



SANITARY SEWER MANAGEMENT PLAN

2018

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Introduction

Background

This Sewer System Management Plan (SSMP) has been prepared in compliance with the State Water Resources Control Board (SWRCB) Order 2006-0003: Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (GWDR), as revised by Order No. WQ 2008-0002.EXEC on February 20, 2008, as revised by Order No. 2013-0058-EXEC on September 9, 2013. The GWDR prohibits sanitary sewer overflows (SSOs) and requires reporting of SSOs using a statewide electronic reporting system. The intent of this SSMP is to meet the requirements of both the San Francisco Bay Regional Water Quality Control Board and the State Water Resources Control Board.

Organization of SSMP

The structure of this document follows the section numbering and nomenclature specified in the GWDR. The SSMP includes 11 sections:

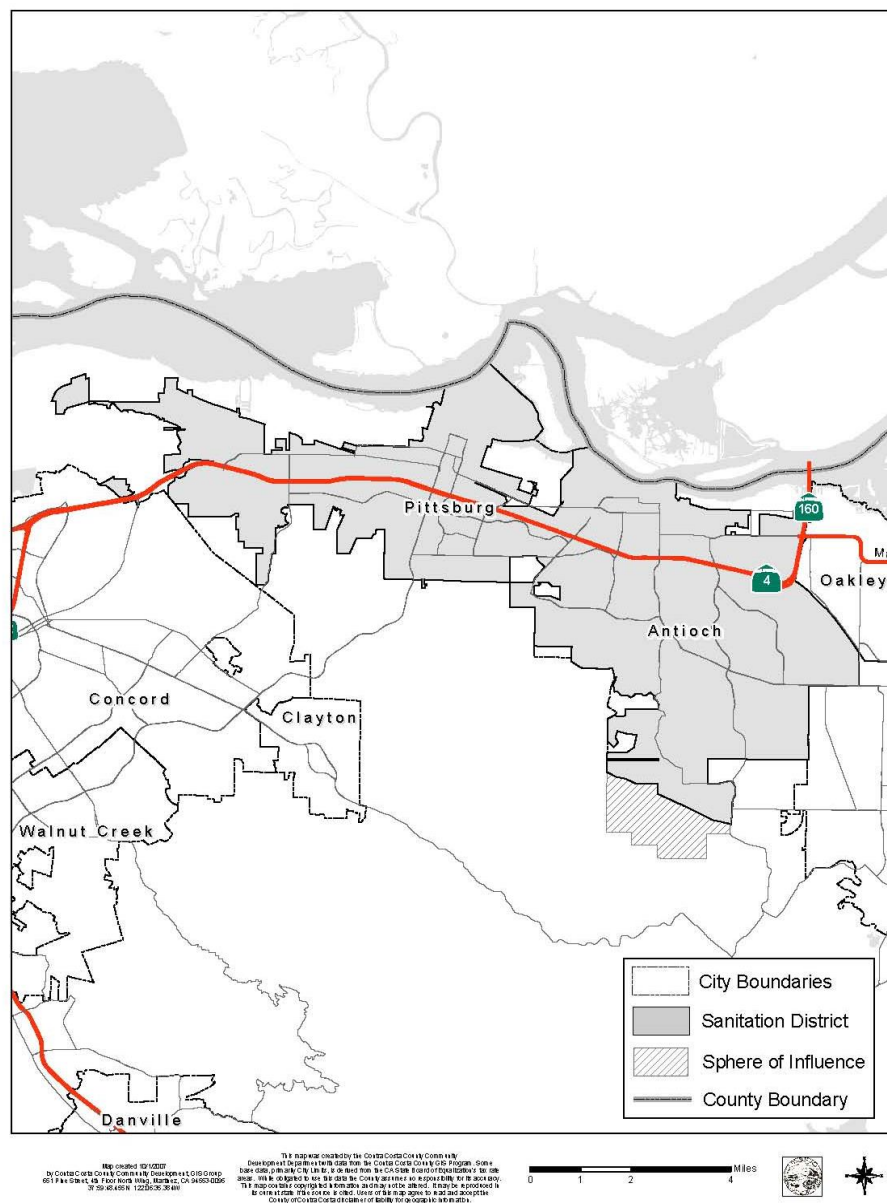
1. Goals
2. Organization
3. Legal Authority
4. Operation and Maintenance Program
5. Design and Performance Provisions
6. Overflow Emergency Response Plan
7. Fats, Oils and Grease (FOG) Control Program
8. System Evaluation and Capacity Assurance Plan
9. Monitoring, Measurement, and Program Modifications
10. SSMP Audits
11. Communication Program

System Overview¹

The Delta Diablo (District) provides wastewater collection services for the unincorporated community of Bay Point, and conveyance, treatment, and disposal services for the Cities of Antioch and Pittsburg. The District serves an estimated population of 212,000 residents in a service area of approximately 54 square miles. The District's wastewater collection and conveyance systems include five pump stations, 57 miles of gravity sewers, and 18.5 miles of force mains. The District's sewer system facilities are summarized on Table I-1. The District service area is shown on Figure I-1.

¹ Contra Costa LAFCO Water and Wastewater Municipal Services Review for East Contra Costa County, Final—Approved December 19, 2007 ([http://www.contracostalafco.org/municipal_service_reviews/east_county_water_wastewater/8.0%20Delta Diablo_WaterWastewater%20Final.pdf](http://www.contracostalafco.org/municipal_service_reviews/east_county_water_wastewater/8.0%20Delta%20Diablo_WaterWastewater%20Final.pdf))

Figure I-1: Delta Diablo Service Area ²



² Created by the Contra Costa County Community Development Department with data from the Contra Costa County GIS Program. Extracted from Contra Costa LAFCO: Water and Wastewater Municipal Services Review for East Contra Costa County, Final—Approved December 19, 2007.

Table I-1: District Sewer System Facilities

Facilities	Service Area	Quantity
Sewer Mains	Bay Point Gravity	43 Miles
	Interceptors	14 Miles
	Force mains	18.5 Miles
Pump Stations	Antioch	2
	Bay Point	2
	Pittsburg	1
Sewer System Connections	Antioch	31,404
	Bay Point	5,309
	Pittsburg	18,368

Definitions, Acronyms, and Abbreviations

Best Management Practices (BMP) - Refers to the procedures employed in commercial kitchens to minimize the quantity of grease that is discharged to the sanitary sewer system. Examples include scraping food scraps into a garbage can and dry wiping dishes prior to washing.

Calendar Year (CY)

California Integrated Water Quality System (CIWQS) - Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system. The electronic reporting requirement became effective on May 2, 2007, for Region 2 and September 2, 2007, for Region 5.

California Office of Emergency Services (Cal OES) - Refers to the California Governor's Office of Emergency Services.

Capital Improvement Program (CIP) - Refers to the document that identifies planned capital improvements to the District's sanitary sewer system.

Certification of SSO Reports – The SWRCB requires the Legally Responsible Official to login to CIWQS within a given time to electronically sign submitted reports thereby stating that to the best of his/her knowledge and belief, the information submitted is true, accurate, and complete.

Closed Circuit Television (CCTV) - Refers to the process and equipment that is used to internally inspect the condition of gravity sewers.

Computerized Maintenance Management System (CMMS)

County Health – Refers to the Contra Costa County Health Department.

Delta Diablo (District)

Drainage Channel- Refers to any structure that drains storm and/or surface water including storm drains.

Fats, Oils, and Grease (FOG) - Refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.

First Responder – Refers to the District employee who provides the District's initial response to a sewer system event.

Field Report – Refers to the Collection System Service Call/Overflow Field Report, included as Appendix 6-E.

Food Service Establishment (FSE) - Refers to commercial or industrial facilities that discharge to the sanitary sewer system where food is handled/prepared/served.

Force main - Refers to a pressure sewer used to convey wastewater from a pump station to the point of discharge.

Full-time Equivalent (FTE) - Refers to the equivalent of 2,080 paid labor hours per year by a regular, temporary, or contract employee.

General Waste Discharge Requirements (GWDR) - Refers to the State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated May 2, 2006, as revised on February 20, 2008.

Geographical Information System (GIS) - System used to capture, store, analyze, and manage geospatial data associated with sanitary sewer system assets.

Global Positioning System (GPS) - Refers to the handheld unit used to determine the longitude and latitude of sanitary sewer overflows for use in meeting CIWQS reporting requirements.

Grease Removal Device (GRD) - Refers to grease traps or grease interceptors that are installed to remove FOG from the wastewater flow at food service establishments.

High Density Polyethylene (HDPE)

Hot Spot – A gravity sewer identified as requiring frequent preventive maintenance to reduce the likelihood of SSOs.

Infiltration/Inflow (I/I) - Refers to water that enters the sanitary sewer system from storm water and groundwater that increases the quantity of flow. Infiltration enters through defects in the sanitary sewer system after flowing through the soil. Inflow enters the sanitary sewer without flowing through the soil. Typical points of inflow are direct connections to the sanitary sewer (e.g. storm drains, area drains, and roof leaders).

Lateral - See sewer service lateral.

Legally Responsible Official (LRO) - Refers to the individual who has the authority to certify reports and other actions that are submitted through CIWQS.

Manhole (MH) - Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

Monitoring, Measurement, and Program Modifications (MMPM)

National Pollution Discharge Elimination System (NPDES)

Not Applicable (N/A)

Notification of an SSO – Refers to the time at which the District becomes aware of an SSO event through observation or notification by the public or other source.

Operations and Maintenance (O&M)

Overflow Emergency Response Plan (OERP)

Personal Protective Equipment (PPE)

Plant Operations Center (POC)

Polyvinylchloride Pipe (PVC)

Preventive Maintenance (PM) - Refers to maintenance activities intended to prevent failures of the sanitary sewer system facilities (e.g. sewer cleaning, equipment maintenance).

Private Lateral Sewage Discharges - Sewage discharges that are caused by blockages or other problems within a privately-owned lateral.

Property Damage Overflow – Property damage overflow refers to a sewer overflow or backup that damages private property.

Regional Water Quality Control Board (RWQCB) - Refers to the San Francisco Bay Regional Water Quality Control Board, Region 2 unless otherwise specified.

Sanitary Sewer Overflow (SSO) - Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

- i. Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;
- ii. Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and
- iii. Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

Sanitary Sewer System - Refers to the portion of the sanitary sewer facilities that are owned and operated by the Delta Diablo.

Sensitive Area – Refers to areas where an SSO could result in a fish kill or pose an imminent or substantial danger to human health.

Sewer Service Lateral - Refers to the piping that conveys sewage from the building to the District's sewer system.

Sewer System – See Sanitary Sewer System.

Sewer System Management Plan (SSMP)

Standard Operating Procedures (SOP) - Refers to written procedures that pertain to specific activities employed in the operation and maintenance of the sanitary sewer system.

State Water Resources Control Board (SWRCB) - Refers to the California Environmental Protection Agency (EPA) State Water Resources Control Board and staff responsible for protecting the State's water resources.

Supervisory Control and Data Acquisition (SCADA)

Surface Waters – See waters of the State.

System Evaluation and Capacity Assurance Plan (SECAP)

United States Environmental Protection Agency (EPA)

Vitrified Clay Pipe (VCP)

Volume Captured – The amount of spilled sewage that is returned to the sanitary sewer system.

Water Body – A water body is any stream, creek, river, pond, impoundment, lagoon, wetland, or bay.

Waters of the State – Waters of the State means any water, surface or underground, including saline waters, within the boundaries of California. In case of a sewage spill, storm drains are considered to be Waters of the State unless the sewage is completely contained and returned to the sewer system and that portion of the storm drain is cleaned.

Work Order (WO) - Refers to a document (paper or electronic) that is used to assign work and to record the results of the work.

References

New Requirements for Preparing Sewer System Management Plans, California Regional Water Quality Control Board San Francisco Bay Region letter to Sewer System Authorities, July 7, 2005 (www.cwea.org/conferences/sso/Reg2 Letter-SSMP0705.pdf).

Sewer System Management Plan (SSMP) Development Guide, San Francisco Bay Regional Water Quality Control Board in cooperation with Bay Area Clean Water Agencies, July 2005 (www.swrcb.ca.gov/rwqcb2/download/).

State Water Resources Control Board Order No. 2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, California State Water Resources Control Board, May 2, 2006.

Monitoring and Reporting Program 2006-0003 Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, State Water Resources Control Board, May 2, 2006 (www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2008/wqo/wqo2008_0002_exec.pdf).

State Water Resources Control Board Monitoring and Reporting Program No. 2013-0058 DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, California State Water Resources Control Board, February 20, 2008 (www.cwea.org/pdf/2008-0002-EXEC.pdf).

Section 1 Goals

1.1 Introduction

This section of the SSMP presents the District's goals for the management, operation, and maintenance of its sanitary sewer system.

1.2 Regulatory Requirements for Goals Element of SSMP

The summarized requirements for the Goals Element of the SSMP are:

1.2.1 RWQCB Requirement

The goal of the SSMP is to develop goals to manage, operate, and maintain all parts of its collection system. The goals should address the provision of adequate capacity to convey peak wastewater flows, as well as a reduction in the frequency of Sanitary Sewer Overflows (SSOs) and the mitigation of their impacts.

1.2.2 GWDR Requirement

The goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent Sanitary Sewer Overflows (SSOs), as well as mitigate any SSOs that do occur.

1.3 SSMP Goals

The District's goals are:

1. To properly manage, operate, and maintain all portions of the District's wastewater collection and conveyance systems.
2. To provide adequate capacity to convey the peak wastewater flows. Adequate capacity, for the purposes of this SSMP, is defined as the capacity to convey the peak wastewater flows that are associated with the design storm event.
3. To minimize the frequency of SSOs and to achieve the greatest reasonable reduction in SSOs.
4. To mitigate the impacts that are associated with any SSO that may occur.
5. To meet all applicable regulatory notification and reporting requirements.
6. To measure progress through performance measures so the plan can be adjusted as needed.
7. To protect public health, the environment, and to prevent unnecessary property damage.
8. To effectively identify and remedy design, construction, and operational deficiencies.
9. To perform all activities in a safe manner.

Section 2 Organization

2.1 Introduction

This section of the SSMP identifies District staff that is responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements.

2.2 Regulatory Requirements for Organization Element of SSMP

The requirements for the Organization element of the SSMP are summarized below:

2.2.1 RWQCB Requirement

The SSMP must identify staff (names and phone numbers) responsible for implementing measures outlined in the SSMP, including management, administration, and maintenance positions. Identify the chain of communication for reporting and responding to SSOs.

2.2.2 GWDR Requirement

The SSMP must identify:

1. The name of the responsible or authorized representative;
2. The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. Include lines of authority as shown in an organization chart or similar document with a narrative explanation; and
3. The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or California Office of Emergency Services (Cal OES)).

2.3 Organization

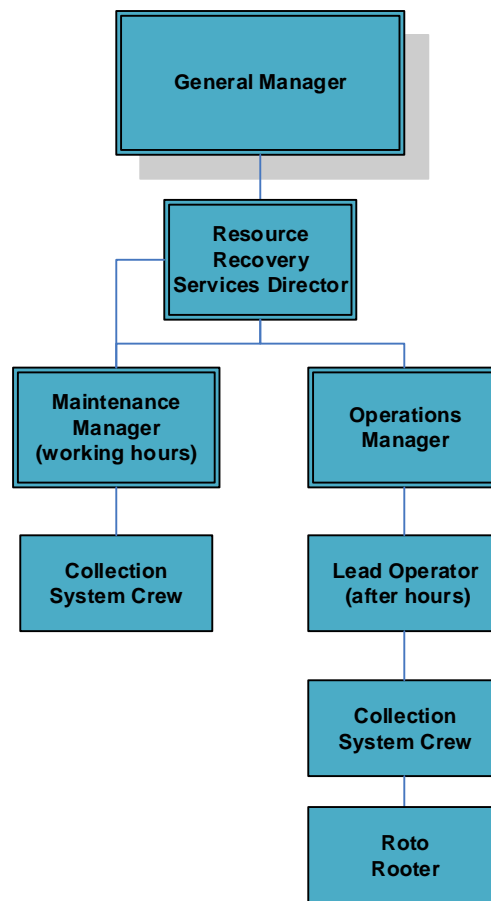
The organization chart for the management, operation, and maintenance of the District's wastewater collection system is shown on Figure 2-1.

2.4 Authorized Representative

The District's Authorized Representatives in all wastewater collection system matters is the, Resource Recovery Services Director and Maintenance Manager. These positions are authorized to submit verbal, electronic, and written spill reports and they are authorized to certify electronic spill reports submitted to the State Water Resources Control Board.

The Operations Manager, Operations Supervisor, Lead Operator, and Collection Worker Lead are authorized to submit verbal, electronic, and written spill reports.

Figure 2-1: Organization Chart and SSO Reporting Chain of Communication



2.5 Responsibility for SSMP Implementation

The Resource Recovery Services Director is responsible for developing, implementing, and maintaining all elements of the District's SSMP.

Other District staff responsible for developing, implementing, and maintaining specific elements of the District's SSMP, along with their job titles and contact information, are shown in Appendix 2-A.

2.6 SSO Reporting Chain of Communication

The SSO Reporting Chain of Command follows the Organization Chart shown on Figure 2-1. The SSO reporting process and responsibilities are described in detail in Section 6 - Overflow Emergency Response Plan.

Appendix 2-A SSMP Development, Implementation, and Maintenance Responsibilities

Name	Job Title	Phone Number	SSMP Responsibility	Section
Vince De Lange	General Manager	(925) 756-1920	LRO, Maintain SSMP	All
Dean Eckerson	Resource Recovery Services Director	(925) 756-1972	LRO, SSO Response (Off Hours)	All
Joaquin Gonzalez	Operations Manager	(925) 756-1971	LRO, Conveyance System Operations	4,6
Terry Spurgeon	Maintenance Manager	(925) 756-1921	LRO, Sewer System Maintenance, SSO Response Report	4,6,9,10,11
Brian Thomas	District Engineer	(925) 756-1928	Design and Performance Provisions, Capacity Assurance Program, Capital Improvement Program, Collection System Maps	3,5,8
Darrell Cain	Laboratory Manager	(925) 756-1915	FOG	7
Mary Harvey	Safety Manager	(925) 756-1934	Overflow Emergency Response Plan (OERP) Training	6
Cheryl Rhodes-Alexander	Human Resources and Risk Manager	(925) 756-1969	CSRMA Claims Management Coordinator	6
Angela Lowrey	Public Information Manager	(925) 756-1945	Public Information	7, 11

Section 3 Legal Authority

3.1 Introduction

This section of the SSMP presents the District's legal authority to comply with the SSMP requirements, as provided in its District Code and agreements with other agencies.

3.2 Regulatory Requirements for Legal Authority Element of SSMP

The summarized requirements for the Legal Authority element of the SSMP are:

3.2.1 RWQCB Requirement

The District must demonstrate that it has the legal authority (through ordinances, service agreements, and other binding procedures) to control infiltration and inflow (I/I) from satellite collection systems and private service laterals; require proper design, construction, installation, testing, and inspection of new and rehabilitated sewers and laterals; and enforce violation of ordinances.

3.2.2 GWDR Requirement

The District must demonstrate, through collection system use, ordinances, service agreements, or other legally binding procedures that it possesses the necessary legal authority to:

- a) Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.).
- b) Require that sewers and connections be properly designed and constructed.
- c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District.
- d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages
- e) Inspect grease producing dischargers; and
- f) Enforce any violation of its sewer ordinances.

3.3 District Code

The District Code describes the District's current legal authorities. The legal authorities provided in the District Code that address the specific requirements for this SSMP are summarized on Table 3-1:

3.4 Agreements with Satellite Collection Systems

The Antioch and Pittsburg sewer systems discharge into the District's conveyance system. The relationship between the satellite Cities and the District are delineated in the District Code and the Cities have representation on the District's Board of Directors. The District and its satellite agencies are working cooperatively in the development and implementation of their respective SSMPs. There is no benefit at this time that would be associated with formal agreements between the District and its satellite agencies due to the nature of the District's governance structure.

3.5 Agreement with Northern California River Watch

On June 17, 2013, the District entered into an agreement with the Northern California River Watch Corporation. The agreement provides specific guidelines for District personnel to follow in responding to and reporting SSOs and condition assessment and rehabilitation responsibilities. The agreement is filed with the District records as CORP.10-AGR-1345 and may be referred to as needed. The District completed the surface water condition assessment in June 2018 in compliance with the timeframe specified in Section 2.a.i. Pipeline rated significantly defective (PACPS) have been prioritized in the District's CIP accordance with the agreement Sections 2.a.(ii) and 2.a.(iii). A summary of the agreement sewer system requirements are as follows:

1. NCRW Definitions

- (a) **Effective Date:** The term "Effective Date," as used in this Agreement, shall mean the last date on which the signature of a party to this Agreement is executed.
- (b) **Condition Assessment:** The term "Condition Assessment" shall mean a report that comprises inspection, rating, and evaluation of the existing condition of a sewer collection system. Inspection is based upon Closed Circuit Television (CCTV) inspections for gravity mains. After CCTV inspection occurs, pipe conditions are assigned a grade based on the Pipeline Assessment and Certification Program (PACP) rating system, developed by the National Association of Sewer Service Companies.
- (c) **Full Condition Assessment:** The term "Full Condition Assessment" shall mean a Condition Assessment of all gravity sewer lines (not force mains) except for gravity sewer lines located within two hundred (200) feet of surface waters, defined as a river, creek, stream canal or bay (i.e., those gravity sewer lines not included in the definition of Surface Water Condition Assessment).
- (d) **Surface Water Condition Assessment:** The term "Surface Water Condition Assessment" shall mean a Condition Assessment of all gravity sewer lines (not force mains) within two hundred (200) feet of surface waters, defined as a river, creek, stream canal or bay.
- (e) **Significantly Defective:** A sewer pipe is considered to be "Significantly Defective" for purposes of this Agreement if the pipe's condition receives a structural grade of 5 based on the PACP rating system. The PACP assigns grades based on the significance of the defect, extent of damage, percentage of flow capacity restriction, and/or the amount of pipe wan loss due to deterioration. Grades are assigned as follows:

5 - Most significant defect

4 - Significant defect

3 - Moderate defect

2 - Minor to moderate defect

1 - Minor defect

2. **Collection System Investigation & Repair**

(a) **Surface Water Condition Assessment**

- (i) Within five (5) years of the Effective Date of this Agreement, the District shall complete a Surface Water Condition Assessment, except those sewer lines that have been inspected by CCTV within the last eight (8) years or constructed or rehabilitated within the last ten years.

- (ii) The District shall repair or replace all sewer lines rated Significantly Defective (PACP rating grade 5) by the Surface Water Condition Assessment, or take other appropriate action, within three (3) years of determination that a line is Significantly Defective via completion of the Surface Water Condition Assessment. The phrase "take other appropriate action" in this circumstance means to divert sewage flow from a Significantly Defective sewer line or abandon the Significantly Defective sewer line in lieu of repair or replacement.
- (iii) With respect to sewer lines that receive a PACP rating Grade 4 by the Surface Water Condition Assessment, the District will ascertain whether such lines need to be repaired or re-CCTV.

(b) Full Condition Assessment

- (i) Within eight (8) years of the Effective Date of this Agreement, the District shall complete a Full Condition Assessment, excepting those sewer lines that, at the time the Full Condition Assessment work is being undertaken in a given area, have been inspected by CCTV within the last five (5) years or constructed or rehabilitated within the last ten (10) years, and excepting those sewer lines that are already addressed by the Surface Water Condition Assessment.

3. Sewer System Overflow Response and Reporting

- (a) The District's Sanitary Sewer Overflow (SSO) report form shall include the method of calculation used for estimating total spill volume, estimating spill volume that reaches surface waters, and estimating spill volume recovered.
- (b) The District shall document the following information, and will include, where feasible, the same information in SSO reports submitted to the State Water Resources Control Board via the CIWQS SSO website:
 - (i) Date and time the District was made aware of the SSO, based on information received from a complainant, informant, or through self-discovery (whichever is earlier).
 - (ii) Date and arrival time to the scene of the SSO by the crew responsible for containment of the SSO.
 - (iii) Estimated ongoing SSO discharge rate in gallons per minute (if ongoing) at the time the crew responsible for SSO containment arrived at the scene of the SSO.
 - (iv) SSO start/stop date and time. The parties recognize that designating the SSO start time as the equivalent to the time the agency was first notified of the spill may not be reliable.
 - (v) Description of how SSO start/stop date and time were calculated, which may include:
 - (1) Date and time the complainant or informant first noticed the SSO, unless self-discovered by the District;
 - (2) Any further information provided by the complainant or informant;
 - (3) Corroborated witness statements, if any (e.g., information provided from witnesses, nearby residents or business operators);
 - (4) Visual observation by District staff;
 - (5) Estimated volume of spill and flow rates. Start date and time can be determined by taking the estimated volume at the time of discovery and dividing it by the estimated flow rate at that same time. The start date and time is then determined by subtracting the duration from the time of discovery. Volume and flow estimations can be based on the following:

- a. Calculation of the area and depth of the SSO;
 - b. Estimation using CWEA Manhole Overflow Gauge Worksheet;
 - c. Flow meter reading in the collection system or pump stations;
 - d. Pump run times and pump discharge volume ratings;
 - e. Water usage information for customers who discharge into the collection system;
 - f. If the entire spill is captured, the tank level indicator; and/or
 - g. Any other relevant technical or collection system information.
- (c) For any SSO that is greater than 50 gallons and reaches surface waters, the District will, if feasible, collect a sample at the point of discharge, and from receiving waters at a point upstream (within 150 feet of the discharge, if possible) and at a point downstream (within 150 feet of the discharge, if possible). The samples will be analyzed for pH, dissolved oxygen, ammonia, and fecal coliform. Feasibility for obtaining a sample will involve whether sufficient flow exists to collect a representative, uncontaminated sample, and whether weather or other conditions allow District staff to safely obtain a sample (i.e., District staff will not be placed at risk for injury in severe weather). If the District alleges that it was not feasible to collect samples for a given SSO event, the District shall include an explanation of infeasibility in its SSO Report.

Any requirements under this provision which conflict with sampling or testing requirements by a regulatory agency (e.g., the sampling location, frequency, parameters analyzed, etc.), either currently in effect or adopted in the future, shall cease to be in effect under this agreement between the parties. The absence of sampling or testing requirements by a regulatory agency shall not be considered a conflict with regulatory agency requirements.

The District will agree to investigate the cause of the SSO entering surface waters and will employ the following measures to prevent future overflows: (a) if the SSO is caused by a structural defect, then the District will take immediate action to repair or replace the defect, or take other action necessary to protect water quality (e.g., divert the flow until the repair/replacement can occur); and (b) if the defect is non-structural, such as a grease blockage or vandalism to a manhole cover, the District will implement appropriate measures (e.g., additional maintenance or cleaning), where feasible, to address the cause.

- (d) *During the first two years of this Agreement, the District shall collect SSO samples for any SSO that is greater than 50 gallons and reaches surface waters, if feasible, for River Watch to conduct a CAM-17 toxic metals analysis. If no SSO events meeting these criteria occur during the first two years of this Agreement, no further sample collection is required. Feasibility for obtaining a sample will involve whether sufficient flow exists to collect a representative, uncontaminated sample, and whether weather or other conditions allow District staff to safely obtain a sample (i.e., District staff will not be placed at risk for injury in severe weather). If the District alleges that it was not feasible to collect SSO samples for River Watch for any SSO greater than 50 gallons which reaches surface water, the District shall include an explanation of infeasibility in its SSO Report.

***Note: This requirement is no longer applicable as of June 2015.**

4. CIWQS Link

The District shall create a link from the District's website to the State Water Resources Control Board's CIWQS SSO Public Reports website and shall publicize this new link to customers and members of the public.

Table 3-1: Legal Authority

Requirement	District Code Reference	Meets GWDR Requirements?	Code Page Number
General			
Prevent illicit discharges into the wastewater collection system	2.10.010 2.28.020	Yes	22 55
Limit the discharge of debris that may cause blockages	2.28.020 (B.3)	Yes	55
Require that sewers and connections be properly designed and constructed	2.10.040	Yes	22
Laterals			
Clearly define Agency responsibility	2.10.040	No responsibility for laterals	22
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the Agency	Not Applicable (N/A)	No responsibility for laterals	N/A
Control infiltration and inflow (I/I) from private service laterals	2.28.020 (B.20)	Yes	56
FOG Source Control			
Limit discharges of fats, oils, and grease	2.28.020 (B.17)	Yes	56
Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements	2.28.650 2.28.655 2.28.660	Yes	92 93 94
Authority to inspect grease producing facilities	2.28.660A	Yes	83 94
Enforcement			
Enforce violations of the sewer ordinances	2.28.450-.485 2.28.500-.510	Yes	86-89 89-90

Appendix 3-A Sewer Management Plan Change Log

DATE	SSMP SECTION	DESCRIPTION OF CHANGE/REVISION	AUTHORIZED CHANGE BY
2/12/20	Appendix 6-C	Updated Outside Contractor Phone List	Dustin Bloomfield

Appendix 3-B SSMP Adoption Documents

APPROVED

ITEM E/2

October 10, 2018

**ADOPT RESOLUTION APPROVING UPDATED SEWER SYSTEM MANAGEMENT PLAN AS
MANDATED BY THE STATE WATER RESOURCES CONTROL BOARD**

RECOMMENDATION

Adopt Resolution approving the District's updated Sewer System Management Plan (SSMP) pursuant to the statewide General Waste Discharge Requirements (WDRs) set forth by the State Water Resources Control Board (SWRCB).

Background Information

In May 2006, the SWRCB adopted Order No. 2006-0003-DWQ, which established WDRs for public agencies that own and operate sanitary sewer collection systems. The WDRs mandate that owners and operators of sanitary systems must: (1) report sanitary sewer overflows (SSOs) to the SWRCB and (2) develop and implement a Sewer System Management Plan (SSMP) with specific provisions for the proper and efficient management, operation, and maintenance of sanitary sewer systems.

In April 2009, the District adopted its SSMP and completed a subsequent update in 2013. The SSMP set forth goals and actions for the various activities involved in operating, repairing, and replacing the sewer system. The SSMP includes chapters describing legal authorities and requirements, monitoring, auditing, reporting, and communicating with the public and regulators. The SSMP must be audited every two years to assess effectiveness, identify opportunities for improvement, and implement necessary revisions. The SWRCB also requires public agencies to perform a comprehensive review and update of their SSMPs at least once every five years.

Analysis

A District team comprising staff directly responsible for various elements of the SSMP and those familiar with sanitary sewer system operations, maintenance, and incident response recently conducted the required review and update. The SSMP review team focused on the effectiveness of SSMP procedures, compliance with WDRs, and any potential deficiencies in the SSMP.

The reference documents and information used for conducting the review included the amended WDR Monitoring and Reporting Program (Order No. 2013-0058-EXEC), the Northern California River Watch (NCRW) Agreement, historical sewer system performance data, and the District's operating budget and five-year capital improvement program. Based on this review, the modifications were minor in nature, such as updating employee and contractor contact information, modifying current standard operating procedure language, and adding new emergency response equipment to the District's inventory list. The updated SSMP has been provided to the Board under separate cover and will be made available at the Board meeting and District offices.


The updated SSMP is required to be approved by the Board for recertification. The updated SSMP and supporting documentation will be kept on file and available for review, and the SWRCB will be notified of the recertification.

Financial Impact

Funding for implementing the SSMP is included in the approved Fiscal Year 2018/19 operating budget.

Attachment

Resolution Approving Updated SSMP as Mandated by the SWRCB

Prepared by: 
Terry Spurgeon
Maintenance Manager

Reviewed by: 
Dean Eckerson
Resource Recovery Services Director

cc: District File NPDES.12-REP-



2500 Pittsburg-Antioch Hwy • Antioch, CA 94509 • p 925.756.1900 • f 925.756.1961 • www.deltadiablo.org
TRANSFORMING WASTEWATER TO RESOURCES

**BEFORE THE BOARD OF DIRECTORS
OF
DELTA DIABLO
(a California Special District)**

Re: Approving Updated Sewer)
System Management Plan)

RESOLUTION NO. 16/2018

THE BOARD OF DIRECTORS OF DELTA DIABLO HAS DETERMINED THAT:

WHEREAS, on May 2, 2006, the State Water Resources Control Board (SWRCB) adopted Order No. 2006-0003-DWQ, which established General Waste Discharge Requirements (WDRs) for public agencies that own and operate sanitary sewer systems; and

WHEREAS, on September 9, 2013, the SWRCB adopted Order No. WQ 2013-0058-EXEC, which amended the WDR monitoring and reporting program for sanitary sewer systems; and

WHEREAS, pursuant to the statewide WDRs, public agencies that own and operate sanitary sewer systems greater than one mile in length must develop a Sewer System Management Plan (SSMP) in accordance with the SWRCB requirements; and

WHEREAS, the SSMP must be updated every five (5) years; and

WHEREAS, Delta Diablo has updated its SSMP to meet the current WDRs and ensure conformance with other appropriate reference documents; and

WHEREAS, the updated SSMP must be approved by the District's governing body.

NOW, THEREFORE, BE IT RESOLVED that the Delta Diablo Board of Directors does hereby approve the updated Sewer System Management Plan.

PASSED AND ADOPTED on October 10, 2018, by the following vote:

AYES: LONGMIRE, WRIGHT and GLOVER	ABSENT: NONE
NOES: NONE	ABSTAIN: NONE

I HEREBY CERTIFY that the foregoing is a true and correct copy of a Resolution adopted by the Board of Directors of Delta Diablo on October 10, 2018.

ATTEST: D. Pete Longmire
Board Secretary

By: 

RESOLUTION NO. 16/2018

APPROVED

ITEM F/4

April 8, 2009

ADOPT RESOLUTION APPROVING SEWER SYSTEM MANAGEMENT PLAN AS MANDATED BY THE STATE WATER RESOURCES CONTROL BOARD

RECOMMENDATION

Adopt a resolution approving the District's Sewer System Management Plan (SSMP) (provided to Board under separate cover) pursuant to the statewide General Waste Discharge Requirements, set forth by the State Water Resources Control Board (SWRCB) order No. 2006-0003.

Background Information

Over the past few years, both the San Francisco Bay Regional Water Quality Control Board (RWQCB) and the State Water Resources Control Board (SWRCB) have adopted requirements for agencies that own and operate sanitary sewer collection systems. The most recent requirement includes the preparation of an SSMP which is a document that must include system specific provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit analysis. Additionally, the SSMP must contain a spill response and reporting plan that establishes standard procedures for immediate response to a sanitary sewer overflow in a manner designed to minimize water quality impacts and potential nuisance conditions.

On November 8, 2006, the Board authorized the General Manager to execute an agreement with Larson Consulting in an amount not to exceed \$161,000 (shared between the District and Cities) to work together with District staff, the City of Antioch, and the City of Pittsburg in developing each agency's SSMP. It was agreed that working cooperatively would provide a cost savings to each agency and would aid in facilitating better communication, improved collection system information management, greater consistency in standards/enforcement, and superior emergency response in the event of a spill.

Analysis

Under the new order, publicly owned sanitary sewer systems are required to prepare their respective SSMP's in accordance with the SWRCB provided SSMP Time Schedule (Attachment 1). The District, the City of Antioch, and the City of Pittsburg have all participated cooperatively in the development of documents for compliance with the order and all conditions have been met ahead of schedule.

The SWRCB requires collection agencies to present the SSMP to the agency's governing board for approval at a public meeting prior to certification with the state. The proposed resolution is provided as Attachment 2. This represents the final steps in the SSMP development and certification process. This approval is necessary to ensure that the Board is aware of the scope of the SSMP and its potential impacts such as new programs, budget, staffing, and equipment before it is certified. An outline of the key elements of the SSMP is provided as Attachment 3. The deadline for certification is May 2, 2009.

Financial Impact

The District's share for developing the SSMP was \$35,000. The potential impacts of the SSMP will be determined over time and will be incorporated in relevant budgeting documents as they are known.

Attachments

- 1) SSMP Time Schedule
- 2) Resolution
- 3) SSMP Guidelines Summary

Signature: _____

Michael Dixon, Maintenance Manager

© 2009 District File NPDES.12-DOCS

Attachment 24 and 8-2009ssm a b c d m r o o s s p r o v i d e s . c o m / i n d e x . c o o k

Delta Diablo Sanitation District

2500 Pittsburg Antioch Highway, Antioch, CA 94509-1303 • (925) 756-1300

Administration Fax: (925) 756-1951 • Maintenance Fax: (925) 756-1963 • Operations Fax: (925) 756-1562 • Technical Services Fax: (925) 756-1950

**BEFORE THE BOARD OF DIRECTORS
OF
DELTA DIABLO SANITATION DISTRICT**

**Re: Approving Sewer System)
 Management Plan)**

RESOLUTION NO. 6/2008

THE BOARD OF DIRECTORS OF DELTA DIABLO SANITATION DISTRICT HAS
DETERMINED THAT:

WHEREAS, on May 2, 2006, the State Water Resources Control Board (SWRCB), adopted
new Statewide General Waste Discharge Requirements (GWDR) for Sanitary Sewer Systems, SWRCB
Order No. 2006-0003; and

WHEREAS, pursuant to the statewide GWDR, public agencies that own and operate sanitary
sewer systems greater than one mile in length must develop a Sewer System Management Plan (SSMP)
in accordance with the SWRCB requirements; and

WHEREAS, the Delta Diablo Sanitation District's staff has developed the Sewer System
Management Plan to meet the requirements of the SWRCB; and

WHEREAS, the completed Sewer System Management Plan must be approved by the agency's
governing body,

NOW, THEREFORE, BE IT RESOLVED that the Delta Diablo Sanitation District's Board of
Directors does hereby approve the Delta Diablo Sanitation District Sewer System Management Plan.

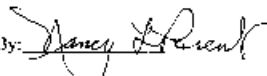
PASSED AND ADOPTED on April 8, 2009, by the following vote:

AYES: DAVIS and PARENT
NOES: NONE

ABSENT: GLOVER
ABSTAIN: NONE

I HEREBY CERTIFY that the foregoing is a true and correct copy of a Resolution adopted by
the Board of Directors of Delta Diablo Sanitation District on April 8, 2009.

ATTEST: Nancy L. Parent
Board Secretary

By: 

Attachment: SSMP (by Reference)

RESOLUTION NO. 6/2008

z:\board\resolutions\2009\res 6-2009 - approving sewer system management plan.doc

Appendix 3-C Re-Certification Document

APPROVED

ITEM E/1

December 11, 2013

ADOPT RESOLUTION APPROVING THE DISTRICT'S UPDATED SEWER SYSTEM MANAGEMENT PLAN
AS MANDATED BY THE STATE WATER RESOURCES CONTROL BOARD

RECOMMENDATION

Adopt Resolution approving the District's updated Sewer System Management Plan (SSMP) pursuant to the statewide General Waste Discharge Requirements (GWDR) set forth by the State Water Resources Control Board (SWRCB).

Background Information

In May 2006, SWRCB adopted requirements for agencies that own and operate sanitary sewer collection systems pursuant to the requirements included in SWRCB Order No. 2006-0003-DWQ. The requirements included the preparation of an SSMP with specific provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems. The SSMP is required to have a spill response and reporting plan establishing standard procedures for immediate response to a sanitary sewer overflow in a manner designed to minimize water quality impacts and potential nuisance conditions. The SWRCB required a phased in approach with full implementation by May 2, 2009. The District certified completion of the SSMP through the California Integrated Water Quality System in time to meet the May 2, 2009 deadline with Board approval on April 8, 2009. The SWRCB requires that all sewer agencies perform a comprehensive review of their SSMP and update the document at least once every five years.

Analysis

A team consisting of the District's staff directly responsible for different aspects of the SSMP and those familiar with sanitary sewer system operations, maintenance, and response recently conducted the audit/update. The review team focused on the effectiveness of the SSMP Program, compliance with the GWDR requirements, and identification of any deficiencies in the SSMP.

Items reviewed in preparing for the update included the amended GWDR Monitoring and Reporting Program (Revised Order No. 2013-0058-EXFC), the Northern California River Watch (NCRW) Agreement, Historical System Performance Data, Operating Budget, and the District's five-year Capital Improvement Program (CIP). With the exception of those changes identified in the revised GWDR and NCRW Agreement, the modifications were minor in nature, such as updating employee and contractor contact information, modifying current standard operational procedure language, and adding new emergency response equipment to the District's inventory list. The SSMP has been provided to the Board under separate cover and will be available at the meeting and District offices. Detailed results of the update process are described in the Sewer System Management Plan Audit/Update (Attachment 1). The review team has ensured that the District's revised SSMP comprises every aspect of the updated GWDR and the NCRW Agreement.

The SWRCB requires collection agencies to present the SSMP to the agency's governing board for approval at a public meeting prior to certification with the state. The proposed Resolution is provided as Attachment 2. The revised SSMP and supporting documents will be kept on file and available for review and the SWRCB will be notified of the SSMP update as directed in the GWDR.

Financial Impact

N/A

Attachments

- 1) Sewer System Management Plan Audit/Update
- 2) Proposed Resolution

Signature:

Michael Dixon
Michael Dixon, Maintenance Manager

cc: District File SFTY.03.01-PROC1-1

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Delta Diablo Sanitation District

2630 Pittsburg-Antioch Highway Antioch, CA 94509-1373 • (925) 756-1900

Administration Fax: (925) 756-1951 • Maintenance Fax: (925) 756-1963 • Operations Fax: (925) 756-1982 • Technical Services Fax: (925) 756-1960

**BEFORE THE BOARD OF DIRECTORS
OF
DELTA DIABLO SANITATION DISTRICT**

Re: **Approving Updated Sewer)
System Management Plan)**

RESOLUTION NO. 17/2013

THE BOARD OF DIRECTORS OF DELTA DIABLO SANITATION DISTRICT HAS
DETERMINED THAT:

WHEREAS, on May 2, 2006, the State Water Resources Control Board (SWRCB) adopted
Statewide General Waste Discharge Requirements (GWDR) for Sanitary Sewer Systems, SWRCB
Order No. 2006-0003, and Amendment Order No. WQ 2013-0058-EXEC on September 9, 2013; and

WHEREAS, pursuant to the statewide GWDR, public agencies that own and operate sanitary
sewer systems greater than one mile in length must develop a Sewer System Management Plan
(SSMP) in accordance with the SWRCB requirements; and

WHEREAS, the SSMP must be updated every five (5) years; and

WHEREAS, the Delta Diablo Sanitation District's staff has updated its SSMP to meet the most
current wastewater discharge requirements of the SWRCB, as well as requirements of the 2013
Northern California Riverwatch Settlement Agreement; and

WHEREAS, the complete updated SSMP must be approved by the agency's governing body;


NOW, THEREFORE, BE IT RESOLVED that the Delta Diablo Sanitation District's Board of
Directors does hereby approve the updated Delta Diablo Sanitation District Sewer System Master Plan.

PASSED AND ADOPTED on December 11, 2013, by the following vote:

AYES:	GLOVER, PARENT and HARPER	ABSENT:	NONE
NOES:	NONE	ABSTAIN:	NONE

I HEREBY CERTIFY that the foregoing is a true and correct copy of a Resolution adopted by
the Board of Directors of Delta Diablo Sanitation District on December 11, 2013.

ATTEST: Federal D. Glover
Board Secretary

By: 

Attachment: Updated SSMP (by Reference)

RESOLUTION NO. 17/2013

Appendix 3-D Audit Reports

SEWER SYSTEM MANAGEMENT PLAN TWO-YEAR AUDIT AND FIVE-YEAR UPDATE OCTOBER 2015:

[N:\Maintenance\Collections\SSMP -- Sanitary Sewer Management Plan\SSMP Two-Year Audit
- Five-Year Update](N:\Maintenance\Collections\SSMP -- Sanitary Sewer Management Plan\SSMP Two-Year Audit - Five-Year Update)

Section 4 Operation and Maintenance Program

4.1 Introduction

This section of the SSMP presents the District's Bay Point Gravity Sewer System, Operations and Maintenance (O&M) Program, and the O&M Program for the District's Conveyance System.

4.2 Regulatory Requirements for Operations & Maintenance Element of SSMP

4.2.1 *RWQCB Requirement (Measures and Activities)*

1. Maintain up-to-date maps of the wastewater collection system facilities.
2. Allocate adequate resources for the operations, maintenance, and repair of the collection system.
3. Prioritize preventive maintenance activities.
4. Identify and prioritize structural deficiencies and implement a program of short-term and long-term actions to address them.
5. Provide contingency equipment to handle emergencies and spare/replacement parts intended to minimize equipment/facility downtime.
6. Provide training on a regular basis for staff in collection system operations, maintenance, and monitoring.
7. Implement an outreach program to educate commercial entities involved in sewer construction or maintenance about the proper practices for preventing blockages in private laterals. This requirement can be met by participating in a region-wide outreach program.

4.2.2 *GWDR Requirement (Operations and Maintenance)*

The summarized requirements for the Operations and Maintenance Program are:

- a. Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes: pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities.
- b. Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) Program should have a system to document scheduled and conducted activities, such as work orders.
- c. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets.

The plan shall include a time schedule for implementing the short and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.

- d. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained and;
- e. Provide equipment and replacement part inventories, including identification of critical replacement parts.

4.3 Collection System Mapping

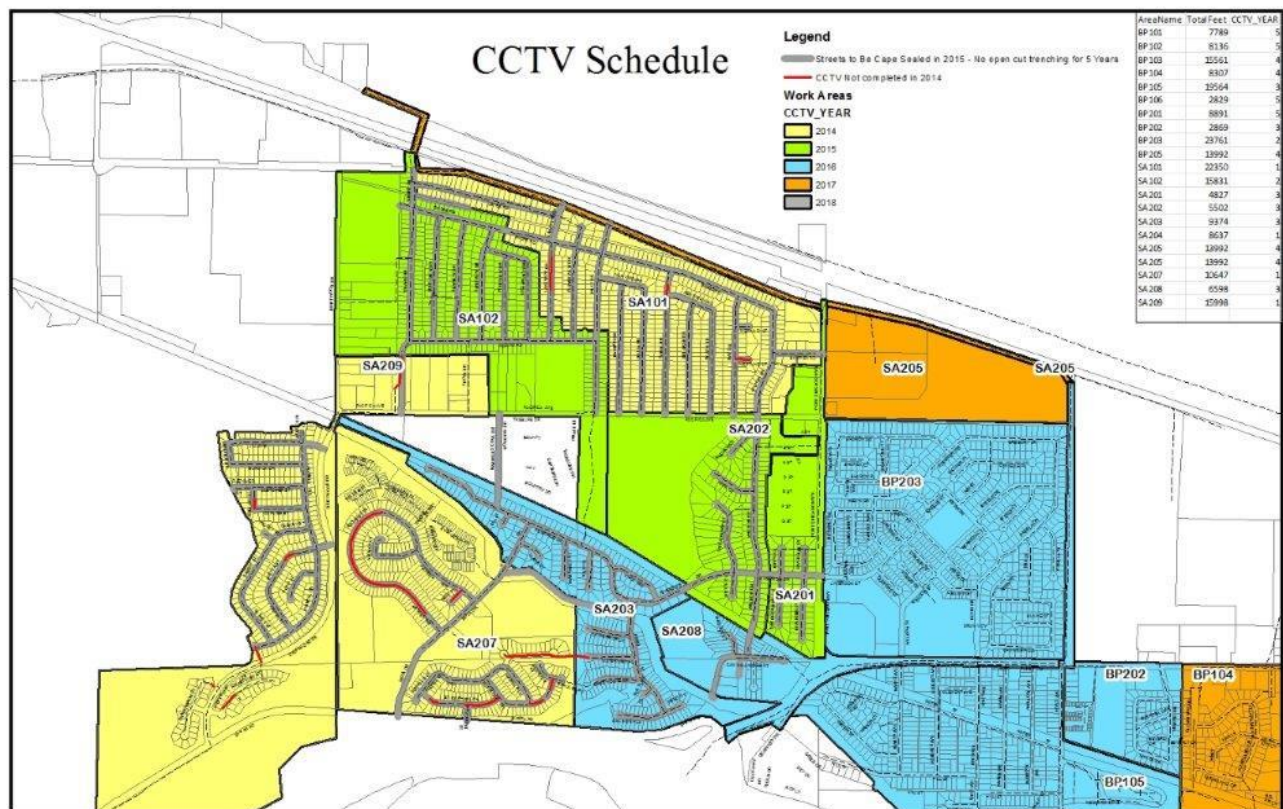
The District maintains its collection system maps for gravity sewers and conveyance system facilities using Geographical Information System (GIS). The District implemented GIS in 2013.

The field crews use hard copy maps that are produced from GIS. The hard copy maps are updated on an as-needed basis. Corrections that are identified by the field crews are forwarded to the Engineering Division for action as-soon-as-possible.

4.4 Preventive Maintenance for Gravity Sewers

4.4.1 Gravity Sewer

The District proactively cleans its sewer system every three years, and it preventively cleans sewers with a history of problems every 1, 3, 6, or 12 months. In the past, the District used contractors for CCTV inspections. In October 2013 the District purchased a new CUES Closed Circuit Television (CCTV) unit and implemented a five-year CCTV inspection program using the Pipeline Assessment Certification Program (PACP) rating system beginning late 2013 (See Map Below).



The District uses underground contractors to correct problems identified by CCTV or the sewer cleaning crew. Repairs are completed in priority order. District staff maintains a list of known structural problems. This list is maintained in priority order for future repair and rehabilitation.

Gravity sewer maintenance is currently scheduled using Mainsaver (the District's CMMS). Completed gravity sewer maintenance and CCTV inspection is recorded using work orders.

The District's standard operating procedure for sewer cleaning is included as Appendix 4-A.

4.4.2 Non-Routine Maintenance

Non-routine maintenance activities include investigation and response to any complaints regarding a manhole overflow, missing or shifted manhole covers, manhole covers that are excessively noisy, residential plumbing troubles, pump station malfunction, unexpected sewer odor, etc. Sewer complaints are investigated, and appropriate actions are taken to resolve the source of the problem. Non-routine maintenance activities are recorded in the District's CMMS.

4.5 Operation of Conveyance System

4.5.1 Pump Stations

Pump station operation is monitored by treatment plant staff using the District's Supervisory Control and Data Acquisition (SCADA) system. Pump station process parameters are transmitted to the treatment plant control room. Critical alarm conditions are also transmitted via cell phone to the Lead Operator.

Critical alarms include Communication Failure, Power Outage, Personnel Safety, Flow Diversion in Progress, Building Intrusion, and High Wet Well level. All alarms received at the treatment plant are archived in the SCADA system.

If it appears that a pump station is experiencing a SCADA communications failure, treatment plant personnel conduct onsite inspections to ensure that there is not a spill occurring at any of the District's pump stations. Inspections will discontinue when SCADA communication is restored.

A backup alarm system utilizes float switches installed above the normal high-level alarm in the wet wells and notifies the treatment plant control room via an auto-dialer and independent phone line of extreme high wet well level conditions and attempts to start a pump.

The major pump stations are monitored by a video surveillance system and intrusion alarms. Video images are transmitted via radio link to the treatment plant control room.

4.6 Preventative Maintenance for Conveyance System

4.6.1 Pump Stations

The District conducts inspections of its pump stations numerous times per week using checklists specific to each pump station. A binder with the Operating and Maintenance (O&M) manual for each station is kept at the respective sites and is updated as necessary.

Mechanical and electrical equipment preventive maintenance frequencies are established to meet accepted industry standards and manufacturer's recommendations. They are modified based on local operating conditions. Equipment maintenance is recorded in the District's CMMS.

Corrective maintenance work orders are issued to the in-house maintenance organization and include the priority for the activity.

4.6.2 Force main

The Antioch, Bridgehead, and Pittsburg pump stations have dual force mains. The Shore Acres station has a single force main.

Force main cleaning is every one-to-three-year intervals based on operating conditions, annual inspections and visual conditions that would indicate a force main problem. Force main appurtenances are inspected annually. The inspections include drain-back systems, blow-off valves, valves, and air-vacuum relief valves that are rotated annually with spares. During these inspections any signs of needed force main cleaning are noted and scheduled. The annual right-of-way inspections are conducted to note any visual conditions that would indicate a problem with the force main.

The District utilizes chemicals or oxygen at the Antioch, Shore Acres, and Pittsburg pump stations to control the formation of hydrogen sulfide in the force mains.

Force main corrosion control systems are tested and adjusted annually.

4.6.3 Conveyance System Gravity Sewers

The District monitors the condition of its conveyance system gravity sewers using periodic visual and CCTV inspections. The results of these inspections are used to determine the condition of the gravity sewers and the need for cleaning

4.7 Rehabilitation and Replacement Plan for Collection and Conveyance System Assets

Defects observed during pump station, force main, and gravity line inspections are either scheduled for correction or are included in the Capital Improvement Plan. The District uses contractors for special services such as line repair and replacement.

The District has a Capital Asset Replacement and Renewal Fund (CARR) to cover the cost of the renewal and replacement of its collection and conveyance system assets. The CARR includes a financial plan that is intended to provide adequate funds for the replacement of an asset at the end of its reliable life. The District's Five-Year Capital Improvement Program allocates the funding necessary to cover the cost of the renewal and replacement of its collection and conveyance system assets. The District reviews its capital plan annually with input from the operations and maintenance staff. The current version of the District's Capital Improvement Plan is available on the District's website www.deltadiablo.org. The District will use the information from its condition assessment activities to determine appropriate levels of future funding.

4.8 Equipment and Critical Parts Inventory for Collection and Conveyance System O&M Programs

The list of the major equipment that District uses in the operation and maintenance of its sewer system, including gravity sewers, pump stations, force mains, and emergency response is included in Appendices 4-B and 6-J. Equipment and spare parts inventory are in the District warehouse and emergency response storage area. Purchasing staff has the authority to purchase routine repair items necessary to keep the warehouse properly stocked. The District's Capital Improvement Program includes a project called "Conveyance System Reliability Improvement Project." This project includes the evaluation, design and implementation of activities to increase the reliability of the District's pumping and conveyance system, as outlined in the

SSMP. The development of a Critical Sewer System Replacement Parts Inventory procedure was addressed as part of this project.

4.9 Resources

The District's Maintenance Division resources that are allocated to the maintenance of the gravity sewer portion of the collection system facilities are shown on Table 4-1. The allocated resources of 2.25 Full-Time Equivalents (FTE) are adequate to meet the projected workload.

Table 4-1: Collection System Maintenance Resources for Gravity Sewer System

Position/Activity	FTE
Maintenance Manager	.25
Collection System Lead Worker	.5
Collection System Worker II	.75
Collection System Worker II	.75
Total	2.25

The District's Resource Recovery Services Department resources allocated to the conveyance system include plant operators for operational inspections, plant maintenance staff for preventive and corrective maintenance activities, and 0.5 FTEs from the collection system field crew for operations support activities. The District has allocated adequate resources to meet the conveyance system workload.

4.10 Outreach Program

The District is participating in the Bay Area Clean Water Agencies region-wide outreach program for plumbing contractors.

The District has been operating a Delta Household Hazardous Waste (DHHW) program since 1996 and opened a permanent facility, the Delta Household Hazardous Waste Collection Facility (DHHWF) in 2003. The District provides HHW management services for Eastern Contra Costa County. The facility provides residents with a means to dispose of HHW and non-recyclable waste including latex paint, motor oil, cooking oil, antifreeze, batteries, medicines (not including controlled substances), fluorescent lamps, pesticides, oil-based paint, household cleaners, and electronic waste. Strategic outreach and information sharing to stakeholders is regularly undertaken on behalf of the DHHWF through media outreach, advertising, community events, public speaking, targeted giveaways, website content, social media, marketing collateral materials, and partnership messaging.

4.11 Training Program for Collection and Conveyance Systems

4.11.1 District Staff

The District uses a combination of in-house classes, on-the-job training, conferences, seminars, and other training opportunities to train its wastewater collection system staff.

The District encourages its wastewater collection system employees to be certified in Collection System Maintenance by the California Water Environment Association. The certification process requires employees to demonstrate that they have participated in 12 hours of training every two years to renew their certificates.

4.11.2 Contractor Staff Working on District Projects

The District has developed a contract language that requires contractors working in the District's wastewater collection system to provide training for their employees regarding the potential impact of their activities on the operation of collection system facilities.

Appendix 4-A Standard Operating Procedure for Sewer Cleaning

General Safety Guidelines

The following safety guidelines should be followed when operating or servicing the high velocity flushing machine. Know and follow local, state and federal safety regulations as they apply to confined space entry, traffic control, and other job site safety rules. Refer to the manufacturer's manual as needed.

1. Ensure operators have personal protection equipment, which includes, but is not limited to: hard hats, gloves, hearing protection, non-slip footwear, reflective vests, and/or high visibility foul weather gear.
2. Ensure operators have proper tools for manhole cover removal.
3. Ensure cleaner is positioned properly following the manufacturer's operating instructions.
4. If not directly over the manhole opening, ensure the use of extension rollers for safe operation.
5. Ensure operator remains in front of the control panel always during operation, never leaving controls unattended. Do not use ropes, cords, or other devices to secure operating controls in open position during operation.
6. Be aware of any bystanders. Never let anyone stand directly in front of the hose reel during operation.
7. Ensure the correct nozzle is used for the pump rating and that the nozzle is in good condition.
8. Ensure nozzle and nozzle extension are tightly secured to the sewer hose end fitting.
9. Inspect the sewer hose continually for excessive scrapes, cuts, blisters, and/or kinks. Do not operate if any of these conditions appear until the hose is repaired or replaced.
10. Ensure the sewer hose is protected from sharp or rough edges during operation. Use the proper slipper guide or manhole roller to protect the hose and operator.
11. Ensure the sewer hose lever wand assembly is always used. Do not place hands on sewer cleaning hose when hose reel is in payout or retrieve operation.
12. During operation, be aware of the location of the nozzle in the pipe and do not allow the nozzle to back out of the pipe at full throttle.
13. Ensure operators remain clear of the manhole during operation. Never allow operators in the manhole while the machine is in operation.
14. Ensure operators use long-handled gaffing tools or hooked rope to remove or lower nozzles or tools from the far manhole to avoid entry. Read, understand, and follow all applicable confined space entry procedures if manhole entry is required.
15. Ensure operation of the cleaner during stoppages is done from the downstream dry manhole. Never attempt to place the nozzle in a full manhole. Injury can be caused if the nozzle is not in the pipe and exits the manhole under pressure.
16. Do not operate the hose reel in payout mode faster than the nozzle can pull the hose, creating a hose backlash.
17. Do not use the sewer hose as a pulling tool.
18. Do not rewind the sewer hose on the reel tightly without water pressure to avoid reel damage.
19. Adhere to all safety labels on the machine.
20. Do not operate the machine when excessive noise appears that is uncommon to normal operation.

21. When performing service work on the machine, shut the machine down and follow lock-out/tag-out procedures. Never place hands near moving components. Do not wear loose clothing near moving parts or components.
22. Always use a secondary prop for cowl doors when service work is performed.
23. Use only manufacturer recommended parts and tools.
24. Follow all manufacturer's recommended routine maintenance procedures for the machine and components. Ensure the system has been dewatered properly if storing outside during cold weather.
25. Be sure hose reel is connected to the hose swivel provided before turning hose reel on. This will prevent anyone from being struck by the hose.
26. Do not operate or pressurize your hose reel hose with a nozzle on it unless the nozzle has been inserted into a pipe or a closed container.
27. Never put your hands in front of or point a pressurized water hose at someone.

Daily Work Planning

1. Review scheduled work for the day to determine what will be needed to safely complete the job.
2. Review maps for set-up locations and footages.
3. Review traffic control.
4. Hold a job brief when work or personnel changes.
5. Document information when it's necessary.

Vehicle Inspection / Pre-Trip

1. Complete the DOT approved Driver's Vehicle Inspection Report.
2. When inspection is completed: sign, date and file.
3. If a vehicle safety issue arises during the inspection have it repaired immediately.
4. Verify that the hose reel is stowed, and transport pins are securely in place.
5. Verify that the vacuum boom is stored properly and locked for transport.
6. Make sure you have all the required traffic control, Personal Protective Equipment (PPE), first aid kit, gas meter, and cell phone Nextel.

Vehicle Operation

1. A trained two-person crew shall ALWAYS perform Vac-Con Operation. If additional traffic control is required (like a flag person), work will be postponed until it can be done safely.
2. When cleaning crew gets close to the intended manhole (MH), the worker on the passenger side of the truck will exit the truck, place cones around the work area in front of the vehicle and then remove the MH cover, swing the hose reel out, and guide the driver into position.

The Delta Diablo Confined Space Procedure must be followed: When removing covers in areas suspected of, or subject to, flammable conditions (e.g. highly industrialized areas, smell of gasoline, gas station trunk lines, etc.) the air space immediately beneath the cover shall be monitored for flammable conditions prior to removing the cover. If the cover does not provide a sample port, the cover shall be lifted a few inches and not removed or fully opened until atmospheric conditions are determined.

3. After the vehicle is set up on the manhole, the remaining traffic control will be set up.
4. Before the driver exits the cab of the vehicle, they will place it in to neutral and then set the air brakes, also verifying that arrow board and beacon are on and providing advance warning.
5. Wheel chocks are required on all grades and slippery road surfaces.

6. After the driver safely exits the truck, they will move to the hose reel at the front of the truck and start the auxiliary engine. Lower the hose reel stabilizer.
7. Then a hydro cleaning hose with a 20' leader hose of a different color attached to the end of it will be lowered into the MH, inspecting the condition of the hose as it descends through the slipper guide / tiger tail into the upstream pipe invert.

Note: Never install the hydro nozzle into a surcharged manhole. There is no way to ensure the nozzle is in the pipe before water is routed to it. If the nozzle is not in the pipe, it can quickly curl upwards and exit the manhole at a high rate of speed causing serious injury. When attempting to clear a blockage, ALWAYS work from the downstream, dry manhole. This is the only way to be sure the nozzle is safely placed into the pipe with the slipper guide.

8. Engage the water pump then carefully raise the water pressure to approximately 500 PSI until the hose is in the line 4 to 6 feet, at which point the water pressure can be increased to a desired pressure (up to 3000 PSI) and begin paying out the hose to the distance specific for that line segment.
9. When the hose has traveled the desired distance, reduce the pressure to approximately 2,500 PSI. In some newer areas that are fairly deep, the worker can increase the pressure. It may be necessary in the older and shallower areas to reduce the pressure for safety reasons and reduce the possibility of sewer water backing up in the customer's house.
10. Adjust the reel speed control, so that retrieval rate is about 2 feet/second. Pulling the hose back at this rate allows the jets in the nozzle to keep debris moving downstream.
11. As the nozzle gets closer to the MH, the worker will check the MH channel to see how much debris is being brought back. If there is a sufficient amount of debris, it may be necessary to vacuum the debris from the channel. An excessive amount of debris may indicate the need to hydro-clean the sewer again to completely remove all debris.
12. Upon completion of the cleaning of each line segment, the worker will wash the walls and base of the MH for the purpose of odor and vector control.

In Case of an Emergency, the worker may need to shut the water pressure off quickly. To do this, the Operator can either turn off the switch to the auxiliary engine or push the red kill/stop button located on the opposite side of the hose reel from the auxiliary engine on-off switch.

13. At the end of each shift, the debris tank shall be emptied, and the fuel and water tanks topped full. This will reduce condensation in the fuel system and prepare the vehicle for quick emergency response.

Cleaning Level of Service

1. Hydro-cleaning is intended to remove all foreign materials from the pipe walls, inverts and structures.
2. The true success of a cleaning program is dependent upon the ability to view the internal condition of the sewer line through TV inspection.
3. When line cleaning is not followed by TV inspection, it will be up to the Collection System Worker to determine if a line has been successfully cleaned. Although the amount and type of debris removed, and personal experience assist in determining if a line is clear, this method is very subjective.
4. Although a 3,200 feet/day target has been established for hydro-cleaning, the speed, pressure and number of passes will be subject to the Collection System Worker.
5. All sludge, sand, dirt, rocks, grease and other solid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned.

Handgun Operation

1. Position the water pump control valve and the hose reel control valve on the front of the hose reel in the OFF position.
2. Start the auxiliary engine and run at idle speed.
3. Remove the quick-disconnect plug from the handgun connection located under the main frame just behind the cab on the curbside.
4. Connect the female end of the handgun hose to the handgun and disconnect the male end of the handgun hose to the handgun connection on the main frame.
5. Make sure the handgun trigger is in the OFF position.
6. To pressurize the handgun, turn ON the handgun system ball valve located on the front bumper curbside.
7. Turn the bottom pump control valve on the front of the hose reel to the ON position.
8. The pressure of the handgun system is set at the factory between 650 and 750 PSI at auxiliary engine idle speed.

Note: NEVER run the auxiliary engine over idle speed while operating the handgun.

9. To depressurize the handgun system, turn OFF the bottom pump control valve first, and then turn OFF the handgun ball valve.

Safety Note: NEVER point the handgun at, or in the direction of another person.

Water Filling Procedure

1. Position truck at water source to receive fresh water supply.
2. If filling from a hydrant, charge or purge the hydrant before hooking up your fill hose. Allow the hydrant to run until clean water is running through. Connect your fill hose.

NOTE: Using clear water will help extend water pump valves, valve seats, valve springs, and nozzle life.

3. Turn on the hydrant. As you fill the tanks you will see the water level rise in the sight tube. Fill tanks until water begins to come out of the air vents in the caps either on the lower tanks or on the upper tanks, depending on which water system you have.

Note: Should you be required to fill from a source other than a hydrant, such as a creek, try to pump from the top of the water level to avoid sucking gravel into the tank. If this is done on a regular basis it is recommended that you install a pre-strainer to ensure only clean water gets into your water system.

Priming the Pump

While you are still connected to your water source, this is a good time to prime your water pump. This is accomplished by following steps:

1. Be sure all petcocks and drain valves have been closed and remove quick disconnect plug from handgun connection.
2. Start the auxiliary engine at idle.
3. Turn handgun valve ON (front bumper).
4. Turn water pump valve ON (hose reel bottom valve).
5. Once you have a solid high-pressure stream of water from the open handgun connection, turn water pump valve OFF.
6. Turn handgun valve OFF.
7. Turn hose reel valve ON.
8. Turn water pump valve ON.

9. Once you have a good flow of water from your hose reel, turn water pump valve OFF.
10. Turn hose reel valve OFF.
11. Turn auxiliary engine OFF.
12. Replace handgun quick disconnect plug.

Vacuum Breaker Operation

1. The vacuum breaker control is located on the top of the hose reel control panel on the curb side.
2. To engage the compressor, you must move the lever labeled vacuum located behind the hose reel near the front bumper on the driver's side of the truck.
3. On units with hydrostatic driven compressors, the parking brake must be engaged for the vacuum breaker doors to function.
4. While vacuuming, the vacuum breaker switch must be in the ON position with vacuum breaker doors open. When the debris body reaches its maximum capacity, the vacuum breaker doors will close, stopping all airflow.
5. When this condition occurs, you must either drain off the excess water in the debris body or dump the material out of the debris body to allow the vacuum breaker doors to reopen.
6. With the vacuum breaker switch in the ON position, the doors will also close when the operator disengages the parking brake. This feature is to ensure there will be no carry-over of material from the debris body to the vacuum compressor during transport.
7. With the vacuum breaker switch in the ON position, if the operator needs to stop the flow of air to dislodge any debris from the end of the air tube, he/she can reach over and turn the vacuum breaker switch to the OFF position to stop the air flow. Then, turn the switch back to the ON position and continue vacuuming.
8. The vacuum breaker switch should be left in the ON position at all times, except as described in #7.

Lubrication Note: There are two grease fittings on the vacuum breaker door assembly shaft that require grease monthly.

Boom Operation

Note: Only qualified boom operators shall be permitted to operate the boom equipment during cleanup operations.

1. Start engine and set parking brake to engage hydraulic system.
2. Unlatch boom from boom support.
3. Survey the area for hazards including low utility wires.
4. The joystick located on the curb side of the hose reel raises and lowers the boom. Push the detent button in the center of the joystick and lift up to raise the boom or push down to lower the boom. Release the joystick, and the boom action will stop. To move the boom to the right or left, push the detent button in the center of the joystick, and push toward the cab of truck to rotate the boom to the curb side. Pull the joystick toward the front to rotate the boom to the driver's side.
5. If your machine has a telescopic boom, there are two push buttons located at the control panel just below the joystick control marked IN and OUT.
6. The boom will rotate 270° degrees from side to side
7. There is a wireless remote pendant which controls all the boom and tank functions.
8. To store the boom for transporting the machine:

- a. Retract boom all the way in.
- b. Rotate boom over boom support bracket.
- c. Lower boom into boom support and guide hose onto lower bracket provided.
- d. Latch boom-to-boom support.

Note: NEVER transport unless boom is latched in the boom support.

References

Hydro flush Best Practices Manual, California Collection System Collaborative Benchmarking Group, February 2001.

California Manual on Uniform Traffic Control Devices (FHWA MUTCD 2003 Revision 1, as amended for use in California), US Department of Transportation, Federal Highway Administration, 2003.

Appendix 4-B Major Sewer System Equipment Inventory

Inventory Date _____

Inventory/Condition Checked by _____

Equipment Number	Major Equipment Type	Year Purchased
VEHICLE 55	Vac-Con combination sewer cleaner	2007
VEHICLE 71	F350 Ford 4x4 Van stocked with spill response containment supplies	2012
VEHICLE 44	Ford 1-Ton Utility Vehicle stocked with tools and materials	1999
VEHICLE 52	F350 Ford 4x4 Pickup (For the CCTV Camper Unit)	2004
CCTV01	CUES CCTV Camper Unit	2013
PUMP 11-12	Portable 10" Emergency Pumps (2-Each)	2003
PUMP 13-14	Portable 6" Emergency Pumps (2-Each)	2005
PUMP 15-16	Portable 4" Emergency Pumps (2-Each)	2005

Section 5 Design and Performance Provisions

5.1 Introduction

This element of the SSMP presents the District's Design and Construction Standards.

5.2 Regulatory Requirements for Design and Construction Element of SSMP

The summarized requirements for the Design and Construction Standards element of the SSMP are:

5.2.1 RWQCB Requirement

The collection system agency shall identify minimum design and construction standards and specifications for the installation, rehabilitation and repair of new and existing sewer systems. The collection system agency must evaluate if the existing design standards are appropriate and up to date. If the collection system agency believes its current standards are appropriate, the collection system agency can refer to existing documentation.

The collection system agency shall identify procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances; and for rehabilitation and repair projects. As with design and construction standards, the SSMP should refer to existing documentation if standards for inspection and testing are already in place.

5.2.2 GWDR Requirement

The agency must have design and construction standards and specifications for the installation of new sewer systems and for the rehabilitation and repair of existing sewer systems.

The agency must also have procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances; and for rehabilitation and repair projects.

5.3 Standard Specifications for Wastewater Facilities

The District's standards pertaining to the design, construction, and inspection of the Bay Point collection system are included in the latest edition of the Central Contra Costa Sanitary District Standard Specifications (Design Standards). The intent of the Design Standards is to provide design engineers with information on the requirements and preferences for facilities to be conveyed to the District for ownership, operation, and maintenance. The Design Standards provide information on the type of facilities and equipment that are acceptable to the District. The Design Standards also cover the requirements for inspection and testing prior to acceptance by the District. Standards for the repair and rehabilitation of existing facilities are also addressed in the Standard Specifications.

The design of the conveyance system facilities follows the District's Sewer System Master Plan and generally accepted practices for large diameter gravity sewers, force mains, and pump stations.

Section 6 Overflow Emergency Response Plan

6.1 Introduction

The purpose of the Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for District personnel to follow when responding to, cleaning up, and reporting SSOs occurring within the District's service area.

6.2. Regulatory Requirements for OERP Element of SSMP

The summarized requirements for the OERP element of the SSMP are:

6.2.1 RWQCB Requirement

The collection system agency must develop an overflow emergency response plan that provides procedures for SSO notification, response, reporting, and impact mitigation.

6.2.2 GWDR Requirement

The collection system agency shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- a. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner.
- b. A program to ensure appropriate response to all overflows.
- c. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g., health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The Sewer System Management Plan should identify the officials who will receive immediate notification.
- d. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained.
- e. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- f. A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

6.3 Goals

The District's goals for responding to SSOs are:

- ❖ Respond quickly to minimize the volume of the SSO.
- ❖ Contain the spilled wastewater to the extent feasible.
- ❖ Minimize public contact with the spilled wastewater.
- ❖ Eliminate the cause of the SSO.
- ❖ Mitigate the impact of the SSO; and
- ❖ Meet the regulatory reporting requirements.

6.4 Program Overview

The District has adopted service call/overflow response procedures requiring immediate response to minimize or eliminate an overflow. The collection van is stocked with spill response supplies and is available for use at any time. Field reports from collection system service calls and overflows are distributed to key personnel so that appropriate action can be taken and documented. The Service Call/Overflow Response Standard Operational Procedure (SOP), included as Appendix 6-D, is to aid staff in prompt and responsible SSO response and is intended only as a condensed version of this section of the SSMP.

6.5 SSO Detection

The processes that are employed to notify the District of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by District staff during the normal course of their work.

6.5.1 Public Observation

Public observation is the most common way that the District is notified of blockages and spills. Contact information for reporting sewer spills and backups are on the District's website www.deltadiablo.org. The District's main telephone number is (925) 756-1900.

6.5.1.1 Normal Work Hours

The District's regular working hours are Monday through Friday from 8:00 a.m. to 5:00 p.m., except holidays. When a report of a sewer spill or backup is made, District staff receives the call, takes the information from the caller and fills out the first section of the Collection System Service Call/Overflow Field Report (Field Report).

The person who took the call verbally communicates it to the Lead Operator and the collection system field crew (verbally, not voice mail) along with the Field Report information.

The person who took the call immediately sends an email to "Service Call Sewer" in the Global Address List in Outlook and documents the call in the Operations Log.

6.5.1.2 After Hours

Plant operations staff receives the call and obtains the information from the caller and then completes the first part of the Field Report. The Lead Operator determines the appropriate response measures based on information provided by the caller.

6.5.2 *Receipt of Alarm*

The District's pump stations are monitored using SCADA and "Smart-Cover" technology is used in the conveyance pipe system. Alarm conditions are monitored by plant operations staff. Plant operators receive and notify appropriate District staff of pump station alarm conditions.

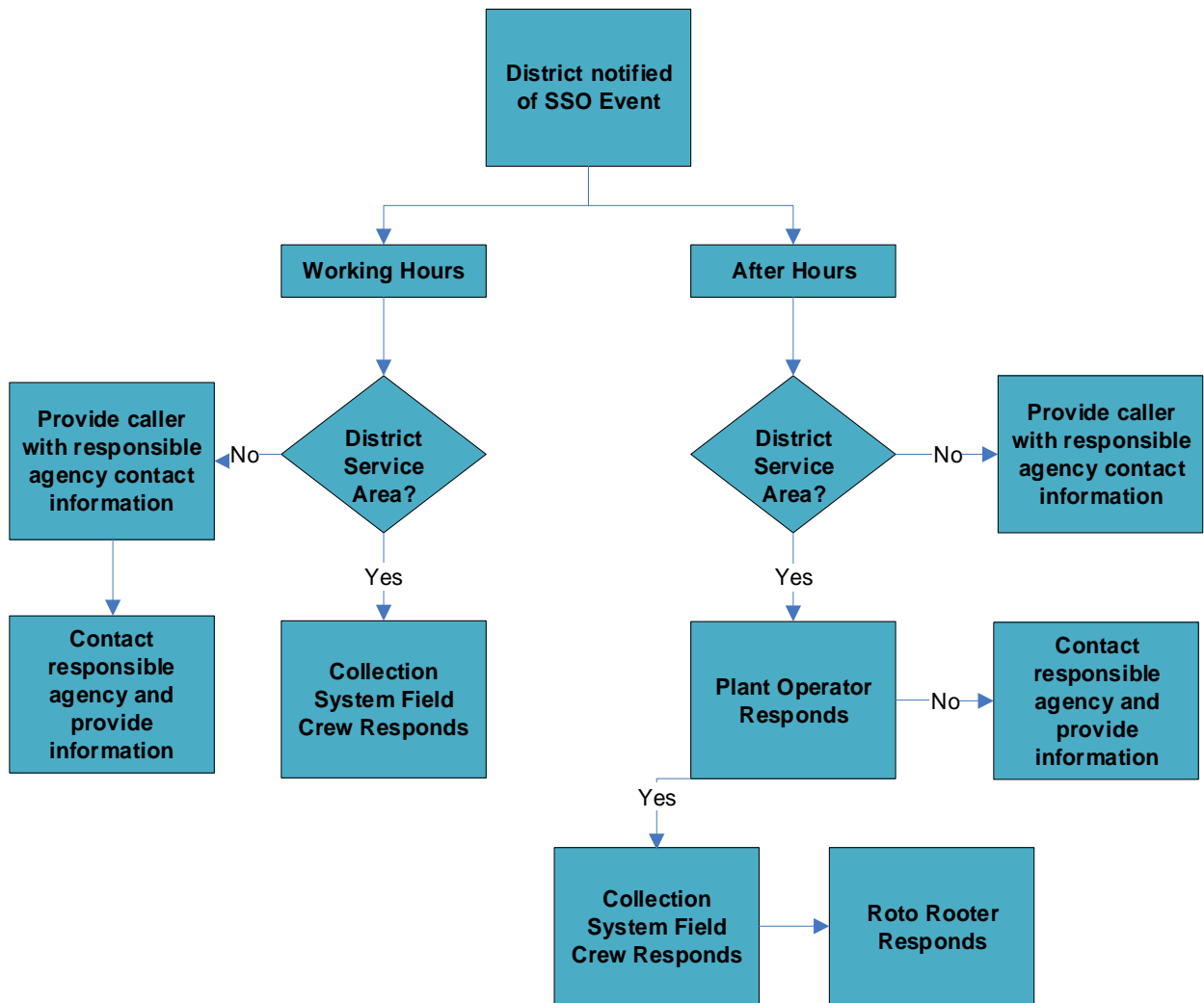
6.5.3 *District Staff Observation*

District staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to designated District staff who, in turn, responds to emergency situations. Work orders are issued to address non-emergency conditions.

6.6 SSO Response Procedures

Sewer service calls and pump station alarms are considered high priority events that demand a prompt response. The notification and response procedure flow chart are shown on Figure 6-1. Emergency contact information is included as Appendices 6-A through 6-C.

Figure 6-1: Notification and Response Procedure Flow Chart



6.6.1 First Responder Priorities

The first responder's priorities are:

- ❖ To follow safe work practices.
- ❖ To respond promptly with the appropriate equipment.
- ❖ To contain the spill whenever feasible.
- ❖ To restore the flow as soon as possible.
- ❖ To minimize public access to and/or contact with the spilled sewage.
- ❖ To promptly notify the Lead Operator in event of an SSO.
- ❖ To return the spilled sewage to the sewer system.
- ❖ To restore the area to its original condition (or as close as possible).

6.6.2 Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work.

There may be times when District personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

6.6.3 Initial Response

The first responder must respond to the reporting party, pump station, or site of the problem and visually check for potential sewer stoppages or overflows. All sewer system calls require a response to the reported location of the event in an attempt to minimize or eliminate an overflow and prevent sewage from entering a drainage channel or water way if possible. Because time is of the essence we should always respond immediately with the goal of never exceeding a response of one hour.

The first responder (Collection Crew/Lead Operator) should:

- ❖ Verify the address and nearest cross street, making sure it is part of the District's conveyance system.
 - If not, provide the caller with the phone number of the responsible City and follow up by calling the City and providing the details of the call.
 - Provide assistance if requested.
- ❖ Determine appropriate response measures based on the circumstances and information provided by the caller (e.g., weather and traffic conditions, small back up vs. sewage flowing on the ground, to storm drain system, drainage channel or surface water.) If additional help is needed, the Lead Operator will contact other employees, contractors, and/or equipment supplier using the following:
 - Collection System Service Call/Overflow Call Out List for Off-Shift Response, Appendix 6-A.
 - Emergency Contact List, Appendix 6-B.
 - Outside Contractor Phone List, Appendix 6-C.

- ❖ If the spill involves a force main or pump station, see procedures in Section regarding Emergency Response for Conveyance System Facilities below (Section 6.6.6).
- ❖ Respond with the combination sewer cleaning truck (Vac-Con) and/or spill response vehicle depending on the situation.
- ❖ Note arrival time at spill site.
- ❖ Verify the existence of a sewer system spill or backup.
- ❖ Field verify the address and nearest cross street, making sure it's part of the District's sewer/conveyance system.
- ❖ Identify and clearly assess the affected area and extent of spill.
- ❖ Comply with all safety precautions (traffic, confined space, etc.)
- ❖ Contact caller.
- ❖ Notify the Lead Operator.
 - If the spill appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed.
 - If additional help is needed for line cleaning or repair, containment, recovery, lab analysis, and/or site cleanup.
- ❖ If the spill is large or in a sensitive area, document conditions upon arrival with sufficient photographs to clearly illustrate the impact of the SSO.
- ❖ Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:
 - Small spills – proceed with clearing the blockage.
 - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
 - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, call for additional assistance after 15 minutes without clearing the blockage and implement containment measures.

6.6.4 Restore Flow

Use the appropriate cleaning tools, set up downstream of the blockage and hydro clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream. Follow Standard Operating Procedures for use of Vac-Con or other equipment included in Appendix 4-A.

If the blockage cannot be cleared within a reasonable time (+/- 15 minutes), or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If assistance is required, immediately contact other employees, contractors, and equipment suppliers.

- ❖ Collection System Service Call/Overflow Call Out List for Off-Shift Response, Appendix 6-A.
- ❖ Emergency Contact List, Appendix 6-B.
- ❖ Outside Contractor Phone List, Appendix 6

6.6.5 Initiate Spill Containment Measures

The first responder should attempt to contain as much of the spilled sewage as possible using the following steps:

- ❖ Determine the immediate destination of the overflowing sewage.
- ❖ Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
- ❖ Contain/direct the spilled sewage using dike/dam or sandbags.
- ❖ Pump around the blockage/pipe failure/pump station.

6.6.6 Emergency Response for Conveyance System Facilities

Failure of a pump station or force main requires immediate action. On-site diversion systems are available at the Bridgehead, Antioch, Pittsburg and Shore Acres pump stations. A portion of the pump station flow can be diverted into emergency storage basins.

The first responder (Collection Crew/Lead Operator) to a potential conveyance system failure should:

- ❖ Determine whether flow can be restored within a reasonable time (+/- 15 minutes).
- ❖ If it appears that flow cannot be restored within a reasonable time or if the conveyance system facility requires construction and/or repairs, then employ contingency plans covering containment, bypass pumping, contractual assistance, etc.
- ❖ If assistance is required, immediately contact other employees, contractors, and equipment suppliers as required, using the following:
 - Collection System Service Call/Overflow Call Out List for Off-Shift Response, Appendix 6-A.
 - Emergency Contact List, Appendix 6-B.
 - Outside Contractor Phone List, Appendix 6-C.
- ❖ Act to contain and return spilled sewage to the sewer system:
 - Determine the immediate destination of the overflowing sewage.
 - Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If overflowing sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drainage facilities.
 - Contain/direct the spilled sewage using dike/dam or sandbags.

6.7 Recovery and Clean Up

The recovery and clean up phase begins when the flow has been restored and the spilled sewage has been contained as much as to the extent possible. The SSO recovery and clean up procedures are:

6.7.1 Water Quality Sampling, Testing and Reporting

Water quality sampling and testing is required by the State Water Board, and anytime District staff believe that sampling and testing can help confirm that surface waters are no longer contaminated with sewage. The water quality sampling procedures are:

- ❖ The first responder should notify the Lead Operator or Laboratory Staff to collect samples. Samples should be collected as soon as possible after the discovery of the SSO event. The Lab staff has historically responded during off hours for every SSO event where water quality sampling has been required. Even with this reliable response track record management staff has the option of placing O&M staff (including lab staff) on standby for extended holidays or when large storm events are anticipated.
- ❖ The water quality samples should be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g., creeks). The water quality samples should be collected near the point of entry of the spilled sewage and every 100 feet along the shore of stationary water bodies.
- ❖ The District's laboratory will analyze the results to determine the nature and impact of the discharge. Additional samples will be taken to determine when posting of warning signs can be discontinued. The basic analyses should include total Coliform, Fecal Coliform, Biochemical Oxygen Demand (BOD), Dissolved Oxygen, pH, and Ammonia Nitrogen.

State Water Board (CWIQS) Requirements:

Water Quality Sampling and Monitoring (CWIQS)

Conduct water quality sampling **within 48 hours** after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters and develop a Water Quality Monitoring Plan.

Water quality results are required to be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.

Required Elements:

- Sampling protocols.
- Information about how agency will account for spill travel time.
- Decide appropriate bacteria indicator - look at applicable NPDES permit for your agency or your regional agency (if satellite). NPDES permit is based on Basin Plan but more specific to your agency.
- Indicate that bacteria indicator and ammonia will be sampled (minimum).
- Indicate that samples will be analyzed by accredited or certified laboratory.
- Indicate how sampling equipment/instruments/supplies will be maintained and/or calibrated.

SSO Technical Report (CIWQS)

Submit within 45-Calander days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters.

Required Elements:

1. Causes and Circumstances of the SSO

- a. Explanation for how and when SSO was discovered.
- b. Diagram showing the SSO failure point, appearance point(s), and final destination(s).
- c. Description of method and data used to calculate SSO volume, including volume recovered.
- d. Description of cause(s) of SSO.
- e. Copies of original field crew records used to document SSO.
- f. Historical maintenance records for failure location.

2. Enrollee's Response to SSO

- a. Narrative description of chronological actions taken to end SSO.
- b. Explanation of how the SSMP Overflow Emergency Response plan was implemented to respond to and mitigate the SSO.
- c. Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

3. Water Quality Monitoring

- a. Description of water quality sampling activities conducted including analytical results and evaluation of the results.
- b. Detailed location map illustrating water quality sampling points.

6.7.2 Estimate the Volume of Spilled Sewage

Use the methods outlined in Appendix 6-G to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos of the SSO site before and during the recovery operation.

6.7.3 Recovery of Spilled Sewage

Vacuum up or pump the spilled sewage and discharge it back into the sanitary sewer system.

6.7.4 Clean up and Disinfection

Clean up and disinfection procedures should be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of District staff, a cleanup contractor will be used.

6.7.4.1 Private Property

Appendices 6-K through 6-R contain procedures related to spills involving private property including backups into residences and businesses.

6.7.4.2 Hard Surface Areas

Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms.

Wash down the affected area with clean water until the water runs clear. Take all reasonable steps to contain and vacuum up the wastewater. Disinfect all areas that were contaminated from the overflow using the disinfectant solution of household bleach diluted 10:1 with water. Apply minimal amounts of the disinfectant solution using a hand sprayer. Document the volume and application method of disinfectant that was employed. Allow area to dry. Repeat the process if additional cleaning is required.

6.7.4.3 Landscaped and Unimproved Natural Vegetation

Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms or heavy equipment.

Wash down the affected area with clean water until the water runs clear. The flushing volume should be approximately three times the estimated volume of the spill.

Either contain or vacuum up the wash water so that none is released.

Allow the area to dry. Repeat the process if additional cleaning is required.

6.7.4.4 Natural Waterways

Cal OES should be notified in the event an SSO significantly impacts any creeks, gullies, or natural waterways. Cal OES will provide the professional guidance needed to effectively clean up spills that occur in these sensitive environments.

Clean up should proceed quickly to minimize negative impact. Any water that is used in the cleanup process should be de-chlorinated prior to use.

6.7.4.5 Wet Weather Modifications

Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required, and sampling would not provide meaningful results.

6.7.5 Follow-Up Activities

If sewage has reached the storm drain system, the Vac-Con should be used to vacuum/pump out the catch basin and any other portion of the storm drain that may contain sewage.

If an overflow occurs at night, the location should be re-inspected first thing the following day. The responder should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

6.8 Public Notification

Post signs and place barricades to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed by the Resource Recovery Services Director. A sample warning sign is included as Appendix 6-I.

Creeks, streams and beaches that have been contaminated because of an SSO should be posted at visible access locations until the risk of contamination has subsided to acceptable background

levels. The warning signs, once posted, should be checked every day to ensure that they are still in place.

Major spills may warrant broader public notice. The General Manager will authorize the Public Information Manager to contact local media when significant areas may have been contaminated by sewage. The Public Information Manager will maintain the contact information for local media.

6.9 Failure Analysis Investigation

The objective of the failure analysis investigation is to determine the “root cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to reoccur.

The investigation should include reviewing all relevant data to determine appropriate corrective action(s). The investigation should include:

- ❖ Reviewing and completing the Collection System Service Call/Overflow Field Report;
- ❖ Reviewing past maintenance records;
- ❖ Reviewing available photographs;
- ❖ Conducting a CCTV inspection to determine the condition of the line segment immediately following the SSO and reviewing the video and logs; and
- ❖ Interviewing staff who responded to the spill.

The product of the failure analysis investigation should be the determination of the root cause and the identification of the corrective actions. The Collection System Failure Analysis Form (Appendix 6-F) should be used to document the investigation.

6.10 SSO Categories

The California State Water Resources Control Board (SRWCB) has established guidelines for classifying and reporting SSOs. Reporting and documentation requirements vary based on the type of SSO.

There are four categories of SSOs as defined by the SWRCB³:

- ❖ **Category 1** - Any volume of sewage resulting from a failure in the Enrollee's sanitary sewer system that:
 - A. Reach surface water and/or reach a drainage channel tributary to a surface water, or
 - B. Reach a Municipal Separate Storm Sewer System (MS4) and are not fully captured and returned to the sewer system.
- ❖ **Category 2** – Discharges of untreated or partially treated wastewater of 1,000 gallons or greater that do not reach surface water, a drainage channel or separate storm sewer system unless the entire amount to the storm drain system is fully recovered.
- ❖ **Category 3** – Spills less than 1,000 gallons that do not reach surface waters.
- ❖ **Private Lateral Sewage Discharges** - Sewage discharges that are caused by blockages or other problems within a privately-owned lateral.

³ State Water Resources Control Board Monitoring and Reporting Program No. 2006 0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (as revised by Order No.2013-0058-EXEC).

6.11 SSO Documentation Notification and Reporting

All SSOs should be thoroughly investigated and documented for use in managing the sewer system and meeting established reporting requirements. The procedures for investigating and documenting SSOs are:

6.11.1 *Internal SSO Reporting Procedures*

6.11.1.1 *Category 2 & 3 SSOs*

The first responder will fill out the Collection System Service Call/Overflow Field Report and distribute it to those listed on the Field Report.

6.11.1.2 *Category 1 SSOs*

- **Notify:** Operations Manager, Maintenance Manager, Operation and Maintenance Supervisors, Resource Recovery Services Director, General Manager, and Public Information Manager.
- **Immediate Phone Notification:** To Resource Recovery Services Director for spills estimated to be over 10,000 gallons or if expected to enter a local waterway.
- **Onsite Supervisor:** Will provide notification as soon as logistically possible by e-mail.
- **Notification Will Include:**
 - Location
 - Spill Start Time
 - Spill Rate (Estimated)
 - Current Estimated Volume
 - Current Mitigation Efforts in Progress
 - Additional Pertinent Information Such as Traffic Disruption, Residential or Infrastructure Damage, etc.
 - Who is Lead Operator?
 - Who is in Charge on Scene?
 - Is There any Public or Media on Scene (How Many?)
- **Follow Up Notification:** Will be provided as necessary when conditions change examples as follows: Spill is stopped, spill gets significantly worse, reporters or politicians call or show up at spill site, homeowner damage begins to occur, etc.). Method of notification will be dependent on the type of change being reported.

6.11.2 *External SSO Notification Procedures⁴*

The California Integrated Water Quality System (CIWQS) electronic reporting system should be used for reporting SSO information to the SWRCB whenever possible. A flow chart is included as Figure 6-2 showing the external reporting response requirements based on the type of SSO.

⁴ State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (as revised by Order No. 2013-0058-EXEC)

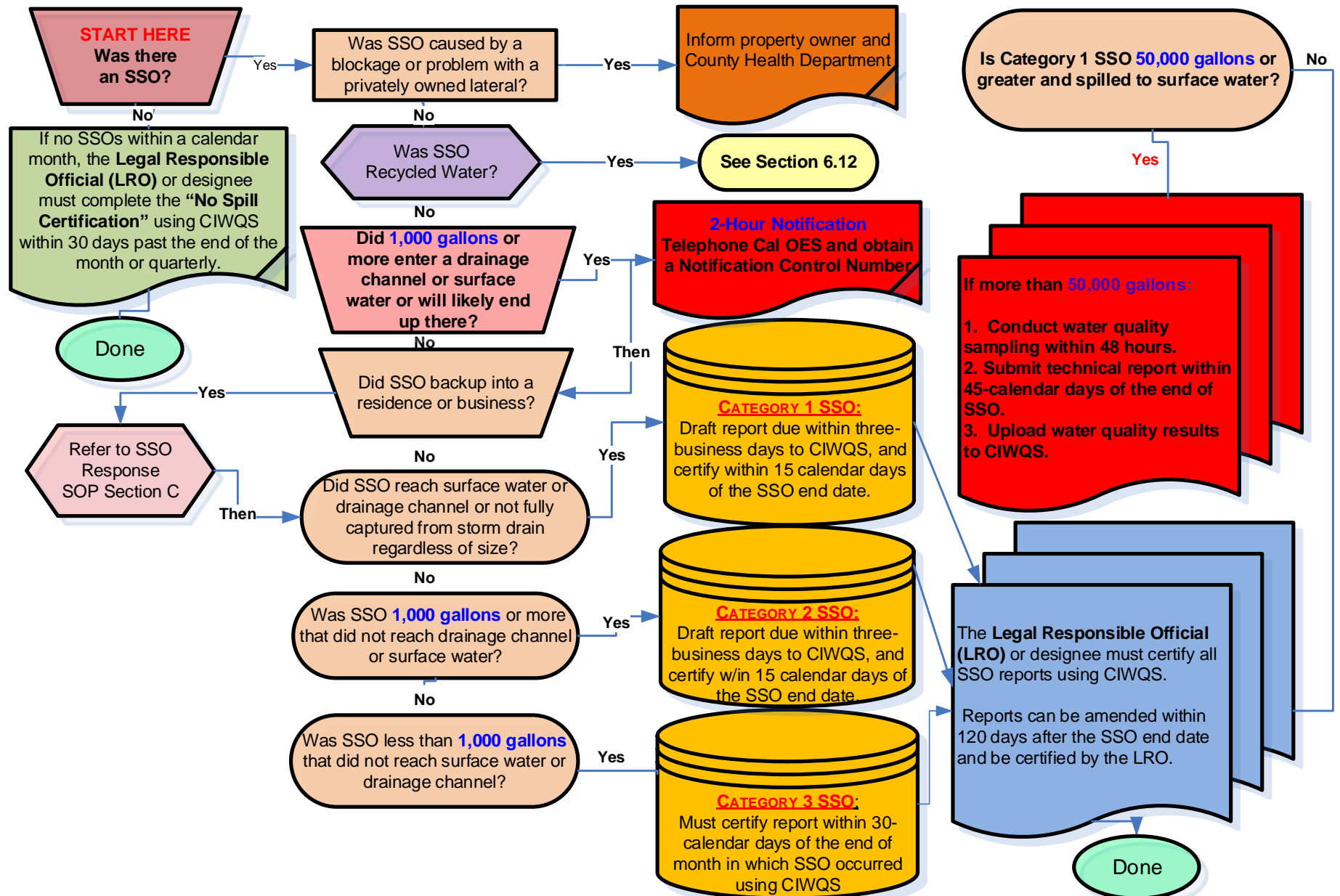
6.11.2.1 Notification:

- Within two hours of becoming aware of any Category 1 SSO **greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water**, **notify** the California Office of Emergency Services (Cal OES) 1 (800) 852-7550 or (916) 845-8911 and obtain a notification control number.

6.11.3 CIWQS Reporting:

- **Category 1 SSO:** Submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.
- **Category 2 SSO:** Submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.
- **Category 3 SSO:** Submit certified report within 30 calendar days of the end of month in which SSO the occurred.
- **CWIQS SSO Technical Report:** Submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. See Section 6.7.1 for report details.
- **“No Spill” Certification:** Certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred.
- **Collection System Questionnaire:** Update and certify every 12 months.
- If **multiple appearance points** for SSO from sewer system, complete one SSO report in CIWQS.
- **CIWQS Report Amendments** – The District has 120 days to change an SSO report, however if you request more time by providing justification for why the additional information was not available prior to the end of the 120 days to the State Water Board SSO Reduction Program staff.

Figure 6-2: SSO External Reporting Requirement Flow Chart



California Integrated Water Quality Systems (CIWQS) Mandatory Reporting Program (MRP) Requirements On-Line Reporting Web Site, Statewide General Waste Discharge Executive Order No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (as revised by Order No. 2013-0058-EXEC Effective September 9, 2013):

www.waterboards.ca.gov/water_issues/programs/ssso

For questions with filling out the report, contact Gil Velasquez at (916) 322-1400.

User ID: _____

Password: _____

Note: The LROs have the Log-in and Password information.

Each person who will be reporting information On-Line will need to log onto the system and provide user information. Use Waste Discharge Identification Number (**WDID**) #2SSO10127. Complete the appropriate SSO Event Form based on Category of SSO. The following information may be required for each category of SSO event depending on the Category of SSO:

- A. Location of SSO by entering GPS coordinates.
- B. Applicable Regional Water Board, i.e., Bay Point and Pittsburg Region 2, Antioch Region 5.
- C. County where SSO occurred.
- D. Whether or not the SSO entered a drainage channel and/or surface water.
- E. Whether or not the SSO was discharged to a storm drain pipe that was not fully captured and returned to the sanitary sewer system.
- F. Estimated SSO volume in gallons.
- G. SSO source (manhole, cleanout, etc.)
- H. SSO cause (mainline blockage, roots, etc.)
- I. Time of SSO notification or discovery
- J. Estimated operator arrival time.
- K. SSO destination
- L. Estimated SSO end time.
- M. SSO Certification. Upon SSO Certification, the SSO Database will issue a Final SSO Identification (ID) Number.
- N. Estimated SSO volume that reached surface water, drainage channel, or not recovered from a storm drain;
- O. Estimated SSO amount recovered;
- P. Response measures and corrective action taken;
- Q. If samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, N/A must be selected.
- R. Parameters that samples were analyzed for (if applicable);
- S. Identification of whether or not health warnings were posted.
- T. Beaches impacted (if applicable). If no beach was impacted, N/A must be selected.
- U. Whether or not there is an ongoing investigation.
- V. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and schedule of major milestones for those steps.
- W. OES Control Number (if applicable).
- X. Date OES was called (if applicable).
- Y. Time OES was called (if applicable).
- Z. Identification of whether or not County Health Officers were called.
- AA. Date County Health Officer was called (if applicable) and;
- BB. Time County Health Officer was called (if applicable).

6.11.4 *Internal SSO Documentation*

6.11.4.1 *Category 1, 2, and 3 SSOs*

The first responder will complete the Collection System Service Call/Overflow Field Report (Appendix 6-E) and provide copies to the LRO.

The first responder will follow the procedures and complete the Sewer Backup Summary Report (Appendix 6-M) if an SSO has occurred in a residence or building.

Staff will prepare a file for each individual SSO. The file should include the following information:

- Initial service call information
- Collection System Service Call/Overflow Field Report Form
- Copies of the CIWQS report forms
- Volume estimate
- Failure analysis investigation results
- Appropriate maps showing the spill location
- Photographs of spill location
- Water quality sampling and test results, if applicable

6.11.5 External SSO Record Keeping Requirements⁴

The GWDR requires that individual SSO records be maintained by the District for a minimum of five years from the date of the SSO. This period may be extended when requested by a Regional Water Board Executive Officer. All records shall be made available for review upon State or Regional Water Board staff's request. Records shall be retained for all SSOs, including but not limited to the following when applicable:

- SSO event records.
- Records documenting Sewer System Management Plan (SSMP) implementation and changes/updates to the SSMP.
- Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.
- Collection system telemetry records if relied upon to document and/or estimate SSO Volume.
- Self-maintained records shall be available during inspections or upon request.

Every SSO event is an opportunity to evaluate the response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, and other parameters.

As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. The results of the debriefing should be recorded and tracked to ensure the action items are completed.

6.12 Recycled Water Spills

- ❖ State Water Resource Control Board (SWRCB) – The SWRCB does not currently monitor recycled water spills. Any unauthorized spill within the Treatment Facility shall be reported as part of the Treatment Facility Permit to Operate.
- ❖ Regional Water Quality Control Boards (RWQCB)— Unauthorized spills exceeding the threshold for the Region shall be reported as follows:

⁴ State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (as revised by Order No. 2013-0058-EXEC)

Recycled Water Spill Notification Region 2 – Pittsburg

For any unauthorized discharge of more than **50,000 gallons** or that discharges to a **surface waterbody, drainage ditch, or storm drain** in **Region 2** (Pittsburg) of “Disinfected Tertiary Recycled Water” should be reported:

- 1. Immediately, but no later than 24 hours (having knowledge of or without impeding cleanup or other emergency measures) to the following agencies by phone or email and provide the information below:**

San Francisco Bay Regional Water Quality Control Board (RWQCB)

Melissa Gunter (510) 622-2390

Melissa.Gunter@waterboards.ca.gov

Blair Allen (510) 622-2305

Blair.Allen@waterboards.ca.gov

San Francisco Bay Regional Water Quality Control Board Spill Line

(510) 622-2369

RB2spillreports@waterboards.ca.gov

State Water Resources Control Board Division of Drinking Water

Marco Pacheco

(510) 620-3454

Marco.Pacheco@waterboards.ca.gov

- Time called RWQCB
 - Date and time the spill began and ended
 - Location of the spill
 - If the spill entered a storm drain or receiving water
 - Estimated volume of the spill or flow if the spill is ongoing
 - Estimated time of repair
 - Cause of the spill
 - Agencies involved with repair and clean-up
 - Corrective actions taken or plans for corrective actions
- 2. A follow up written report to the Regional Water Quality Control Board must be submitted within 15 days:**

San Francisco Bay Regional Water Quality Control Board

Melissa Gunter, Watershed Management Division Water Resources Control Engineer

Melissa.Gunter@waterboards.ca.gov

1515 Clay Street, Suite 1400

Oakland, California 94612

(510) 622-2390

Include along with Step 2: The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance. Also provide a site plan diagram (plan view diagram, map, or aerial photo showing the location, properties, access, landmarks, water bodies, etc.) and the recycled water system components in the immediate area.

Recycled Water Spill Notification Region 5 - Antioch

The unauthorized discharge of **50,000 gallons** or more in **Region 5** (Antioch) of “disinfected tertiary recycled water” shall immediately reported orally or electronically if available, information of the noncompliance as soon as (1) the Producer or Distributor has knowledge of the discharge, (2) Notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures.

The unauthorized discharge of **1,000 gallons** or more of “disinfected tertiary recycled water” shall be reported to the Regional Water Board office as soon as possible, but no later than seventy-two (72) hours after becoming aware of the unauthorized discharge.

- 1. Immediately (No later than 72 hrs. for a spill greater than 1,000 gallons) to the following agencies by phone or email, providing the information below:**

Regional Water Quality Control Board (RWQCB) Central Valley Region (R5).

Mohammad Farhad, (916) 464-1181

Mohammad.Farhad@waterboards.ca.gov

Kim Sellards (916) 464-4835

Kim.Sellards@waterboards.ca.gov

- Time called RWQCB.
 - Date and time the spill began and ended.
 - Location of the spill.
 - If the spill entered a storm drain or receiving water.
 - Estimated volume of the spill or flow if the spill is ongoing.
 - Estimated time of repair.
 - Cause of the spill.
 - Agencies involved with repair and clean-up.
 - Corrective actions taken or plans for corrective actions.
- 2. For unauthorized discharges greater than 50,000 gallons, a follow up written report to the State Water Resources Control Board and Regional Board must be submitted within 5 business days:**

State Water Resources Control Board

Sherly Rosilela, Water Resources Control Engineer Recycled Water Unit

Sherly.Rosilela@waterboards.ca.gov

1001 I Street, 17th Floor

Sacramento, CA 95814

(916) 341-5578

Central Valley Regional Water Quality Control Board

Mohammad Farad

Mohammad.Farhad@waterboards.ca.gov

11020 Sun Center Drive, Suite 200

Rancho Cordova, CA 95670-6114

(916) 464-1181 / Fax (916) 464-4645

Include along with Step 2: The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance.

Also provide a site plan diagram (plan view diagram or map or aerial photo, showing location, properties, access, landmarks, water bodies, etc.) and the recycled water system components in the immediate area.

6.13 Post SSO Event Debriefing

Every SSO event is an opportunity to evaluate the response and reporting procedures. Each overflow event is unique with its own elements and challenges including volume, cause, location, terrain, and other parameters.

As soon as possible after major SSO events, the participants from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to a mitigating future SSO events. The results of the debriefing should be recording and tracked to ensure the action items are completed.

6.14 Equipment

The District maintains emergency response equipment located at the District Treatment Facility.

The equipment inventory is computerized and inspected annually using a checklist, included as Appendix 6-J. The major equipment is used at least annually to ensure that personnel and the equipment can perform adequately in an emergency.

In addition, the District maintains specialized equipment that is required to support this Overflow Emergency Response Plan, including:

Closed Circuit Television (CCTV) Inspection Unit – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers. **Camera** – A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.

Emergency Response Truck – A four-wheel drive van is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include spilled sewage containment and clean up materials.

GPS Unit (Global Positioning System) – A hand held GPS unit or Google Earth is required to determine the coordinates of spills for use in meeting RWQCB SSO reporting requirements.

Combination Sewer Cleaning Truck – A combination high velocity sewer cleaning truck with vacuum tank is required to clear blockages in gravity sewers, vacuum spilled sewage, and wash-down the impacted area following the SSO event.

Portable Generators, Portable Pumps, Piping, and Hoses – The list of portable equipment that is required to support this plan is included as Appendix 6-J.

6.15 SSO Response Training

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

6.15.1 Initial and Annual Refresher Training

All District personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow should receive training on the contents of this OERP. All new employees should receive training before they are placed in a position where they may have to respond. Current employees should receive annual refresher training on this plan and the procedures to be followed.

6.15.2 SSO Response Drills

Periodic training drills should be held to ensure that employees are up to date on the procedures, the equipment is in working order, and the required materials are readily available. The training drills should cover scenarios typically observed during sewer related emergencies force main. The results and the observations during the drills should be recorded and action items should be tracked to ensure completion. Real response situations provide the most useful experience and will be considered as appropriate training.

6.15.3 SSO Training Record Keeping

Records should be kept of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event should include date, time, place, content, name of trainer(s), and names of attendees.

6.16 Contractors Working on District Sewer Facilities

All contractors working on District sewer facilities are contractually required to develop a project-specific Overflow Response Plan. All contractor personnel are required to receive training in the contractor's Overflow Response Plan and to follow it in the event that they cause or observe an SSO.

Appendix 6-A Collection System Service Call/Overflow Call Out List for Off-Shift Response

Delta Diablo Collection System Personnel: Monday – Friday 7:00 a.m. to 4:30 p.m.

Name	Title	Contact Number
Rob Wright	Collection Systems Worker III	(925) 382-8937 (work cell) (925) 303-6356 (cell)
Tim Hammett	Collection Systems Worker II	(925) 382-9788 (work cell) (925) 339-7266 (cell)
Alonso Rodriguez	Collection Systems Worker II	(925) 382-7084 (work cell) (925) 405-2241 (cell)

In the event Collection System personnel are not readily available:

Primary Contact: City of Pittsburg

Name	Contact Number
Office	(925) 252-4936
Cell Phone	(925) 766-7474
Pager	(925) 930-4498

Secondary Contacts:

Name	Contact Number	Alternate Contact Number
Absolute Plumbing	(925) 676-1900	(925) 676-1900 (Ask for Rod After Hours Emergency Only)
City of Antioch	(925) 779-6950	(925) 778-2441 (Police Dispatcher)
Central Contra Costa Sanitary District	(925) 228-9500 General Number	(925) 766-0160 (24-Hr. Cell) On-Call Crew

Appendix 6-B Emergency Contact List

Agency/Utility/Other	Phone Number	Notes
Bay Area Air Quality Mgmt. Dist.	(415) 771-6000	
Republic Services	(925) 685-4711	Grit/Screenings Disposal
Golden State Water	(925) 458-2090 (800) 999-4033	Bay Point Water Calls
Calif. Dept. of Health Services Operator Cert.	(916) 341-5639	
California Highway Patrol	(707) 551-4100	Non-Emergencies
California Office of Emergency Services (Cal OES)	(916) 845-8911 (800) 852-7550	Emergency Services/State Warning Center
Cal/OSHA	(925) 602-6517	
California Integrated Water Quality System (CIWQS) http://www.waterboards.ca.gov/water_issues/programs/sso/ User ID/Password: (LROs have Log-In & Password) Waste Discharge ID Number: 2SSO10127 State Water Board: Russell Norman rnorman@waterboards.ca.gov	(916) 323-5598	
California Regional Water Quality Control Board, Bay Area, Region 2	(510) 622-2300 (510) 622-2369 (510) 622-2460	Main Line Voice Mail Fax
Anna Gallagher Anna.Gallagher@Waterboards.ca.gov	(510) 622-2359	Delta Diablo Area Engineer
Mary Boyd	(510) 622-2485	
California Regional Water Quality Control Board, Central Valley, Region 5		
Mohammad Farhad	(916) 464-1181	Mohammad.Farhad@waterboards.ca.gov
Jim Marshall	(916) 464-4772	
Cal Trans	(510) 286-6359	24-Hour, Radio Dispatched
Central Contra Costa Sanitary District	(925) 933-0990 (925) 766-0160	24-Hour (Overflows) After Hours Standby Cell (925) 933-0955
Chemtrec	(800) 424-9300	Chemical/Gas Release/Emergencies

Agency/Utility/Other (Cont'd)	Phone Number	Notes
City of Antioch		
Antioch Police	(925) 778-2441	
Sewer Problems	(925) 778-2441	After Hours (Police Dispatch)
Sewer Problems	(925) 779-6950	Normal Business Hours
Water Problems	(925) 778-3911	After Hours (Police Dispatch)
Water Treatment Plant	(925) 779-7029 (925) 779-7027	
City of Bay Point/Shore Acres		
Sewer Problems	(925) 252-4936	After Duty Hours, Call Pittsburg Answering Service
Water Problems	(925) 458-2090	California Cities Water Service
Water Problems (After Hours)	(800) 999-4033	California Cities Water Service
City of Bethel Island		
Sewer Problems	(925) 625-2279	Ironhouse Sanitary District
City of Oakley		
Sewer Problems	(925) 625-2279	Ironhouse Sanitary District
Water Problems	(925) 625-2112 (925) 625-3798	Diablo Water District 24 Hours
City of Pittsburg		
Pittsburg Police	(925) 646-2441	Non-Emergencies
Sewer Problems	(925) 252-4936	
Water Problems	(925) 252-4936	24-Hour
Comcast	(800) 945-2288	To Notify If Any Problems

Agency/Utility/Other (Cont'd)	Phone Number	Notes
Contra Costa County Environmental Health Dept.	(925) 692-2500 (Business Hours) (925) 383-5445 (cl 1) (925) 383-4945 (cl 2)	Jocelyn Habal, Supervising Environmental Health Specialist Hazardous Material Spills
Contra Costa County Fire District	911 (925) 941-3330 (925) 933-1313	Emergency Non-Emergency Station 81 (W. 10 th Street, Antioch)
Contra Costa County Flood Control	(925) 313-7000 (925) 313-2000	24-Hour Number is the Sheriff
Contra Costa County Sheriff	(925) 646-2441	
Contra Costa County Public Works Department	(925) 646-2441 After Hrs. call the Sheriff's Dept. (925) 313-2000	24-Hr Flood control, plugged storm drains for Bay Point and Share Acres
Contra Costa Mosquito & Vector Control District	(925) 685-9301	
Contra Costa County Water District	(925) 688-8095 (Phone Forwarded After Hours)	Between 7:00 a.m. and 3:30 p.m.
California Department of Fish & Wildlife Game	(707) 944-5500 (916) 445-0045	Wild Life Protection (Dispatch)
EBMUD	(866) 403-2683	Emergency
Environmental Protection Agency	(800) 424-8802	National Response Center – Spills, Terrorist
Hospitals		
Sutter Delta Memorial	(925) 779-7200	
Kaiser	(925) 779-5000	
Naval Federal Police	(925) 246-4041	
AT&T - VERIZON	611	
Business Customer Service (AT&T)	(800) 275-0014	

Agency/Utility/Other (Cont'd)	Phone Number	Notes
Pacific Gas & Electric		
Emergency & Customer Service (24 Hr.)	(800) 743- 5000	
Information on Power Outages	(800) 743-5000	
Account Representative	(800) 743-5002	
Police Departments		
Antioch Police	(925) 778-2441	Non-Emergencies
Pittsburg Police	(925) 646-2441	Non-Emergencies
Sheriff's Dispatch	(925) 646-2441	Non-Emergencies
Recycled Water Facility (RWF)		
Delta Energy Center (DEC) Power Plant	(925) 252-2060 (925) 382-1328	Control Room Cell Phone
Los Medanos Energy Center (LMEC) Power Plant	(925) 252-2005	Control Room

Appendix 6-C Outside Contractor Phone List

Contractor / Supplier	Phone Number
Centrifuge	
Andritz Separation	(510) 614-1717 (903) 856-0445
Unico Mechanical	(707) 745-9970
Collection System	
Absolute Plumbing	(925) 676-1900
City of Antioch Corp. Yard	(925) 779-6950 (After Hours)
City of Pittsburg Corp. Yard	(925) 252-4936
Contract Street Sweeping Services (Antioch/Bay Point)	(209) 595-1370 (Scott's Cell) (408) 228-4563 (Office)
Darrin G. Stanley Engineering	(925) 240-7058
Environmental CPR, Inc.	(925) 806-0700
H&R Plumbing, Inc.	(510) 222-6759
J.W. Backhoe & Construction Inc.	(925) 634-7905 (925) 516-1266
Nor-Cal Pipeline Services – CCTV, Hydro, Repairs	(916) 442-5400 (24-Hr.)
Presidio Systems	(925) 456-8400 (925) 683-6438
RES Environmental Services	(925) 432-1755 (925) 584-0074 (Bob) (925) 580-5272 (Craig)
Service Master Restoration Services	(800) 480-8439
SmartCover Systems 3-T Equipment	(760) 291-1980 (800) 969-3001 (Smart Cover Sales)
Subtronic Corp: Utility Location, Leak Detection, Smoke Test (Current District Contractor)	(925) 228-8771
TMB Restoration Services (CRSMA Recommended)	(707) 252-5480
Underground Services Alert (USA) -North	(800) 642-2444 Or 811
USA Marking (American Leak Detection Co.)	(800) 353-5325
Vallejo Electric Motor & Pump Company	(650) 833-8495 (Dillon) (707) 642-4315
Williams Sanitary	(925) 634-4855 (925) 757-3860

Contractor / Supplier (Cont'd)	Phone Number
Chemical Release	
CHEMTREC	(800) 424-9300 (Emergency Line)
Corteva Main Gate Emergency Chlorine Leak (24-hour response)	(925) 432-5278
Presidio Systems	(925) 456-8400 (925) 683-6438
Electrical	
Calcon Systems, Inc.	(925) 277-0665
Contra Costa Electric	(925) 229-4250
D. W. Nicholson Corporation	(510) 887-0900
Dahl-Beck Company	(510) 237-2325 (800) 466-4395
Eaton Electric	(800) 386-1911
Presidio Systems	((925) 456-8400 (925) 683-6438
Russ Electric	(800) 654-3020
Silva Electric	(209) 836-2040 (Office) (209) 649-8800 (Cell)
Telstar Instruments	(925) 671-2888
Electric Motor Repair	
Dahl – Beck Electric Co.	(510) 237-2325
Vincent Electric Motor Co.	(510) 639-4500
General Equipment Rental	
American Crane	(209) 838-8815
Cresco	(925) 827-0151 (Pleasant Hill) (925) 228-9811 (Martinez)
Superior Crane	(925) 689-0250 or (925) 766-0601 (Cell)
United Rentals	(925) 757-7900
Vallejo Electric Motor Co.	(707) 642-4315 (Office) (650) 833-8495
Generator - Rental/Repair	
California Diesel & Power	(925) 229-2700 (Option #2 for 24-Hour)
Collicutt Energy Services	(916) 371-1667
Cummins West, Inc.	(510) 351-6101
Peterson Power Systems	(510) 895-8400
Rain for Rent (Baker Tank & Pumps)	(925) 679-2803
United Rentals	(408) 383-9270

Contractor / Supplier (Cont'd)	Phone Number
HVAC	
Cal-Neva Environmental Systems	(925) 687-9980
Freschi HVAC	(925) 384-1303 (925) 778-1415
Pacific Coast Trane Service	(408) 481-3600 (408) 481-3700 (After Hours)
Schneider Electric	(877) 822-2601 (650) 291-2581 (Joe's Cell)
Instrumentation	
Calcon Systems, Inc.	(925) 277-0665 (925) 570-8479 (Cell) (Frank Ortega)
Caltest Analytical Laboratory	(707) 258-4000
Fisher Scientific	(800) 766-7000
Grainger (Lab Safety Supply)	(800) 356-0783
HACH Company	(800) 525-5940
TechKnowsion, Inc. (SCADA/PLC) Ted Bunnell	(925) 939-8324 (Office) (925) 768-5602
TelStar Instruments	(925) 671-2888
Miscellaneous	
B.R. Towing	(925) 757-3100
Clean Harbors Safety Kleen	(707) 747-6699
East Bay Central Valley Tire	(925) 427-5225
OMNI Alarm	(800) 367-1091
Simplex Fire Alarm System	(925) 273-0100
Oil and Fuel	
Armor Petroleum (UST Repairs)	(707) 437-6668
World Oil Environmental Services	(800) 727-2879
Ramos Oil Company	(916) 371-2570 (Main # West. Sacramento) (916) 777-5545 (Isleton) (707) 425-5780 (Fairfield)
Flyers Energy	(707) 546-0766 (Santa Rosa 24-Hour)
Hunt & Sons (Current Delta Diablo Provider)	(925) 755-3835 (Antioch) (800) 734-2999 (Sacramento)
Golden Gate Petroleum	(925) 228-2222

Contractor / Supplier (Cont'd)	Phone Number
Construction	
Absolute Plumbing	(925) 676-1900
JW Backhoe & Construction, Inc.	(925) 516-1266 (925) 980-8243 (Jim's Cell) (925) 634-7905 (Home)
Nor-Cal Pipeline Services – CCTV, Hydro, Repairs	(916) 442-5400 24-Hour
Presidio Systems, Inc.	(925) 456-8400 (925) 575-4514 (Alexander))
Trench Plate Rental	(925) 432-1914
Pump – Repair and Rental	
Pump Repair Services	(415) 467-2150
Rain for Rent	925-679-2803
United Rentals (Trash Pumps/Tank Rental)	(800) 422-8265 (24 Hr.)
Switch Gear/Breaker Repair & Service	
Emerson (ASCO)	(800) 972-2726
Russ Electric	(800) 654-3020
Waukesha Engine/Co-Generation	
Bay Power (Scot Campbell)	(530) 295-8151
Peterson Power	(707) 746-8243 (Benicia) (510) 895-8400(San Leandro)
Valley Power	(916) 372-5078

Appendix 6-D Service Call/Overflow Response SOP

The purpose of this Standard Operational Procedure (SOP) is to aid staff in prompt and responsible SSO response and is intended only as a condensed version of the Overflow Emergency Response Plan (OERP) Section (6) of the Sewer System Management Plan (SSMP).

Addressing Service Calls (Section A):

- After Hours: Plant operations staff receives the call, obtains the information from the caller and completes the first portion of the Collection System Service Call/Overflow Field Report (Field Report) (Appendix 6-E of the SSMP). An e-mail should be sent to “Service Calls-Sewer” in the Global Address List in Outlook documenting the details of the call immediately after dispatching a response crew. After the field response, an email is sent out the Service Call Sewer.
- Monday - Friday between 7:00 a.m. - 4:30 p.m.: All service calls will be immediately directed to Collection’s personnel verbally along with the “Field Report” detailing the specifics of the call. The Lead Operator must also be contacted verbally with an immediate follow-up email to “Service Calls-Sewer.”
- The Collection Crew/Lead Operator shall field verify the address and nearest cross street, making sure it’s part of the District’s conveyance system. If not, provide the caller with the phone number of the responsible City and follow up by calling the City yourself, providing the details of the call. Provide assistance if requested.
- The response measures will be based on the information provided by the caller (weather and traffic conditions, small back up vs. sewage flowing on the ground, into a storm drain system, drainage channel or surface water.). If additional help is needed, the Senior or Lead Operator will contact other employees, contractors, and/or equipment suppliers:
 - Collection System Service Call/Overflow Call Out List for Off-Shift Response, Appendix 6-A of the SSMP.
 - Emergency Contact List, Appendix 6-B of the SSMP.
 - Outside Contractor Phone List, Appendix 6-C of the SSMP.

Responding to SSOs “Real or Potential” (Section B):

- The Collection Crew/Operator (First Responder) shall visit the site in an attempt to minimize or eliminate an overflow. Because time is of the essence we should always respond immediately with the goal of never exceeding one hour. Respond with the combination sewer cleaning truck (Vac-Con) and/or spill response vehicle depending on the situation. Follow the standard operating procedure in the Service Call/Overflow Response Field Manual located in the response van. The vehicle keys are located in the Collections office and an extra set of response vehicle keys are also stored in the COP.

- Upon arrival at the site, clearly assess the situation and comply with all safety precautions (traffic, confined space, etc.) and verify the existence of a sewer system spill or backup.
- Identify and assess the affected area and extent/impact of the spill and request additional help as needed for line cleaning or repair, containment, recovery, lab analysis and site cleanup.
- Using the appropriate cleaning equipment, set up downstream of the blockage and hydro clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream (Standard Operating Procedure for Sewer Cleaning, Appendix 4-A of the SSMP).
- If the blockage cannot be cleared within a reasonable time (± 15 minutes) or conveyance system requires construction repairs, contingency plans must be employed as needed including containment, bypass pumping, contractual assistance etc. If assistance is required, immediately contact other employees, and equipment suppliers as required. Contact the Construction Inspector or District Engineer if construction services are required. See Collection System Service Call/Overflow Call-Out List, Emergency Phone Numbers, and Outside Contractors Phone List (included as Appendices 6-A through 6-C of the SSMP).
- Signs warning the public of a sewage release should be posted in the affected area. Use barricades, caution tape, cones, etc. as needed. Signs should include, at a minimum, the words “raw sewage” (Appendix 6-I of the SSMP). Warning signs should remain posted until County Health or Regional Board staff authorizes their removal, or until receiving water sample results indicate background levels (levels as determined by upstream samples) have been attained.
- Water quality sampling and testing is required by the State Water Board and anytime District staff believe that sampling and testing can help confirm that surface waters are no longer contaminated with sewage. Refer to Section 6.7.1 of the SSMP for full details on water quality, sampling, testing, and reporting.
- The response crew shall complete the Collection System Service Call/Overflow Field Report (Appendix 6-E of the SSMP) and provide copies as stated at the bottom of the field report.
- SSO Notification and Reporting: Accurate and responsive reporting is vital. Refer to the SSO External Reporting Requirement Flow Chart (Figure 6-2).

Back-Ups into Homes or Businesses (Section C):

Clean up and disinfection procedures should be implemented without delay to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. It is imperative that employees communicate effectively with the District customers, which results in greater confidence in our ability to address the problem satisfactorily. In the event of a backup into a home or business, inform the Resource Recovery Services Director, Human Resources and Risk Manager, and refer to Appendices 6-K through 6-R of the SSMP to guide staff through the process.

Addressing Service Calls (Section A):

- Collection System Service Call/Overflow Field Report (Appendix 6-E)
- Collection System Service Call/Overflow Call Out List for Off-Shift Response (Appendix 6-A)
- Emergency Contact List (Appendix 6-B)
- Outside Contractor Phone List (Appendix 6-C)

Responding to SSOs (Section B):

- Collection System Failure Analysis Form (Appendix 6-F)
- Methods for Estimating Spill Volume (Appendix 6-G)
- Manhole Overflow Flow Rate Guide (Appendix 6-H)
- Sample Warning Sign (Appendix 6-I of the SSMP)
- SSO External Reporting Requirement Flow Chart (Figure 6-2)
- Emergency Response Inventory List (Appendix 6-J)

Back Ups into Homes or Businesses (Section C):

- Private Property Damage Procedures – Customer Relations Guidelines (Appendix 6-K)
- CSRMA Recommended Sewer Backup Response and Claims Handling Procedure (Appendix 6-L)
- Sewer Backup Summary Report (Appendix 6-M)
- Hotel Selection Form (Appendix 6-N)
- Customer Information Regarding Sewer Backup Claim (Appendix 6-O)
- Affected Personal Property Inventory Log (Appendix 6-P)
- Customer Acknowledgment that Offer of Sewer Cleaning Services has been Declined (Appendix 6-Q)
- Release of all Claims for Sewer Backup Losses (Appendix 6-R)
- Delta Diablo Claim Form

Appendix 6-E Collection System Service Call/Overflow Field Report

INITIAL INFORMATION

DATE SERVICE CALL RECEIVED: _____ TIME SERVICE CALL RECEIVED: _____ AM/PM
RECEIVED BY: _____ CALLER'S NAME: _____
CALLER'S PHONE #: _____ CALLER'S ADDRESS: _____
LOCATION OF OVERFLOW: _____ CROSS STREET: _____
DESCRIPTION OF COMPLAINT: _____
DID THE CALLER OBSERVE THE TIME THAT THE SSO BEGAN? Y/N _____ TIME: _____ AM/PM
DID THE CALLER OBSERVE ANY SEWAGE ENTERING A STORM DRAIN OR WATER WAY? _____ IF YES,
WHERE? _____ NAMES OF CREW MEMBER/S DISPATCHED: _____ DATE & TIME DISPATCHED: _____
RWQCB: REGION 2 (BAY POINT/PITTSBURG) ☐ REGION 5 (ANTIOCH/CONVEYANCE SYSTEM EAST OF THE T P) ☐

FIELD REPORT

FOR RESPONSE CREW'S USE

DATE & TIME FIRST RESPONDER ARRIVED AT SITE: _____ AM/PM RESPONSE CREW: _____
DATE & TIME CONTAINMENT CREW ARRIVED AT THE SITE: _____
ESTIMATED ONGOING SSO DISCHARGE RATE (GPM) IF ONGOING WHEN CREW ARRIVED AT THE SITE: _____
ASSET TYPE: _____ WORK AREA: _____ U/S ASSET#: _____ D/S ASSET#: _____
LOCATION OF SSO: _____
SIZE OF LINE: _____ LENGTH OF LINE: _____ PIPE MATERIAL TYPE: _____ EASEMENT: YES ☐ NO ☐
GPS COORDINATES: _____
ADDITIONAL INFORMATION: _____

COMPLETE REMAINDER OF FORM IF AN OVERFLOW OR SYSTEM BLOCKAGE/FAILURE HAS OCCURRED

TIME OVERFLOW STARTED: _____ TIME OVERFLOW STOPPED: _____ DURATION OF SSO: _____
DESCRIPTION OF HOW THE START/STOP DATE AND TIME WAS DETERMINED: COMPLAINANT/INFORMANT _____,
WITNESS STATEMENTS _____, DISTRICT VISUAL OBSERVATION _____, ESTIMATED VOLUME AND FLOW RATE (EST
VOLUME DIVIDED BY EST. FLOW RATE) _____
ADDITIONAL INFORMATION: _____
EST. TOTAL VOLUME (GALLONS): _____ RETURNED TO SEWER SYSTEM (GALLONS): _____
DESCRIBE HOW OVERFLOW QUANTITY WAS CALCULATED: _____
*SMART ESTIMATION WORKBOOK ☐ METHOD USED? _____
*MANHOLE OVERFLOW GUIDE APPENDIX 6-H ☐
*OTHER ☐ METHOD USED? _____
DID THE SSO DISCHARGE TO A DRAINAGE CHANNEL OR SURFACE WATER? (CIWQS QUESTION #20) Y/N _____
GALLONS SPILLED TO DRAINAGE CHANNEL? _____ GALLONS RECOVERED? _____
GALLONS SPILLED TO SURFACE WATER? _____ GALLONS RECOVERED? _____
DID THE SSO REACH A STORM DRAINPIPE? (CIWQS #21) Y/N _____

IF SSO REACHED THE STORM DRAIN, WAS THE SSO FULLY CAPTURED? (CIWQS #22) Y/N _____

IF NO, GALLONS SPILLED TO STORM DRAIN SYSTEM _____ GALLONS RECOVERED _____

FINAL SSO/SPILL DESTINATION? (CIWQS #526): _____

ESTIMATED TOTAL GALLONS SPILLED (CIWQS #27) _____

ESTIMATED GALLONS RECOVERED (CIWQS #28) _____

ESTIMATED GALLONS (GREATER THAN 0) THAT REACHED SURFACE WATER, DRAINAGE CHANNEL, OR NOT RECOVERED FROM A STORM DRAIN (CIWQS #1.1) _____ GALLONS NOT CONTAINED (ABSORBING INTO GROUND, EVAPORATION, ETC.), AND/OR RETURNED TO THE SEWER SYSTEM BUT DIDN'T ENTER A DRAINAGE CHANNEL OR SURFACE WATER _____

CONTAINMENT/CLEAN UP MEASURES: _____

ADDITIONAL INFORMATION: _____

WEATHER: SUNNY ☐ CLOUDY ☐ RAINY ☐ RAIN FOR SEVERAL DAYS ☐ _____

PRIMARY CAUSE: ROOTS ☐ GREASE ☐ DEBRIS ☐ VANDALISM ☐ CONSTRUCTION DAMAGE ☐
PIPE FAILURE ☐ PUMP STATION FAILURE ☐ POWER FAILURE ☐ CAPACITY ☐
OTHER ☐ _____

ADDITIONAL INFORMATION: _____

SOURCE OF SSO: MANHOLE ☐ GRAVITY MAIN ☐ FORCE MAIN ☐ ARV _____ CLEAN OUT ☐

PRIVATE LATERAL ☐ PUMP STATION ☐ _____ (NAME) OTHER ☐ _____

PICTURES/VIDEO TAKEN: YES ☐ NO ☐ BY: _____ SAVED LOCATION: _____

AFFECTED AREA: _____

DESCRIBE PROPERTY DAMAGE: _____

SIGNS POSTED: YES ☐ NO ☐ BARRICADED: YES ☐ NO ☐ NEIGHBORS NOTIFIED: YES ☐ NO ☐

CAT I ☐ CAT II ☐ CAT III ☐ OES SSO#: _____ REGULATORY AGENCY NOTIFIED: YES ☐ NO ☐

CONTACTS/DETAILS: _____

CALLER/CUSTOMER NOTIFIED RE: STATUS: YES ☐ NO ☐ IF NOT, WHY: _____

CALLER/CUSTOMER FOLLOW-UP COMMUNICATION WITHIN 3-5 DAYS OF THE EVENT: YES ☐ NO ☐

IF NOT, WHY: _____

FOLLOW-UP MEASURES: _____

WORK ORDER NO: _____

FREQUENCY OF EXISTING PM PROGRAM: _____ LAST DATE PM PERFORMED: _____

RECOMMENDATIONS ON HOW TO ELIMINATE FUTURE PROBLEMS: _____

FAILURE ANALYSIS COMPLETE: YES ☐ NO ☐ DATE: _____

FORM COMPLETED BY: _____ DATE: _____

DISTRIBUTE THE FINAL FIELD REPORT TO THE POC FRONT DESK WITH COPIES TO THE OPERATIONS SUPERVISOR, OPERATION MANAGER, RESOURCE RECOVERY SERVICES DIRECTOR, AND MAINTENANCE MANAGER.

SKETCH OF AREA: (INCLUDE MANHOLES, INTERSECTIONS, LOCATION OF STOPPAGE, ETC.)

Appendix 6-F Collection System Failure Analysis Form

Collection System Failure Analysis Form			
Incident Report #		Prepared By	
SSO/Backup Information			
Event Date/Time	Address		
Volume Spilled	Volume Recovered		
Cause			
Summary of Historical SSOs/Backups/Service Calls/Other Problems			
Date	Cause	Date Last Cleaned	Crew
Records Reviewed By		Record Review Date	
Summary of CCTV Information			
CCTV Inspection Date		Tape Name/Number	
CCTV Tape Reviewed By		CCTV Review Date	
Observations			
Recommendations			
	No Changes or Repairs Required		
	Maintenance Equipment		
	Maintenance Frequency		
	Repair (Location and Type)		
	Add to Capital Improvement Rehabilitation/Replacement List: Yes <input type="checkbox"/> No <input type="checkbox"/>		
Maintenance Manager		Resource Recovery Services Director	
Review Date		Review Date	

Appendix 6-G Methods for Estimating Spill Volume

A variety of approaches exist for estimating the volume of a sanitary sewer spill. The person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available. The Sewer Overflow Volume Estimation Workbook (SMART) that lists a number of estimation methods including:

- Start Time
- Eyeball
- Drop Bucket
- Photo Comparison
- Upstream Connections
- Ponded Sewage (a/v)
- Storm Drain (a/v)
- Flow
- Lower Lateral
- Lift Station
- Rate Tables
- Post Flow Event Monitoring

SMART Workbooks have been distributed to Operations, Maintenance, and Collection Departments.

Appendix 6-H Manhole Overflow Flow Rate Guide



City of San Diego
Metropolitan Wastewater Department

Reference Sheet for Estimating Sewer Spills from Overflowing Sewer Manholes

All estimates are calculated in gallons per minute (gpm)

Wastewater Collection Division
(619) 654-4160



5 gpm



25 gpm



50 gpm



100 gpm



150 gpm



200 gpm



225 gpm



250 gpm



275 gpm

All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

rev. 4/99

WARNING

RAW

SEWAGE

DELTA DIABLO

(925) 756-1900

Appendix 6-J Emergency Response Inventory

EMERGENCY RESPONSE EQUIPMENT AND STORAGE ROOM INVENTORY FORM

Description	Size	Quantity	Actual	Needed	Comments
Fire Hose	1 ½ inch	6 Rolls			
Fire Hose	2 ½ inch	3 Rolls			
Lay Flat Hose	4-inch	20 Rolls			
Lay Flat Hose	6-inch	10 Rolls			
Suction Hose	4-inch	4 Rolls			
Basket Strainer	4-inch	1			
Test Plug – Long	3-inch	3			
Test Plug – Long	12-18 inch	1			
Test Balls	4-inch	2			
Test Balls	6-inch	3			
Test Balls	8-inch	1			
Orange Cones		25			
Pointed Shovels		3			
Flat Shovels		3			
Hydrant Wrench		1			
Hammer		1			
Irrigation T-Wrench		1			
Hooks		2			
Manhole Hook		1			
Blue Hose	2-inch	6 Rolls			
Buckets	5 gal.	2			
Red Garbage Cans		2			
Tote Misc., Cam Fittings		1			
Backflow Tool Box		1			
Tote Gorman Rupp Floats		1			

Description	Size	Quantity	Actual	Needed	Comments
Snow Shovels		2			
Wacker Pump	4-inch	1			
Orange Fold Out of Barricades					
Allegro Pneumatic Blower		1			
110 Volt Allegro Blower	8-inch	1			
110 Volt Allegro Blower	16-inch	1			
Dayton Generator		1			
12 Volt Allegro Blower		1			
Honda Light and Generator	1000 Watt	2			
Generator – Gas	1350 Watt	1			
Generator – Gas	5500 Watt	1			
Hose for Blower	8-inch	1			
Stream Light Rechargeable Flashlights		2			
Hydrant Adapters	2½ - 1½ inch	2			
Hydrant Tee	2½ - 1½ inch	1			
Fire Hose Nozzles	1½ inch				
Large Gloves		2 Boxes			
Portable Trash Pump	4-inch	1			
Pneumatic Wacker Pump		1			

Description	Size	Quantity	Actual	Needed	Comments
Extra Large Gloves		2 Boxes			
Ear Plugs		1 Box			
Caution Tape		2 Rolls			
Duct Tape		2 Rolls			
Nylon Ropes		2			
Garden Hoses		2			
Extension Cord Reel		2			
Cam Lock Gaskets	6-inch	15			
Cam Lock Gaskets	4-inch	20			
Raw Sewage Signs					
Garbage Bags	3-mil	1 Box			
Submersible Flygt Pump	2-inch	1			

EMERGENCY RESPONSE TRAILER (ENCLOSED)

Description	Size	Quantity	Actual	Needed	Comments
Safety Rails		1 Set			
Ladder	4 feet	1			
Yellow Poles		4			
Garden Hoses		2			
Burlap Bags		1 Tote			
Absorbent Socks		1 Tote			
Petroleum Socks		1 Tote			
Submersible Pump	½ HP	2			

Description	Size	Quantity	Actual	Needed	Comments
Blower Hose		1			
Fire Hose	1½ inch	6			
Lay Flat Hoses	2-inch	3			
Lay Flat Hoses	2-inch	3			
Misc. Plugs		1 Tote			
Raw Sewage Signs		1 Can			
Safety Cones		24			
Manhole Barricades		3			
Yellow Emergency Spill Drain Covers and Containers		2			
Blower Hard Elbow		1 Tote			
Dual Halogen Lights		1 Tote			
Rope		1 Tote			
Air Hose		1 Tote			
Electrical Cords		1 Tote			
Bacons and Reflective Covers		1 Tote			
Rigid Vacuum		1			
Electric Air Compressor		1			
Honda Light and Generator		1			
Manhole Hook		2			
Manhole Hook	Large	1			
Safety Hose Ramp		3			

Description	Size	Quantity	Actual	Needed	Comments
Pointed Shovel		1			
Flat Shovel		1			
Shelter Canopy		1			
110-Volt Blower		1			
Men Working Signs		1 Cart			
Grappling Hook		1			

FRONT OF EMERGENCY RESPONSE TRAILER (ENCLOSED)

Description	Size	Quantity	Actual	Needed	Comments
Generator Power Cord		1			
Self-Retracting Line		1			
Misc. Lanyards					
Full Body Harness		1			
Harness Stool		1			
Winch and Tri-Pod		1			
Hard Hats					
Safety Vest					
Caution Tape					
Ammonia Test Kit					
E.R. Guide					
M.S.D.S					
Igloo Cooler					
Tool Box		1			
Dewalt Tool Kit		1			
Water Jug		1			
Ear Plugs (Box)		1			
First Aid Kit		1			
Emer. Flashlight – LED		2			

Description	Size	Quantity	Actual	Needed	Comments
Gloves – Nitrile (Box)	L	2			
Gloves – Nitrile (Box)	XL	2			
Wrench Set	Standard	1			
Wrench Set	Metric	1			
Screwdriver Set		1			
Sanitizing Wipes (Box)		2			
Pipe Wrench Set	S, M, L	1			
Socket Set w/ Ratchet	3/8” Drive	1			
Battery Charger – Dewalt	20v	2			
12-Volt Diesel Transfer Pump					
S.C.B.A Tank		1			
ON THE TRAILER TONGUE					
Description	Size	Quantity	Actual	Needed	Comments
Generator and Solar Panel		1			

CSO EQUIPMENT AND STORAGE ROOM INVENTORY SHEET

Equipment	Amount	Location	Comments
¼ Hp Submersible Pump	1	Storage Rack (3)	
Air Tank	1	Storage Rack (3)	
8” Alum Suction Tube	1	Storage Rack (3)	
Reflective Barricades	6 Ea.	Storage Rack (2)	
Barricade Lights	6 Ea.	Storage Rack (1)	
Drain Covers 3’x3’	1	Storage Rack (3)	
Drain Cover Material		Storage Rack (3)	
Footage Wheels	2	Storage Rack (3)	
“Generac” Generator	1	Storage Rack (3)	
3” Suction Hose 20’	5	Storage Rack (4)	
Misc. Vac-Con Parts		Storage Rack (4)	
Air Compressor	1	Storage Rack (3)	
Overflow Devices	4-6	Storage Rack (3)	
Pipe Air Plug 4”X6”	1	Storage Rack (2)	
Pipe Air Plug 6”X 10”	1	Storage Rack (2)	
Pipe Air Plug 8”X 12”	1	Storage Rack (2)	
Pipe Air Plug 12”X 18”	2	Storage Rack (2)	
Pipe Air Plug 15” X 21”	1	Storage Rack (2)	
Pipe Air Plug 15” X 30”	1	Storage Rack (2)	
Pipe Air Plug 20” X 36”	1	Storage Rack (2)	
Plug Air Hoses	4	Storage Rack (3)	
Plug Tether Ropes	4	Storage Rack (3)	
Air Gauges	4	Storage Rack (3)	
Pole Cam/Tripod	1	Storage Rack (4)	
Power Flares/Light	10	Storage Rack (1)	
Push and Rod Reel	1	Storage Rack (4)	
Cues Power Winch	1		
Sand Bag Fillers	2	Storage Rack (3)	

Traffic Signs (Road Work Ahead)	3	Next to Storage Rack (1)	
Traffic Signs (Lane Closed Ahead)	3	Next to Storage Rack (1)	
Signs Stands	6	Next to Storage Rack (1)	
Traffic Cones	50-100	Next to Storage Rack (1)	
Reflective Cone Sleeves	50-100	Storage Rack (1)	
Tri Pod/Harness/Winch	1	Storage Rack (3)	
Troy Bilt Generator	1	Storage Rack (3)	
Receiver & Ball	2	Storage Rack (2)	
Wheel Chocks	2	Storage Rack (3)	
3" Discharge Hose	4	Storage Rack (3)	
Stop/Slow Paddles	2	Storage Rack (1)	

COLLECTION EQUIPMENT AND STORAGE ROOM INVENTORY (SUPPLIES)

Supplies	Amount	Location	Comments
Air Freshener Bricks	3-5	Storage Rack (1)	
Construction Adhesive	12-24 Tubes	Storage Rack (1)	
Dechlor Tabs	18-24 Ea.	Storage Rack (3)	
Grade Stakes	12-24 Ea.	Storage Rack (1)	
Leak Stop Grout	1 Bucket	Storage Rack (1)	
Marking Flags Rwl	25-50 Ea.	Storage Rack (1)	
Marking Flags Fm	25-50 Ea.	Storage Rack (1)	
Marking Flags Gravity	25-50 Ea.	Storage Rack (1)	
Marking Paint Black	1 Case	Storage Rack (1)	
Marking Paint Green	4-8 Cases	Storage Rack (1)	
Marking Paint Purple	4-8 Cases	Storage Rack (1)	
Marking Paint Red	1 Case	Storage Rack (1)	
Marking Paint White	1 Case	Storage Rack (1)	
Plastic Fence (Orange)	1-2 Rolls	Storage Rack (1)	
Misc. Ppe	2 of Each	Storage Rack (1)	
Rain Gear	2-4	Storage Rack (1)	
Visquin- Plastic Rolls	2-3	Storage Rack (1)	
Vac-Con Grease Tubes	12-24	Storage Rack (4)	
Vac-Con Coolant	2-4	Storage Rack (4)	
Vac-Con Power Steering Fluid	2-4	Storage Rack (4)	

COLLECTION EQUIPMENT AND STORAGE ROOM INVENTORY (TOOLS)

Tools	Amount	Location	Comments
Arv Tool Box	1	Storage Rack (3)	
Smart Cover Tool Box	1	Storage Rack (3)	
Battery Powered Grease Gun	1	Work Bench	
Grounding Rod	2	Storage Rack (4)	
Manhole Hooks	3	Storage Rack (2)	
Nozzles/Skids	4	Storage Rack (3)	
Sewer Poles/Misc. Tools	6	Barrel in The Corner	
T-Handle Valve Wrench	2	Barrel in The Corner	
Curb Stop Wrench	2	Barrel	
Brooms	2	Barrel	
Square Tip Shovels	2	Barrel	
Round Point Shovels	2	Barrel	
Footages Wheels	2	Storage Rack (3)	
Sand Bag Fillers	2	Storage Rack (3)	

EMERGENCY RESPONSE PIPE TRAILER (OPEN)

10-inch Emergency Response Trailer	6 and 4-inch Emergency Trailer
Approximately 600-feet of 10-inch Pipe	Approximately 1,000 feet of Pipe
10-inch Pipe Fittings	6 and 4-inch Pipe Connectors
10-inch Pipe Connectors	

EMERGENCY RESPONSE PORTABLE PUMPS

TYPE	QUANTITY	LOCATION
4" Portable Trash Pump #4	1	Small Lock Up
6" Pump	1	Small Lock Up
6" Trash Pump	1	Large Lock Up
½ Hp Sump Pump	2	Trailer
¼ Hp Sump Pump	1	Trailer

Appendix 6-K Private Property Damage Procedures

CUSTOMER RELATIONS GUIDELINES

It is important for employees to communicate effectively with the District's customers, especially in a sewage backup situation. How we communicate – on the phone, in writing, or in person – is how we are perceived. Good communication with the homeowner results in greater confidence in our ability to address the problem satisfactorily, less time to resolve the claim, and less damage done to the property.

As a representative of the District, you will occasionally have to deal with an irate homeowner. A backup is a stressful event and even a reasonable homeowner can become irate should he/she perceive us as being indifferent, uncaring, unresponsive, or incompetent.

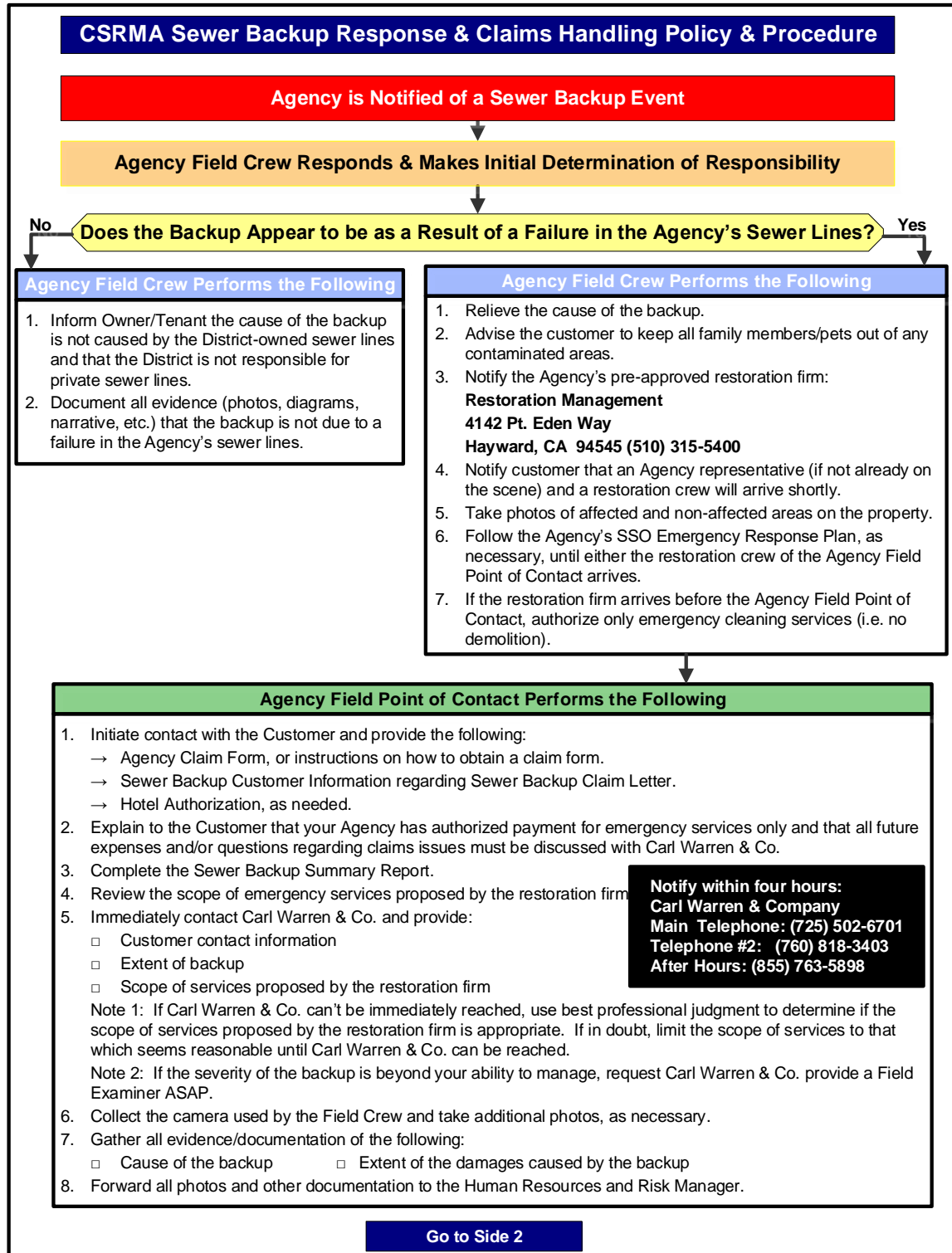
Although sometimes difficult, effective management of a sewage backup situation is critical. If it is not managed well, the situation can end up in a costly prolonged process with the homeowner. We want the homeowner to feel assured that we are responsive and the homeowner's best interest is a top priority.

Communication Tips

1. Give the homeowner ample time to explain the situation. Show interest in what the homeowner has to say, no matter how many times you have heard it before, or how well you understand the problem.
2. As soon as possible, let the customer know that you will determine if the source of the sewer backup is in the sewer main and, if it is, will have it corrected as quickly as you can.
3. Acknowledge the homeowner's concerns. For example, if the homeowner seems angry or worried about property damage, say something like, "I understand you're concerned about the possible damage to your property. A professional cleanup crew can restore the area, and if it is determined that the District is at fault, the property owner has the right to file a claim for any reasonable repairs or losses resulting from this incident".
4. Express regret for any inconveniences caused by the incident, but do not admit fault.
5. As much as possible, keep the homeowner informed on what is being done and will be done to correct the problem.
6. Keep focused on getting the job done in a very professional manner. Don't wander from the problem with too much unnecessary small talk with the homeowner.
7. Don't find fault or lay blame on anyone.
8. Make sure someone follows up with a telephone call to ensure everything is being handled as it should be.

Before you leave, make sure the homeowner has the name and telephone number of someone at the District to call if he/she has questions or wants information. The Customer Information Letter contains this information and you should take the time to review this with the homeowner.

Appendix 6-L CSRMA Recommended Sewer Backup Response and Claims Handling Procedure



CSRMA Sewer Backup Response & Claims Handling Policy & Procedure

Start Here from Side 1

Agency "Human Resources and Risk Manager"

1. Review the Sewer Backup Summary Report, photos taken and all other documentation/evidence provided by the Agency Field Point of Contact.
2. Set up a claims file and insert copies of all relevant information.
3. Immediately contact Carl Warren & Co. and discuss the following:
 - ☐ Documentation gathered
 - ☐ Plan of action
 - ☐ Alternate living arrangements, if necessary (ensure Carl Warren & Co. assumes responsibility for managing alternate living arrangements/incidentals from this point forward).
4. Document the date, time, and content of the discussion with Carl Warren & Co. and place in the claim file (NOTE: Document all phone conversations/other communication with the Customer and Carl Warren & Co. from this point forward and keep in the claim file).
5. Immediately forward the Sewer Backup Summary Report, photos and all other relevant evidence/documentation gathered to Carl Warren & Co.
6. Direct all Customer concerns and questions regarding the adjustment of their claims to the Carl Warren & Co. Claims Adjustor or Account Manager or to the CSRMA Program Administrators.
7. Communicate with the Claims Adjustor and/or Account Manager bi-weekly, as necessary to keep informed of the status of the claim and provide information, as necessary.
8. Ensure the Claims File is kept current with all communications between Carl Warren & Co., the Customer, the restoration firm, and other involved parties.
9. Provide internal status reports, as necessary, to appropriate members of management staff.

Carl Warren & Company
Tel (725) 502-6701 / Fax (866)254-4423
P.O. Box 2411
Tustin, CA 92781

Carl Warren & Co. Perform the Following

1. Initiate contact with Owner/Tenant as soon as possible, but no later than the first business day after notification of the loss.
2. Make all necessary arrangements for lodging, food and incidentals beyond those made by the Agency immediately following the loss.
3. Negotiate and oversee the restoration firms' work to ensure proper scope of cleaning, disinfection, and demolition.
4. Investigate, adjust, and administer claim to closure.
5. Whenever prudent to do so, have claimant agree, as a condition of claims settlement, to install and maintain, at their expense, a Backwater Prevention Device meeting local requirements on their service lateral.
6. For claims where the estimated settlement timeframe is greater than 30-days, provide the Agency's Claims Management Coordinator with status reports bi-weekly, as necessary or as requested by the Human Resources and Risk Manager.
7. For claims with issues complicating movement towards settlement, immediately notify the CSRMA Program Administrator's for guidance.
8. When circumstances warrant, or when requested, dispatch a Field Adjustor to the location of the sewer backup.

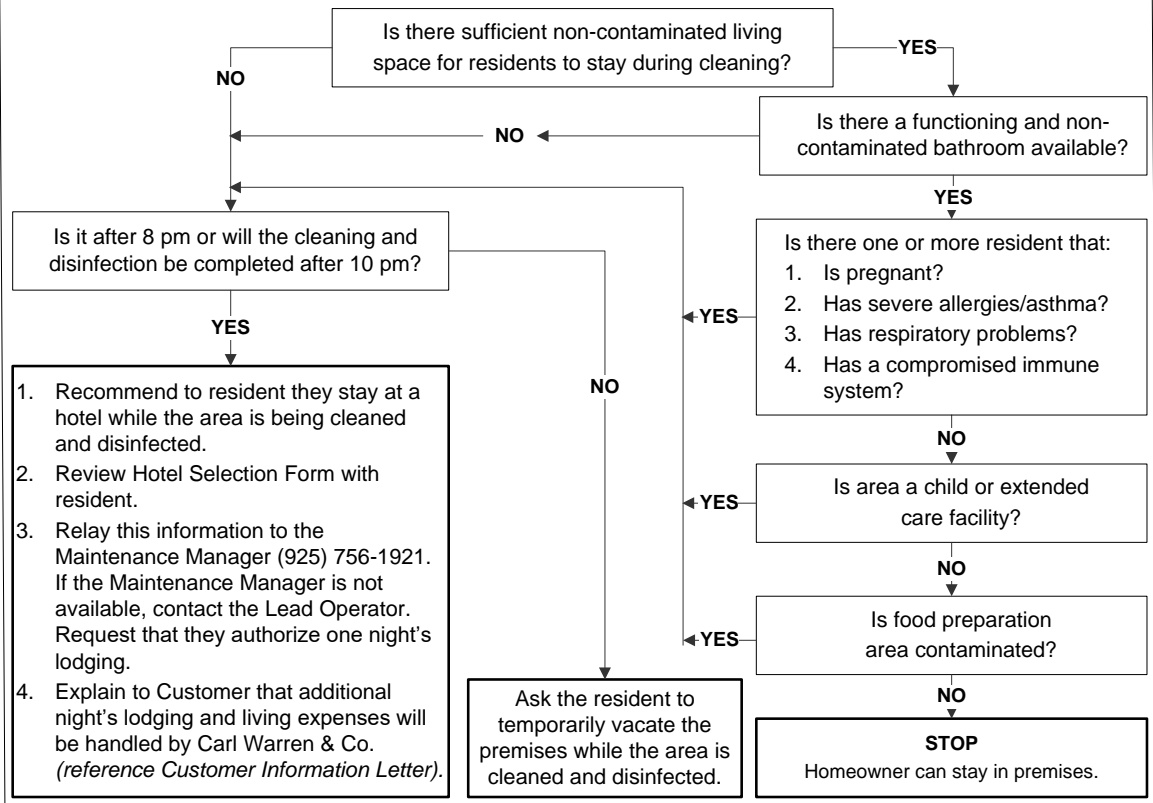
Appendix 6-M Sewer Backup Summary Report

SEWER BACKUP SUMMARY REPORT			
INSTRUCTIONS: Please fill this form out as completely as possible and provide to Delta Diablo HR & Risk Manager			
TIME DISTRICT STAFF ARRIVED ON-SITE: _____		TIME CLEANING CONTRACTOR CALLED: _____	
SECTION A			
DATE:	TIME:	EMPLOYEE NAME:	
RESIDENT:	PROPERTY MANAGER(S):		
STREET ADDRESS:	STREET ADDRESS:		
CITY, STATE AND ZIP:	CITY, STATE AND ZIP:		
PHONE::	PHONE:		
CAUSE OF FLOODING:			
LOCATION/SEWER:	<input type="checkbox"/> STREET	<input type="checkbox"/> REAR EASEMENT	<input type="checkbox"/> MANHOLE# _____ To _____
	<input type="checkbox"/> MAINLINE	<input type="checkbox"/> SERVICE LINE	<input type="checkbox"/> DOUBLE-WYE
DAMAGE:	<input type="checkbox"/> BLACK WATER	<input type="checkbox"/> GREY WATER	<input type="checkbox"/> FRESH WATER
# OF PEOPLE LIVING AT RESIDENCE: _____			
COMMENTS:			
CLEANING SERVICES: <input type="checkbox"/> REQUESTED BY OWNER – WAIT FOR CLEANING CONTRACTOR TO ARRIVE			
<input type="checkbox"/> DECLINED BY OWNER – ENSURE DECLINATION FORM 4B IS SIGNED			
SECTION B			
APPROXIMATE AGE OF HOME: _____		# OF BATHROOMS: _____	# OF ROOMS AFFECTED: _____
APPROXIMATE AMOUNT OF SPILL: _____ (GALLONS)			
APPROXIMATE TIME SEWAGE HAS BEEN SITTING: _____ (HOURS/DAYS)			
NUMBER OF PICTURES TAKEN: _____		DIGITAL OR FILM? _____	
DOES THE CUSTOMER HAVE A BACKFLOW PREVENTION DEVICE (BPD)? <input type="checkbox"/> YES <input type="checkbox"/> NO			
IF YES, WAS THE BPD OPERATIONAL AT THE TIME OF THE OVERFLOW? <input type="checkbox"/> YES <input type="checkbox"/> NO			
HAVE THERE BEEN ANY PREVIOUS SPILLS AT THIS LOCATION? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN			
TYPE OF FLOORING IN THE ROOM AFFECTED:			
<input type="checkbox"/> TILE	CONDITION OF TILE AND SEAMS (CRACKING, VISIBLE OPEN SPACES, ETC.)		
<input type="checkbox"/> CARPET	CONDITION OF FLOORING AND JOINTS (CRACKING, VISIBLE OPEN SPACES, ETC.)		
<input type="checkbox"/> WOOD			
<input type="checkbox"/> OTHER	PLEASE IDENTIFY:		
HAS THE RESIDENT HAD ANY PLUMBING WORK DONE RECENTLY? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN			
IF YES, PLEASE DESCRIBE:			
ARE THERE BASEBOARDS: <input type="checkbox"/> YES <input type="checkbox"/> NO BASEBOARD MATERIAL: _____			
CONDITION OF BASEBOARDS:			
<input type="checkbox"/> BASEBOARD BOTTOM HAS TIGHT SEAL WITH FLOOR			
<input type="checkbox"/> BASEBOARD TOP HAS TIGHT SEAL WITH WALL			
<input type="checkbox"/> BASEBOARD HAS SPACE BETWEEN BOTTOM & FLOOR			
<input type="checkbox"/> BASEBOARD HAS SPACE BETWEEN BASEBOARD & WALL			

SEWER BACKUP SUMMARY REPORT

SECTION C	LIVABILITY ASSESSMENT
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SECTION C	LIVABILITY ASSESSMENT
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Please diagram the rooms affected (*shade the areas most heavily affected*).

SECTION D	CLEANING CONTRACTOR
------------------	----------------------------

SECTION D	CLEANING CONTRACTOR
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Company Name: _____ Phone: _____ Arrival Time: _____

Comments: _____

Appendix 6-N Hotel Selection Form

HOTEL SELECTION FORM

INSTRUCTIONS TO EMPLOYEE:

1. Contact the Maintenance Manager and request authorization of 1 (one) night of lodging for selected hotel. If the Maintenance Manager is not available, contact the Operations Manager.
2. Explain to resident that only one night lodging has been authorized. Other allowances/ incidentals are not authorized.
3. Instruct the hotel and the resident that this emergency authorization is for **LODGING ONLY – NO FOOD, MINIBAR, MOVIE, PHONE or OTHER CHARGES**, however notify the homeowner to keep food receipts.

INSTRUCTIONS TO RESIDENT:

It is recommended that you temporarily relocate to one of the hotels listed below for your safety and convenience while your home is being cleaned. Please note that this Emergency Authorization is granted under the following terms and conditions:

1. This authorizes payment of 1 (one) night's stay at one of the hotels listed below.
2. This authorization is good for room and tax only – no phone, food, mini-bar, movie or other charges.
3. If you have questions, please contact Delta Diablo at (925) 756-1900.

I/We have read and understood the terms and conditions under which this offer of temporary relocation is offered. Further, we agree to abide by the terms and conditions described herein.

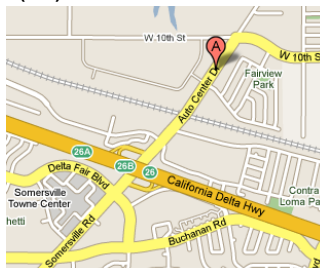
Employee Signature: _____ Title: _____

Customer Signature: _____ Date: _____

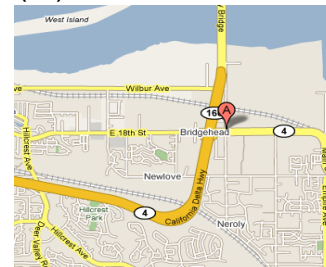
Hampton Inn & Suites
1201 California Avenue, Pittsburg, CA
(925) 473-1000



Suites by Wyndham
1605 Auto Center Dr., Antioch, CA
(925) 522-0010



Best Western Plus Delta Inn & Suites
5549 Bridgehead Rd, Oakley, CA
(925) 755-1222



**Mark in Order of
Preference**

Distribution Instructions – Top Copy to District's Human Resources and Risk Manager; Middle Copy to Customer; Bottom Copy to Carl Warren & Co.

Appendix 6-O Customer Information Regarding Sewer Backup Claim

CUSTOMER INFORMATION REGARDING SEWER BACKUP CLAIMS

DELTA DIABLO

Customer Information Regarding Sewer Backup Claims

Address: _____

Dear Mr./Ms.: _____ Date: _____

We recognize that sewer back flow incidents can be stressful and require immediate response when all facts concerning how an incident occurred are unknown. Rest assured that we do all we can to prevent this type of event from occurring. Nevertheless, occasionally tree roots or other debris in the sewer lines can cause a backup into homes immediately upstream of the blockage. At this time the Delta Diablo is investigating the cause of this incident.

If the Delta Diablo is found to be responsible for the incident, we are committed to cleaning and restoring your property and to protecting the health of those affected during the remediation process.

The cleaning contractor provided by the Delta Diablo has been selected because of their adherence to established protocols that are designed to assure all parties thorough, cost-effective and expeditious cleaning services. Delta Diablo will pay this cleanup contractor's fee. You also have the right to select your own cleaning contractor, but Delta Diablo does not guarantee payment of these expenses and reserves the right to refuse or dispute any fees that are not usual and customary.

The company assigned to **manage** the necessary cleaning and restoration process is Restoration Management, and you can reach them directly at (510) 315-5400. It is possible however that **other** contractors may be involved in any needed restoration service. Carl Warren and Company, noted below, has the final responsibility for processing any claims for damages that are submitted.

If you wish to discuss this matter, or submit a claim for damages, please contact either of the following:

Human Resources and Risk Manager, Delta Diablo (925) 756-1969

Carl Warren and Company Claims Administrator: (725) 502-6701

What you need to do now:

Delta Diablo has prepared this brief set of instructions to help you minimize the impact of the loss by responding promptly to the situation.

- ☐ Do not attempt to clean the area yourself, let the cleaning and restoration company assigned handle this.
- ☐ Keep people and pets away from the affected area(s).
- ☐ Do not remove items from the area – the cleaning and restoration company will handle this.
- ☐ If you had recent plumbing work, contact your plumber or contractor and inform them of this incident.
- ☐ If you intend to file a claim, do so as soon as practical – The California Government Code, Sections 900 – 960 requires the filing of a written claim and outlines specific time lines and notice procedures that must be used in order to have a claim considered.

I/We acknowledge receipt of this letter.

Employee Signature: _____ Date: _____

Customer Signature: _____ Date: _____

Distribution Instructions – Top Copy to District's Human Resources and Risk Manager; Middle Copy to Customer; Bottom Copy to Carl Warren & Co.

Appendix 6-P Affected Personal Property Inventory Log

[illegible]

Appendix 6-Q Customer Acknowledgment that Offer of Sewer Cleaning Services has been Declined

CUSTOMER ACKNOWLEDGEMENT THAT OFFER OF SEWAGE CLEANING SERVICES HAS BEEN DECLINED	
Property Owner Name: _____	
Property Owner Phone Number: _____	
Customer Address: _____	
Customer Phone: _____	
On (date) _____ at (time) _____ approximately _____ gallons of (check one)	
<input type="checkbox"/> Sewage <input type="checkbox"/> Grey Water <input type="checkbox"/> Toilet Bowl Water	
Overflowed from (check one):	
<input type="checkbox"/> Toilet <input type="checkbox"/> Shower/Tub <input type="checkbox"/> Washer	
<input type="checkbox"/> Other – Specify: _____	
The overflow affected the following areas (check one):	
<input type="checkbox"/> Bathroom <input type="checkbox"/> Hallway <input type="checkbox"/> Kitchen <input type="checkbox"/> Bedroom <input type="checkbox"/> Garage <input type="checkbox"/> Crawlspace	
<input type="checkbox"/> Other – Specify: _____	
The overflow affected the following materials (check one):	
<input type="checkbox"/> Tile <input type="checkbox"/> Linoleum <input type="checkbox"/> Carpet <input type="checkbox"/> Wood Flooring <input type="checkbox"/> Other – Specify: _____	
<input type="checkbox"/> Area Rugs <input type="checkbox"/> Towels <input type="checkbox"/> Clothing <input type="checkbox"/> Misc. – Specify: _____	

Photos Were _____ Were Not _____ Taken. Number of Photos: _____	
 CUSTOMER – PLEASE READ AND SIGN BELOW:	
I/We acknowledge that Delta Diablo has offered to provide professional cleaning and decontamination services to remediate the sewage backup and/or overflow described above and that we declined the offer. We further understand and acknowledge that because we have declined, any necessary remediation activities will be conducted without Delta Diablo assistance and that Delta Diablo will not accept responsibility for the quality of work performed by persons other than those engaged by Delta Diablo. Delta Diablo will also not accept responsibility for any charges related to this incident that are not usual and customary.	
The information above was explained to the customer by (please print): _____	
Employee Signature: _____	Title: _____
Customer Signature: _____	Date: _____

Appendix 6-R Release of all Claims for Sewer Backup Losses

Release of All Claims for Sewer Backup

California Sanitation Risk Management Authority

RELEASE OF ALL CLAIMS FOR SEWER BACKUP LOSSES

TO: DELTA DIABLO SANITATION DISTRICT

The undersigned, *<insert name of claimants>*, being of lawful age, for the sole consideration of *<insert sum of the settlement>* to be paid to them by **Delta Diablo Sanitation District** do jointly and severally, for themselves and for their heirs, executors, administrators, successors and assigns releases, acquit and forever discharge **Delta Diablo Sanitation District** and its officers, directors, employees, agents, servants and successors of and from any and all claims, actions, causes of action, demands, rights, damages, costs, loss of service expenses and compensation whatsoever, which the undersigned now has or which may hereafter accrue on account of or in any way growing out of any and all known and unknown, foreseen and unforeseen bodily and personal injuries and property damages and the consequences thereof, result or to result from the accident, casualty or event which occurred on or about the *<insert date of loss>* at or near *<insert address of the loss>*.

It is further understood and agreed that all rights under Section 1542 of the Civil Code of California and any similar law of any state or territory of the United States are hereby expressly waived by the undersigned. Said section reads as follows:

"1542. Certain claims not affected by general release. A general release does not extend to claims which the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him must have materially affected his settlement with the debtor."

The undersigned hereby declare and represent that the damages and injuries sustained are or may be permanent and progressive and that recover there from is uncertain and indefinite, and in making this Release, it is understood and agreed, that the undersigned relies wholly upon the undersigned's judgment, belief and knowledge of the nature, extent, effect, and duration of said damages and injuries and liability therefore and is made without reliance upon any statement or representation of the parties released or their representatives,

The undersigned further declare that they agree to install and maintain, at their expense, a sewer backflow prevention device on their private service lateral meeting all local, State and Federal requirements, including those of **Delta Diablo Sanitation District** at *<insert address of the loss>*.

The undersigned agree that failure to install a backflow prevention device shall relieve **Delta Diablo Sanitation District** of responsibility or liability for any and all subsequent damage caused by sanitary sewer flooding or back-up that would have been prevented had such a back-flow prevention device been installed.

The undersigned understand that they are solely responsible for the proper installation, operation and maintenance of building side sewers, fittings and devices and for obtaining the necessary construction and encroachment permits. The undersigned also understand that they are solely responsible for keeping the 3' radius of the cleanout area clear of vegetation or any obstruction for visibility and easy access.

The undersigned further declare and represent that no promise, inducement or agreement not herein expressed in the release, has been made to the undersigned, and that this Release contains the entire agreement between the parties and that the terms of this Release are contractual and not a mere recital.

THE UNDERSIGNED HAS READ THE ABOVE AND FULLY UNDERSTANDS IT TO BE A FULL AND FINAL RELEASE OF ALL CLAIMS

Signed, sealed, and delivered this _____ day of _____, 20____.

Witness to Signature

Signature

Address of Witness

Witness to Signature

Signature

Address of Witness

Section 7 FOG Control Program

7.1. Introduction

This section presents the FOG Control Program for the Antioch, Bay Point, and Pittsburg service areas. This FOG Control Program will be managed, staffed, and administered by Delta Diablo (District).

7.2 Regulatory Requirements for FOG Control Element of SSMP

The summarized requirements for the FOG Control Element of the SSMP are:

7.2.1 RWQCB Requirement

The collection system agency must evaluate its service area to determine whether a Fats, Oils, and Grease (FOG) Control Program is needed. If so, a FOG Control Program shall be developed as part of the SSMP. If the collection system agency determines that a FOG program is unnecessary, proper justification must be provided.

7.2.2 GWDR Requirement

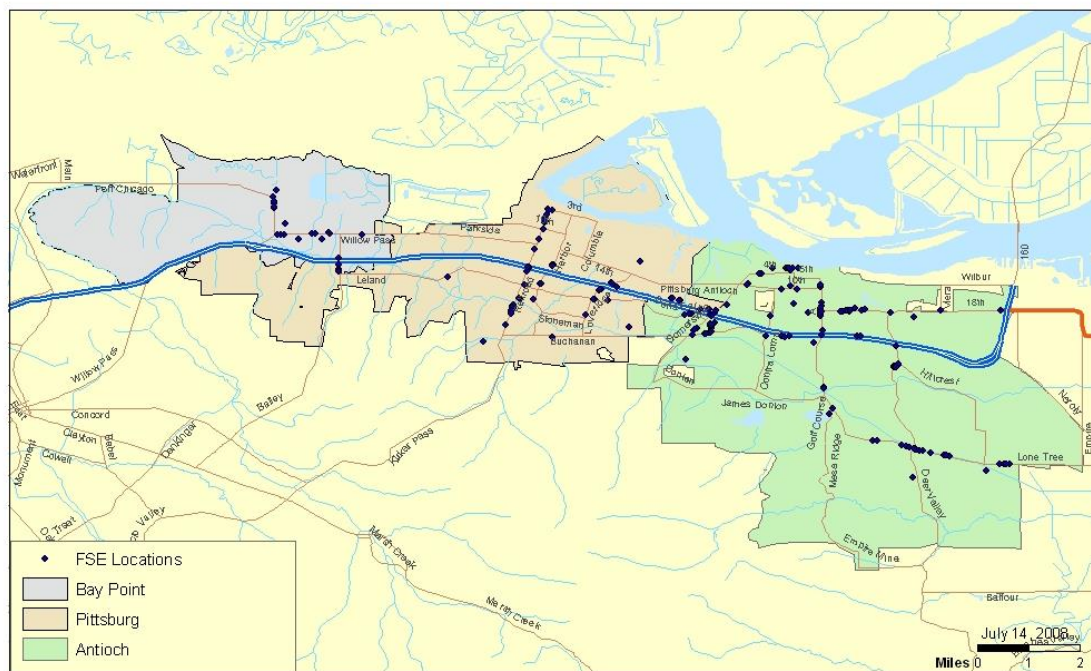
The collection system agency shall evaluate its service area to determine whether a FOG Control Program is needed. If the collection system agency determines that a FOG program is not needed, the collection system agency must provide justification for why it is not needed. If FOG is found to be a problem, the collection system agency must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. The FOG source control program shall include the following as appropriate:

- a. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG.
- b. A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area.
- c. The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.
- d. Requirements to install grease removal devices (such as traps or interceptors); design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements.
- e. Authority to inspect grease producing facilities, enforcement authorities, and determination of whether the Agency has sufficient staff to inspect and enforce the FOG ordinance.
- f. An identification of sewer system sections subject to FOG blockages and the establishment of a cleaning maintenance schedule for each section; and
- g. Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified in (f) above.

7.3 Nature and Extent of FOG Problem

Data regarding the nature and extent of the FOG problems in the three sewer systems was analyzed when the original SSMP was developed including the location of FOG-related service calls (which include blockages), SSOs, frequent preventive maintenance, and food service establishments (FSEs). There are approximately 200 FSEs in Antioch, 19 FSEs in Bay Point, and 100 FSEs in Pittsburg as shown in Figure 7-1.

Figure 7-1: Food Service Establishment (FSE) Locations



7.3.1 Summary of FOG Data Analysis

The analysis of the SSO, FSE, and frequent maintenance lines shows that FOG is a factor in each of the three service areas although not excessive. The current FOG Source Control Program and the preventive maintenance programs have been effective at reducing the frequency of SSOs in commercial areas. The ongoing FOG-related problems appear to be associated with high density residential and, to a lesser extent, low density residential sources.

7.4 FOG Source Control Program

The FOG Source Control Program will be continued by the District and the Cities. The responsibilities of each of the three agencies for the elements of the FOG Source Control Program are shown on Table 7-1.

Table 7-1: FOG Control Program Activities and Responsibilities

Focus	Activity	Antioch	Bay Point	Pittsburg	Delta Diablo
Commercial Sources	Focused FSE Program (permits, inspections, education)				X
	Administer FSE permit fees to cover program cost				X
	Inspect GRD maintenance in FSEs located in problem areas				X
	Develop common standards for GRD	X	X	X	X
	Specify GRD size	X	X	X	
	Require installation of GRD	X	X	X	
	Inspect GRD installation	X	X	X	
	Identify FOG disposal sites and distribute to grease haulers				X
	Study feasibility of FOG disposal at Delta Diablo Treatment Plant				X
	Outreach to businesses				X
	Provide information re: FOG problems to District inspector(s)	X	X	X	
	Enforcement action	X	X	X	
High Density Residential Sources	Optimize sewer cleaning	X	X	X	
	Repair/replace problem sewers	X	X	X	
	Prepare outreach materials				X

Focus	Activity	Antioch	Bay Point	Pittsburg	Delta Diablo
High Density Residential Sources	Outreach to upstream property managers	X	X	X	
	Enforcement action	X	X	X	
Low Density Residential Sources	Optimize sewer cleaning	X	X	X	
	Repair/replace problem sewers	X	X	X	
	Prepare outreach materials				X
	Outreach to upstream residents	X	X	X	
Gather Information	Gather information for next SSMP update	X	X	X	

7.5 Public Outreach Program

District and City crews provide information on proper FOG disposal to residents that have experienced a FOG-related blockage or SSO.

The blockages and SSOs that are caused by FOG appear to be from primarily residential sources at this time. The District prepared materials to be used as the basis for a focused public education/outreach program. The District and the Cities provide the public education/outreach materials to commercial and residential sources that are tributary to sewers that experience FOG-related stoppages and SSOs.

7.6 Acceptable FOG Disposal Facilities

A list of facilities in the San Francisco Bay Area that accept grease from liquid waste haulers is included as Appendix 7 A. A list of liquid waste haulers that collect and transport brown grease – FOG from the FSE’s grease trap or grease interceptor and yellow grease – Used vegetable cooking oil associated with deep fryers; is included as Appendix 7-B.

There is no indication at this time that additional grease disposal facilities are needed to handle the FOG generated within the District’s service area.

7.7 FOG Inspections

7.7.1 FOG Legal Authority

The District’s Code and the City Municipal Codes provide the legal basis for the FOG Source Control Program as shown in Section 3 – Legal Authority.

7.7.2 Staffing

The District assessed the staffing required to inspect and enforce the FOG ordinance and has determined that the current staffing levels were adequate.

7.7.3 Facility Inspections

The District will conduct periodic facility inspections of permitted FSEs that are located in identified FOG Hot Spot areas to ensure that Best Management Practices (BMP) are being followed, that GRDs are properly installed, and that operating/maintenance requirements are being followed. The frequency of inspection will be based on the historical performance of the facility. Poor performing facilities will be inspected more frequently.

7.7.4 Investigation and Enforcement

The District and the Cities will work together to identify FSEs that cause FOG-related blockages or SSOs. The District will conduct facility inspections to determine the source of the FOG in these instances.

The District and the Cities will initiate enforcement action against FSEs in their service areas that are determined to be in violation of the requirements of the FOG Control Program. Enforcement actions may include a written warning, administrative orders (which may include fines), and disconnection from the public sewer system.

7.8 FOG Preventative Maintenance

The District's and Cities' Preventive Maintenance (PM) programs are currently focused on the problematic sewer line segments. The ongoing identification of FOG Hot Spots will provide the basis for the FOG Control Program. FOG sources that cause blockages or SSOs will be included in the FOG Control Program. The results of the sewer cleaning operations will be used to revise sewer cleaning frequencies.

The District/City staffs will provide the Delta Diablo FOG Source Control Program Inspectors with timely notice when gravity sewers experience FOG-related blockages or SSOs.

Delta Diablo and the Cities will work together to update the FOG Hot Spot areas periodically. The District and the Cities will provide preventive maintenance for gravity sewers in their service areas that are located in the FOG Hot Spot areas at the frequency that is required to minimize recurring FOG-related blockages and SSOs.

7.9 GRD Requirements

7.9.1 Design Standards, Plan Review, and Inspection

The District adopted the Central Contra Costa Sanitary District (CCCSD) standards for GRDs.

Each of the Cities will be responsible for reviewing proposed development plans to ensure that they address the installation of GRDs.

The Cities will develop processes to ensure the GRDs are properly installed during new construction and remodels as part of their Code Enforcement.

7.9.2 Maintenance Standards and Best Management Practices

The District and the Cities will develop common standards for the proper maintenance of GRDs. The FSEs that discharge significant quantities of grease will be tracked using discharge permits administered by the District.

The District will encourage FSEs to employ Best Management Practices (BMP) as part of their efforts to control the discharge of FOG to the public sewer system. The BMPs that will be encouraged include:

- Posting “No Grease” signs over sinks and dishwasher.
- Collecting and recycling cooking oil.
- “Dry wiping” pots, pans, and kitchen equipment before cleaning.
- Maintaining grease traps on a regular schedule.
- Checking grease interceptor on a regular schedule (grease and solids should not exceed 25% of interceptor depth).
- Using absorbent paper under fryer baskets.
- Using absorbent (such a rice hulls, cat letter) to pick up oil and grease spills; and
- Not using emulsifiers or solvents other than dishwashing detergents.

The District’s activities will include the distribution of placards and literature promoting the use of BMPs and observations/comments during facility inspections to encourage the use of BMPs.

7.9.3 Record Keeping and Reporting

The District and the Cities will work together to maintain a current list of FSEs in each service area

Appendix 7-A FOG Disposal Sites

The following locations accept grease from liquid waste haulers in the San Francisco Bay Area as of June 2018:

Business Name	Location	Phone Number	Services
Delta Diablo	Antioch	(925)756-1900	Accepts brown grease
East Bay Municipal Utility District (EBMUD)	Oakland	(510) 287-1632	Accepts brown & yellow grease.
Palo Alto Wastewater Treatment Plant	Palo Alto	(650) 329-2598	Accepts 5,000 to 6,000 gallons per day of brown grease on first come first serve basis.
Sacramento Regional County Sanitation District	Sacramento	(916) 875-FATS	Accepts brown & yellow grease
SeQuential (Formerly Salinas Tallow)	Salinas	(800) 621-9000	Will consider accepting grease from other reputable haulers. They purchase yellow grease and process the interceptor brown grease with residue going to landfill.
South Bayside Systems Authority	Redwood City	(650) 591-7121	Accepts yellow grease.

Appendix 7-B Grease Haulers & Tallow Bin Waste Listings

County Served	Brown Grease Haulers* June 2018	Phone #
All Counties	Dar Pro Solutions (San Fran)	(855) 327-7761
All Counties	Liquid Environmental Solutions (Hayward)	(415) 730-7038
All Counties	Roto-Rooter Plumbing/Drain (Concord)	(925) 798-2122
All Counties	Sacramento Rendering Companies (SRC)	(916) 363-4821
Contra Costa	A-1 Septic Tank Service (Hayward)	(510) 886-4455
Contra Costa	Able Septic Service (San Jose)	(408) 377-9990
Contra Costa	All Valley Environmental, Inc.	(559) 498-8378
Contra Costa	Modesto Tallow / Florin Tallow Co	(209) 522-7224
Contra Costa	One More Time	(800) 624-5504
Contra Costa	Pioneer Liquid Transport	(800) 804-7327
Contra Costa	SeQuential (Formerly Salinas Tallow)	(800) 621-9000
Contra Costa	Sweet Septic Systems	(800) 622-8768
Contra Costa	Ameriguard Maintenance Services LLC	(559) 497-2925

*Brown Grease – Fats Oil & Grease (FOG) is a free fatty acid content material that is collected in grease traps or grease interceptors.

County Served	Yellow Grease Tallow Companies**	Phone #
All Counties	Golden Gate Environmental	(866) 932-7851
All Counties	Sacramento Rendering Companies (SRC)	(916) 363-4821
All Counties	Dar Pro Solutions (San Fran)	(855) 327-7761
Contra Costa	HP Commodities	(209) 599-7131 Ext. 104
Contra Costa	Restaurant Technologies Inc.	(209) 938-0146
Contra Costa	Liquid Environmental Solutions	(510) 266-0661
Contra Costa	Dixon Grease LLC	(925) 238-6548
Contra Costa	Krause & Nagy Environmental Solutions LLC	(925) 497-6659
Contra Costa	Hanson & Fitch Inc.	(925) 786-5984
Contra Costa	SeQuential (Richmond)	(800) 447-3794

**Yellow Grease – also known as Used Cooking Oil (UCO) Used Vegetable Oil (UVO), Recycled Vegetable Oil (RVO), or Waste Vegetable Oil (WVO) is recovered from FSEs industry that use the oil for cooking. This used oil is typically stored in a tallow bin for pick up and disposal.

Section 8 System Evaluation and Capacity Assurance Plan

8.1 Introduction

This section of the SSMP presents the District's programs and activities to provide adequate capacity.

8.2 Regulatory Requirements for System Evaluation and Capacity Assurance Plan Element of SSMP

The summarized requirements for the System Evaluation and Capacity Assurance Plan (SECAP) element of the SSMP are:

8.2.1 RWQCB Requirement

- a. Each wastewater collection system agency shall establish a process to assess the current and future capacity requirements for the collection system facilities.
- b. Each wastewater collection system agency shall prepare and implement a capital improvement plan to provide hydraulic capacity of key sewer system elements under peak flow conditions.

8.2.2 GWDR Requirement

The Agency shall prepare and implement a Capital Improvement Plan (CIP) that will provide hydraulic capacity of key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design storm or wet weather event. At a minimum, the plan must include:

- a. **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events.
- b. **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria.
- c. **Capacity Enhancement Measures:** The steps needed to establish a short and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, inflow and infiltration (I/I) reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
- d. **Schedule:** The Agency shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14 (of the GWDR).

8.3 Capacity Evaluation

8.3.1 Conveyance System

In 2010, the District updated its Conveyance System Master Plan to reflect updated land use plans, account for new infrastructure, and incorporate refinements to wastewater flow estimates based on rainfall and flow monitoring collected during the course of the update. The 2010 update also included development of a dynamic hydraulic model to evaluate future system capacity needs and develop recommendation solutions.

The population for the service area, including the Cities of Antioch and Pittsburg, the unincorporated community of Bay Point and other unincorporated areas was estimated to be 212,000 in 2018. The population is expected to reach 269,000 by 2040 with an average annual growth rate of 0.9%. The majority of growth is projected to occur in the Antioch and Pittsburg service areas⁵

8.3.2 Bay Point Collection System

In 2010, the District completed a Master Plan for the Bay Point system that includes assessments of capacity and condition as well as phased capital projects for sewer rehabilitation. In addition, the District converted its hydraulic model from a static hydraulic model to a dynamic hydraulic model of the Bay Point collection system to account for new infrastructure and evaluate future capacity needs. The District received Board approval and purchased a new CUE's CCTV Unit in September 2013 and completed a five-year plan to inspect the entire gravity system. This data is utilized by staff in developing the Capital Improvement Plan conveyance system repair and replacement program.

8.4 Capacity Enhancement

The District has a comprehensive five-year Capital Improvement Program (CIP) that is updated annually. The District's CIP includes capacity enhancement projects.

After completing a review and evaluation of the District's programs in 2007, the Contra Costa Local Agency Formation Commission (LAFCO) stated that the District is providing adequate service and no infrastructure needs or deficiencies were noted that are not being addressed in the District's master plans and CIP.

8.5 Design Criteria

The capacity-related design criteria, including base wastewater flow and peaking factors, are included in *Section 5 Design and Performance Provisions*.

8.6 Schedule

The schedule and details regarding the District's capacity improvement projects are included in the District's CIP.

⁵ Combined Municipal Service Review and Sphere of Influence Study (2nd Round) for Contra Costa County Water and Wastewater Agencies, Final - Approved May 14, 2014.

8.7 References

Conveyance System Master Plan Update, HDRRMC Water and Environment, April 2010

Bay Point Hydraulic Model Technical Memorandum, RMC Water and Environment, April 2010.

Contra Costa LAFCO: Water and Wastewater Municipal Services Review for East Contra Costa County, Final – Approved December 19, 2007.

Delta Diablo Fiscal Year 2007/2007 – 2011/2012 Five Year Capital Improvement Program, July 2007.

Section 9 Monitoring, Measurement, and Program Modifications

9.1 Introduction

This section of the SSMP presents the District's approach to Monitoring, Measurement, and Program Modifications.

9.2 Regulatory Requirements for Monitoring, Measurement, and Program Modifications Element of SSMP

The requirements for the Monitoring, Measurement, and Program Modifications (MMPM) section of the SSMP are:

9.2.1 RWQCB Requirement

Each wastewater collection system agency shall monitor the effectiveness of each SSMP element and update and modify SSMP elements to keep them current, accurate, and available for audit as appropriate.

9.2.2 GWDR Requirement

The Enrollee shall:

- a. Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities.
- b. Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP.
- c. Assess the success of the preventative maintenance program.
- d. Update program elements, as appropriate, based on monitoring or performance evaluations and;
- e. Identify and illustrate SSO trends including frequency, location, and volume.

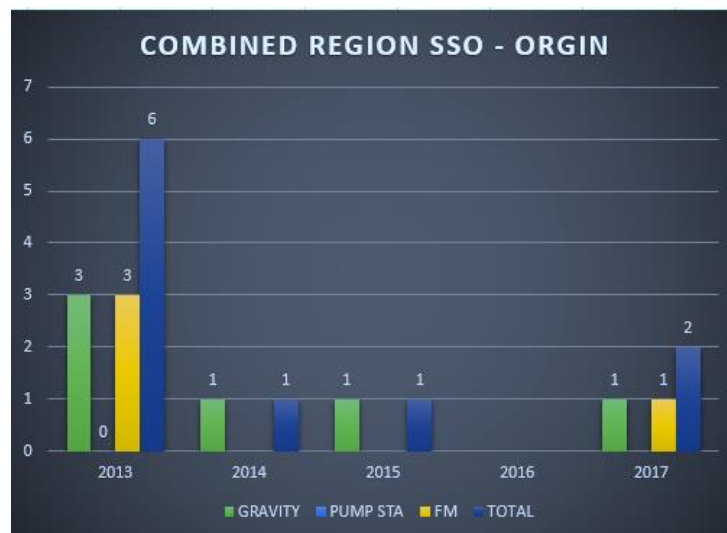
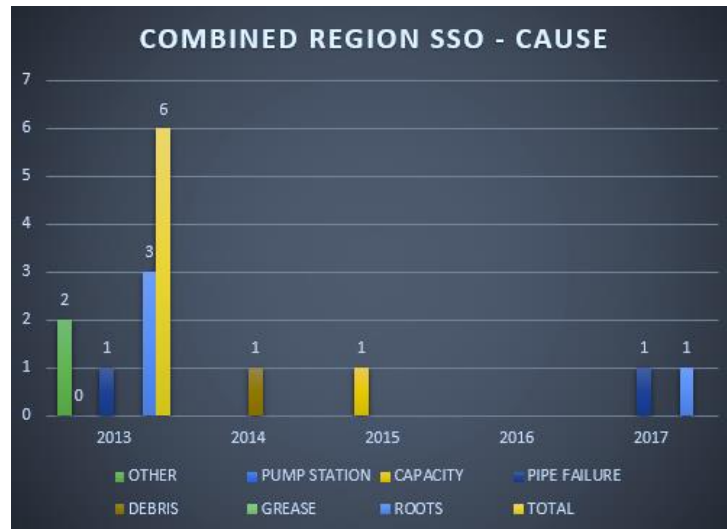
9.3 Performance Measures

The indicators that the District will use to measure the performance of its wastewater collection system and the effectiveness of its SSMP are:

- Total number of SSOs.
- Number of SSOs for each cause (roots, grease, debris, pipe failure, capacity, pump station failures, and other).
- Portion of sewage contained compared to total volume spilled.
- Volume of spilled sewage reaching surface water; and, recovered.

9.4 Baseline Performance

Performance of the District's wastewater collection system will be monitored annually similar to the charts below:



9.5 Performance Monitoring and Program Changes

The District will evaluate the performance of its wastewater collection system at least annually using the performance measures identified in Section 9.3 Performance Measures above. The District will update the data and analysis of performance measures at the time of the evaluation.

The District may use other performance measures in its evaluation. The District will prioritize its actions and initiate changes to the related programs based on the results of the evaluation.

Section 10 SSMP Program Audits

10.1 Introduction

This section of the SSMP presents the process that the District will follow to audit its SSMP program.

10.2 Regulatory Requirements for SSMP Program Audits

The summarized regulatory requirements for the SSMP are:

10.2.1 RWQCB Requirement

The San Francisco Bay Region RWQCB and Central Valley RWQCB do not require anything above the GWDR Requirement.

10.2.2 GWDR Requirement

As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the District's compliance with the SSMP requirements identified in this subsection (D.13 of the GWDR), including identification of any deficiencies in the SSMP and steps to correct them.

10.3 SSMP Audits

The District will audit its SSMP biannually. The audit will determine whether the SSMP meets the current requirements of the GWDR, whether the SSMP reflects the District's current practices, and whether the District is following the SSMP.

The audits are conducted by a team consisting of District Staff, and may also include members from outside agencies, and/or contractors.

The scope of the audits will cover each of the sections of the SSMP. The SSMP Audit Checklist, is included in Appendix 10-A.

The results of each audit will be included in the SSMP Audit Reports. The SSMP Audit Report focuses on the effectiveness of the SSMP program, compliance with the GWDR requirements, and identification of any deficiencies in the SSMP. The SSMP Audit Report identifies if revisions are needed for a more effective program. Information collected as part of **Section 9 Monitoring, Measurement, and Program Modifications** is used in preparing the audit. Tables and figures or charts are used to summarize information about these indicators. The Audit Report will include:

- How the District implemented SSMP elements during the reporting year;
- The District's effectiveness in implementing the SSMP elements;
- A description of the major additions and improvements made to the sanitary sewer collection system during the reporting year.

The Audit Report will be kept on file. Copies of the annual audit reports will be maintained by the District for five years.

10.4 SSMP Updates

The District will update its SSMP at least every five years. Updates were completed in 2013 and 2018. The next update will be completed no later than 2023.

The District will determine the need to update its SSMP more frequently based on the results of the biannual audit and the performance of its sanitary sewer system using information from the Monitoring and Measurement Program. In the event the District decides that an update is warranted, the process to complete the update will be identified at that time. The District will complete the update within one year following identification of the need for the update.

The District staff will seek approval from the District Board of Directors for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or procedural changes is delegated to the general manager.

Appendix 10-A SSMP Audit Checklist

Element 1 – Goals		Yes	Requires Follow-Up
A	Are the goals stated in the SSMP still appropriate?		
Element 2 - Organization		Yes	Requires Follow-Up
A	Is the Key Staff contact information current?		
B	Is the “Organization Chart and SSO Reporting Chain of Command” current?		
C	Is the chain of communication for reporting and responding to SSOs accurate and up-to-date?		
D	Is the designation of the Legally Responsible Official current?		
E	Is responsibility for the implementation and maintenance of the SSMP understood and being followed?		
Element 3 – Legal Authority		Yes	Requires Follow-Up
Does the SSMP contain excerpts from the current District/Municipal Code documenting the Agency’s legal authority to:			
A	Prevent illicit discharges?		
B	Require proper design and construction of sewers and connections?		
C	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District?		
D	Limit discharges of Fats, Oil and Grease (FOG)?		
E	Enforce any violation of its sewer ordinances?		
Element 4 – Operations and Maintenance		Yes	Requires Follow-Up
Collection System Maps			
A	Does the SSMP reference the current process and procedures for maintaining the District’s wastewater collection system maps?		
B	Are the District’s wastewater collection system maps complete, current, and sufficiently detailed?		

Resources and Budget		Yes	Requires Follow-Up
C	Does the District allocate sufficient funds for the effective operation, maintenance, and repair of the wastewater collection system? Is the current budget structure documented in the SSMP?		
D	Is the current budget structure documented in the SSMP?		
Prioritized Preventive Maintenance			
E	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewer lines?		
F	Based upon information in the Annual SSO Report, are the District's preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?		
Scheduled Inspections and Condition Assessments			
G	Is there an ongoing condition assessment program sufficient to develop a Capital Improvement Program addressing the proper management and protection of infrastructure assets?		
H	Are the current components of this program documented in the SSMP?		
Contingency Equipment and Replacement Inventory			
I	Does the SSMP list the major equipment currently used in the operation and maintenance of the wastewater collection system and document the procedures for inventory management?		
J	Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?		
Training			
K	Is the training calendar current?		
L	Does the SSMP document current training expectations and programs for the Agency's wastewater collection system staff?		
Outreach to Plumbers and Building Contractors			
M	Does the SSMP document current outreach efforts to plumbers and building contractors?		

	Element 5 – Design and Performance Standards	Yes	Requires Follow-Up
A	Does the SSMP contain current design and construction standards for the installation of new sanitary sewer systems, pump stations, and other appurtenances, and for the rehabilitation and repair of existing sanitary sewer systems?		
B	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances, and the rehabilitation and repair of existing sewer lines?		
	Element 6 – Overflow and Emergency Response Plan	Yes	Requires Follow-Up
A	Does the Sanitary Sewer Overflow and Backup Response Plan establish procedures for the emergency response, notification, and reporting of Sanitary Sewer Overflows (SSOs)?		
B	Are Agency staff and contractor personnel appropriately trained on the procedures of the Sanitary Sewer Overflow and Backup Response Plan?		
C	Considering performance indicator data developed for the SSMP, is the Sanitary Sewer Overflow and Backup Response Plan effective in handling SSOs in order to safeguard public health and the environment?		
	Element 7 – Fats, Oils, and Grease (FOG) Control Program	Yes	Requires Follow-Up
A	Do the Fats, Oils, and Grease (FOG) Control Program include efforts to educate the public on the proper handling and disposal of FOG?		
B	Does the FOG Control Program identify sections of the wastewater collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?		
C	Are requirements for grease removal devices, Best Management practices (BMP), record keeping, and reporting established in the FOG Control Program?		
D	Does the Agency have sufficient legal authority to implement and enforce the FOG Control Program?		
E	Is the current FOG Control Program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?		

	Element 8 – System Evaluation and Capacity Assurance Plan (SECAP)	Yes	Requires Follow-Up
A	Does the SECAP evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short-term and long-term capacity enhancement, and improvement projects?		
B	Does the Agency’s Capital Improvement Program (CIP) establish a schedule of approximate completion dates for both short-term and long-term improvements, and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?		
	Element 9 – Monitoring, Measurement, and Program Modifications	Yes	Requires Follow-Up
A	Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?		
B	Is the Agency able to sufficiently evaluate the effectiveness of SSMP elements based on relevant information?		
	Element 10 – SSMP Audits	Yes	Requires Follow-Up
A	Will the SSMP Biannual Audit be completed and kept on file by Water Board established deadlines?		
	Element 11 – Communication Program	Yes	Requires Follow-Up
A	Does the Agency effectively communicate with the public and other agencies about the development and implementation of the SSMP and continue to address any feedback?		

Section 11 Communication Program

11.1 Introduction

This section of the SSMP outlines the process that was followed in communicating with interested members of the public regarding the development and implementation of this plan. It also includes the process for communicating in the future regarding the performance of this plan. This Communication Program also addresses communication between the Cities of Antioch and Pittsburg, the community of Bay Point, and Delta Diablo (the District).

11.2 Regulatory Requirements for the Communications Program

The requirements for the Communication Program section of the SSMP are:

11.2.1 RWQCB Requirement

The RWQCB does not require a Communication Program.

11.2.2 GWDR Requirement

The Agency shall:

- a. Communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Agency as the program is developed and implemented.
- b. Create a plan of communication with systems that are tributary and/or satellite to the Agency's sanitary sewer system.

11.3 Communication during SSMP Development and Implementation

The District posted a notice on its website to inform interested members of the public it developed a Sewer System Management Plan (SSMP). The notice is:

In 2008, Delta Diablo (District) implemented a Sewer System Management Plan (SSMP) pursuant to State Water Resources Control Board Order 2006-0003, Statewide General Discharge Requirements of Sanitary Sewer Systems. The goal of the SSMP is to minimize the frequency and severity of sanitary sewer overflows. The SSMP covers the management, planning, design, operation and maintenance of the District's sanitary sewer system. The District's Board adopted the SSMP Development Plan and Schedule at its meeting on July 11, 2007, approved the final SSMP on April 8, 2009, and approved the updated SSMP as revised by Order No. 2013-0058-EXEC on December 11, 2013.

The SSMP is available for review at the District Offices, 2500 Pittsburg-Antioch Highway, during normal business hours or [Sewer System Management Plan \(pdf\)](#). Interested parties can contact Terry Spurgeon at (925) 756-1921 or terrys@deltadiablo.org for additional information. The District reports SSOs electronically to the California Integrated Water Quality System (CIWQS). The electronic SSO data are available by agency or region at:

<http://www.waterboards.ca.gov/ciwqs/publicreports.html>

11.4 Communicating Sanitary Sewer System Performance

The District reports SSOs electronically to the California Integrated Water Quality System (CIWQS). The electronic SSO data are available by agency or region at:

<http://www.waterboards.ca.gov/ciwqs/publicreports.html>

The District's website has a notice that the sanitary sewer performance information is available at the CIWQS public access website.

11.5 Communication with Tributary/Satellite Sanitary Sewer Systems

The District, the City of Antioch, and the City of Pittsburg worked together to develop and implement their SSMPs. The primary means of communication during the SSMP development and implementation phase was through the SSMP Coordination Committee which met regularly. Each of the three agencies was represented on the committee.

The three agencies continue to communicate regularly on items such as FOG Hot Spots, advice is given regarding sewer system maintenance and inspection techniques, and the agencies also combine training and provide mutual aid as needed for any major SSO event.

The points of contact at each of the three agencies to communicate any SSMP-related issues are:

City of Antioch	John Adams	(925) 383-1919	jadams@ci.antioch.ca.us
City of Pittsburg	Bobby Joaquin	(925) 252-4032	bjoaquin@ci.pittsburg.ca.us
Delta Diablo	Terry Spurgeon	(925) 756-1921	terryst@deltadiablo.org