submitted to:

Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123-4340
Attn: Supervisor Northern Core Regulatory Unit

John H. Robertus

JOHN H. ROBERTUS
Executive Officer

20 July 2007
Date

JHR:jro:jlc

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David Seymour
Santa Margarita Water District
PO Box 7005
Mission Viejo, CA 92690-7005

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David Seymour
Santa Margarita Water District
PO Box 7005
Mission Viejo, CA 92690-7005

Instructions

Santa Margarita Water District

September 11, 2007

Mr. John Robertus, Executive Officer
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court, Suite 100
San Diego, CA 92123

REFERENCE: NCRU: 01-0783: jconfran

Response to Investigative Order No. R9-2007-0108

Dear Mr. Robertus:

We have received and reviewed your Investigative Order No. R9-2007-0108 regarding the sewage spill within the Rancho Mission Viejo Ecological Reserve on July 3 and 4, 2007. We have completed the Technical Report as requested and are forwarding it herewith for your use. If you have any questions please do not hesitate to call or email me at (949) 459-6590, or danf@smwd.com.

Sincerely,

Daniel R. Ferons
Chief Engineer

DRF/mlw

c: Joann Cofrancesco – Regional Board Staff

Enclosures: Technical Report

26111 Antonio Parkway, Suite A, Las Flores, CA 92688 • Mailing Address: P.O. Box 7005, Mission Viejo, CA 92690-7005
Customer Service (949) 459-6420 • Administration (949) 459-6600 • Operations (949) 459-6430

Santa Margarita Water District
Technical Report
Talega Force Main Break and Sewer Spill
July 3 and July 4, 2007

Regional Board Reference: NCRU:01-0783:jcofran

Cause and Circumstance of the Discharge

1. A complete, detailed explanation of how and the when overflow from the force main was discovered, including tabular and graphical summaries of the daily total influent flows to the Chiquita Wastewater Reclamation Plant and flow data from the Talega Lift Station from July 3, 2007 through July 4, 2007.

On July 4 at approximately 10:00 a.m., a District employee was checking stations and noticed that the pump discharge flow from the Talega Lift Station was abnormally high. Recognizing the abnormality could be caused by a broken pipe he inspected the force main and located the break. A review of the station pumping charts showed that the spill most likely began on July 3 at 11:30 a.m.; the station had been checked on July 3 at approximately 10:00 a.m. and was functioning normally at that time.

The flow to the Chiquita Plant on July 3 was 5.196 million gallons; on July 4 the flow was 5.207 million gallons. At the Talega Lift Station there is no totalizer for daily flows, so we do not have an exact flow, but based on pump run hours the estimated combined flow for July 3 and 4 was a total of 270,000 gallons.

2. A detailed chronological description of all actions taken by the Discharger to terminate the discharge, repair the force sewer main, and mitigate its impacts. The narrative must include an evaluation of the results of these actions.

As soon as staff discovered the broken sewer force main they began the process of switching to a smaller 10-inch force main and isolating the broken 16-inch line. The majority of the sewage spill stopped as soon as the line was switched over, although residual loss continued until approximately 5:00 p.m. that evening as a result of the force main draining back down by gravity.

As soon as staff was available crews constructed a make-shift berm from materials on site (wood, boulders and earth) in an attempt to keep the sewage on site. Due to the high volume of flow the attempt to contain the spill was unsuccessful. Staff proceeded downstream to a V-notch weir and placed sand bags in the weir in an attempt to recover as much sewage as possible. Although most of the spilled sewage soaked into the dry creek bed, we were able to recover approximately 15,000 gallons of sewage at this V-notch weir.

Once the spill stopped crews cleaned up visible debris from the spill site.

3. A detailed description of the cause of the pipe structural failure.

The line suffered catastrophic failure of an entire joint of pipe. The pipe had broken into several pieces in a manner similar to what District staff speculates to be caused by a water-hammer effect; however, aside from the appearance of the pipe water-hammer is not likely to occur on this pipeline. We have sent sections of the damaged pipe to a laboratory for analysis in an

attempt to determine the cause of the failure. As of this writing the results of the testing is unknown.

4. A detailed report of the total volume discharged, including the assumptions and methods used in making the determination.

Staff estimates the spill volume to be 495,934 gallons, less the 15,000 gallons recovered, so about 480,934 gallons were released to the environment. The volume was based on the following:

Pump Run Times	224,400 gallons
Force Main Draining Back	96,000 gallons
Force Main Capacity (lost in the initial break)	175,534 gallons
Total	**495,934 gallons**

Pollution Prevention Measures

5. The date the 16-inch force sewer main was installed.

The 16-inch force main was constructed in 1991 by a contractor hired by the District.

6. Identification of the design and construction standards and specifications that were applied for the installation of the 16-inch force sewer main.

The design and construction standards used were the *Santa Margarita Standard Special Provisions and Standard Drawings for Water and Sewer Construction—1987*, and the *Standard Specifications for Public Works Construction—1988 edition*.

7. Identification of the procedures and standards for inspecting and testing the installation of the 16-inch force main.

The force main was pressure tested in accordance with the *Santa Margarita Standard Special Provisions and Standard Drawings for Water and Sewer Construction—1987* that were in place at the time of construction. Those specifications call for the pressure testing of pressure sewer mains at 120 percent of their maximum working pressure.

8. Copy of the Operations and Maintenance Program and Overflow Emergency Response Plan prepared in accordance with Order No. 2006-003-DWQ if the plan has been updated since the last submittal. Please describe how the Plan was implemented before and during the overflow from the sewer main. Your response should include a description of any changes/improvements that were made in the Plan as a result of experiences gained from responding to the spill that occurred between July 3 and 4, 2007.

A copy of our *Sewer System Management Plan* was forwarded to your office on May 25, 2007; it has not been updated since that time so, as requested, it is not included as part of this response.

Prior to receiving notification of the spill, staff followed the procedures contained within the plan by:

- Maintaining the lift station and sewer force main in proper working order

- Understanding the goals and procedures contained within the SSMP
- Trained for response to spill events

Once the spill was reported, responding staff followed the procedures contained within the plan by:

- Immediately notified supervisory staff
- Immediately assessed the spill classification and available resources
- Immediately began implementing measures to stop the spill
- Immediately initiated spill containment and control measures (by attempting to berm off the creek)
- Stopped pumping at the lift station until the force main could be diverted
- Diverted flow in the force main by diverting flow to an alternate force main
- Initiated clean up efforts to remove debris in the overflow location

As a result of following the procedures contained within the SSMP, staff quickly ended the spill and was able to return the lift station and force main to service. The SSMP adequately addressed the preparation and sewer spill response; accordingly, no changes are required to update the plan.

Nature and Impact of the Discharge

9. Detailed map of the discharge location, path of discharge and location of sampling points.

A detailed map is included as Exhibit "A", attached. Since the spill occurred in a dry creek bed the sewage quickly soaked into the ground. Within a very short time there was nothing to sample; accordingly, we did not conduct any water quality sampling.

10. An assessment of the impacts on Arroyo Toad, sensitive fauna, flora species, and other species; the overall ecosystem in Rancho Mission Viejo Ecological Reserve, and the Christianitos creek; and any short and long-term effects resulting from the discharge, including, but not limited to, impacts on public health and the environment. Your assessment must include supporting rationale for your conclusions, discuss what steps were taken, or will be taken, to mitigate these impacts.

The District retained the services of Dudek Engineering to assess the environmental impacts resulting from this incident. A copy of the final report is included as Exhibit "B" for your review.

In summary the report states there is little potential for direct impact to breeding Arroyo Toads or their habitat, and concludes that, "it is very unlikely that Arroyo Toads were directly impacted by the sewage spill." In addition, the report finds that, "No other special-status species likely would have been directly adversely", and, "The impact of the sewage spill on riparian habitat will not have long-term adverse effects and is not considered to be significant."

In regards to public health the spill did not reach the area where the public could come into contact with the sewage, and the sewage that was discharged quickly soaked into the sand in an area with restricted public access. Accordingly, there was no short or long-term impact to public health.

11. Any other pertinent information that will assist in evaluation of the nature, circumstances, extent, and gravity of the Discharges.

The Creek bed in the vicinity of the spill was dry prior to the spill and returned to its dry state within a few hours of the spill.

[Note: The Investigative Order goes from Number 11 on the bottom of page 3, to Number 14 on the top of page 4.]

14. All reports and information submitted to the Regional Board shall be signed and certified as follows:

a. Use of Registered Professionals – The Discharger shall provide documentation and plans and reports required under this Order are prepared under the direction of appropriately qualified professionals. California Business and Professions Code Section 6375, 7835, and 7835.1 require that engineering and geologic evaluations and judgments be performed by or under the direction of registered professionals. A statement of qualifications and registration numbers of the responsible lead professional shall be included in all plans and reports submitted by the discharger. The lead professional shall sign and affix their registration stamp to the report, plan or document.

This response was prepared under the guidance and direction of Daniel R. Ferons, Chief Engineer of the Santa Margarita Water District. His registration number and stamp appear on the signature line, below.

b. Use of qualified technical professionals—The Discharger shall ensure that plans and reports, required under this order, are prepared under the direction of technical professionals who are appropriately qualified to evaluate short and long-term impacts to ecological receptors.

The environmental report was prepared by Dudek Engineering. Dudek is an environmental and engineering firm, and is qualified to assess the impacts of this spill.

c. Signatory Requirements—All reports required under this Order shall be signed and certified by either a principal executive officer or ranking elected official or the person with overall responsibility for environmental matters for that municipality.

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

September 11, 2007

Daniel R. Ferons
Chief Engineer
Santa Margarita Water District

DUDEK

MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 760.942.5147 T 800.450.1818 F 760.632.0164

September 6, 2007 5746-01

Mr. Dan Ferons
Santa Margarita Water District
26111 Antonio Parkway
Las Flores, California 92688

Subject: ***Assessment of Impacts at the Site of Broken Sewer Line on Rancho Mission Viejo near Cristianitos Creek in Southern Orange County***

Dear Mr. Ferons:

Dudek provides this report on the extent of temporary impacts sustained in association with the initial brake and subsequent repair of the broken pipeline located on Rancho Mission Viejo (near Cristianitos Creek) in Southern Orange County (*Figure 1*). The purpose of this report is to satisfy compliance with the draft NCCP/MSAA/HCP and SAMP Guidelines and Procedures Manual for the Santa Margarita Water District (Dudek, July 2007).

Dudek biologist Jeff Priest and restoration specialist Marcella Waggoner met with Gerre Bedell and Tom Daxon from the Santa Margarita Water District (SMWD) on Friday, August 3, at 8:00 a.m. Mr. Bedell and Mr. Daxon provided an orientation to the site and answered technical questions about the pipeline break. Dudek biologists recorded the extent of disturbance (GPS data), identified specific vegetation communities and land cover impacted, and documented potential impacts to the federally-listed endangered arroyo toad (*Bufo californicus*) and other special-status species and resources. Environmental conditions during the site visit included variable clouds and temperatures in the 70s.

SITE INSPECTION AND DOCUMENTATION OF IMPACTS

Between July 3 and 5, 2007, a break in a 16-inch PVC pipe resulted in the discharge of approximately 500,000 gallons of sewage into Cristianitos Creek (*Figure 2*). The pipeline break occurred underneath an existing dirt access road within the South County Pipe Line Project easement, south of Cristianitos Creek. The 33-foot easement includes two sewer lines, a potable water line, and a recycled water line.

From the source of the break, the sewage flowed down the dirt access road (about 600 feet) before proceeding through coastal sage scrub (another 197 feet) and into lower Cristianitos Creek. The creek is 38 feet wide at the location of the sewage influx. Once in the creek, the flow

continued approximately 300 feet to a weir at the Cristianitos Creek Bridge. Downstream of the weir, the sewage traveled approximately 1,487 feet before pooling and presumably seeping underground. The total distance of the flow from source to terminus was about 2,584 feet. During repair operations, a crew from Santa Margarita Water District (SMWD) placed sandbags at the weir in order to contain the spill. Following containment, the crew reported recovering about 15,000 gallons of the spilled sewage.

At the time Dudek visited the site, dry sewage residue was present in the creek up to the location of the weir, where sandbags slowed the flow and blocked most of the residue from continuing downstream. Another accumulation of residue (an area of about 2 feet by 10 feet) was observed in the vicinity of the terminal pool.

Impacts from the flow occurred in two principal locations: first, at the site of the breakage (*Figure 3, Area A*) and second, along the easement and dirt access road (*Figure 3, Areas B* and *C*). These sites also sustained impacts during repair efforts. Grading at the break site and along the road removed vegetation and resulted in indirect impacts to the drip line of six oaks.

Some additional impacts to soils and vegetation occurred during repair of the break and in subsequent cleanup efforts in locations away from the actual spill zone. These related impacts occurred in two locations: first, where a staging and lay-down area was established at the intersection of paved Cristianitos Road and the dirt access road (*Figure 3, Area D*) and second, where excess fill and gravel from the lay-down area was pushed into Cristianitos Creek (*Figure 3, Area E*) within an opening in some mulefat (*Baccharis salicifolia*). Additionally, upstream of the weir, sandbags containing gravel were emptied into the stream channel.

Some of the impacts occurred in areas that were roadway or disturbed habitat. In order to calculate the extent of the impacts resulting directly from the sewage spill and repair activities, GPS data recorded at each impact area were mapped onto an aerial photo of the area. This allowed for measurement of the area disturbed by human activity prior to the spill; i.e., the existing road and turnout. The pre-existing disturbance area was then subtracted from the impact areas of the sewage spill. *Table 1* lists the total area of new impacts at each location and the vegetation communities and land covers affected in each area.

Mr. Dan Ferons
Subject: Assessment of Impacts at the Site of Broken Sewer Line on Rancho Mission Viejo near Cristianitos Creek in Southern Orange County

TABLE 1
Area of Sewage Spill Impact

Area A (Coastal Sage Scrub)	0.20 acre	0.03 acre	0.17 acre
Areas B & C (Coastal Sage Scrub)	0.05 acre	0.02 acre	0.03 acre
Area D (Annual Grassland)	0.10 acre	0.04 acre	0.06 acre
Area E (Mulefat Scrub)	0.01 acre	0.0 acre	0.01 acre

VEGETATION COMMUNITIES AND LAND COVER IMPACTS

Plant species in the immediate vicinity of the spill site were recorded. At least three vegetative communities are present on site: Coastal Sage Scrub, Annual Grassland, and Mulefat Scrub. The list below identifies the vegetation communities impacted by the spill and lists the plants found within the affected areas. The area of fill within the Mulefat Scrub appears to have occurred in an opening of the vegetation and does not appear to have impacted vegetation.

- **Coastal Sage Scrub.** Common plants on site include California buckwheat *(Eriogonum fasciculatum)*, black sage (*Salvia mellifera*), prickly pear cactus (*Opuntia* sp.), lemonadeberry (*Rhus integrifolia*), poison oak (*Toxicodendron diversilobum*), Mexican elderberry (*Sambucus mexicanus*), coast goldenbush (*Isocoma menziesii*), and scattered, individual coast live oak (*Quercus agrifolia*).

- **Annual Grassland.** Most of the annual grasses present had dried up due to time of year and extreme drought conditions and had been cut low to the ground. Jimsonweed (*Datura wrightii*), an indicator of disturbed habitats, was present. In adjacent areas, grass species include wild oats (*Avena* sp.), wild barley (*Hordeum* sp.), and needlegrass (*Achnatherum* sp.).

- **Mulefat Scrub.** Mulefat (*Baccharis salicifolia*) is the dominant plant species. Other plant species in the area include cattail (*Typha* sp.), scattered individual western sycamore (*Platanus racemosa*), and scattered willows (*Salix exigua* and *S. gooddingii*).

POTENTIAL IMPACTS TO SPECIAL-STATUS SPECIES

There is little potential for direct impacts to breeding arroyo toad or active breeding habitat resulting from the pipeline break because the creek was dry at the time of the spill. Flow in this portion of Cristianitos Creek depends on rainfall and, due to the extreme drought in 2007, it is

highly unlikely that any toad breeding activity occurred in this portion of the creek. Dudek biologist Phil Behrends was in the vicinity of the spill (near the confluence of Gabino and Cristianitos creeks) the first week of June 2007 and the creeks were completely dry a month prior to the sewage spill. Additionally, the sewage flow entered the creek at a point with low suitability for arroyo toad: the creek is narrow in this reach (38 feet) and the soil consists of sands and silts filled with cobble. Downstream of the weir, a wider creek with sandy beaches would potentially provide suitable breeding habitat; however, these areas were relatively unaffected by the spill and very little residue was present.

There is some potential for impacts to aestivating arroyo toads within the uplands (at the area of the direct soil disturbance) that have been documented in lower Gabino Creek and this reach of Cristianitos Creek. However, the population of arroyo toads in the area of the disturbance is relatively small (usually counts of calling toads number in the 10–40 individuals range; *Draft NCCP/MSAA/HCP*, 2006) and the chance of a direct impact to an arroyo toad resulting from the spill and repairs would be very small. Potential impacts to aestivating toads resulting from percolation would be low because most of the upland flow path was across an existing dirt road with compacted soils that would not support aestivating arroyo toads; toads burrow in more friable soils. Additionally, due to the short duration of the flow, percolation of residue into the soil through the approximately 197-foot stretch of coastal sage scrub is not expected to be more than a few inches deep. Arroyo toads typically burrow from several inches to more than 1 foot into the soil, so the chance of direct contact of sewage with toads is considered to be low.

In conclusion, it is very unlikely that arroyo toads were directly impacted by the sewage spill.

No other special-status species are likely to have been directly adversely affected. The Southern Willow Scrub habitat in the area is occupied during the breading season by riparian birds, including the federally- and state-listed endangered least Bell's vireo (*Vireo bellii pusillus*) and the California Species of Special Concern (CSC) yellow-breasted chat (*Icteria virens*) and yellow warbler (*Dendroica petechia*). The July spill occurred relatively late in the breeding season of these species and nest sites would not have been directly impacted. The nest sites of all three species are at least 2–3 feet above the ground. It also seems that potential impacts on the prey base for these species (typically insects and spiders found in shrubs and canopies or trees and rarely if ever taken on the ground) would be negligible. The riparian habitat also provides suitable habitat for the CSC two-striped garter snake (*Thamnophis hammondii*) when permanent and semi-permanent water is present. Under the current dry conditions, it is unlikely that the garter snake would have been in the spill vicinity at the time of the breakage. Also, the garter snake is highly mobile and would have been able to vacate the area during the spill and during repair work.

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The impact of the sewage spill on riparian habitat will not have long-term adverse effects and is not considered to be significant.

RECOMMENDATIONS FOR MITIGATION

The goal of the HCP is to replace biological functions and values that are equal to or greater than those impacted by the repair project. Consistent with the HCP, Dudek recommends the following remediation and revegetation actions:

1. At the site of the original rupture (*Figure 3, Area A*) and along the easement (*Figure 3, Areas B, C,* and *D*), remediate for impacts to 0.2 acre of Coastal Sage Scrub habitat, 0.6 acre of non-native grasslands, and indirect impacts to six oaks (*Quercus agrifolia*).

   - Delineate the edge of road with metal 'T' Posts and three strands of yellow nylon cord (approximately 1/4-inch diameter) to exclude vehicles from revegetation areas and the root zone of oak and sycamore trees.
   - Apply hydroseed mix as specified in *Table 2* throughout all disturbed areas.
   - Install a total of 30 one-gallon *Quercus agrifolia* per the attached installation detail (*Oak Planting Detail A*) (5:1 replacement ratio).
   - Plant installation and seed application should be scheduled to occur in late fall to maximize beneficial conditions provided by seasonal weather (low daily temperatures and chance of rainfall).

TABLE 2
Coastal Sage Scrub Hydroseed Mix

		Seeds per Pound	Pounds per Acre
Artemisia californica	California sagebrush	10	3.0
Encelia californica	California encelia	25	5.0
Eriogonum fasciculatum	California buckwheat	4	10.0
Isocoma menziesii	Coast goldenbush	15	7.0
Lasthenia californica	Goldfields	50	1.0
Lotus scoparius	Deerweed	85	3.0
Lupinus succulentus	Arroyo lupine	90	6.0
Nassella lepida	Foothill needlegrass	65	2.0
Phacelia cicutaria	Caterpillar phacelia	80	1.0
Salvia mellifera	Black sage	40	5.0

Hydroseed components shall include the following:
100% virgin wood fiber 2,500 lbs./acre
Dimonium Phosphate (11-52-0) Fertilizer 200 lbs./acre

2. At the site of the excess material dump (*Figure 3, Area E*) Mulefat Scrub:

   - Remove non-native soil and gravel.
   - Re-create the stream bank pre-construction contours.

3. At the site of the weir at the Cristianitos Road Bridge, remove gravel that remains from the gravel bag basin. This work should be accomplished without equipment entering the creek bed.

4. Maintenance should be provided for 24 months after the mitigation installation is complete to control the growth of weeds and allow native species to become established. Weeds should be controlled during the interim period prior to installation of hydroseed and container plants. Weed control should occur on a monthly basis for the first 6 months and quarterly thereafter for the balance of the 24-month period.

5. Weeds shall be removed by hand unless a species cannot be controlled by hand pulling. In such cases, chemical control may be used with an appropriate marker dye. Chemicals shall be applied in accordance with manufacturer's recommendations as prescribed by a Certified Pest Control Advisor. Applications shall be conducted by personnel with a qualified applicator license. Apply chemical with a low-pressure backpack sprayer and wand that allows for spot treatment and chemical control. Applications shall occur only when wind speed is below 5 miles per hour to avoid drift and overspray that may kill native plants.

6. Oak maintenance shall include periodic supplemental irrigation to be accomplished via a truck-mounted water tank. Water applications shall occur once per week during the first 3 months after installation. Subsequent irrigation events shall occur at less frequent intervals, as needed, but no less than every other month for the remainder of the maintenance period. Weed control around individual planted oaks shall occur concurrently with other weed control efforts.

7. Biological monitoring of mitigation efforts shall occur monthly for the first 6 months and quarterly until the end of the maintenance period (24 months). Each monitoring site visit shall include an assessment of seed germination, weed growth, soil moisture at planted oak locations, maintenance of protective fence, and other issues that may arise during the monitoring period. In addition, monitoring visits will include a visual assessment of the health of indirectly impacted oaks to determine any lasting affects that were caused by the grading activity within the tree drip line.

Mr. Dan Ferons
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Each site visit shall be documented in a one-page site observation report that is submitted to the Santa Margarita Water District. A brief annual monitoring report shall be prepared that documents the progress of the mitigation effort, provides an assessment of overall health of seeded areas and planted oaks, provides a visual estimate of native species cover and list of native species present, evaluates the adequacy of maintenance activities, and identifies changes to maintenance activities or remedial actions that may be required to meet mitigation goals.

Dudek believes that the recommended mitigation program satisfies the requirements of the draft NCCP/MSAA/HCP and SAMP Guidelines and Procedures Manual for the Santa Margarita Water District. Should you have any questions, please do not hesitate to contact me at 760.479.4253 or via e-mail at msweesy@dudek.com.

Sincerely,

Michael Sweesy
Senior Project Manager

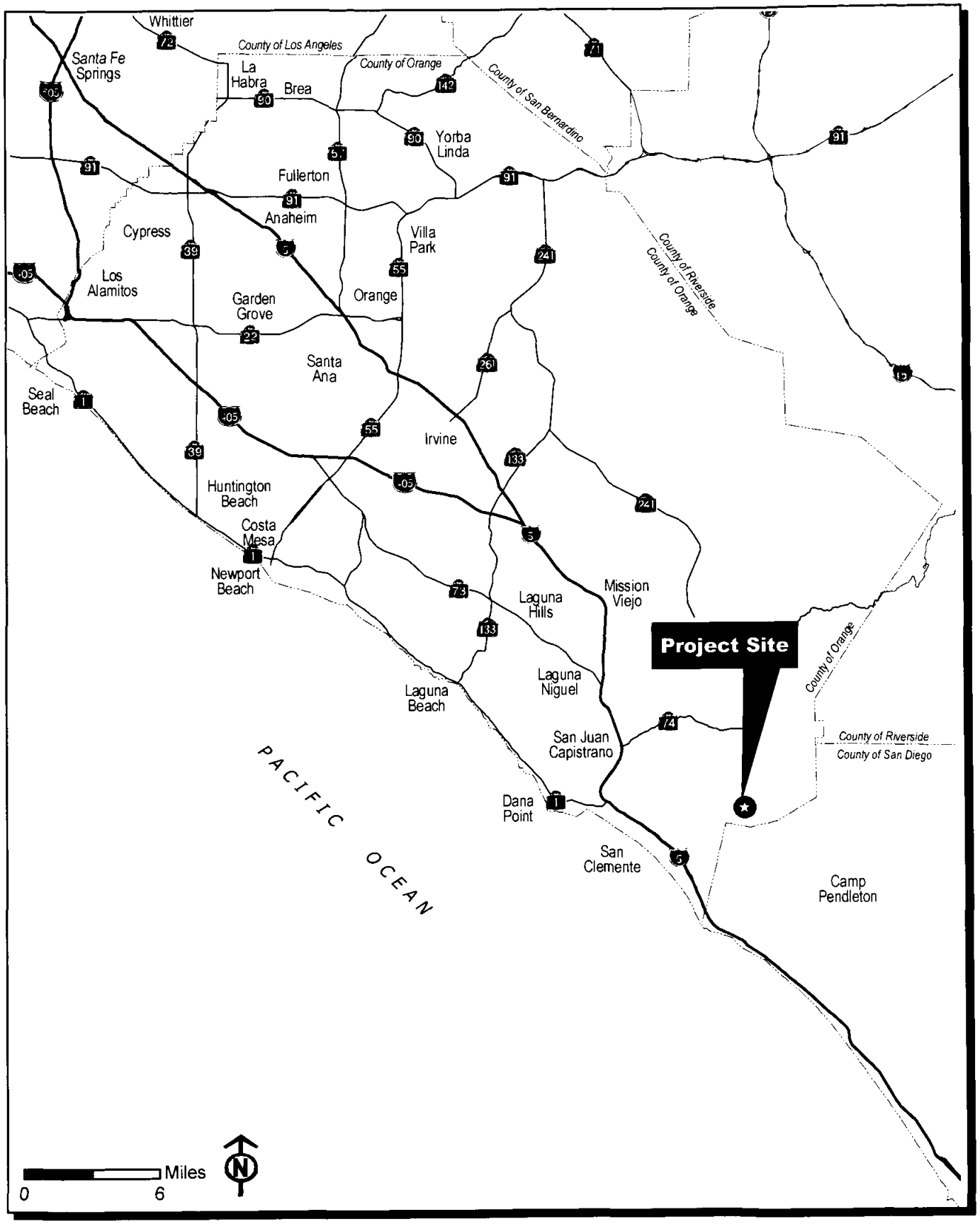
Att: *Figure 1 – Regional Map*
Figure 2 – Vicinity Map
Figure 3 – Impacts at the Site of Broken Sewer Line on Rancho Mission Viejo near Cristianitos Creek
Oak Planting Detail A

cc: *Phil Behrends, Dudek*
Jeff Priest, Dudek
Marcella Waggoner, Dudek

REFERENCES

Draft Southern Orange County Subregion NCCP/MSAA/HCP (July 2006).

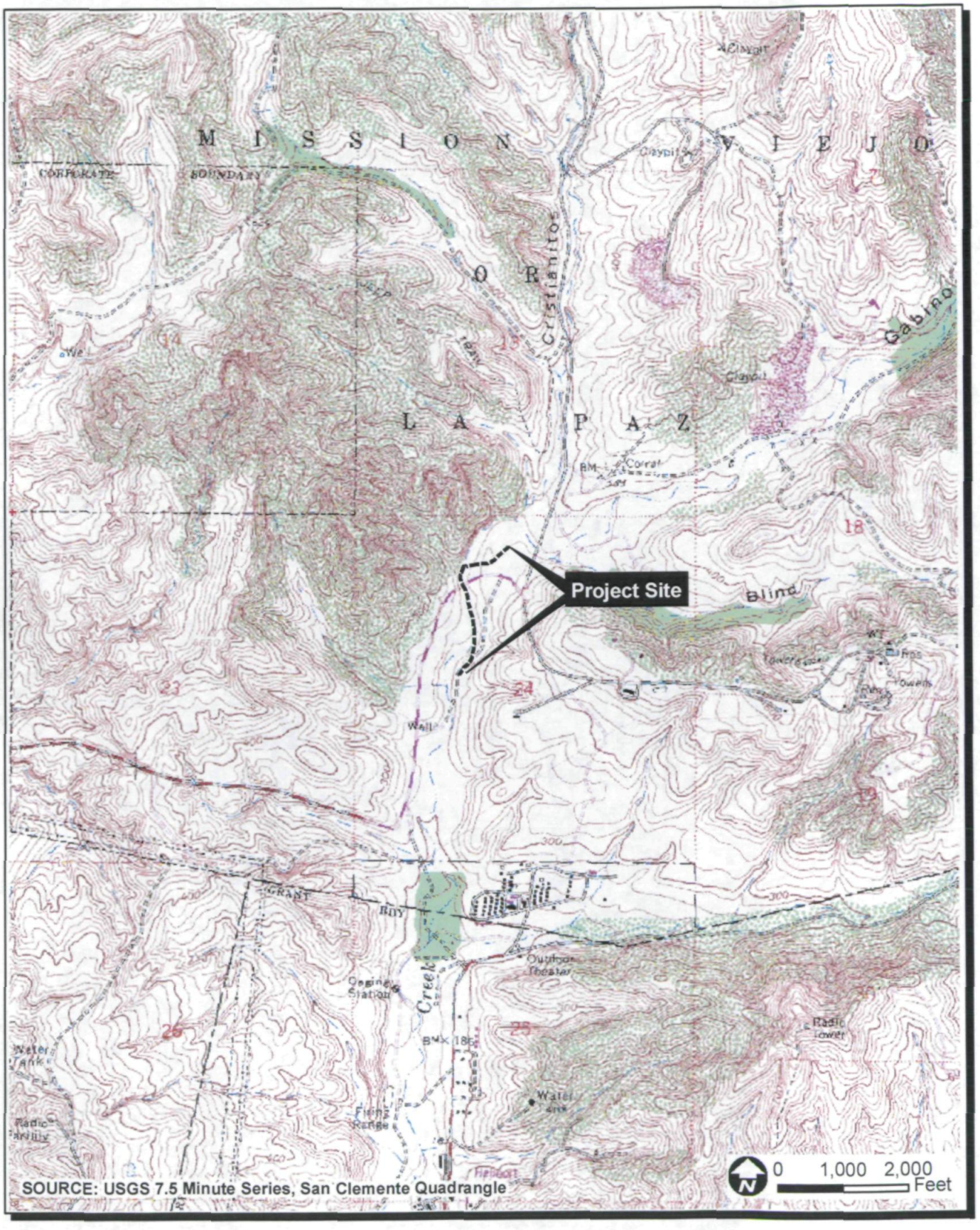
Draft NCCP/MSAA/HCP and SAMP Guidelines and Procedures Manual for the Santa Margarita Water District (Dudek, July 2007).



Santa Margarita Water District Sewer Break Assessment

Regional Map

FIGURE 1



Santa Margarita Water District Sewer Break Assessment

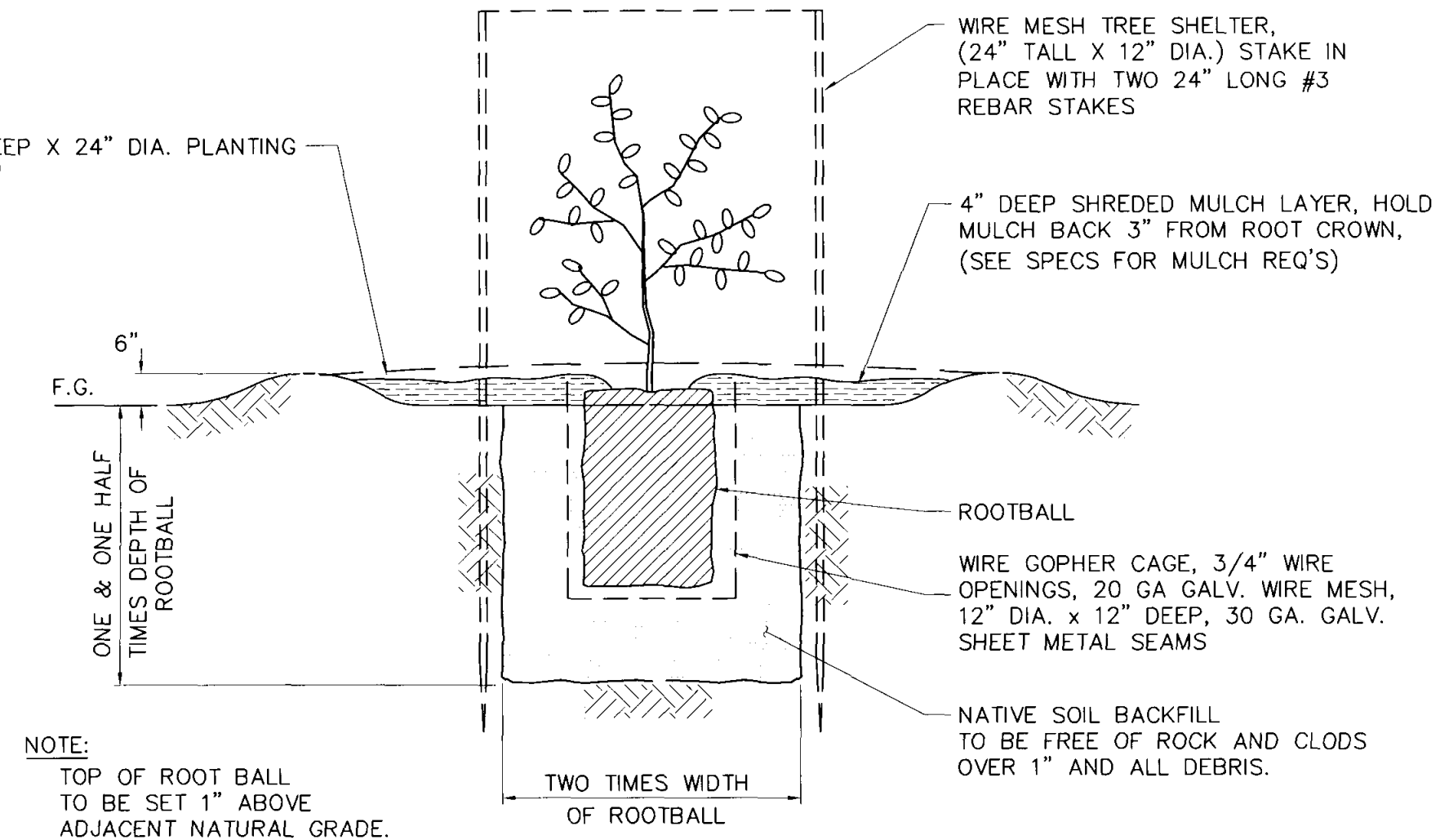
Vicinity Map

FIGURE 2

Santa Margarita Water District Sewer Break Assessment

Impacts at the Site of Broken Sewer Line on Rancho Mission Viejo Near Cristianitos Creek

FIGURE 3



NOTE:
TOP OF ROOT BALL TO BE SET 1" ABOVE ADJACENT NATURAL GRADE.

OAK PLANTING DETAIL

NOT TO SCALE

A

Santa Margarita Water District

October 12, 2007

Mr. John Odermatt
California Regional Water Quality Control Board
San Diego Region
9174 Sky Park Court
Suite 100
San Diego, CA 92123-4353

Subject: Regional Board Reference 01-0783:jcofran
Response to Questions Regarding the Response to Investigative Order No. R9-2007-0108

Dear. Mr. Odermatt:

The following list is in response to your request to provide additional information and clarification on the District's technical report responding to Investigative Order No. R9-2007-0108:

1. *What were the specific assumptions, data and calculations that were used to determine the estimated combined flow (270,000 gallons for July 3 and 4, based on pump run hours. (Item No. 1 in response)*

   The 270,000 gallons was an estimate prepared by staff apparently assuming the pumps ran for approximately two hours each at 1,100 gallons per minute. Item No. 4 in the response was a more accurate estimate of the flow using the pump hour meters and documented on the rounds sheet at the station and the maximum flow rate documented on the flow meter at the station which results in a flow rate of 1,100 gpm for a total of 3.4 hours resulting in an estimated combined pumped flow of 224,000 gallons.

2. *What were the specific assumptions, data and calculations that were used to determine the Pump Run Times (224,400 gallons), Force Main Drainage Back (96,000 gallons) and Force Main Capacity (176,534 gallons). (Item No. 4 in response)*

Calculations to determine estimated combined flows in the report were based on totalizing pump run times from July 3rd at 10 a.m. to July 4th at 10 a.m. when the 16-inch force main was isolated from service. The Talega Lift Station has two sets of pumps; each pump ran at a flow rate of 1,100 gpm for 1.7 hours, this was used in calculating the estimated combined pumped flow of 224,000 gallons.

After the break was discovered and staff switched from the 16-inch force main to the 10-inch force main, the remaining sewage drained off by gravity through the broken section of pipe. Capacity calculations were determined by calculating the pipe capacity based on the pipe diameter of 16-inch (1.3 feet) and station equations from the break point to the summit manhole which is a total of 17,689 linear feet. This calculation estimates that 175,534 gallons of sewage drained out of the force main at the break point. This is a conservative assumption which ignores local high and low points on the force main where wastewater settled and did not drain.

The 10-inch and 16-inch force mains both end at a joint summit manhole and can be isolated by closing valves. After putting the 10-inch force main into service, it was the discovered the 16-inch isolation valve at the force main summit was leaking and allowed sewage to flow from the 10-inch force main into the 16-inch force main. It was estimated that approximately 200 gpm was passing through the isolation valve and out through the broken pipe. The 200 gpm was a visual estimate by the on-site crew. Sewage continued to flow through the valve and into the 16-inch line for 8-hours until crews could make an entry into the summit manhole and install a pneumatic plug to stop the flow. The estimated volume of sewage that drained back through the valve was 96,000 gallons. The 16-inch force main was operating as a gravity sewer from the summit manhole back to the break until the plug could be inserted.

3. *Where was the "make-shift berm" constructed? Were other short-term methods of containment considered for use (e.g. sand bags used in the "make-shift berm" and a vactor truck) to control the "high flow volume")? (Item No. 2 in response)*

The attached aerial picture highlights the location of the berm. As stated in response, an additional berm was constructed at the V-notch weir in the creek with sand bags to help control the flows. The District's vactor trucks were in use at the two lift stations that are tributary to the force main to help with the high flows while the force main was being switched to the 10-inch force main at the lift stations until additional trucks from other agencies responded to provide assistance.

4. *What alarm systems were available at the Talega Lift station and/or within the force main prior to the sewage spill on July 3, 2007? What enhancements were made to the alarm systems at the Talega Lift Station and/or within the force main after the sewage spill on July 3, 2007?*

Prior to the July 3, 2007 break the Talega Lift Station was equipped with the following alarms and backup systems which functioned to operate the station and notify the District of wet well spills or station malfunctions:

- The wet well contains a Sonic Level Transmitter which provides for primary control function for the pumps and wet well level alarms.
- The wet well also contains a redundant Float System which provides backup control functions & Level Alarms in the event of a failure on the sonic system.
- Additionally the station has
  - Emergency Generator for back-up power
  - Generator Fail alarm
  - Pump Fail alarms
  - Check Valve Fail Alarms
  - Power Fail Alarm
  - Dry Well Flood Alarm
- All alarms are transmitted to the District headquarters through the PLC which is backed up by a Dialer system if the PLC fails.
- Any alarms are transmitted to the District's SCADA System and alarms are sent to paging systems and cell phones.

Since the sewage spill on July 3, 2007 the District has added a High Flow alarm in all its sewer lift stations. This provides notice to the staff if the discharge flow is higher than normal indicating a possible force main failure. The theory is a break in the force main will reduce the pressure head and the pump flow rate will increase. In the subsequent breaks in August and September, this alarm proved invaluable by decreasing the response time and limiting the spill.

5. *Can the District provide photos showing the flow of sewage and/or residual flowed past the V-notch weir that was blocked with sandbags? (Item No. 2 in response/ page 3 of Dudek Report, 2nd paragraph, last sentence/ page 4 of Dudek report, top paragraph, last sentence)*

The District does not have any photos showing the flow of sewage past the V-notch weir. A photo of the v-notch weir from the bridge over Cristianitos has been included..

6. *Were there any photos taken or measurements made to document or evaluate the percolation of the sewage residue through the coastal sage (page 4 of Dudek report, middle paragraph, last two sentences)*

The District did not perform any percolation tests of the sewage residue nor take any pictures. Dudek has provided the attached photos showing vegetation that was flattened in the flow path.

7. *Please provide a written explanation for why "excess fill and gravel from the lay-down area was pushed into the Cristianitos Creek (Figure 3, Area E) within an opening in some mulefat"? Why were "sandbags containing gravel... emptied into the stream channel"? (page 2 of Dudek report, 4th paragraph, last sentence)*

District staff in their efforts to clean up the area and restore the grade inadvertently placed the material into the creek. Subsequently, the staff involved have been trained and instructed on proper work habits within and adjacent to natural creek areas. In addition the District is scheduling for Dudek to make a presentation on the requirements of working in the nature reserve areas. Photos are attached from Dudek and the District of the gravel and the debris.

8. *Why was the environmental consultant unable to inspect the spill site until after approximately one month after the sewage spill that occurred between July 3rd to July 4th? (page 1 of Dudek report, 2nd paragraph, first sentence)*

The District did not have a contract with an environmental consultant when the break occurred. Notice was provided to the Rancho Mission Viejo and the reserve manager at the time of the break. A consultant was determined to be required to provide a plan for revegetation of the area and in response to the investigative order. The District now has an open contract with Dudek to provide for future services in event of emergency, it will be able to respond within 24 to 48 hours, depending on availability of staff.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for

gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please feel free to contact me with any additional questions or comments at (949) 459-6590 or danf@smwd.com.

Very truly yours,

SANTA MARGARITA WATER DISTRICT

Daniel R. Ferons
Chief Engineer

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Photos Provided by Dudek

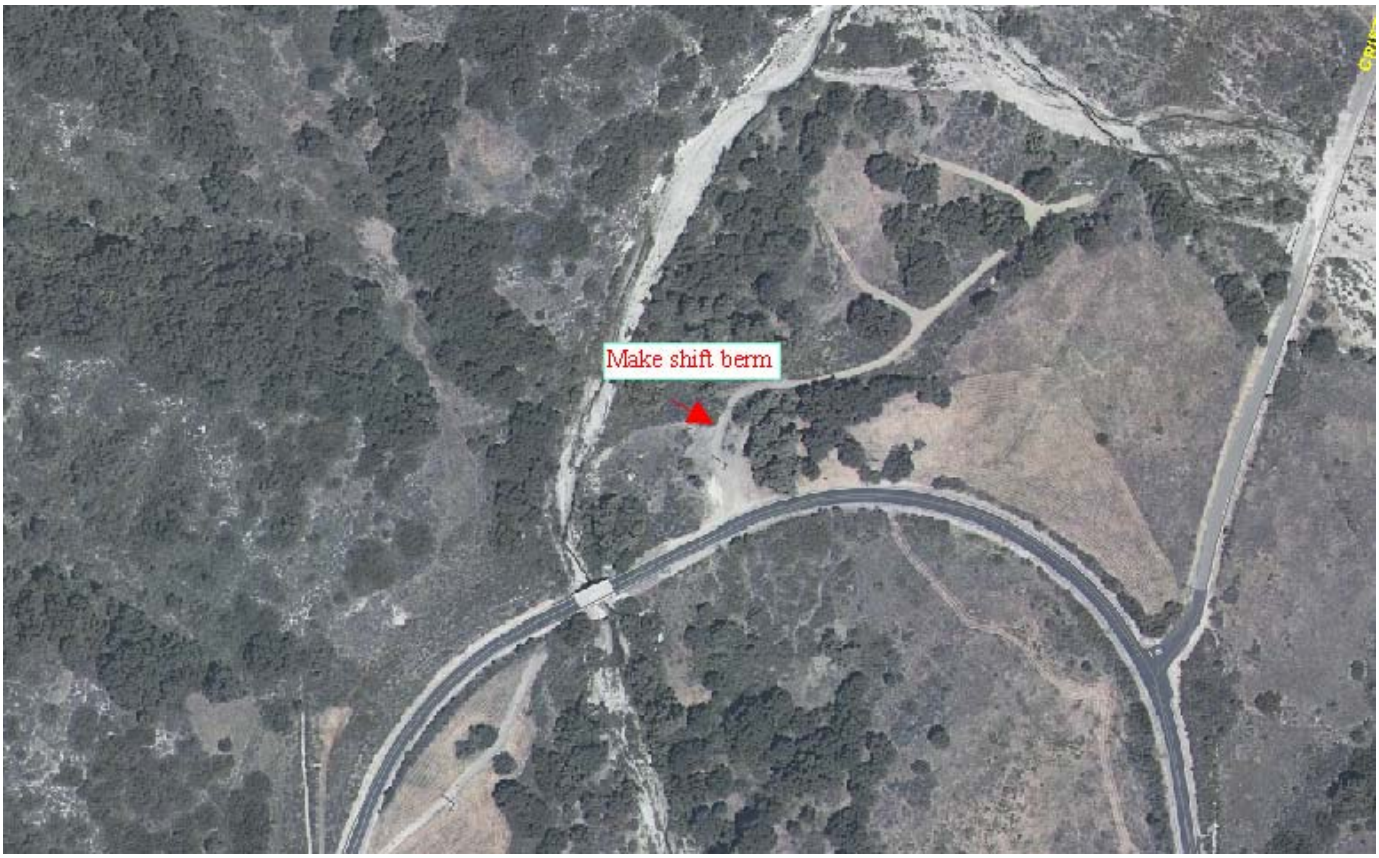
Flattened vegetation and mud where water flowed through the coastal sage scrub area close to the source of the break

Photos Provided by Dudek

Gravel in the creek near the V-notch weir.

Residue that was found near the terminus of the flow

Aerial Photo Provided by District Staff



Photos Provided by the District Staff

Debris desposited on bank of Cristianitos Creek

Photo of v-notch weir from bridge over Cristianitos Road