

# SEWER SYSTEM MANAGEMENT PLAN

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Richardson Bay Sanitary District  
Updated May 2014

Prepared by



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& ASSOCIATES

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## LIST OF ACRONYMS

BACWA	Bay Area Clean Water Agencies
BMP	Best Management Practice
Cal OES	Office of Emergency Services
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CIP	Capital Improvement Project
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
CDFW	California Department of Fish and Wildlife
EHS	Environmental Health Services
FOG	Fats, Oils and Grease
FSE	Food Service Establishment
GIS	Geographical Information System
GPM	Gallons per Minute
I/I or I&I	Inflow & Infiltration
LRGP	Lateral Replacement Grant Program
LRO	Legally Responsible Official
MCFCWD	Marin County Flood Control and Water Conservation District
MGD	Million Gallons per Day
MRP	Monitoring and Reporting Program
NASSCO	National Association of Sewer System Companies
NPDES	National Pollution Discharge Elimination System
OERP	Overflow Emergency Response Plan
PACP	Pipeline Assessment and Certification Program
POTW	Publicly-Owned Treatment Works
RBSD	Richardson Bay Sanitary District
R/R	Roto Rooter
RWQCB	Regional Water Quality Control Board
SASM	Sewerage Agency of Southern Marin
SSMP	Sewer System Management Plan

SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
WDID	Waste Discharger Identification Number
WDR	General Waste Discharge Requirements
WWTP	Wastewater Treatment Plant



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## LIST OF TERMS

Bay Area Clean Water Association (BACWA) – Association comprised of Bay Area wastewater treatment and collection system agencies. BACWA represents the interests of public wastewater agencies in regulatory matters and to support the exchange of information.

Website: <http://www.bacwa.org>

Blockage – An object that partially or fully hinders flow through a sewer pipeline. The blockage can be caused by debris in the sewer, grease buildup, root intrusion, or a partial or full collapse of the pipeline. Also known as a stoppage.

California Association of Sanitation Agencies (CASA) - A non-profit, statewide association representing public agencies that provide wastewater collection, treatment, disposal, and/or water reclamation services to California agencies. Website: <http://www.casaweb.org>

California Integrated Water Quality System (CIWQS) – A computer system used by the State and Regional Water Quality Control Boards to track information about SSOs, among other information. CIWQS is the tool used for online submittal of SSO details, which are then made available to the public. Website: <http://www.swrcb.ca.gov/ciwqs/>

California Water Environment Association (CWEA) – The statewide association of wastewater professionals that trains and certifies wastewater professionals, disseminates technical information and promotes policies to protect and enhance the environment.

Website: <http://www.cwea.org>

Enrollee – The legal public entity that owns a sanitary sewer system, as defined by the Statewide WDR. Also known as a sewer system agency or wastewater collection system agency.

FOG Control Program – Program implemented at the discretion of the agency, based on the identified causes of sewer overflows, to reduce the discharge of fats, oils and grease into the sewer system.

Geographical Information System (GIS) – A database linked with mapping that records sewer system information. The GIS database could include sewer features such as pipe location, diameter, material, condition, or last date cleaned or repaired. GIS maps also typically contain base information such as streets and parcels.

Governing Board – Richardson Bay Sanitary District Board of Directors

Groundwater Induced Infiltration (GWI) – Infiltration attributed to groundwater entering the sewer system.

Infiltration – The seepage of groundwater into a sewer system, including service connections. Seepage frequently occurs through defective or cracked pipes, pipe joints, connections or manhole walls and joints.

Inflow – Water discharged into a sewer system from such sources as roof leaders, cellars, yard and area drains, foundation drains, through holes in manhole covers, cross connections from the storm system or street wash waters. Inflow differs from infiltration in that it is a direct discharge into the sewer rather than a leak through defects in the sewer.

Lateral or Private Lateral – The privately-owned sewer pipeline that conveys wastewater from the premises of a user to the District’s sewer system. The upper lateral extends from the building to property line (or easement line). The lower lateral extends from the property or easement line to the connection to the pipe.

Monitoring and Reporting Program - The program used by the District to monitor, maintain records, report issues and complete needed public notifications.

Overflow Emergency Response Plan – This document identifies measures that are needed to respond to sanitary sewer overflows in a way that maximizes the protection of public health and the environment.

Preventive maintenance (PM) – Regularly scheduled servicing of machinery, infrastructure or other equipment using appropriate tools, tests, and lubricants.

R-Value – The amount of rainfall that reaches the collection system via infiltration and inflow. This value is typically expressed as a percentage of total rainfall volume that reaches the collection system.

Rainfall Dependent Infiltration and Inflow – Infiltration and Inflow that is attributed directly to rainfall R-Value.

Rehabilitation and Replacement Plan (also referred to as a Capital Improvement Plan) – Identifies and prioritizes system deficiencies and implements short-term and long-term rehabilitation actions to address each deficiency.

San Francisco Bay Regional Water Quality Control Board – Also known as Region 2 or RWQCB. This regulatory agency preserves, enhances and restores the quality of California's water resources, and ensures their proper allocation and efficient use for the benefit of present and future generations. Website: <http://www.waterboards.ca.gov/sanfranciscobay>

Sanitary Sewer Overflow (SSO) – Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system, including overflows or releases that reach waters of the United States, overflows or releases that *do not* reach water of the United States, and backups into buildings and/or private property caused by conditions within the publicly owned portion of the sewer system.

Sanitary Sewer System – Any system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the wastewater treatment plant.

Satellite Collection System – The portion, if any, of a sanitary sewer system that is owned or operated by a different public agency or user.

Sewer System Management Plan – A series of written programs that address how a collection system owner/operator conducts daily business. Each SSMP is unique for an individual discharger. The plan includes provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management and cost benefit.

State Water Resources Control Board – Also called the State Board. This agency developed and passed the Statewide Waste Discharge Requirements for collection systems and maintains the SSO reporting web site.

System Evaluation and Capacity Assurance Plan – A required component of an agency's SSMP that provides 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.

Statewide Waste Discharge Requirements – The Statewide General Waste Discharge Requirements for Sanitary Sewer Systems was adopted by the SWCRB in 2006 to provide a structure and guidance for SSMP development. Also known as Order No. 2006-0003-DWQ.

Wastewater Collection System – See Sanitary Sewer System.

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## EXECUTIVE SUMMARY

This Sewer System Management Plan (SSMP) has been prepared in compliance with requirements of the San Francisco Bay Regional Water Quality Control Board (RWQCB) pursuant to Section 13267 of the California Water Code, and the State Water Resources Control Board (SWRCB) Order No. 2006-0003-DWQ, , and Amended Monitoring and Reporting Program (MRP), Order No. WQ 2013-0058-EXEC.

### ES-1 Background

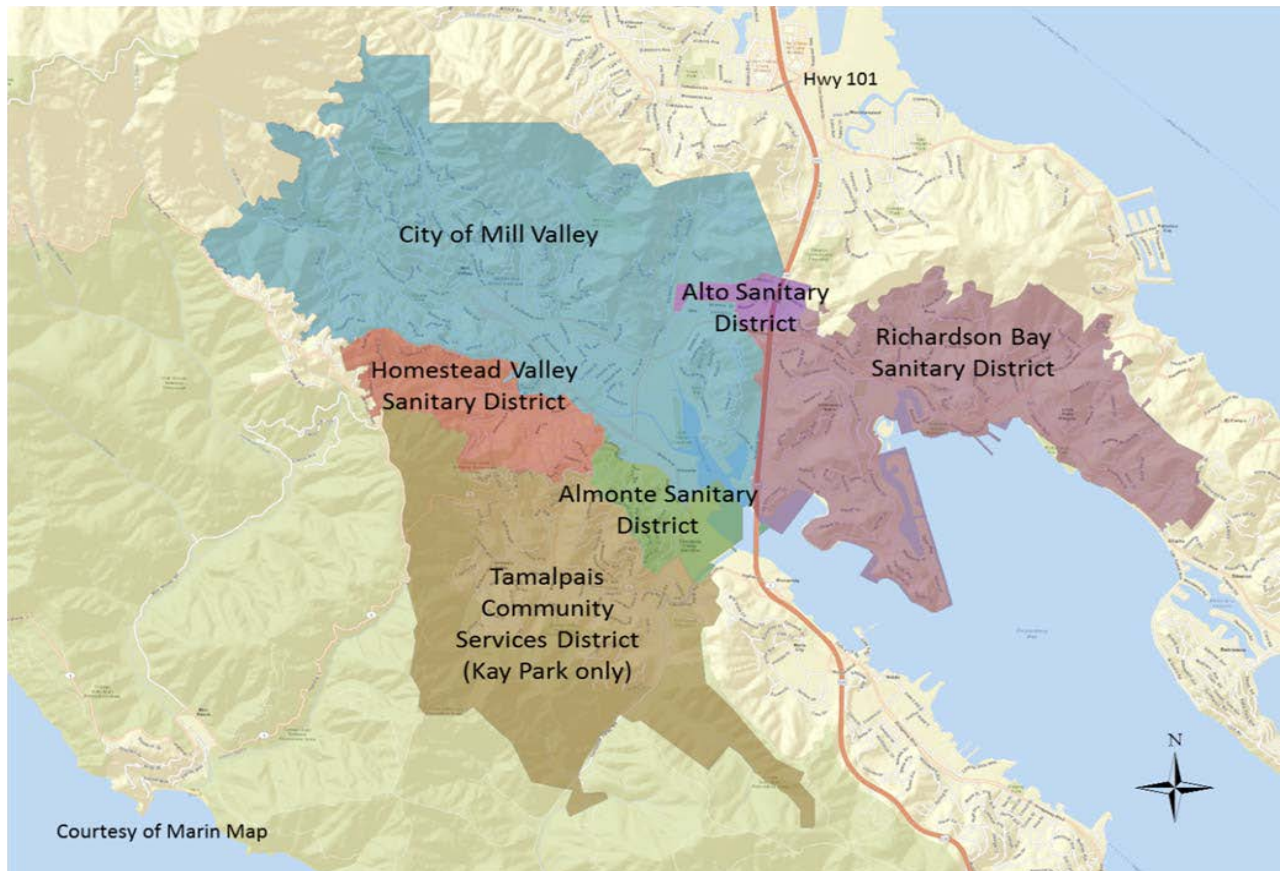
On July 7, 2005, the RWQCB issued a letter to the San Francisco Bay Region (Region 2) sewer collection system agencies that required the agencies to prepare an SSMP. At the same time, the RWQCB released an SSMP Development Guide that was prepared in cooperation with the Bay Area Clean Water Agencies (BACWA). The 2005 directive stated that the RBSD must also comply with RWQCB sanitary sewer overflow (SSO) electronic reporting requirements issued in November 2004.

Similarly, on May 2, 2006, the State Water Resources Control Board (SWRCB) issued a directive through Order No. 2006-0003-DWQ to require all public wastewater collection system agencies in California with greater than one mile of sewers to be regulated under General Waste Discharge Requirements (Statewide WDR). Portions of this Order related to monitoring and reporting were amended by Order No. 2013-0058-EXEC, dated July 30, 2013. The SWRCB SSMP requirements are similar to those of the RWQCB but differ in organization and some details.

The intent of this SSMP is to meet the requirements of both the RWQCB and the Statewide WDR. The organization of this document follows the requirements of the Statewide WDR. The District's waste discharger identification number (WDID) in the California Integrated Water Quality System (CIWQS) is 2SSO10169.

### ES-2 District Service Area

Richardson Bay Sanitary District (RBSD or District) provides wastewater collection service to parts of the Tiburon Peninsula and the unincorporated area of Strawberry. The District serves over 4,140 households and has been servicing the area since 1949. District flows are conveyed to the Sewerage Agency of Southern Marin (SASM) wastewater treatment plant in Mill Valley. SASM was formed under the Exercise of Joint Powers Act, and also includes Almonte, Alto, and Homestead Valley Sanitary Districts, a portion of Tamalpais Community Services District, and the City of Mill Valley. Figure ES-1 shows the District's service area, and its relationship to SASM and the other SASM member agencies.



ES-1. RBSD Service Area and Proximity to SASM

### ES-3 SSMP Objectives

The objectives of the SSMP are to accomplish the following:

- Establish goals that align the RBSD sewer collection system operation, management and capacity assurance activities in a manner that achieves the goals stated in Element 1.
- Comply with the RWQCB SSMP Develop Guidelines and Statewide WDR through provision of the following:
  - Elements I through XI, following the outline of the Statewide WDR, including a description of the regulatory requirements and a summary of existing and planned documents and plans related to each element, and
  - Appendices that are amended over time to reflect changes in contact personnel, job descriptions, policies, procedures and programs.

Table ES-1 identifies the objectives that must be addressed to comply with each SSMP element.



Table ES-1. SSMP Objectives

Element	Objective
Goals	<ul style="list-style-type: none"> <li>• Properly manage, operate, and maintain the collection system</li> <li>• Provide capacity to convey base and peak flows</li> <li>• Minimize the frequency and severity of SSOs</li> <li>• Mitigate the impact of SSOs</li> </ul>
Organization	<ul style="list-style-type: none"> <li>• Identify agency staff responsible for the SSMP</li> <li>• Identify chain of communication for responding to and reporting SSOs</li> </ul>
Legal Authority	<ul style="list-style-type: none"> <li>• Control I/I from the collection system and laterals</li> <li>• Require proper design and construction of sewers and connections</li> <li>• Require proper sewer installation, testing and inspection</li> <li>• Have the authority to impose source control requirements</li> </ul>
Operation and Maintenance Program	<ul style="list-style-type: none"> <li>• Maintain up-to-date maps</li> <li>• Allocate adequate resources for system operation and maintenance</li> <li>• Prioritize preventative maintenance activities</li> <li>• Identify critical equipment and spare parts to minimize equipment and/or facility downtime</li> <li>• Provide staff training on a regular basis</li> </ul>
Design & Construction Standards	<ul style="list-style-type: none"> <li>• Identify minimum design and construction standards and specifications</li> <li>• Identify procedures and standards for inspecting and testing</li> </ul>
Overflow Emergency Response Plan (OERP)	<ul style="list-style-type: none"> <li>• Provide SSO notification procedures</li> <li>• Develop and implement a plan to respond to SSOs</li> <li>• Develop procedures to report and notify SSOs</li> <li>• Develop procedures to prevent overflows from reaching surface waters, and to minimize or correct any adverse impact from SSOs</li> </ul>
FOG Control Program	<ul style="list-style-type: none"> <li>• Develop a Fats, Oil and Grease (FOG) control plan, if needed</li> </ul>
System Evaluation and Capacity Assurance	<ul style="list-style-type: none"> <li>• Establish a process to assess current and future capacity requirements</li> <li>• Implement a capital improvement plan to provide hydraulic capacity</li> </ul>
Monitoring, Measurement and Program Modifications	<ul style="list-style-type: none"> <li>• Measure the effectiveness of each SSMP element</li> <li>• Monitor each SSMP element and make updates as necessary</li> </ul>
SSMP Audits	<ul style="list-style-type: none"> <li>• Conduct a bi-annual audit that includes deficiencies and identify steps to correct them</li> </ul>
Communication Program	<ul style="list-style-type: none"> <li>• Communicate with the public on SSMP development, implementation, and performance and create a plan for communication with tributary/satellite sewer systems if applicable</li> </ul>

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## ELEMENT 1 - GOALS

The purpose of this section is to identify the goals that the District has established for sewer collection system maintenance and the SSMP. These goals are intended to define a program that promotes continuous improvement in RBSD's existing collection system management and maintenance processes.

### 1.1 WDR and RWQCB SSMP Requirement

Requirements for the Goals element of the SSMP are as follows:

#### 1.1.1 RWQCB Requirement

The District must 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 SSOs and the mitigation of their impacts.

#### 1.2.1 SWRCB Requirement

The District must develop goals to properly manage, operate, and maintain all parts of its sanitary sewer system. This will help reduce and prevent SSOs, as well as to mitigate any SSOs that occur.

### 1.2 Richardson Bay Sanitary District Goals

The goals of the District are to accomplish the following:

- To properly manage, operate, and maintain all parts of the wastewater collection system, so as to preserve and protect the public's investment in that system
- To provide adequate capacity to convey peak flows to the WWTP
- To minimize the frequency and duration of SSOs, including implementing regular, proactive maintenance of the system to remove issues that may cause sewer backups or SSOs
- To mitigate the impact of SSOs on public health and the environment
- To respond quickly and respectfully to public notifications of SSOs or other collection system issues
- To collect complete and accurate information regarding SSOs for reporting to the appropriate regulatory agencies

- To uphold the District's standards and specifications on newly constructed public and private sewers
- To provide a safe working environment for District employees
- To provide District employees with the tools and training needed to perform their work effectively and achieve the District goals

## ELEMENT 2 - ORGANIZATION

The purpose of this section is to identify District staff responsible for implementing this SSMP, responding to SSO events and meeting the SSO reporting requirements. This section also includes the designation of the Legally Responsible Official (LRO) or Authorized Representative to meet RWQCB and Statewide WDR requirements for completing and certifying spill reports.

### 2.1 WDR and RWQCB SSMP Requirement

The requirements for the Organization element of the SSMP are as follows:

#### 2.1.1 RWQCB Requirement

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

#### 2.1.2 SWRCB Requirement

The SSMP must identify:

- The name of the legally responsible or authorized representative.
- 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.
- 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 Office of Emergency Services (OES)).

### 2.2 Organization Chart and SSMP Responsibilities

RBSD operates and maintains the District's sewer system primarily through a contract with Roto Rooter (R/R). R/R, as part of this contract, responds to sewer emergencies including SSOs. District staff focus their efforts on sewer system planning, contract management, and pump station maintenance.

The District Manager is the Legally Responsible Official, reports each SSO to the Regional Board through CIWQS, and makes additional required reports to the SWRCB, RWQCB, County, Department of Environmental Health Services (EHS), Marin County Flood Control and Water Conservation District (MCFCWD), California Department of Fish and Wildlife (CDFW), and OES as appropriate.

Roles and responsibilities of key personnel involved in managing the wastewater collection system are as follows. Contact information is included in Appendix A:

**RBSD Board of Directors.** Adopts SSMP plan and policy. Approves budget to implement SSMP.

**District Manager.** Overall responsibility for preparing and implementing the SSMP. Develops general plans for maintaining, inspecting and improving the sewer system. Regulatory agency liaison. Manages the SSO contract maintenance contract with R/R. Monitors SSMP budget and performance.

**District Engineer (contract).** As directed by the District Manager, provides technical and engineering support to the District by contract. Oversees contractor activities in making capital improvements.

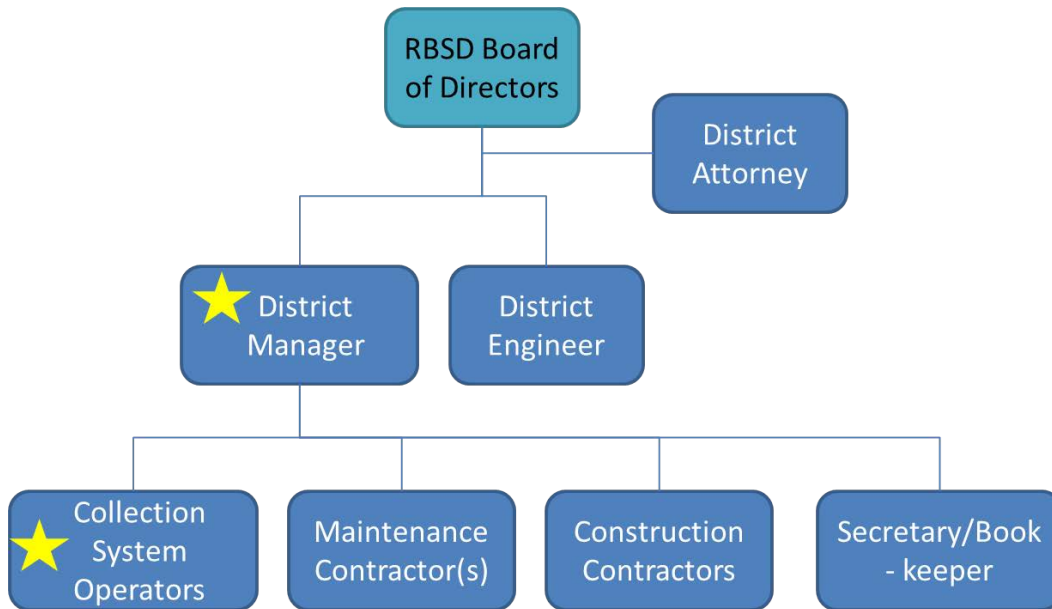
**Collection System Operators.** Operate and maintain collection system pump stations and assist with collection system pipeline activities as needed. Assist in SSO response activities provided by R/R.

**Maintenance Contractor (Roto Rooter).** Performs SSO cleaning, television inspection, and response activities.

**Construction Contractors.** Construct sewer system improvements.

An organizational chart for the District is shown in Figure 2-1 on the following page. This organization chart also identifies the reporting lines between the District and regulatory agencies.

Figure 2-1. RBSD Sewer Collection System Organization Chart



★ Involved in SSO Reporting

Table 2-1 on the following page presents individual responsibilities for each section of the SSMP.

Table 2-1. SSMP Responsibilities

SSMP Element	Responsible Position
Goals	The District Manager leads staff in the implementation of the District's goals.
Organization	The District Manager updates the organizational structure, manages SSMP implementation assignments, and amends SSO response and reporting chains of communication, as needed.
Legal Authority	The District Counsel upholds the District Ordinance and drafts new ordinances as needed.
Operations & Maintenance	The District Manager manages the District's resources and budget, and completes outreach to plumbers and building contractors. The District Manager manages preventive maintenance, contingency equipment and replacement inventories, training, collection system map, project inspections, and condition assessments.
Design and Construction standards	The District Engineer reviews design and construction documents to ensure that all construction projects meet the District's standards. The District Engineer also updates standards for installation, rehabilitation and repair, as needed. The District Manager provides inspection services to ensure the District's construction standards have been followed.
Overflow Emergency Response Plan	The District Manager oversees implementation of the Overflow Emergency Response Plan by the Maintenance Contractor, makes revisions to the plan, and conducts/attends regular training.
FOG Control Program	The Maintenance Contractor identifies grease hot spots and maintains an effective cleaning program for grease problem sewers. The District Manager inspects grease interceptors/traps that have been installed at non-residential locations and enforces discharge regulations, as needed.
System Evaluation and Capacity Assurance	The District Manager establishes and assesses capacity requirements for the collection system and manages implementation of the Capacity Assurance section of the Sewer System Response Action Plan. The District Manager also updates CIP budgets and schedules for projects to address capacity needs.
Monitoring, Measurement and Program Modifications	The District Manager monitors implementation and assess success of the SSMP program elements, including identifying trends in SSOs, and reporting progress to the District Board.
SSMP Audits	The District Manager oversees annual SSMP audits.
Communication Plan	The District Manager and Board of Directors communicate with the public and nearby agencies of the SSMP.

## 2.3 Chain of Communication for Reporting

The following chain of communication is also shown in the diagram on Figure 2-1.

### 2.3.1 During Normal Business Hours (6:00 a.m. to 3:00 p.m. Monday through Thursday and; 6:00 a.m. to 1:00 p.m. Friday)

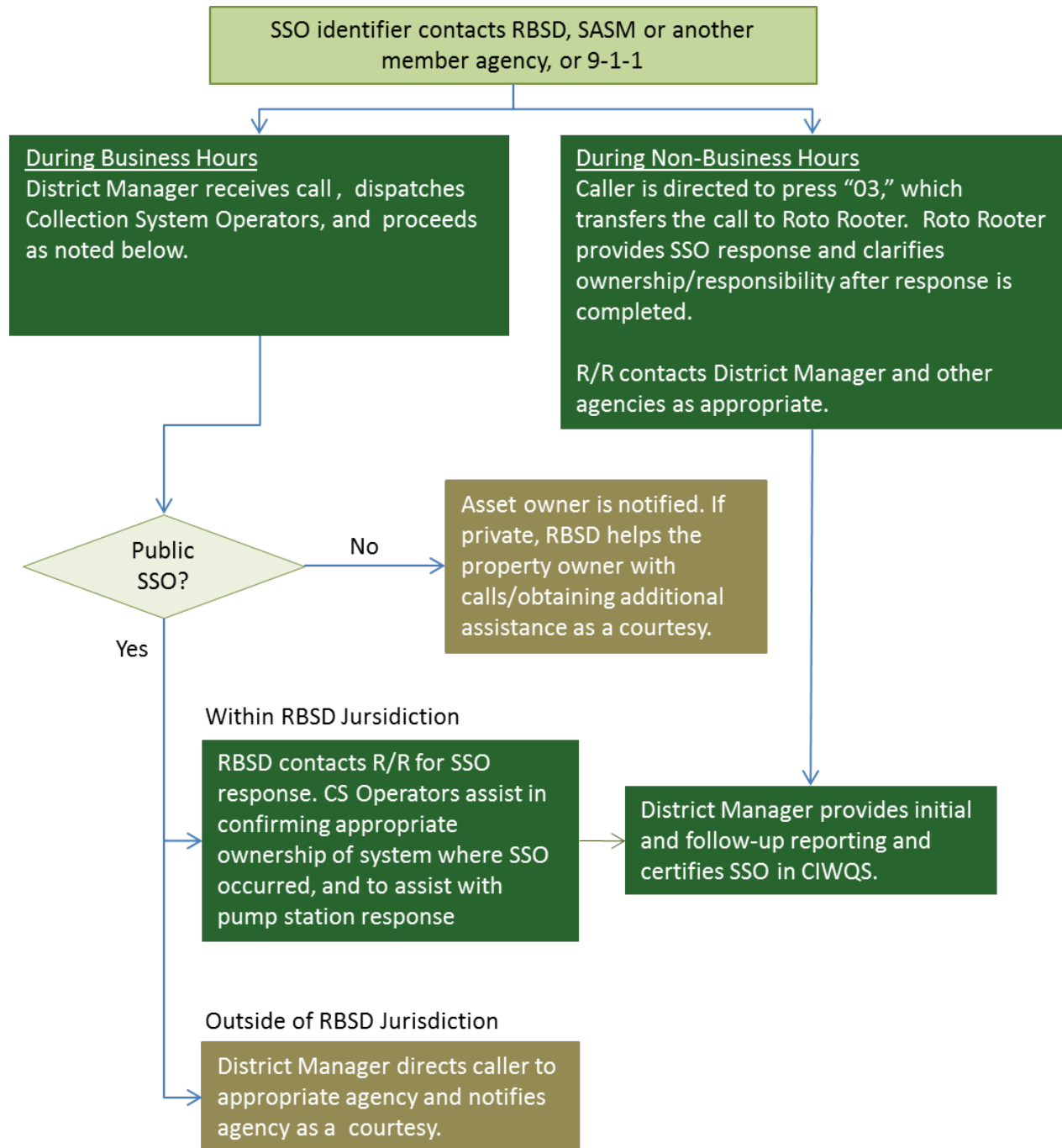
- During normal business hours, telephone calls reporting SSOs are received at the District, or 9-1-1. Calls are dispatched to the District Manager, who contacts the RBSD Collection System Operators and Roto Rooter (R/R).
- The Collection System Operator arrives on site and confirms that R/R personnel are responding to collection system pipeline issues. For pump station problems, the Collection System Operators troubleshoot the issue and attempt to stop the spill or overflow.
- District and R/R crews respond to the SSO site within a target range of 60 minutes. The contract between the District and R/R includes this requirement.
- The Collection System Crew and/or R/R communicates SSO details to the District Manager as soon as possible after arrival on site and regularly during the SSO response.

### 2.3.2 During Non-Business Hours

- After normal business hours, the caller is directed to press “03” and are transferred directly to R/R.
- R/R responds to the call within 60 minutes, reviews the situation, addresses the issue, and documents all actions. R/R also notifies the District Manager and provides the necessary information for SSO reporting.
- If the SSO occurred outside of the service area, or was related to private lateral issue, R/R takes necessary action and also contacts the appropriate jurisdiction.

Figure 2-2 on the following page shows the Chain of Communication for responding to and reporting overflows.

Figure 2.2. Chain of Communication





## Appendix A – Element 2 Documents

Appendix A includes the following documents related to this section. The information in these documents will change from time to time, and the documents in Appendix A may have been superseded. Please contact the District Manager for the most recent updates to the Appendix A documents.

- First Responder and Contract Responder Names and Contact Numbers

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## ELEMENT 3 - LEGAL AUTHORITY

This element of the SSMP discusses the legal authority provided through the District's Sewer Use Code. The District's Sewer Use Code was adopted by Ordinance No. 58, December 15, 1987 and amended by Ordinance No. 64, September 19, 1989. The Sewer Use Code is supplemented by SASM Ordinance No. 83-1, which was adopted by the SASM Board of Directors on April 21, 1983. This section fulfills the Legal Authority requirement for the RWQCB (Element 5) and the SWRCB (Element 3).

### 3.1 WDR and RWQCB SSMP Requirement

#### 3.1.1 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.

The SSMP should describe specific applicable legal mechanisms, with citations of names and code numbers of ordinances. If legal authority does not currently exist for a required element, the SSMP should indicate a schedule of activities to obtain the proper legal authority.

#### 3.1.2 SWRCB 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:

- 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.)
- Require that sewers and connections be properly designed and constructed
- Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the public agency
- Limit the discharge of fats, oils, grease, and other debris that may cause blockages
- Enforce any violation of its sewer ordinances

### 3.2 Legal Authority to Enforce SSMP Requirements

The District is regulated by several agencies of the United States Government and the State of California, pursuant to the provisions of Federal and State Law. Federal and State Laws including, but not limited to the following, grant to the District the authority to regulate and/or prohibit, by the adoption of an ordinance and by issuance of control mechanisms, the discharge of any waste, directly or indirectly, to the District's sewerage facilities.

- 1) Federal Water Pollution Control Act, commonly known as the Clean Water Act (33 U.S.C. Section 1251 et seq.);
- 2) California Porter Cologne Water Quality Act (California Water Code Section 13000 et seq.);
- 3) California Health & Safety Code Sections 25100 to 25250;
- 4) Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901 et seq.);  
and
- 5) California Government Code, Sections 54739-54740.

Through the documents described, the District possesses the necessary legal authority. The District's legal authority is further defined in the RBSD Sewer Use Code, and also SASM Ordinance 83-1, which establishes requirements for users of the SASM system, including the District. Relevant sections of the Sewer Use Code and SASM Ordinance are described below.

#### 3.2.1 Prevention of Illicit Discharges

**Sewer Use Ordinance Articles III and VII**, specifically Sections 301, names specific wastes that are not allowed in the sewer system. These wastes include human or animal excrement, garbage, or other objectionably waste. Section 701 calls attention to the requirements of SASM Ordinance 83-1, and Section 702 establishes the requirement for the installation grease traps.

**SASM Ordinance 83-1, Article II, Section 2.01** lists prohibitions on discharges that include, but are not limited to, substances that could cause fire or explosion, obstruct the treatment works, cause danger to life or safety, have a strong offensive odor, have a detrimental impact to Waters of the State, or cause the treatment works to be overloaded.

#### 3.2.2 Proper Design and Construction of Sewers and Connections

**Sewer Use Ordinance Articles V, VI, and VIII establish** requirements for proper design and construction of sewers and connections. Sections 502 and 613 requires all laterals and sewer lines, respectively, to be constructed in conformance with the District's Standard Specifications

for Building Sewer Construction of the Richardson Bay Sanitary District. Both articles provide other requirements for development of plans and specifications, and for District inspections and approvals. Sections 801 to 803 require a permit and establish compliance requirements to assure that sewer construction and design meet District standards.

### 3.2.3 Responsibility for Private Laterals

**Sewer Ordinance Article V** addresses building sewers, otherwise referenced in this document as private laterals. Section 507 states that the building sewer shall be maintained by the property owner. Further, should the District find it necessary to make repairs to a building sewer, the cost of such repairs shall be paid by the property owner that is served by the building sewer in question.

**Appendix “C”, Specifications for Building Sewer Construction, Paragraph I.B**, also establishes ownership of private sewers, building sewers, or pumping or lift systems from inside the structure up to the point of connection to the District system as privately-owned and maintained.

### 3.2.4 Access for Maintenance, Inspection & Repairs

**The Sewer Ordinance** provides authority for maintenance, inspection, and repairs in a number of locations, including the following:

- **Section 406** states that the District has the right to inspect any individual sewer disposal system.
- **Section 601** requires all new building sewer to be accompanied by a contract with the District that authorizes inspection.
- **Section 1003** provides an authorized representative of the District to enter in and upon any and all buildings, industrial facilities, and properties for the purpose of inspection, re-inspection, observation, measurement, sampling, testing, or otherwise performing such duties as may be necessary in the enforcement of the provisions of the District’s Sewer Use Code and other rules and regulations of the District.
- **Appendix “C”, Specifications for Building Sewer Construction, Paragraph I.A.** establishes District jurisdiction for the specification of design, materials, and construction requirements, and for inspection and testing, as a location two feet or less outside the building foundation to the point of connection to the District sewer system.

### 3.2.5 Limit Discharge of Fats, Oils & Grease and Debris

As referenced above, **Sewer Use Code Article VII, Sec 702** provides authority to require installation and maintenance of grease traps or grease interceptors by restaurants, school kitchens, hotels, hospitals, or other establishments where grease may be introduced into the drainage or sewerage system in quantities that can effect line stoppage or hinder sewage treatment or private sewage disposal. A grease trap is not required for individual dwelling units or for any private living quarters.

Residential and Commercial discharges of FOG are further controlled by **SASM Ordinance No. 83-1, Section 2.08.2**, which states that, “No person shall discharge any wastewater containing more than 300 mg/l of oil or grease of animal or vegetable origin or containing more than 100 mg/l of oil or grease of mineral or petroleum origin.

### 3.2.6 Enforcement Measures

**Sewer Use Code Article IX et. seq.** provide for enforcement for any violation of the Ordinance. Specific sections include a definition of public nuisance, authority to disconnect and/or to abate the public nuisance, and measures to be used for enforcement.

## 3.3 Interagency Agreements and Satellite Systems

The District does not collect wastewater from satellite systems, and therefore does not have any agreements with satellite sewer collection agencies. RBSD is a contributing member to SASM. The SASM Exercise of Joint Powers Agency agreement is included in Appendix B for reference.

## Appendix B – Element 3 Documents

Appendix B includes the following documents related to this section. The information in these documents will change from time to time, and the documents in Appendix B may have been superseded. Please contact the District Manager for the most recent updates to the Appendix B documents.

- RBSD Sewer Use Code
- SASM Ordinance 83-1
- SASM Exercise of Joint Powers Agreement

## ELEMENT 4 - OPERATION AND MAINTENANCE PROGRAM

This section of the SSMP discusses the District's mapping, operations, preventive maintenance, inspection, training and outreach activities. This section fulfills the Operation and Maintenance Program SSMP requirement for the SWRCB (Element 4) and the Measures and Activities SSMP requirement for the RWQCB (Element 6).

The requirements and District's plan for the Operations and Maintenance element of the SSMP are summarized in each category below. Since requirements for this SSMP element contain multiple categories, this summary is organized by category, with SWRCB and RWQCB requirements described for each category as applicable.

The categories that are addressed in Element 4 include:

- Collection System Mapping
- Resources and Budget
- Prioritized Preventive Maintenance
- Scheduled Inspections, Condition Assessments and Replacement Planning
- Critical Equipment and Spare Parts
- Training

### 4.1 Collection System Maps

#### 4.1.1 RWQCB Requirement

The District must maintain current maps of its collection system facilities.

#### 4.1.2 SWRCB Requirement

The District must 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 stormwater conveyance facilities.

#### 4.1.3 RBSD Collection System Mapping

The District currently uses Talavera and Richardson (T&R) to maintain the District's maps using ArcGIS. The map database includes gravity main segments (including ID, diameter, and length); force mains with ID; manholes with ID; and pumping facilities as point features. The GIS database also includes pipe and manhole historical maintenance data, including cleaning, repairs, CCTV inspections, and SSOs.

When changes to data such as diameter, material, cleaning frequencies, or CCTV information are required, the District Manager updates the GIS maps. Upon request from the District Manager, T&R adds new or rerouted pipes or new manholes to the database.

## 4.2 Resources and Budget

### 4.2.1 RWQCB Requirement

The District must demonstrate that adequate resources are allocated for the operation, maintenance and repair of the District's collection system.

### 4.2.2 SWRCB Requirement

The Statewide WDR includes no requirement for resources and budget.

### 4.2.3 District Resources and Budget for Sewer System Management

In advance of each fiscal year, the District allocates sufficient resources for the operation, maintenance, and repair of its collection system. The District prepares an annual budget, which is reviewed and adopted by the Board of Directors at a public meeting. In FY2013/14, the District accelerated pipeline repairs and budgeted for \$2.3 million in capital improvements. For the subsequent five years (FY2014/15 through FY2018/19), planned annual expenditures will return to historical levels, which are in the \$300,000 to \$400,000 range.

## 4.3 Prioritized Preventative Maintenance

### 4.3.1 RWQCB Requirement

The SSMP must demonstrate that prioritized maintenance activities are performed by the District.

### 4.3.2 SWRCB Requirement

The SSMP must 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 Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.



### 4.3.3 Prioritized Preventive Maintenance Activities

The District contracts with R/R to clean the system on a 3-year cycle, as outlined in the 2008 Sewage Spill Reduction Action Plan. The system is divided into three maintenance areas. From east to west, the areas are described as follows:

- Area A: Tiburon East of Trestle Glen Blvd
- Area B: Tiburon Between Highway 101 and Trestle Glen Blvd, North of East Blithedale
- Area C: Strawberry Neighborhood South of East Blithedale and East of Highway 101

Routine cleaning is completed during the summer months. In addition, the District addresses 6-month hot spots in summer and winter. RBSD currently has no 3-month hot spots.

Sewers in easements are maintained using either hydroflushing or machine rodding when feasible. Pipes that cannot be cleaned using hydroflush or truck-mounted machine rodding equipment are cleaned using a smaller portable rodding machine. The District schedules repairs by R/R to address defects that create hot spots.

### 4.3.4 Operations & Maintenance Planning

RBSD uses the SSGIS computerized maintenance management system (CMMS), developed by T&R, for its collection system maintenance program. The SSGIS CMMS is linked to GIS maps of the sewer system. SSGIS stores, plans, and tracks completion of sewer cleaning, maintenance, repairs, and SSOs.

## 4.4 Inspections, Condition Assessment and Rehabilitation

### 4.4.1 RWQCB Requirement

The District must identify and prioritize structural deficiencies and implement a program of prioritized short-term and long-term actions to address them.

### 4.4.2 SWRCB Requirement

The District must 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 (CIP) 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.

#### 4.4.3 CCTV Inspection Program

The District has used inspection contractors to collect CCTV inspection data per the Inspection and Condition Assessment Plan outlined in the 2008 SSRAP. This inspection program utilizes the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) defect rating system.

For accessible pipe segments, CCTV data is collected with the use of fully equipped CCTV vehicles. The vehicles are equipped with a digital recording device. Each vehicle carries all of the inspection, video capture, and recording equipment needed to televise a sewer pipe.

CCTV contractors use pan and tilt cameras which allow the operator to remotely rotate the camera in the sewer pipe and focus on the object being observed. Pan and tilt cameras are preferred because they give the inspectors increased flexibility in identifying and assessing the main infrastructure as well as the service lateral connections.

The District completed CCTV inspection of the entire system in 2009. Since this time, the District has completed a significant amount of pipeline repair to address pipes with severe defects or pipes with observed I&I. This program will be substantially complete in 2015. After this time, the District intends to begin a new cycle of CCTV inspection, focusing first on older rehabilitated pipes, followed by all CCTV inspection of remaining, newer pipes that have not been repaired.

#### 4.4.4 Infrastructure Renewal Program

Over the past few years, RBSD has rehabilitated a significant amount of its sewer collection system. Table 4-1 provides a summary of rehabilitation work that has been completed since 2009.

Table 0-2: Repair, Rehabilitation and Replacement Lengths by Year

Fiscal Year	Miles Completed	Cumulative Miles	Cumulative Plan Goal
2009	2.1	2.1	1.4
2010	1.82	3.92	1.1
2011	2.1	6.02	3.5
2012	1.14	7.16	4.5
2013	5.16	12.32	5.0

In addition, in FY2014, RBSD plans to rehabilitation approximately 20,400 lineal feet of pipe.

## 4.5 SSMP Training

### 4.5.1 RWQCB Requirement

The District must provide training on a regular basis for its collection system operations, maintenance, and monitoring staff.

### 4.5.2 SWRCB Requirement

The District must provide training on a regular basis for staff in sanitary sewer system operations, maintenance, and require contractors to be appropriately trained.

### 4.5.3 Training of District Personnel and Contractors

RBSD conducts regular safety and SSO response training for its staff. In future years, RBSD plans to include R/R in the annual SSO response refresher training. In addition, the District will receive training on the 2014 SSMP and OERP update in mid-2014.

Training will be documented in a manner that records the date, time, place, content, name of trainer(s) and names of attendees.

## 4.6 Contingency Equipment

### 4.6.1 RWQCB Requirement

The District must demonstrate that contingency equipment is provided to handle emergencies, and that spare parts are available to minimize equipment/facility downtime during emergencies.

#### 4.6.2 SWRCB Requirement

The District must provide equipment and replacement part inventories, including identification of critical replacement parts.

#### 4.6.3 Contingency Equipment and Replacement, and Spare Parts Inventories

The current collection systems equipment inventory is listed below. This list reflects the information that is included in the RBSD SSRMP.

##### Roto-Rooter Inventory

##### Major Response Equipment

- Combination hydroflusher/vacuum unit – 5-yard, 1000 gallon water tank Combination hydroflusher/vacuum unit – 9-yard, 1000 gallon water tank Rodding units – 1,500' of 3/8" rod
- CCTV Vans
- Tractor driven CCTV cameras
- Push cameras
- Pump Truck – 2,500 gallons
- Portable hydroflushing equipment – 16 hp, can clean up to 6" pipe
- Portable rodder w/ 1 1/16" rod, 165' cable capable of cleaning up to and including 6" pipe
- Trailer

##### Bypass Equipment

- 2" Pump – Hydromatic with cam-lock connection
- 2", 3", and 4" cam-lock hoses (12 pieces of 25' hose each, total 300') Fire hoses – 200' of 3" hose (screw-on connection)
- Containment Equipment
- Containment rings for immediately around manhole
- 3' x 5' mats
- 3 mil and 5 mil Vizquin (thick plastic)
- Plugs for all standard pipe sizes between 1.5" to 24" Sand bags

##### Repair Equipment

- Repair trucks for emergency repairs
- Hitachi TB-25 for excavation, can dig to 7 feet Cut-Off Saws – Gas-powered with 14" wheel Air compressors
- Locating equipment
- 600' heavy duty, can locate to 30 feet
- 300' regular duty
- MH & castings, lids, and rings
- Rod Hole castings, lids
- Pipe

- 6" to 24" C-900 pipe
- 6" to 24" SDR 17 pipe
- 8" to 10" VCP pipe
- Plates for covering trenches
- Shoring
- Dump truck

### Confined Space Equipment

- Gas detectors Tripod Harnesses Blowers
- Cable and winch

### Washdown equipment

- Camel machine has 500' of hose Camel has 100 feet of auxiliary hose Spray nozzles
- Pressure washer

### Traffic Control Equipment

- Cones
- Signs
- Road Work Ahead Flagger Ahead Arrows for Cones

### Miscellaneous Tools and Equipment

- Shovels Couplers Rakes Brooms Star Drill Ladders
- Sump Pumps Hammer Chisel Screwdrivers Manhole hook
- 50' extension cords (2 per truck)
- 100' extension cord (1 per truck)
- Generators 2,500 watt

## Appendix C – Element 4 Documents

Appendix C includes the following documents related to this section. The information in these documents will change from time to time, and the documents in Appendix C may have been superseded. Please contact the District Manager for the most recent updates to the Appendix C documents.

- Most recent sewer-related budget

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## ELEMENT 5 - DESIGN AND CONSTRUCTION STANDARDS

This section of the SSMP discusses the District's design and construction standards.

### 5.1 WDR and RWQCB SSMP Requirement

#### 5.1.1 RWQCB Requirement

The District shall demonstrate that minimum design and construction standards and specifications are in place for the installation of new sewer systems and for the rehabilitation and repair of existing sewer systems.

#### 5.1.2 SWRCB Requirement

The District must have design and construction standards and specifications for the installation of new sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sewer systems. The District must have procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

### 5.2 Standards for Installation, Rehabilitation, Repair, and Testing

The District uses the services of registered engineers when installation, rehabilitation, and/or repairs of the RBSD pump stations are required. For sanitary sewer collection system improvements, the District utilizes standards as provided for in the District's Sewer Use Code or recommendations provided by the District Engineer, as appropriate. RBSD does not maintain design standards for pump station improvements.

Design criteria include guidelines for pipe size, slope, cover, and materials, for laying pipe and installing cleanouts and backflow prevention valves, and for testing sewer installations. Standard details are provided for specific system components.

The referenced design and construction standards are included as a component of the Sewer Use Code, and are also included in Appendix D.

### Appendix D – Element 5 Documents

Appendix D includes the District's applicable Design and Construction Standards, which are used by the District for sewer installations but not pump stations. The information in this document will change from time to time, and the document in Appendix D may have been

superseded. Please contact the District Manager for the most recent updates to the District's Design Standards.



## ELEMENT 6 - OVERFLOW EMERGENCY RESPONSE PLAN

This section of the SSMP provides a summary of the District's Overflow Emergency Response Plan, and fulfills the Overflow Emergency Response Plan requirements for both the RWQCB and the SWRCB. The OERP that is included in Appendix E is also maintained as a stand-alone document as required by the RWQCB.

### 6.1 WDR and RWQCB SSMP Requirement

The summarized requirements for the Overflow Emergency Response Plan element of the SSMP are as follows.

#### 6.1.1 RWQCB Requirement:

The District must develop an overflow emergency response plan that provides procedures for SSO notification, response, reporting, and impact mitigation. The response plan should be developed as a stand-alone document and summarized in the SSMP.

#### 6.1.2 SWRCB Requirement:

The District 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:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner
- A program to ensure appropriate response to all overflows
- 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 Statewide 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 WDR or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification
- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the emergency response plan and are appropriately trained
- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities

- 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.

## 6.2 Notification Procedures

Figure 6-1 on the following page provides a notification and response flow chart procedure for an SSO occurrence. This is the same chart that is provided in Section 2, Organization.

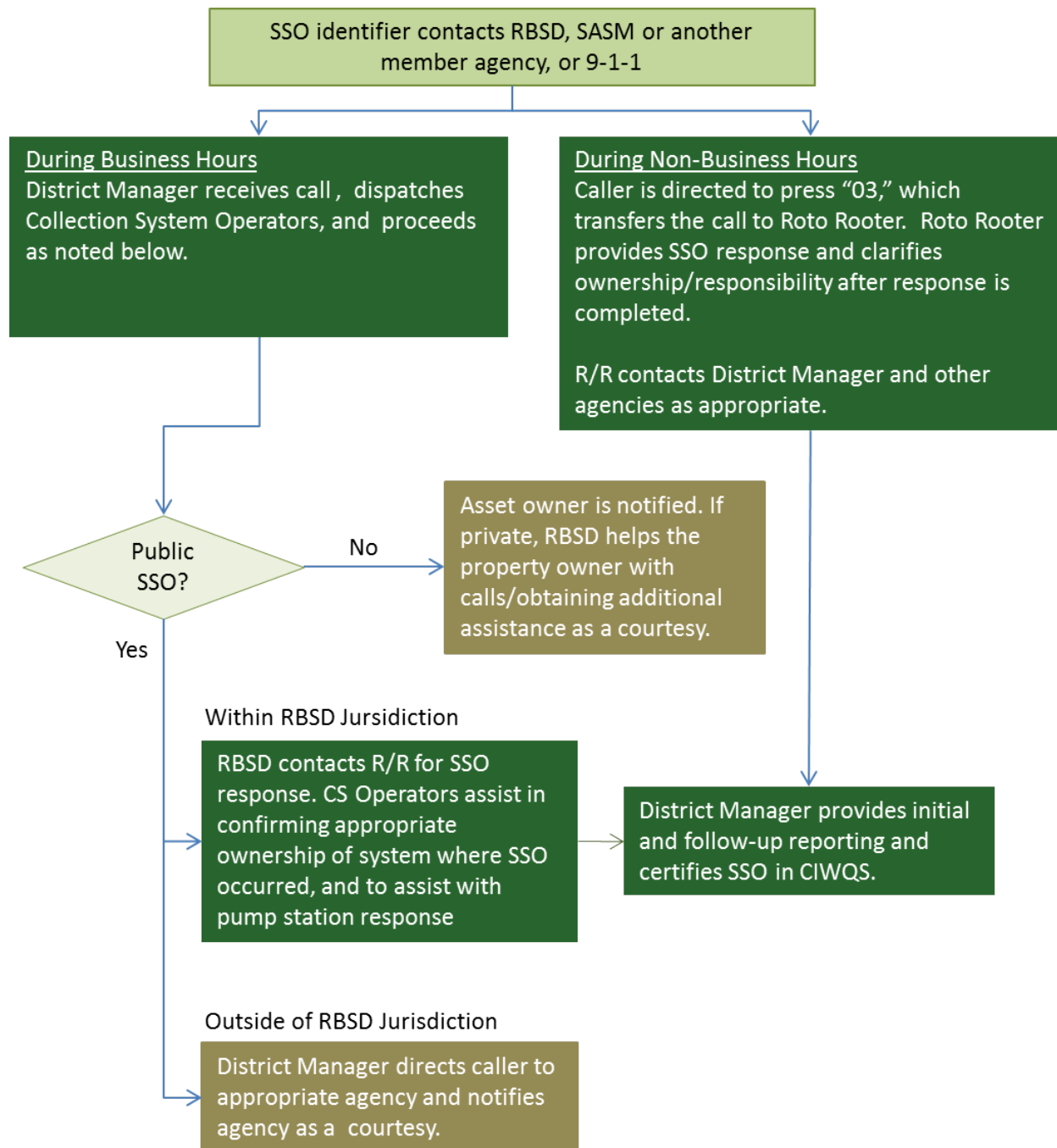
### 6.2.1 During Normal Business Hours (6:00 a.m. to 3:00 p.m. Monday through Thursday and; 6:00 a.m. to 1:00 p.m. Friday)

- During normal business hours, telephone calls reporting SSOs are received at the District, or 9-1-1. Calls are dispatched to the District Manager, who contacts the RBSD Collection System Operators and Roto Rooter (R/R).
- The Collection System Operator arrives on site and confirms that R/R personnel are responding to collection system pipeline issues. For pump station problems, the Collection System Operators troubleshoot the issue and attempt to stop the spill or overflow.
- District and R/R crews respond to the SSO site within a target range of 60 minutes. The contract between the District and R/R includes this requirement.
- The Collection System Crew and/or R/R communicates SSO details to the District Manager as soon as possible after arrival on site and regularly during the SSO response.

### 6.2.2 During Non-Business Hours

- After normal business hours, the caller is directed to press “03” and are transferred directly to R/R.
- R/R responds to the call within 60 minutes, reviews the situation, addresses the issue, and documents all actions. R/R also notifies the District Manager and provides the necessary information for SSO reporting.
- If the SSO occurred outside of the service area, or was related to private lateral issue, R/R takes necessary action and also contacts the appropriate jurisdiction.

Figure 6-1. SSO Notification Process



### 6.2.3 Notification from Pump Station SCADA Alarms

Pump station alarms are received by RBSD staff via telephone. The first call is received by the office. If the call is not answered within 90 seconds, the second call is received by the District

Manager's mobile phone #1, and then within another 90 seconds, phone #2. If the District Manager does not respond to the mobile phones, the call is routed to the District Manager's home phone. The next phones in sequence are the backup responder's cell phone, then home phone, and then the 2<sup>nd</sup> backup responder's cell and home phones. The recipient can press "9" to temporarily silence the alarm. However, if the issue is not addressed at the site within 1 hours, the alarms will ring through the phone tree.

The District has considered adding cell phone notification as a back up to land lines. However, the District has determined that this additional redundancy is not needed since each lift station has sufficient redundancy to address equipment and electrical failures.

### 6.3 Staff and Contractor Training

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

Records are 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 include date, time, place, content, name of trainer(s) and names of attendees.

### 6.4 Response Program

Provides names and contact information for the designated responders

- In Case of Emergency: 911
- County Sheriff Dispatch: (415) 473-7250
- Office of Emergency Services: (800) 852-7550
- District Manager: (415) 388-1345
- Contract Responder – Roto Rooter: (415) 388-2740 or (415) 898-6074
- Agencies:
  - California Regional Water Quality Control Board: (510) 622-2369
  - California Department of Fish and Game: (707) 944-5500
  - County Environmental Health Services: (650) 473-6907
  - California Office of Emergency Services: (800) 852-7550

- U.S. Coast Guard : (415) 399-3530

#### 6.4.1 First Responder Priorities

The First Responder's priorities are as follows:

- To follow safe work practices, including those related to traffic control, confined space, and employee and public safety.
- To respond promptly with the appropriate equipment.
- To evaluate the cause of spill and determine responsibility.
- To restore the flow as soon as possible.
- To contain the spill whenever feasible.
- To minimize public access to and/or contact with the spilled sewage.

#### 6.4.2 Initial Response

The First Responder should report to the location within 60 minutes of the initial SSO report with the objective of minimizing and/or eliminating an overflow. The appropriate response measure will vary based on the circumstances and nature of the SSO and the information provided by the caller. Actions related to external and internal SSOs are summarized below.

RBSD and its contract provider use an SSO Report Form to internally document the contact and response for each SSO that occurs. This form is included in the OERP.

#### Available Equipment

All SSO response equipment is owned and maintained by the Contract Responder.

#### 6.4.3 External SSO Response

Upon arrival at the site, the First Responder should complete the following:

- Note arrival time at spill site, and include the time in the SSO Report Form. Record basic incident information on site, and complete the form after finishing the response.
- Verify the existence of the SSO
- Field verify the address and nearest cross street, and confirm that the SSO is part of the RBSD sewer/conveyance system
- Conduct visual monitoring to determine immediate actions, starting with documentation of SSO volume using the methods included in the OERP

- Identify and clearly assess the affected area and extent of spill, including possible impacts on surface water. Where it is safe and practical, visually inspect surface water in the vicinity of the SSO and record observations on the SSO Field Report. Signs of receiving water impacts include clear signs of sewage (solids, grease, and paper), abnormal color, fish kills, etc.
- Estimate spill volume using SSO reporting guidelines in the OERP
- Contain, mitigate, and minimize impacts from the SSO. If the SSO is the result of a blockage, and the blockage cannot be cleared expeditiously via hydrocleaning from the downstream manhole, then clearing and vacuuming the blockage from the pipe, containment and/or bypass pumping must be initiated.
- If several efforts to clear blockage have failed, the District Manager must be immediately informed, who will in turn call up other employees and local contractors to initiate emergency repair to restore flow and also provide assistance to initiate spill containment or bypass pumping.
- Where safe and feasible, take necessary water quality samples at the point of discharge and at upstream and downstream locations. Use best judgment and consult with the District Manager if uncertain. Water quality monitoring is not given precedence over stopping the SSO or protecting public health. However, if sufficient personnel are available, monitoring is conducted in parallel with these activities or with the cleanup effort.
- Comply with all safety precautions (traffic, confined space, etc.)
- Contact caller, if time permits. Identify SSO cause, including conducting CCTV inspection as appropriate.
- Document all activities through photos and written documentation

#### 6.4.4 Internal SSO Response (Residential Sewage Backup)

Upon arrival at the location of a spill into a house or a building, the First Responder should evaluate and determine if the spill was caused by a blockage in the lateral or in the RBSD-owned sewer main. If a blockage is found in a property owner's lateral, it should be clearly communicated that response and repair of private laterals is not the District's responsibility. The homeowner is responsible for clearing any blockage or addressing a failure in the home's plumbing system or private lateral and for any resulting flood damage to the structure.

As a courtesy, the District will assist the homeowner in coordinating for the repair. However, the District is not authorized to repair the private lateral at the District's cost.

If a backup in the main line is found to have caused the SSO in a house or building, the First Responder should take steps to address the issue as described above.

The First Responder should be aware of the following guidelines for SSOs on private property:

- Keep all family members and pets away from the affected area
- Place towels, rags, blankets, etc. between areas that have been affected and areas that have not been affected
- Move any uncontaminated property away from the overflow area. Do not remove any contaminated items.
- Turn off the HVAC system

The First Responder should follow the following steps to assist the homeowner:

- Gather information
- Call a restoration company (contact numbers are included in the OERP), and wait for the restoration firm to arrive
- Forward incident reports and related documents to the District Manager

#### 6.4.5 Pump Station SSO Response

The First Responder to a potential pump station or forcemain failure should determine whether flow can be restored within a reasonable time. If it appears that flow cannot be restored within a reasonable time or if the conveyance system facility requires construction and/or repairs, then the First Responder should employ the District's pump station contingency plan covering containment, bypass pumping, and contractual assistance. Pump station emergency response procedures have been developed by DKF solutions, and are included by reference in this document.

In addition, other response activities discussed above should be implemented where applicable.

#### 6.4.6 Recovery and Cleanup

The recovery and clean up phase must begin when the flow has been restored and the spilled sewage has been contained to the extent possible. Spilled sewage shall be vacuumed or pumped and discharged to the extent possible back into the sanitary sewer system.

### Clean Up and Disinfection

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

Where cleanup is beyond the capabilities of District staff, contact a cleanup contractor to complete the work. Phone numbers are provided in the emergency response list.

Spills inside houses or buildings should be cleaned by a professional cleaning company as discussed above. Contact information for professional cleaning companies can be found in the “Water Damage Restoration” section of the Yellow Pages and is also provided in the OERP. Claims by homeowners should be forwarded to the District Manager.

In the event of an SSO event during night time hours, the incident must be re-inspected as soon as possible the following day. The site shall be inspected for any signs of sewer related debris/material that may warrant additional cleanup activities.

### Guidelines for Cleanup

On **hard surface areas**, collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms. Take reasonable steps to contain and vacuum up the wastewater. Disinfect all areas that were contaminated from the SSO. Apply minimal amounts of the disinfectant solution Bio-Rooter® using a hand sprayer. Document the volume and application method of disinfectant that is employed. Allow area to dry. Repeat the process if additional cleaning is required.

On **landscaped or unpaved areas**, collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms. Allow the area to dry. Repeat the process if additional cleaning is required.

If the SSO has reached the **storm drain system**, R/R should use its combination sewer cleaning truck to vacuum/pump out the catch basin and any other portion of the storm drain that may contain sewage. In the event that an overflow occurs at night, the location should be re-inspected as soon as possible the following day. The operator should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.



#### 6.4.7 Impact to Waters of United States

If an SSO is confirmed to have entered waters of the United States<sup>1</sup>, the District Manager immediately notified. The response team then proceeds with the following additional activities:

- Determine the extent of the SSO by investigating downstream until there is no evidence of sewage or debris along the creek or water body
- Conduct Water Quality Sampling, following the process described below. If the SSO is 50,000 gallons or greater, collect water quality samples within 48 hours of becoming aware of the SSO
- Immediately post contaminated water sign(s) and protect the waterbody from public access on all sides
- Photograph sign placement and evidence of the overflow in and around the waterbody to the farthest point reached by the sewage
- Determines if the waterbody is safe to enter. During the winter storm season, cleaning the waterbody may not be feasible due to high water flows
- If feasible, block the waterbody downstream of the affected area in a location that is safe to enter and is accessible to set up a pump or utilize other sewer cleaning equipment
- To the extent feasible, recover and return contaminated water to the collection system
- Perform follow-up sampling until the area shows no water quality impairment and the posted signs can be removed. The District Manager ultimately determines when this happens and makes any follow up calls to affected agencies

#### 6.4.8 Water Quality Sampling

Water quality sampling and testing is required whenever the spilled sewage enters a water body. The purpose of testing is to determine the extent and impact of the SSO. The following guidelines must be followed:

- The First Responder should arrange for collection of samples. Samples should be collected as soon as possible after the discovery of the SSO event
- For spills less than 1,000 gallons, at a minimum, water quality samples should be collected at the discharge point, 100 feet upstream, and 100 feet downstream
- If a spill is more than 1,000 gallons, additional sites may require sampling, following the requirements of the County of Marin Environmental Health Services (EHS)

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<sup>1</sup> **40 CFR 230.3(s)** defines the term “waters of the United States.” This term includes all lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, or natural ponds, or waters that could be used for recreational or other purposes.

- The water quality sampling procedures should follow EHS procedures as follows:
  - Keep the sterile collection bottle closed until it is to be filled. Do not contaminate inner surface of the lid or bottle rim.
  - Collect water sample just below the surface in knee deep water, approximately 3 feet deep (full arm's length), without rinsing. If needed, extend the sampling pole to the fullest length to reach deeper water depth. Minimize contact with bank or beach bed as water fouling may occur.
  - Remove cap and hold the bottle near its base and plunge it, neck downward, below the surface
  - Turn bottle until neck points slightly upward and mouth is directed toward the current. Fill bottle leaving about 1 inch of air to allow lab to mix by shaking. Collect a minimum of 100 mL. (If applicable, insert sterile collection bottle into the holder on the sample pole. Extend the sample pole and plunge bottle end into the water, bottle opening downward.)
  - Immediately place cap securely on bottle to avoid leaks and contamination
  - Dry the bottle
  - Label container with distinctive sample site name, date, and time collected
  - Complete the laboratory requisition slip with requested information (site, bottle number, collector, date and time of collection, type of sample, test requested, name and phone number of responsible person for reporting purposes, and deliverer name). Note any field observations that may have occurred during the sampling.
- Samples should be tested for fecal coliform, total coliform and enterococcus.
- Samples should be stored and shipped by placing the water sample bottle in a cooler with frozen blue ice. Water sample must be kept cool. Ice may be used but care must be taken so water samples are not contaminated or diluted by the ice.
- Samples should be tested for fecal coliform, total coliform and enterococcus.
- Samples should be stored and shipped by placing the water sample bottle in a cooler with frozen blue ice. Water sample must be kept cool. Ice may be used but care must be taken so water samples are not contaminated or diluted by the ice.

Water samples may be taken to the **SASM Laboratory at 450 Sycamore Avenue, Mill Valley, CA 94941, (415) 388-2402**. The water samples must be brought to the laboratory within 8 hours of collection, before 3:00 pm, for processing.

If the SASM laboratory is closed, utilize an alternate testing laboratory managed by **Caltest Analytical Laboratory at 1885 N Kelly Rd., Napa, CA 94558 (707) 258-4000, Toll Free 888-258-TEST (8378), Fax: 707.226.1001.**

Records of monitoring information shall include the date, exact place, and time of sampling or measurements, the individual(s) who performed the sampling or measurements, the date(s) analyses were performed, the individual(s) who performed the analyses, the analytical technique or method used, and the results of such analyses.

#### 6.4.9 Water Quality Monitoring Plan

A Water Quality Monitoring Plan must be implemented immediately upon discovery of any Category 1 SSO of 50,000 gallons or more in order to assess impacts from SSOs to surface waters. Water quality testing must be completed within 48 hours of the District becoming aware of the SSO.

The District's SSO Water Quality Monitoring Program is included in Appendix E, and includes the following:

- Protocols for water quality monitoring
- Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.)
- Requirement for water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory
- Requirement for monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy

#### 6.4.10 SSO Technical Report

If 50,000 gallons or greater from an SSO reaches surface waters, an SSO Technical Report must be prepared and submitted to the CIWQS online SSO database within 45 calendar days of the SSO end date. The SSO Technical Report must include, at a minimum, the following:

1. Causes and Circumstances of the SSOs
2. Complete and detailed explanation of how and when the SSO was discovered
3. Diagram showing the SSO failure point, appearance point(s), and final destination(s)
4. Detailed description of the causes(s) of the SSO
5. Copies of the original field crew records used to document the SSO
6. Historical maintenance records for the failure location
7. Response to SSO:
8. Chronological narrative description of all actions taken to terminate the SSO
9. Explanation of how the OERP was implemented to respond to and mitigate the SSO
10. Final corrective action(s) completed and/or planned to be completed, including a schedule or actions not yet completed
11. Water Quality Monitoring:

12. Description of all water quality sampling activities conducted including analytical results and evaluation of the results
13. Detailed location map illustrating all water quality sampling points

District Manager is responsible for the development and certification of the SSO Technical Report.

## 6.5 Containment or Bypass

For Category 1 SSOs, 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 available equipment and materials to contain the spill, where feasible. 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 or vacuum flow from upstream of the blockage and dispose of downstream of the blockage to prevent further overflow
- If an SSO reaches a water body, follow the requirements below for posting and SSO notification signage. Also conduct water quality sampling as discussed above.

## 6.6 SSO Notification Signage

Barriers shall be installed to prevent the public from having contact with the sewage. Signs should be posted to keep vehicles and pedestrians away from contact with spilled sewage. Signs should remain in place until removal of the signs is directed by the District Manager. A sample warning sign is included in the OERP.

If a creek, stream and/or beach has been contaminated as a result of an SSO, notifications 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. "Closed" signs should be posted at the outfall and a minimum of 100 feet upstream and 100 feet downstream of the discharge. If there is a large volume of sewage, more signs must be posted downstream.

Signs must remain posted until at least two consecutive days of sampling meet the Public Beach Sanitation and Ocean Water-Contact Sports standards that are described above. The removal of signs must be approved by EHS and the County Public Health Officer.

## 6.7 Failure Analysis

For each Category 1 SSO event greater than 1000 gallons, all participants involved in the response – from the person who received the call to the last person to leave the site – should meet, as soon as feasible, after the event to review and evaluate the incident and response procedures. The objective of the Post-SSO Debrief is to determine actions necessary, if any, to reduce the recurrence and better mitigate the effects of SSOs.

## 6.8 SSO Documentation and Reporting

### 6.8.1 Documentation

In accordance with the WDR, the District maintains records for each sanitary sewer overflow. Records include:

- Documentation of response steps and/or remedial actions
- Photographic evidence as available to document the extent of the SSO, field crew response operations
- Site conditions after field crew SSO response operations have been completed
- The date, time, location, and direction of photographs taken will be documented
- Documentation of how any estimations of the volume of discharged and/or recovered overflow were calculated

The records are maintained at the District office and entered into the District's CMMS system. SSOs are also describe in the monthly report that is included in each regular Board agenda.

### 6.8.2 Regulatory Reporting

Table 6-1 summarizes the regulatory reporting requirements that are also described in the paragraphs following the table.

#### Multiple Appearance Points – Single SSO

For reporting purposes, if one SSO event of whatever category results in multiple appearance points in a sewer system, a single SSO report is required in CIWQS which includes the GPS coordinates for the location of the SSO appearance point closest to the failure point, blockage or location of the flow condition that caused the SSO, and descriptions of the locations of all other discharge points associated with the single SSO event.

#### 2-Hour Notification to Regulatory Agencies of SSOs

Cal OES is only to be notified of a 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. In addition, both the County Health Officer and EHS are to be contacted. During

regular business hours, the Health Officer can be reached at (415) 473-3707 and the main EHS phone number to call is (415) 473-6907. During evenings/weekends, call the Sheriff Communication Center at (415) 479-2311. The First Responder is responsible for reviewing field data for reporting to regulatory agencies. If it is determined that the criteria for OES notification was met, then the First Responder must notify OES of the event no later than two (2) hours after:

- 1.The District has knowledge of the SSO;
- 2.Notification is possible; and
- 3.Notification can be provided without substantially impeding cleanup or other emergency measures.

The OES phone number is (800) 852-7550. The First Responder is responsible for obtaining an OES Control number. Following the initial notification to OES and until the SSO report is certified in the SWRCB online SSO Database, the LRO will provide updates (or provide direction for updates to be provided) to OES regarding substantial changes to estimated volume of untreated or partially treated sewage discharged and any substantial changes to known impact(s).

#### Detailed Reporting Requirements

Table 6-1 provides detail on the District's regulatory reporting process, which is also described below.

#### *SSO Reporting for Category 1 SSOs*

Cal OES and EHS shall receive notification of Category 1 SSOs greater than or equal to 1,000 gallons, as stated earlier in this Section.

The Data Submitter must then submit the initial draft report to the SWRCB's CIWQS Online SSO database @ <http://ciwqs.waterboards.ca.gov/ciwqs> within 3 business days of becoming aware of the SSO.

Within 15 calendar days of the SSO end date, the LRO must review and certify the report in the CWIQS Online SSO database @ <http://ciwqs.waterboards.ca.gov/ciwqs>

#### *SSO Reporting for Category 2 SSOs*

Within 3 business days of becoming aware if the SSO, the District Manager must submit the initial report to the SWRCB's CWIQS Online SSO database @ <http://ciwqs.waterboards.ca.gov/ciwqs>.

Within 15 calendar days of the SSO end date, the LRO must review and certify the report in the CWIQS Online SSO database @ <http://ciwqs.waterboards.ca.gov/ciwqs>.

*SSO Reporting for Category 3 SSOs*

Within 30 calendar days of the end of the calendar month in which the SSO occurred, the LRO must submit and certify a report to the SWRCB's CWIQS Online SSO database @ <http://ciwqs.waterboards.ca.gov/ciwqs>.

*No Spill Certification (Monthly)*

Within 30 calendar days of the end of a calendar month that there are no SSO's, the LRO must submit and certify a "No Spill" certification to the CIWQS online SSO database.

CIWQS Not Available

In the event that the CIWQS online SSO database is not available, the LRO will fax or e-mail all required information to the RWQCB office at (510) 622-2460 in accordance with the time schedules identified above. In such an event, the District will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO document file.

Amending SSO Reports

The LRO is responsible for amending SSO reports. Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, the District must contact the State SSO Program Manager to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days. The SWRCB SSO Program Manager contact information is as follows:

Russell Norman, P.E.  
State Water Resources Control Board  
Division of Water Quality  
1001 I Street 15<sup>th</sup> Floor  
Sacramento, CA 95814  
E-mail: [Russell.norman@waterboards.ca.gov](mailto:Russell.norman@waterboards.ca.gov)  
Phone: (916) 323-5598

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Table 6.1 Regulatory Reporting Requirements

Element	Requirement	Method
<b>NOTIFICATION</b>	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, the District will notify the California Office of Emergency Services (OES) and obtain a notification control number.	Call Cal OES at: <b>(800) 852-7550</b> County Health Officer <b>(415) 473-3707</b> and Marin County Environmental Health Services (EHS) <b>(415) 473-6907</b> are also to be contacted. During evenings/weekends, call the Sheriff Communication Center at <b>(415) 479-2311</b> .
<b>REPORTING</b>	<ul style="list-style-type: none"> <li>Category 1 SSO: the District will submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date.</li> <li>Category 2 SSO: the District will submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date.</li> <li>Category 3 SSO: the District will submit certified report within 30 calendar days of the end of month in which SSO the occurred.</li> <li>SSO Technical Report: the District will 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.</li> <li>“No Spill” Certification: the District will 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.</li> <li>Collection System Questionnaire: the District will update and certify every 12 months</li> </ul>	<ul style="list-style-type: none"> <li>Enter data into the CIWQS Online SSO Database (<a href="http://ciwqs.waterboards.ca.gov/">http://ciwqs.waterboards.ca.gov/</a>), certified by the Legally Responsible Official(s).</li> <li>All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report.</li> <li>Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, the State SSO Program Manager must be contacted to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days.</li> </ul>
<b>WATER QUALITY MONITORING</b>	<ul style="list-style-type: none"> <li>The District will 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. EHS requires daily water quality sampling until compliance is achieved, if there is a Category I discharge of 1,000 gallons or greater and spills into surface water.</li> </ul>	Water quality results will be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
<b>RECORD KEEPING</b>	<p>The District will maintain the following records:</p> <ul style="list-style-type: none"> <li>SSO event records.</li> <li>Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP.</li> <li>Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters.</li> <li>Collection system telemetry records if relied upon to document and/or estimate SSO Volume.</li> </ul>	Self-maintained records shall be available during inspections or upon request.

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## Appendix E – Overflow Emergency Response Plan Documents

Appendix E includes a full copy of the RBSD Overflow Emergency Response Plan. The information in this document will change from time to time, and the OERP may have been superseded. Please contact the District Manager for the most recent updates to the OERP.

- RBSD Emergency Overflow Response Plan

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## ELEMENT 7 - FOG CONTROL PROGRAM

The purpose of this section is to evaluate the extent and nature of SSOs related to Fats, Oils and Grease (FOG), to determine the need for a FOG Control Program, and to outline the elements of the RBSD FOG Control Program.

### 7.1 WDR and RWQCB SSMP Requirement

#### 7.1.1 RWQCB Requirement:

The District must evaluate its service area to determine whether a FOG control program is needed. If needed, a FOG control program shall be developed as part of the SSMP. If the District determines that a FOG program is unnecessary, proper justification must be provided.

#### 7.1.2 SWRCB Requirement:

The District shall evaluate its service area to determine whether a FOG control program is needed. If the District determines that a FOG program is not needed, justification must be provided for why it is not needed. If FOG is found to be a problem, the District 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:

- An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG
- 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.
- The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.
- 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.
- Authority to inspect grease producing facilities, enforce requirements, and determine whether the District has sufficient staff to inspect and enforce the FOG ordinance.
- An identification of sewer system sections subject to FOG blockages and the establishment of a cleaning maintenance schedule for each section.

- Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified as subject to blockages.

## 7.2 Goals for the FOG Program

The District has not had any FOG-related SSOs in at least three years. Therefore, the District does not have a formal FOG Control Program. However, the District does monitor and control FOG discharge using the authority provided through the Sewer Use Code. Following Code requirements, nine FSE grease trap inspections are conducted quarterly.

## 7.3 Legal Authority to Prohibit SSOs and Blockages Caused by Fog Discharge

The District has authority to monitor and control FOG discharge through the RBSD Sewer Use Code and SASM Ordinance No. 83-1. Both of these documents are discussed in Element 3.

## 7.4 Sewer Sections Subject to FOG Blockages

From 2011 through 2013, the District had no FOG-related SSOs. This SSMP did not review FOG SSOs prior to this time.

## Appendix F – FOG Control Program Documents

Appendix F is a placeholder for any future documents related to a RBSD FOG Control Program. Please contact the District Manager for the most recent updates to the Appendix F documents.

## ELEMENT 8 - SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

This section of the SSMP discusses the District's activities related to capacity management. This section fulfills the Capacity Management requirements for the RWQCB and the SWRCB elements.

### 8.1 WDR and RWQCB SSMP Requirement

#### 8.1.1 RWQCB Requirement

The District must prepare a CIP to provide hydraulic capacity of key collection system elements under peak flow conditions.

#### 8.1.2 SWRCB Requirement

The District must 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. Where design criteria do not exist or are deficient, undertake the evaluation identified above to establish appropriate design criteria.

The District must 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, 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. The District shall develop a schedule of completion dates for all portions of the CIP. This schedule shall be reviewed and updated consistent with the Sewer System Management Plan (SSMP) review and update requirements.

### 8.2 System Evaluation and Capacity Assurance Plan

A capacity assessment was completed for RBSD based on flow monitoring data obtained during the 2008/09 and 2009/10 wet weather seasons. The assessment included hydraulic modeling of the RBSD interceptor system. The capacity assessment was used to develop a Capacity Assurance Plan and Capital Improvement Plan (CIP). This evaluation is documented in the Sewage Spill Reduction Action Plan, Volume III, October 2010. The portion of the report that pertains to the capacity assessment is included in Appendix G.

### 8.2.1 Capacity Assessment and Capital Improvement Plan

The District's pipeline capacity assessment needs were developed using a calibrated, fully dynamic sewer collection system hydraulic model. The modeled facilities in the RBSD collection system included the Hawthorne Terrace, Del Mar, and Belveron Gardens pump stations and downstream force mains and gravity sewers that convey flow to the SASM Trestle Glen Pump Station. The system also included gravity sewers that convey flow to the Salt Works Pump Station from the northeast and southwest, and to the Ricardo Road Pump Station from the north and southeast.

Although the modeling identified some sewers in the RBSD system that may be surcharged under peak design event wet weather flow conditions, none of the surcharge was severe enough to present a significant risk of overflow.

The Belveron Gardens Pump Station (BGPS) was identified as not having sufficient firm capacity to convey the predicted peak wet weather flows based on the calibration of the hydraulic model to 2009 flow monitoring data. However, the District completed a sewer rehabilitation project in the BGPS tributary area in 2009 that included rehabilitation or replacement of over 7,000 feet of sewer mains, lower laterals, and some upper laterals. This project comprised over 25 percent of the total area tributary to the pump station in a low-lying area believed to be a significant source of infiltration. The District plans to estimate I&I reduction from this area, and other rehabilitated areas in the future, to confirm that the pump station has sufficient firm capacity.

### Appendix G – Element 8 Documents

Appendix G includes the following documents related to this section. The information in these documents will change from time to time, and the documents in Appendix G may have been superseded. Please contact the District Manager for the most recent updates to the Appendix G documents.

- SSRAP Capacity Assurance Plan



## ELEMENT 9 - MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

This section of the SSMP discusses the RBSD Monitoring, Measurement, and Program Modifications. This section fulfills the Monitoring, Measurement, and Program Modifications requirements for the RWQCB and the SWRCB elements.

### 9.1 WDR and RWQCB SSMP Requirement

The requirements for the Monitoring, Measurement, and Program Modifications element of the SSMP are summarized below.

#### 9.1.1 RWQCB Requirement

The District must monitor the effectiveness of each SSMP element and update and modify SSMP elements to keep them current, accurate, and available for audit as appropriate.

#### 9.1.2 SWRCB Requirement

The District shall:

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

### 9.2 Maintenance of Relevant Data

The District maintains complaint and blockage records in electronic and report format, maintains electronic logs of cleaning, repairs, other preventive maintenance activities, and records problems (e.g., excessive debris, observed manhole defects) identified through regular sewer maintenance activities on special report forms and in CMMS. This information is used to establish and prioritize appropriate SSMP activities.

### 9.3 Monitoring and Assessment

The District is currently using the CMMS to more efficiently track and utilize records related to any segment of pipe in their system. With the available information, the District is able to track various parameters related to service calls, maintenance, and inspection activities, and can also compare SSO trends from previous years and identify system components that continually contribute to system failures. Beginning in 2014, the District will track the parameters shown in Table 9-1 to measure the effectiveness of the SSMP in reducing SSOs.

Beginning with the 2014/15 SSMP Audit, the SSMP will be audited as described in Element 10, using on this performance data.

The District has established the preventive maintenance sewer metrics shown in Table 9-1. These metrics will be monitored on a regular basis and documented in future SSMP audits.

Table 9-1. Success Factors and Metrics

Sewer Maintenance Success Factor	Metric
System Pipes	Miles
Sewer Maintenance Field Staff	Full Time Equivalents (FTE)
Pipes Cleaned	Miles
Pipe Inspected (CCTV)	Miles
Manholes Inspected	Number
Hot Spots Cleaned	Footage by Underlying Cause (Roots, Debris, FOG, Structural)
SSOs	Number by Underlying Cause per 100 Miles
Pipe Replaced	Miles/Year

### 9.4 Performance Monitoring and Program Modifications

The District updated the SSMP in May 2014. Performance Monitoring will occur in the first quarter of 2015, and will continue approximately annually thereafter.

### 9.5 SSO Trends – Frequency, Location and Volume

From January 2011 through December 2013, the District had four SSO with a total volume of 615 gallons. One SSO was caused by debris. The second SSO was caused by debris that was

caught on roots that had grown into the main from a private lateral. The third and fourth SSOs were caused by roots.

Two of the SSOs occurred in 2011 and one SSO occurred in each of 2012 and 2013. During this time, there were no SSOs related to FOG or capacity.

### **Appendix H – Element 9 Documents**

There are no Appendix documents to accompany Section IX. However, this Appendix H is included as a placeholder for future documents.

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## ELEMENT 10 - SSMP PROGRAM AUDITS

This section of the SSMP discusses plans for required self-audits of the SSMP. This section fulfills the SSMP Audit requirement for the RWQCB and the SWRCB elements.

### 10.1 WDR and RWQCB SSMP Requirement

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

#### 10.1.1 RWQCB Requirement

The District must conduct a biannual audit of the SSMP that includes any deficiencies and steps to correct them that are appropriate to the size of the District system and the number of overflows. The next audit will cover calendar years 2012 and 2013, and will be filed at the District in May 2014.

#### 10.1.2 SWRCB Requirement

The District 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, including identification of any deficiencies in the SSMP and steps to correct them.

### 10.2 Audit Procedures, Roles and Responsibilities

The District will prepare a biannual SSMP audit, and will keep this audit on file in accordance with the Statewide WDR requirements, beginning in 2014. The District's SSMP Audit Form is included in Appendix I.

### 10.3 SSMP Program Modification/Update Process

If the biannual audit identifies significant changes to be made to the SSMP, then the SSMP will be updated by June 30 of the same year in which the audit was submitted. However, it is anticipated that the main SSMP document will remain generally unchanged, and that any changes will be reflected in the SSMP appendices.

## Appendix I – SSMP Program Audit Documents

Appendix I includes the following documents related to this section. The information in these documents will change from time to time, and the documents in Appendix I may have been superseded. Please contact the District Manager for the most recent updates to the Appendix I documents.

- SSMP Audit Form
- Future SSMP audits

## ELEMENT 11 - COMMUNICATION PLAN

This section of the SSMP discusses the District's Communication plan. This section fulfills the Communication Plan requirements for the SWRCB element. There is no requirement in the RWQCB guidelines.

### 11.1 WDR SSMP Requirement

The requirements for the Communication Plan element of the SSMP are summarized below.

#### 11.1.1 RWQCB Requirement

No requirement.

#### 11.1.2 SWRCB Requirement

The District shall 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 District as the program is developed and implemented. The District shall also create a plan of communication with systems that are tributary and/or satellite to the sanitary sewer system.

### 11.2 Communication Plan

The District does not currently have a formal communication plan in place for the communication of SSMP elements, performance, or updates. The SSMP will be added to the District website to provide access to the document.

### Appendix J – Communication Plan Documents

There are no Appendix documents to accompany Section IX. However, this Appendix J is included as a placeholder for future documents.