

# Sewer System Management Plan (SSMP)

2025 Update

Sanitary Sewer Collection System:  
Waste Discharge ID (WDID): #2SSO10163



REVIEWED AND APPROVED BY:

*Wet signature on file*

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JIMMY DANG, GENERAL MANAGER  
Oro Loma Sanitary District  
Sanitary Sewer Collection System  
(includes element Implementation Plans & Schedules)

PREPARED BY:



*4-11-2025*

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Date Signed



March 12, 2025

Oro Loma Sanitary District  
Attn: Mr. Jimmy Dang, General Manager, Legally Responsible Official (LRO)  
2655 Grant Road  
San Lorenzo, CA 94580

Dear Mr. Dang,

We are pleased to present the new 2025 Sewer System Management Plan (SSMP) Update developed in partnership with District management. The 2025 Update meets and exceeds compliance with the Reissued WDR (State Water Board, Water Quality Order No. 2022-0103-DWQ, Attachment D-10 and Specifications 5.4). The 2025 SSMP has been completely revised to harmonize with industry standard guidelines and incorporates the latest SSMP Audit findings.

The 2025 SSMP is a declaration of what the District is doing to demonstrate full compliance with the Reissued WDR. Attachment A of the Reissued WDR (page A-4), states "A Sewer System Management Plan (Plan) is a living planning document that documents ongoing local sewer system management program activities, procedures, and decision-making – at the scale necessary to address the size and complexity of the subject sanitary sewer system(s)." This requires the District to continuously review and update the SSMP as necessary until its next required 6-year SSMP Update is completed.

We look forward to assisting the District wherever necessary to fully implement its new 2025 SSMP Update.

Sincerely,

James Fischer, P.E.  
Principal, Fischer Compliance LLC  
Credentialed U.S. EPA NPDES Compliance Inspector

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## Introduction

This Sewer System Management Plan (SSMP) or “Plan” has been prepared for the Oro Loma Sanitary District (District) with technical assistance from Fischer Compliance LLC and Sam Rose Consulting for meeting and exceeding compliance with the State Water Resources Control Board 2022 General Waste Discharge Requirements, Order WQ 2022-0103-DWQ for Sanitary Sewer Systems, referred to throughout this document as the WDR. The District provided all details, information and institutional insights for preparation of the SSMP. The document has been developed to meet the size, scale, and complexity, serving as a “living document” used as a tool for managing and operating the District's sanitary sewer collection system. Additionally, the latest 2024 Sewer System Management Plan Guidance Manual published by the Bay Area Clean Water District (BACWA) was utilized as a model for development of the document to harmonize formatting/content and incorporate recommended suggested guidance wherever possible.

The District’s commitment to meeting or exceeding regulatory requirements, along with their proactive approach to operation and management of the collection system, has served them well, as evidenced by system performance relative to other agencies in the region and the state.

Figure 1 provides key District spill metrics between 01/02/2007 to 03/08/2025, including data comparing the District’s spill record with state and regional system data. The District consistently performs better than both statewide and regional spill rate indices and net spill volumes for all categories of spills from its sanitary sewer collection system.

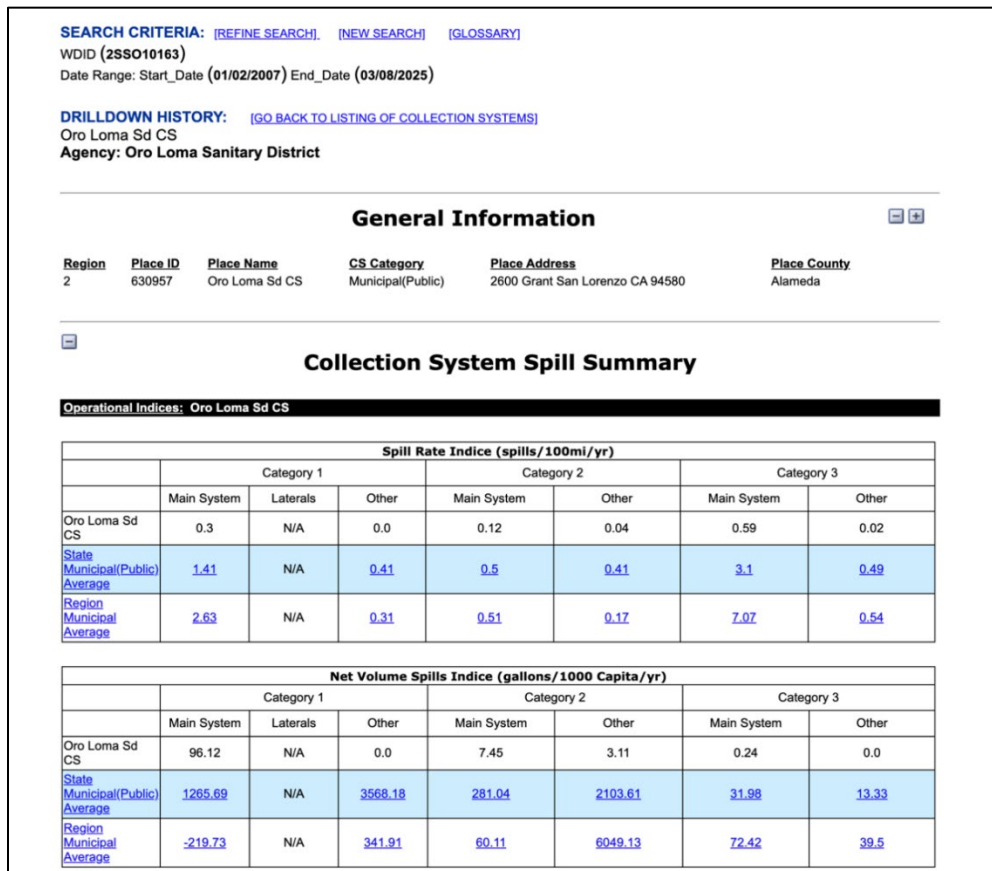


Figure 1- Collection System Operational Report – SWRCB CIWQS, 01/02/2007 to 03/08/2025

## SSMP Organization

This SSMP is organized into 11 core elements following Attachment D of the WDR, with inclusion of applicable Specifications requirements.

Each individual element in the SSMP includes the following technical contents.

1. Requirements – Provides the actual description of applicable requirements in the WDR.
2. Compliance – Describes the District’s approach to complying with the WDR requirements.
3. Effectiveness – As measured by Key Performance Indicators (KPIs.)
4. Implementation – Demonstrates how the District will ensure the Plan is being carried out as described.
5. Resilience – Demonstrates the resilience that is addressed in the SSMP and built-in to the District’s collection system and procedures.
6. Appendix Inclusions – List the items included in the Appendix for each SSMP Element, if any.

## Abbreviations and Acronyms

BMP	Best Management Practices
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System (State Water Board Online Spill Database)
CMMS	Computerized Maintenance Management System
CSM	Collection System Manager
DE	District Engineer
FOG	Fats, Oils and Grease
FSE	Food Service Establishment
GCD	Grease Control Device
GIS	Geographic Information System
GM	General Manager
I & I	Inflow and Infiltration
LRO	Legally Responsible Official
MRP	Monitoring and Reporting Program
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board (Lahontan Region)
SCADA	Supervisory Control and Data Acquisition
SERP	Spill Emergency Response Plan
SOP	Standard Operating Procedure
SSMP	Sewer System Management Plan
Spill	Sanitary Sewer Spill
WDR	Sanitary Sewer Systems General Wastewater Discharge Requirements Order issued by the State Water Board ( <u>Order No. 2022-0103-DWQ</u> )
SWRCB	State Water Resources Control Board
WDID	Waste Discharge ID Number (CIWQS)

*Table 1 – Abbreviations and Acronyms*

# 1 Goal and Introduction

## REQUIREMENTS

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### [Att. D-1 \(pg. D-2\)](#)

*“The goal of the Sewer System Management Plan (Plan) is to provide a plan and schedule to: (1) properly manage, operate, and maintain all parts of the Enrollee’s sanitary sewer system(s), (2) reduce and prevent spills, and (3) contain and mitigate spills that do occur.*

*The Plan must include a narrative Introduction section that discusses the following items (see below):”*

## 1.1 Regulatory Context

### WDR REQUIREMENTS

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#### [Att. D-1.1 \(pg. D-2\)](#)

*“The Plan Introduction section providing a general description of the local sewer system management program and discuss Plan implementation and updates.”*

### COMPLIANCE

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District Mission Statement: The Oro Loma Sanitary District is *committed to providing the highest value in wastewater and solid waste services while protecting the San Francisco Bay and our communities.*

The District is committed to fully implementing the WDR<sup>1</sup> which includes addressing all requirements by integrating a wide range of programs specifically designed for ensuring the integrity and efficiency of the District’s sanitary sewer collection system. Moreover, the District is dedicated to maintaining its collection system in a systematic manner by implementing various work programs, with a focus on critical areas, to prevent spills, allowing for a comprehensive approach to maintenance. Work programs include CCTV inspections, pipe cleaning, maintenance hole inspections, lift station maintenance, root control, source control and pipe repair, just to name a few. Work programs are described in more detail in sections Specifications 5.19 Operation and Maintenance of this SSMP.

By prioritizing proactive measures and taking a comprehensive approach, the District is well-equipped with a proven track record of effectively operating its sanitary sewer collection system with the highest levels of service, complying with the WDR, and reducing/eliminating sewage spills.

The Board, Management, and District staff work together to achieve the following goals:

- Continue to professionally manage, operate, and maintain all parts of the wastewater collection system
- Provide adequate capacity to convey peak flows
- Minimize the frequency of spills
- Mitigate the impact of spills
- Achieve Collection System Team Goals, including annual production rates for cleaning and inspection, short response times to customer calls, and high levels of customer satisfaction.

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<sup>1</sup> State Water Resources Control Board, *Statewide Waste Discharge Requirements, Order WQ 2022-0103*

EFFECTIVENESS

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N/A

IMPLEMENTATION PLAN/SCHEDULE

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N/A

## 1.2 SSMP Update Schedule

### WDR REQUIREMENTS

[Att. D-1.2 \(pg. D-3\)](#)

*“The Plan Introduction section must include a schedule for the Enrollee to update the Plan, including the schedule for conducting internal audits. The schedule must include milestones for incorporation of activities addressing prevention of sewer spills.”*

### COMPLIANCE

The District utilizes the State Water Board’s online lookup tool for ensuring all required due dates for updating its SSMP and completing its required SSMP Audits (see figure 2 below).

The District’s most recent SSMP audit was for the period May 2021 through May 2024.

### Sewer System Management Plan & Audit Required Due Dates Transition from General Order 2006-0003-DWQ to Reissued General Order

Search by Waste Discharge Identification (WDID) Number

Enter your Waste Discharge Identification (WDID) number in the search field to retrieve the required Sewer System Management Plan (SSMP) Update and Audit due dates for your system.

2SSO10163

Show Update/Audit Dates

Sewer System Management Plan & Subsequent Update Due Dates						
System Name	WDID Number	Original Plan Required Due Date	Required Plan Update Due Date	Required Plan Update Due Date	Required Plan Update Due Date	Required Plan Update Due Date*
Oro Loma Sd CS	2SSO10163	5/2/2009	5/2/2014	5/2/2019	5/2/2019	5/2/2025

Audit Due Dates								
System Name	WDID Number	Original Required Plan Audit Due Date	Required Plan Audit Due Date	Required Plan Audit Due Date	Required Plan Audit Due Date	Required Plan Audit Due Date	Required Plan Audit Due Date	End of Required 3-Year Audit Period**
Oro Loma Sd CS	2SSO10163	5/2/2011	5/2/2013	5/2/2015	5/2/2017	5/2/2019	5/2/2021	5/2/2024

\* Per Section 5.5 and Attachment E1, Section 3.11 of the General Order, Plan updates are due within six years after the required due date of the Enrollee’s last Plan Update.

\*\* Per Section 5.4 and Attachment E1, Section 3.10 of the General Order, the Audit Report is due within six months after the end of the required 3-year audit period.

Figure 2 Sewer System Management Plan, Subsequent Update and Audit Due Dates

Notable maintenance milestones include optimization of preventative measures including a 3–4-year CCTV inspection cycle while maintaining a 30-month gravity main cleaning cycle, weekly lift station inspections, and capital improvement projects, all of which are monitored continuously throughout the 6-year SSMP update cycle.

**EFFECTIVENESS**

The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

1. Are SSMP Audits and SSMP Updates being performed as scheduled?
2. Has the Sewer System Management Plan been approved by the governing board on schedule (every six years)?
3. Are specific internally established sewer program milestones being monitored?

**IMPLEMENTATION PLAN/SCHEDULE**

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
1.2.1	Prepare for next SSMP Audit.	Begin 5/2/2027			X
1.2.2	Complete and Upload SSMP audit.	By 11/2/2027			X
1.2.3	Incorporate Audit Findings, update Change Log and Update SSMP, Board Approval and LRO Certification of SSMP.	5/2/2025	X	X	X
1.2.4	Board Approval and LRO Certification of SSMP.	5/2/2031	X	X	X

## 1.3 Sewer System Asset Overview

### WDR REQUIREMENTS

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#### [Att. D-1.3 \(pg. D-3\)](#)

*“The Plan Introduction section must provide a description of the Enrollee-owned assets and service area, including but not limited to:*

- *Location, including county(ies).*
- *Service area boundary.*
- *Population and community served.*
- *System size, including total length in miles, length of gravity mainlines, length of pressurized (force) mains, and number of pump stations and siphons.*
- *Structures diverting stormwater to the sewer system.*
- *Data management systems.*
- *Sewer system ownership and operation responsibilities between Enrollee and private entities for upper and lower sewer laterals.*
- *Estimated number or percentage of residential, commercial, and industrial service connections; and*
- *Unique service boundary conditions and challenge(s).*
- *Additionally, the Plan Introduction section must provide reference to the Enrollee’s up-to-date map of its sanitary sewer system, as required in section 4.1 (Updated Map of Sanitary Sewer System) of this Attachment.”*

### COMPLIANCE

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#### Historic Information

Oro Loma Sanitary District (OLSD) was formed in 1911 and remained relatively rural until experiencing significant residential growth following the end of World War II. Initially, the sanitary sewer pipes were predominantly vitrified clay pipe (VCP) with cement mortar joints. More than half of the collection system was already in place before the introduction of improved VCP manufacturing standards, which began in the mid- 1950s. Additionally, approximately 97% of the VCP sewers were installed prior to the introduction of modern resilient seat pipe joints which were not available until the 1960s. As of 2025, the average of the system assets is 51 years.

The requirements listed above are addressed in order below.

- a. Oro Loma Sanitary District is in Alameda County, California and provides wastewater collection services to a 13 square-mile service area that includes parts of the City of San Leandro, the community of San Lorenzo, parts of the unincorporated areas in Alameda County, and parts of the City of Hayward (see system map of District Service Area in Figure 3, below), with a total population of 145,085. Average rainfall within the service area is 19 inches and generally occurs between November and April.

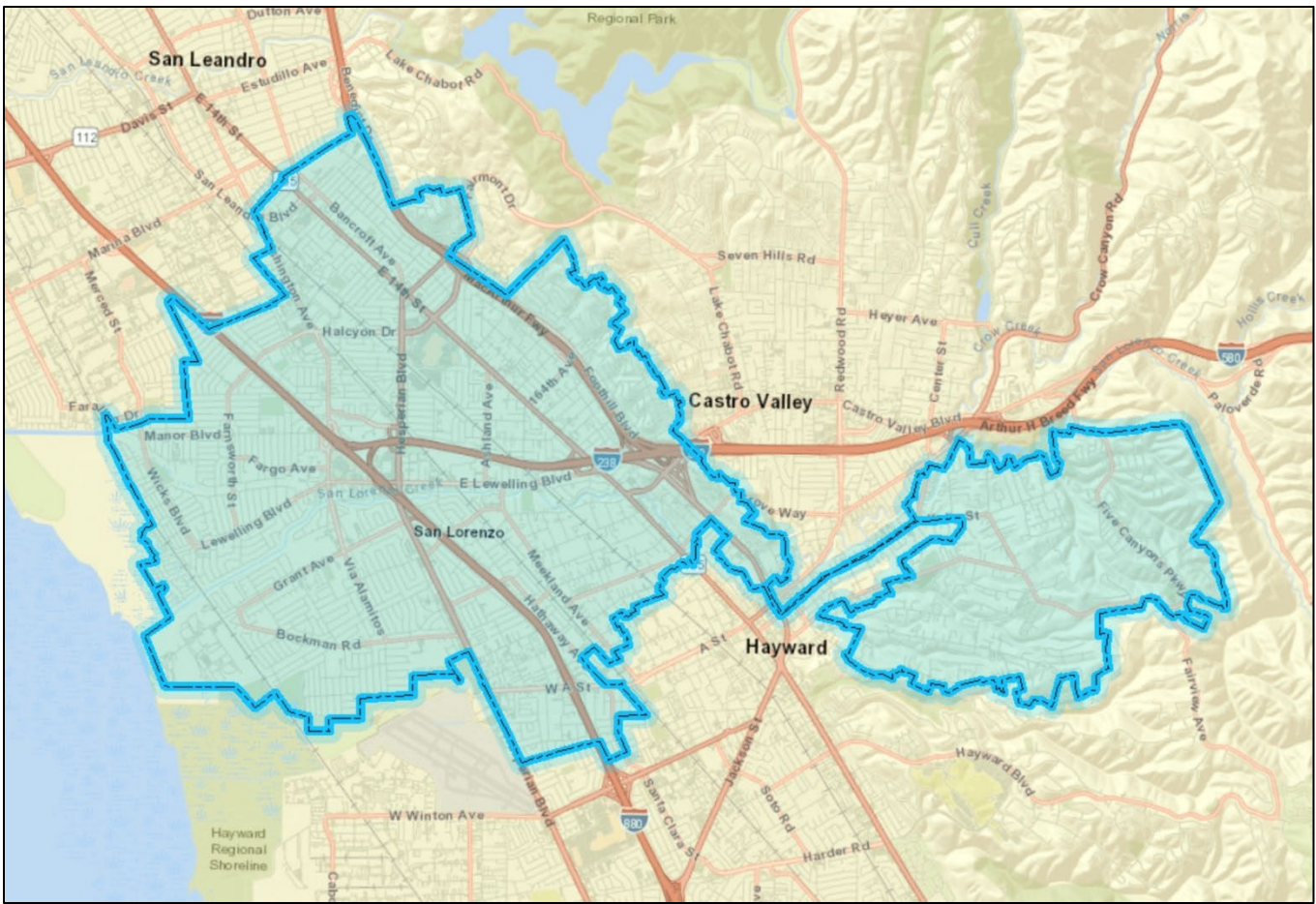


Figure 3 - Map of District Service Area

The OLSD collection system includes 6,153 gravity main segments totaling 271 miles with pipe diameters ranging from 5 to 78 inches, 5993 maintenance holes, 22 siphons, and 12 lift stations. OLSD is not responsible for any portion of the lateral and does not have any structures diverting storm water to the sewer system.

OLSD utilizes the OASIS and MAINSAVER computerized maintenance management systems (CMMS) for managing work orders for maintenance, inspection and repair work. The CMMSs are discussed in more detail in Element 4.2.

- b. OLSD maintains up to date maps that meets the requirements of Element 4.1.

Customer connection classifications, residential, commercial industrial are as follows. This does not include Castro Valley Sanitary Districts flow.

Use Type	Flow (GPD)	Number of Connections
Residential	7,827,000	46,644
Commercial	197,146	1,146
Institutional	N/A	N/A
Industrial	225,854	4

Overall, the District has a strong maintenance program for the collection system. The District does not recognize any significant unique challenges for operating and maintaining the collection system.

System maps, include gravity mains, maintenance holes, lift/pump stations, siphons and other collection system features are complete, accurate, up-to-date and available to all staff through the AIMS database. The District

has developed an internal standard operating procedure to ensure maps remain accurate (refer to Section 4.1, Updated Map of Sanitary Sewer System for more information).

**EFFECTIVENESS**

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Are asset statistics periodically reviewed and updated as necessary?
- Are omissions or errors addressed in a timely manner?
- Are system maps up to date?

**IMPLEMENTATION PLAN/SCHEDULE**

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No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
1.3.1	Review District-owned asset statistics and element description; update as necessary.	At the beginning of the audit cycle and when significant changes have been made.		X	X
1.3.2	Update Maps.	Within 3-5 Days of Correction Submittal or Completion of Development Project.		X	X

**RESILIENCE**

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Resilience is addressed for Element 1 by:

- Adhering to an SOP for collecting and managing asset data.
- Redundancy: More than one member of staff is trained and able to retrieve and manage the data.
- Implementing a QA/QC process to help ensure information is accurate.
- Using Calendar Reminders to ensure compliance deadlines are met.

## Specifications 5.2 – SSMP Development and Implementation

### WDR REQUIREMENTS

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#### [Spec. 5.2 \(pg. 18\)](#)

*“To facilitate adequate local funding and management of its sanitary sewer system(s), the District shall develop and implement an updated Sewer System Management Plan. The scale and complexity of the Sewer System Management Plan, and specific elements of The SSMP, must match the size, scale, and complexity of the Enrollee’s sanitary sewer system(s). The Sewer System Management Plan must address, at minimum, the required Plan elements in Attachment D (Sewer System Management Plan – Required Elements) of this General Order. To be effective, the Sewer System Management Plan must include procedures for the management, operation, and maintenance of the sanitary sewer system(s). The procedures must: (1) incorporate the prioritization of system repairs and maintenance to proactively prevent spills, and (2) address the implementation of current standard industry practices through available equipment, technologies, and strategies.”*

### COMPLIANCE

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The District's current Sewer System Management Plan (SSMP) has been updated to meet the requirements of Order WQ 2022-0103-DWQ and addresses the required Elements. The SSMP addresses management, operations and maintenance procedures specific to the District’s collection system. The District maintains a proactive O&M program to operate its system and identify defects, which are then prioritized for repair, replacement, rehabilitation, or placed on High Frequency maintenance schedules. (See Elements 4 and 8 and Specifications 5.19 of this SSMP for more detail.)

The District keeps up with current industry standards, technology and best practices by reviewing industry periodicals, networking and attending industry conferences and workshops.

## Specifications 5.7 – Allocation of Resources

### WDR REQUIREMENTS

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#### [Spec. 5.7 \(pg. 22\)](#)

*“The District shall comply with the following requirements:*

- Establish and maintain a means to manage all necessary revenues and expenditures related to the sanitary sewer system; and
- Allocate the necessary resources to its sewer system management program for: (a) compliance with this General Order, (b) full implementation of its updated SSMP, (c) system operation, maintenance, and repair, and (d) spill responses.”

### COMPLIANCE

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The District maintains various revenue sources to maintain financial stability, meet its operational needs and manage all necessary expenditures for its sewer system operation. The primary source of revenue is the annual Sewer Service Rate Charge, which is collected from customers and used for:

- District’s share of operation and maintenance of the District’s Wastewater Treatment Plant
- Plant improvements, equipment replacement, and modification
- Maintenance and operation of District wastewater collection and conveyance systems
- Collection system maintenance and construction equipment
- General administrative services
- Extension of service of collection system
- General and unappropriated reserves

The District collects a Connection fee that funds the installation of facilities to areas not yet served and to upsize pipes to ensure adequate capacity.

The District is adequately staffed and owns and operates the necessary equipment to effectively maintain its collection system.

## Provisions 6.1 – Enforcement Provisions

### WDR REQUIREMENTS

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#### [Provisions 6.1 \(pg. 27\)](#)

*“The following enforcement provisions are based on existing federal and state regulations, laws and policies, including the federal Clean Water Act, the state Water Code and the State Water Board Enforcement Policy.”*

### COMPLIANCE

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The District is aware of the consequences for noncompliance including associated penalties for violations. The District maintains a proactive stance with full implementation of its SSMP.

Noncompliance with requirements of this General Order or discharging sewage without enrolling in this General Order constitutes a violation of the Water Code and a potential violation of the Clean Water Act and is grounds for an enforcement action by the State Water Board or the applicable Regional Water Board. Failure to comply with the notification, monitoring, inspection, entry, reporting, and recordkeeping requirements may subject the Enrollee to administrative civil liabilities of up to \$10,000 a day per violation pursuant to Water Code section 13385; up to \$1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. Discharging waste not in compliance with the requirements of this General Order or the Clean Water Act may subject the Enrollee to administrative civil liabilities up to \$10,000 a day per violation and additional liability up to \$10 per gallon of discharge not cleaned up after the first 1,000 gallons of discharge; up to \$5,000 a day per violation pursuant to Water Code section 13350 or up to \$20 per gallon of waste discharged; or referral to the Attorney General for judicial civil enforcement.

## Provisions 6.3 – Sewer System Management Plan Availability

### WDR REQUIREMENTS

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#### Provisions 6.3

*“The Enrollee’s updated Sewer System Management Plan must be maintained for public inspection at the Enrollee’s offices and facilities and must be available to the public through CIWQS and/or on the Enrollee’s website, in accordance with section 3.8 (Sewer System Management Plan Reporting Requirements) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.”*

### COMPLIANCE

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The District publishes its SSMP, available for public review, on the [Oro Loma Sanitary District website](#) and also maintains a paper copy in its offices which can be made available for inspection during regular business hours.

### EFFECTIVENESS

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N/A

### IMPLEMENTATION PLAN/SCHEDULE

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N/A

## 2 Organization

### WDR REQUIREMENTS

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#### Att. D-2 (pg. D-3)

*“The Plan must identify organizational staffing responsible and integral for implementing the local Sewer System Management Plan through an organization chart or similar narrative documentation that includes:*

- *The name of the Legally Responsible Official as required in section 5.1 (Designation of a Legally Responsible Official) of this General Order.*
- *The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific Sewer System Management Plan Elements.*
- *Organizational lines of authority.*
- *Chain of communication for reporting spills from receipt of complaint or other information, including the person responsible for reporting spills to the State and Regional Water Boards and other agencies, as applicable. (For example, county health officer, county environmental health District, and State Office of emergency Services.)*

### COMPLIANCE

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The above items are addressed in the order below:

Name of Legally Responsible Officials (see Figure 2.1 below). All meet the requirements of Specifications 5.1 of the WDR. The Collection Systems Manager and District Engineer report directly to the District’s General Manager. The purpose is to ensure that the General Manager receives an unfiltered flow of information.

### IMPLEMENTATION RESPONSIBILITIES

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The SSMP implementation responsibilities and contacts for the District as presented in Tables 2 and 3 below.

Sewer System Management Plan Elements	Responsible Position
SSMP Plan, Goal and Introduction	Collection System Manager
Regulatory Context	Collection System Manager
SSMP Update Schedule	Collection System Manager
Sewer System Asset Overview	Collection System Manager
Organization	Collection System Manager/District Secretary
Legal Authority	Collection System Manager/General Manager
Operations and Maintenance Program	Collection System Manager
Updated maps of Sanitary Sewer System	Collection System Manager/District Engineer
Preventive Operation & Maintenance	Collection System Manager
Training	Collection System Manager
Equipment Inventory	Collection System Manager/District Engineer
Design/Performance	Collection System Manager/District Engineer
Updated Design Criteria & Construction Standards	District Engineer
Procedures and Standards	Collection System Manager/District Engineer
Spill Emergency Response Plan	Collection System Manager/District Engineer/Operations Manager
Sewer Pipe Blockage Program	Collection System Manager
System Eval, Capacity Assurance, Capital Imp.	Collection System Manager/District Engineer
System Evaluation and Condition Assessment	Collection System Manager/District Engineer
Capacity Assessment and Design Criteria	Collection System Manager/District Engineer
Prioritization of Corrective Action	Collection System Manager/District Engineer
Capital Improvement Plan	Collection System Manager/District Engineer
Monitoring, Measurement & Program Modifications	Collection System Manager/District Engineer/General Manager
Internal Audits	Collection System Manager
Communication Program	Collection System Manager/General Manager

Table 2 - Implementation Responsibilities

## RESPONSIBLE POSITION CONTACT INFORMATION

Responsible Position Contact Information	Phone	Email
Collection System Manager (CB) (LRO)	(510) 276-4700	cbrown@oroloma.org
District Engineer (BH)	(510) 276-4700	bhalsted@oroloma.org
Operations Manager (JC)	(510) 276-4700	jcarlini@oroloma.org
General Manager (JD) (LRO)	(510) 276-4700	jdang@oroloma.org
District Secretary (PB)	(510) 276-4700	pschofield@oroloma.org
Industrial Waste Inspector (ACF)	(510) 276-4700	acalderon-flores@oroloma.org
Process Control Operator	(510) 276-4700	dfarmer@oroloma.org

*Table 3 - Responsible District SSMP Contact Information*

## 2.1 Organizational Responsibilities Authority

The SSMP lines of organizational responsibilities for the District as presented in Figure 4 below.

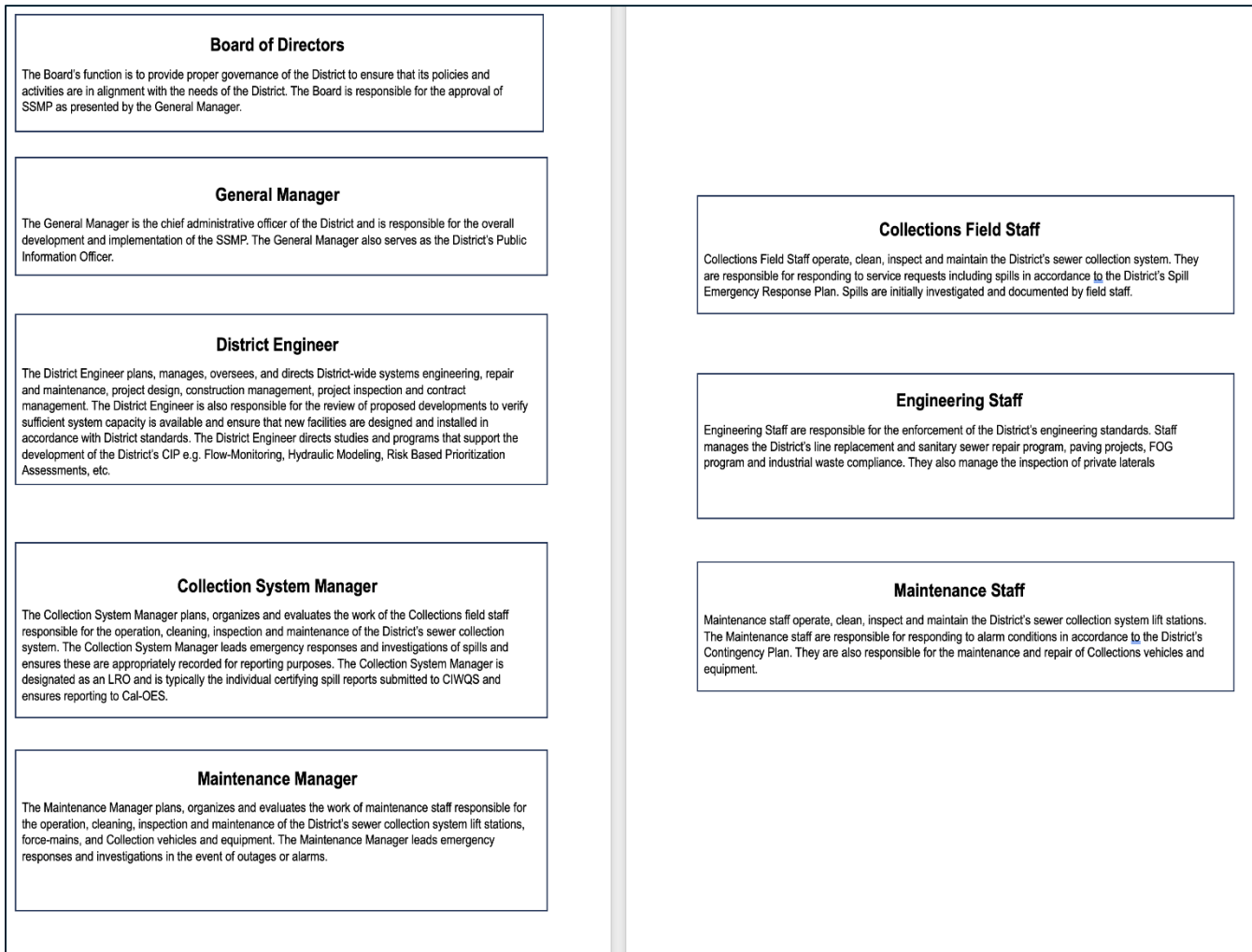
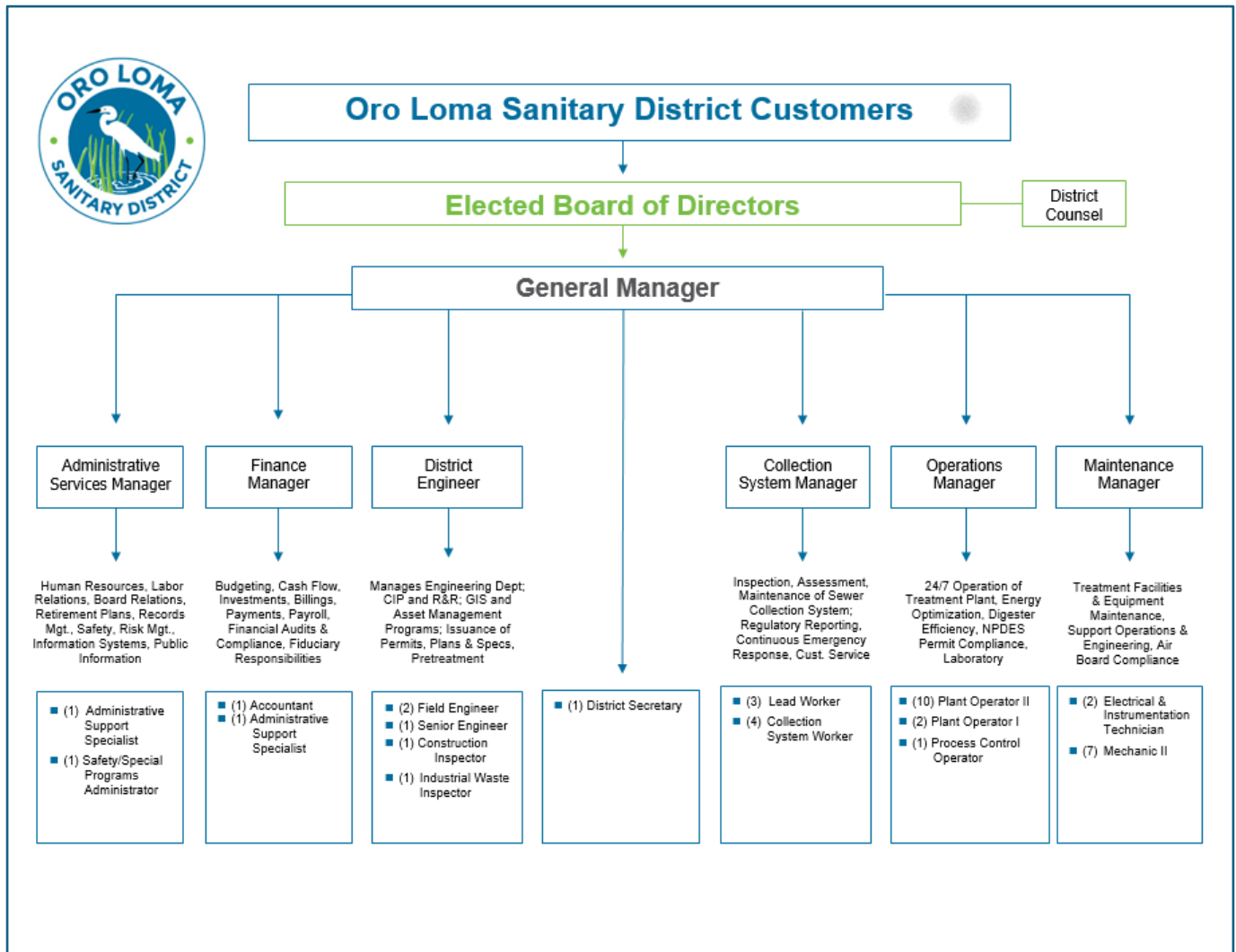


Figure 4 - Organizational Responsibilities Authority

2.2 Organizational Lines of Authority



The SSMP organizational lines of authority for the District as presented in Figure 5 below.

*[Figure 5 - Organizational Lines of Authority]*

### 2.3 Chain of Communication for Reporting Spills

The District chain of communication for reporting spills is presented in Figure 2-3 below.



[Figure 6 - Chain of Communication for Reporting Spills]

**SPILL INCIDENT COMMAND**

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In the event that command personnel are absent, the specific order of command is as follows:

1. Collection System Manager
2. Lead Worker
3. Project Manager
4. District Engineer
5. General Manager

**EFFECTIVENESS**

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

1. Have there been any changes requiring updates to the Organizational Chart?
2. Have there been instances when a service call for a spill was not properly routed to response personnel?
3. Were all spill response activities documented and forwarded to the LRO?
4. Have there been any changes in assigned responsibilities for implementing the Sewer System Management Plan?
5. Is there a process in place to ensure all contact information remains up to date?

**IMPLEMENTATION PLAN/SCHEDULE**

---

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
2.1	Review names, contact information and position responsibilities. Update as necessary.	Annually or as needed.			X
2.2	Review Chain of Communication outcomes for all spill responses.	Each Spill Event.			X
2.3	Review Organizational Chart for any changes. Update as necessary.	Semi-Annually.	X	X	X

**RESILIENCE**

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Resilience is addressed for Element 2 by:

- Ensuring that more than one person is capable and responsible for specific duties for Sewer System Management Plan implementation, e.g., back-up personnel.
- Designation of more than one LRO to help ensure full and continuous coverage of duties.
- Testing the phone notification system to ensure calls are received and routed to appropriate personnel.

**APPENDIX 2 INCLUSIONS:**

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- None

### 3 Legal Authority

#### WDR REQUIREMENTS

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##### Att. D-3 (pg. D-4)

*“The Plan must include copies or an electronic link to the Enrollee’s current sewer system use ordinances, service agreements and/or other legally binding procedures to demonstrate the Enrollee possesses the necessary legal authority to:*

- a. Prevent illicit discharges into its sanitary sewer system from inflow and infiltration (I&I); unauthorized stormwater; chemical dumping; unauthorized debris; roots; fats, oils, and grease; and trash, including rags and other debris that may cause blockages.*
- b. Collaborate with storm sewer agencies to coordinate emergency spill responses, ensure access to storm sewer systems during spill events, and prevent unintentional cross connections of sanitary sewer infrastructure to storm sewer infrastructure.*
- c. Require that sewer system components and connections be properly designed and constructed.*
- d. Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee.*
- e. Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and*
- f. Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.*

#### COMPLIANCE

---

The above items are addressed in order below:

- a. To ensure adequate legal authority is maintained, the District reviews its Ordinances every 2 years.  
The District utilizes the following Ordinances to establish and enforce appropriate legal authority to comply with the WDR.  
Authority to Prevent Illicit Discharges into District’s Wastewater Collection System The District Ordinance No. 39-11, Section 2.1 (General Discharge Prohibitions) regulates what materials are prohibited into the sewers. Section 4.6.1 includes grease interceptor requirements for industrial and commercial users.
- b. The District's pre-planned collaboration and coordination with storm drain agencies.  
The District has established verbal agreements in place and has collaborated with the City of Hayward, San Leandro, and Alameda County Public works to ensure that the District has updated mapping and permission to access Storm Drain systems for remediation and clean-up of spills.
- c. Require that sewer system components and connections be properly designed and constructed.  
District Ordinance 35-16 for sewer connection requirements and District Standard Specifications (November 2024) contain requirements to ensure for properly designed and constructed sewer components and connections.
- d. Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee.  
District Ordinance 39-11, Section 4.5 require inspection and sampling requirements for sewers.

- e. Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures.  
District [Ordinance 39-11](#), Article V contains enforcement provisions for Ordinance noncompliance.
- f. Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.  
District [Ordinance 35-16](#), Section 5.2 contain sewer easement specifications and rights-of-way standards.

**EFFECTIVENESS**

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Are the District ordinances and standards adequate for fulfilling the Sewer System Management Plan legal requirements?
- Does the District have a process in place for periodic review and evaluation of ordinances?
- Have there been instances when the code or ordinance did not address a need or circumstance?

**IMPLEMENTATION PLAN/SCHEDULE**

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No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
3.1	Review Ordinance to confirm all documents provide necessary required legal authority.	Bi-Annually or as needed.	X	X	
3.2	Confer with storm drain owners to ensure current practices and contact information are up to date.	Annually.		X	X
3.3	Monitor and Document occasions when ordinance(s) failed to address issues as intended.	Continuously.	X	X	X

**RESILIENCE**

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Resilience is addressed for Element 3 by:

- Keeping abreast of industry trends and local ordinances that may affect operations.

**APPENDIX 3 INCLUSIONS:**

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- None

## 4 Operation and Maintenance Program

The Plan must include the items listed below that are appropriate and applicable to the Enrollee's system.

### 4.1 Updated Map of Sewer System

#### WDR REQUIREMENTS

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##### Att. D-4 (pg. D-4)

*“An up-to-date map(s) of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Board staff access to the map(s). The map(s) must show gravity line segments and maintenance holes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundaries.”*

#### COMPLIANCE

---

Each of the District's 100 base maps are digitized and formatted into an ArcGIS based mapping system. The maps show gravity sewer line segments, lift stations, force-mains, maintenance holes, flow direction, length and depth of sewer lines, water mains and storm drain locations. The Graphical Information System (ArcGIS) mapping system is linked to the Collection Department CMMS program, a street directory, and CCTV Inspection Records. The link allows the map to be populated with key data such as rim elevation, pipe length, flow direction, and other data. Maps are continuously updated by Engineering as new tracts are accepted, sewer line segments are rehabilitated and when map corrections are identified by the Collection crew based upon field observations. This is performed according to the Districts internal written procedure. Map corrections are typically processed within 3-5 days of submittal or identification. Engineering provides updated paper map pages to all map holders as needed or after completion of significant line replacement projects. Collection workers have access to paper map, PDFs on their tablets and via AIMS during the day on the two CCTV vans typically out in the field each day. Collection workers performing after hours Emergency Stand By duty have access to paper, PDF, and digital maps (AIMS) on the Collections laptop computer. This enables the responder to also review the most recent CCTV inspection of the sewer main and the caller's lateral connection.

The District has a written procedure for documenting/reviewing issues and correcting maps within a 3–5-day (both for in-house GIS requests and other work via outside contracted services) turnaround. Upon request, the District will provide State and Regional Water Board staff a link to system maps.

#### EFFECTIVENESS

---

The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Were all map updates completed in a timely manner?
- Are all staff trained in the procedure for providing map update information?
- Are newly installed sewer assets incorporated into the system maps?
- Are there terrain features or assets that should be incorporated in future map updates (e.g. exposed pipe, siphons, ARVs, surface water, etc.)

IMPLEMENTATION PLAN/SCHEDULE

No	Plan	Schedule	Responsible Party		
			GM	DE	CSM
4.1.1	Review map update procedures with all affected staff.	As Needed.		X	X
4.1.2	Review/ensure all newly installed facilities have been updated and included in the system maps.	Annually/Completion of Projects.		X	X

## 4.2 Preventive Operation and Maintenance Activities

### WDR REQUIREMENTS

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#### [Att. D-4 \(pgs. D-4/D-5\)](#)

*A scheduling system and a data collection system for preventive operation and maintenance activities conducted by staff and contractors. The scheduling system must include:*

- Inspection and maintenance activities.
- Higher-frequency inspections and maintenance of known problem areas, including areas with tree root problems.
- Regular visual and closed-circuit television (CCTV) inspections of maintenance holes and sewer pipes.

*The data collection system must document data from system inspection and maintenance activities, including system areas/components prone to root-intrusion potentially resulting in system backup and/or failure.*

### COMPLIANCE

---

The purpose of a work order system is to program and track all required inspection and maintenance activities within the collection system to help proactively prevent blockages/operational problems or spills. The District utilizes three software programs for managing work programs, including the OASIS Computerized Maintenance Management System allowing the District to make informed decisions by using data from field work orders and inspections. The District also utilizes MAINSAVER software for comprehensive pump station maintenance data management, and AIMS, a GIS-based management software tool for managing CCTV and other asset inventory data including logging incoming service call records.

The District's CMMS maintains historical data for all maintenance activities and provides a basis for critical analysis and data-driven planning and decision-making today and into the future. This allows for prioritizing and planning routine activities such as CCTV inspections, pipe cleaning and pump station maintenance activities. In addition, the CMMS is used to plan and schedule maintenance activities such as high frequency FOG cleaning and root control activities. Emergency and other reactive activities are documented in work orders as well.

The scheduling system contains every sewer line in the District where the CMMS creates work orders on a prescribed interval based on its operational needs. Work orders for CCTV requests in addition to routine inspections are generated by supervisory personnel on an as-needed basis. The District Engineering staff maintain extensive ongoing collaboration with the Collections Department utilizing one additional separate piece of software (ASANA) for tracking work requests for CCTV inspections. These can include CCTV inspections for Point Repairs, Line Replacements, New Service Connections, Post Paving where maintenance holes are affected, warranty inspections, and other requests.

### EFFECTIVENESS

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Is the District maintenance, operations, engineering work orders periodically audited for accuracy and completeness?
- Does the District monitor "open," "overdue," or "not yet completed" work orders to ensure completion of tasks?
- Are inspection and maintenance activities reducing the number and volume of spills?
- Is maintenance work being completed as scheduled?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
4.2.1	Monitor "Past Due" work orders to ensure critical work is being completed.	Daily/Weekly/Monthly.			X
4.2.2	Review scheduled PMs to ensure the prescribed schedule remains appropriate.	Daily/Weekly/Monthly.			X

## 4.3 Training

### WDR REQUIREMENTS

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#### [Att. D-4 \(pg. D-5\)](#)

*In-house and external training provided on a regular basis for sanitary sewer system operations and maintenance staff and contractors. The training must cover:*

- The requirements of this General Order.
- The Enrollee's Spill Emergency Response Plan procedures and practice drills.
- Skilled estimation of spill volume for field operators; and
- Electronic CIWQS reporting procedures for staff submitting data.

### COMPLIANCE

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The District is committed to training its workforce. This includes training for managers. Training for field staff includes customer service, equipment use, and safe work practices. Typically, safety training occurs every other Wednesday for a one-hour period. Each year, employees receive approximately 40 hours of dedicated technical trainings. These hours are in addition to daily insight and optimization of work practices from the manager and lead workers. District collections staff also participate in [California Water Environment Association \(CWEA\)](#) programs and vendor-sponsored training courses and events.

The District's training program covers many areas involving or associated with wastewater collection systems and serves to develop and maintain highly qualified, knowledgeable, and capable staff. This training is provided through a variety of modes (self-study, seminars, conferences, on-the-job, etc.) and begins from the first day on the job and continues regularly thereafter.

Staff involved in responding to customer service calls, including sewage spills, receive annual training on the District's Spill Emergency Response Plan. This training is part classroom and part hands-on exercises and drills for responding to spill events and includes containment, restoring flow, spill volume, volume recovered, and spill start time estimations, clean up and completing the spill event data collection forms. Annual bypass pumping training is performed utilizing the District's Treatment Plant facility.

Staff are trained on the District's procedures for documenting and reporting spills. Lead Workers are trained from receipt of call to draft report submittals and preparing data for certification by the District LRO.

The District has language in its contracts and its service agreements that the contractor can be held liable for the costs associated with a spill caused by them. The pre-construction meeting agenda also has an item reminding them of their responsibility and the importance of immediate notification of the District. The District provides support for its contractors 24/7 as the District staff are trained on how to implement and execute its Spill Emergency Response Plan. This ensures that appropriately trained personnel are always available and ready to respond to any spills. Typically, within an average of 30 minutes or less.

The District has developed spill response procedures for contractors who perform work for the District, and they are required to:

- Immediately notify the District of any sewage spill they encounter.
- Make attempts to contain the spill.
- Cordon off the area to keep the public safe.
- Remain onsite until District staff arrives and relieves them.

**EFFECTIVENESS**

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Has all training been completed as scheduled?
- Have records of training and attendance been documented and maintained?
- Have all staff demonstrated ability and/or knowledge after each training event?
- Have contractors received, at a minimum, direction for reporting and responding to spills?

**IMPLEMENTATION PLAN/SCHEDULE**

---

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
4.3.1	Review training documentation to ensure all staff have received required training.	Quarterly or as needed.		X	X
4.3.2	Review agreements with contractors and/or Pre-Job meeting minutes to ensure contract personnel have received instruction for responding to sewage spills.	Each Contract.		X	X

## 4.4 Equipment Inventory

### WDR REQUIREMENTS

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[Att. D-4 \(pg. D-5\)](#)

*An inventory of sewer system equipment, including the identification of critical replacement and spare parts.*

### COMPLIANCE

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The District owns and maintains numerous pieces of equipment for both routine maintenance and for contingency or emergency operations. Included in this inventory are 3 hydro-jetters that are used to perform most of the cleaning maintenance on District sewer mains. A combination/vacuum unit for emergency response clean-up and removal of heavier debris in sewer lines. A continuous feed mechanical rodder which can be used for cleaning maintenance on sewer mains with difficult accessibility or retrieving and removing larger items. These units are outfitted with a complement of nozzles and or cutters that enable these trucks to be used to clean all the different pipe sizes and remove different types of debris accumulation.

In an emergency where sewage bypass pumping is required, the District has numerous pump options depending upon the situation and flow requirements.

The District maintains a replacement inventory for the 12 lift stations and the collection system, including spare pumps and frequently replaced parts. Spare pumps are available for all the lift stations. The inventory list is included in the District’s Contingency Plan that is updated annually. The District also owns and maintains multiple portable pumps from 3" up to 6" in diameter. All pumps are stored in a single location along with a hose reel trailer and palletized lengths of extra hose with quick connect couplings. The District also owns and maintains multiple portable electric generators ranging in size from 10kW to a 150-kW generator, which are trailer mounted for quick response.

The repair of pipelines and maintenance holes is performed by outside contractors. The District does maintain a small supply of clay and plastic pipe of various diameters and their associated couplings for emergency situations.

### EFFECTIVENESS

---

The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Have inventory lists been audited as scheduled?
- Have any inventory deficiencies or omissions been discovered and rectified?
- Has the District experienced any equipment failure that inhibited a spill response?

### IMPLEMENTATION PLAN/SCHEDULE

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No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
4.4.1	Audit inventory lists to ensure stock is adequate.	Annually/Replace as used.			X
4.4.2	Check with vendors to ensure critical parts lead times are as expected.	Annually/Replace as used.		X	X
4.4.3	Ensure contracts with emergency support services are current.	Annually.		X	X

## RESILIENCE

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Resilience is addressed for Element 4 by:

- Developing an SOP for updating maps when errors are discovered.
- Developing and using forms (paper or electronic) for data collection to help ensure all pertinent information is consistently collected.
- Periodically evaluating inspection cycle intervals to help ensure they are optimized.
- Requiring staff to demonstrate ability and/or knowledge for all training activities.
- Monitoring equipment and critical spare parts usage for and trends.
- Performing periodic audits of the Vehicle and Equipment Inventory List.

## APPENDIX 4 INCLUSIONS:

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- None

## Specifications 5.19 - Operations and Maintenance

### WDR REQUIREMENTS

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#### [Spec. 5.19 \(pg. 27\)](#)

*To prevent discharges to the environment, the Enrollee shall maintain in good working order, and operate as designed, any facility or treatment and control system designed to contain sewage and convey it to a treatment plant.*

### COMPLIANCE

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The District has a very effective preventive maintenance program with a proven track record resulting in reduced frequencies, number, and volume of spills. The District's preventive maintenance program has evolved into a very proactive program that is designed to locate, identify, and address problems that may exist in the collection system prior to the occurrence of a failure in the system. It is efficient and has established standard cleaning cycles in all predetermined geographic basins. The prioritization and scheduling of the District's preventive maintenance program is enhanced by the capabilities of OASIS, MAINSAVER, AND AIMS software to electronically store, track, and manage sewer operations and maintenance activities.

#### a. Sewer Cleaning and CCTV Operations

The collections crew cleans and televises the system on a continuous daily basis. Collection crews achieve an average of 135,000 feet of combined cleaning and inspection per month (Total System = 1.45 million feet). In difficult areas, cleaning may be followed by video inspection to ensure adequate cleaning if required. In addition to the High Frequency and Routine cleaning the CCTV Vans are typically accompanied by a Hydro Jetter. This enables the CCTV crew to complete inspections and clean the sewer line as needed. This eliminates the need to wait for a cleaning crew or create a work request to clear any obstructions or debris found during the inspection cycle.

The cleaning of the District's sewer mains constitutes the largest maintenance activity in the District. Based on prior cleaning history and CCTV inspections, it was determined that an effective cleaning frequency to be used for routine cleaning is 2.5 years (30 months). To increase scheduling efficiency, the District's service area is divided into geographic sewer basins. Increased frequencies, or specialty cleaning routines, are required to address mainlines with greater maintenance demands. such as siphons (1 month), pipes with FOG and root intrusion (3 to 12 months), and pipes with minimal slopes (3 to 12 months).

#### b. High Frequency Maintenance Locations

The High Frequency Cleaning schedules consist of one month, three-month, six-month, and one-year cleaning and a three-month and one-year Hydro Saw cleaning. Through proactive ongoing repairs and line replacement over the last decade, the District has dramatically decreased its percentages of high frequency maintenance locations throughout the collection system by over 8.3 percent of the entire system over the last 10 years (see Figure 7 below).

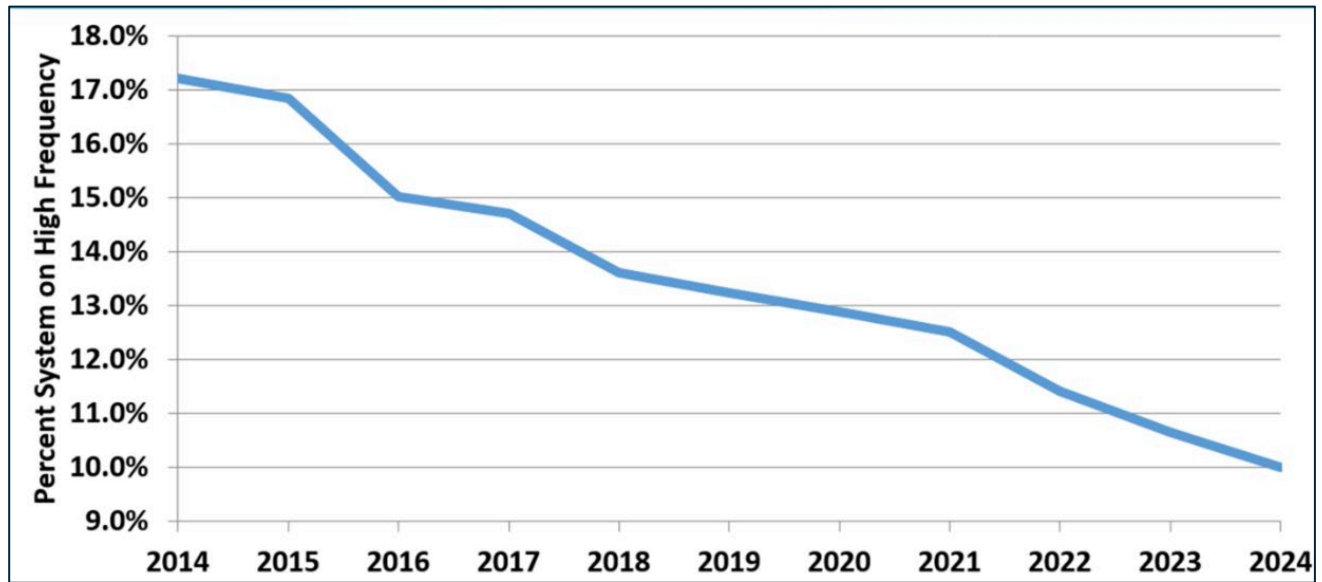


Figure 7 - No. of High Frequency Maintenance Percentages (2014-2024)

c. CCTV Inspection Program

The District has two modern CCTV vans that use digital video equipment and conduct underground pipe inspection on a daily basis. The District’s entire collection system is video inspected on a continuous basis which takes an average of 3-4 years to complete one rotation from start to finish. The District also video inspects point repairs, line replacement, new service connections, and post paving or street rehabilitation where the District’s maintenance holes are affected. The CCTV Vans may also be used to perform Post-Storm event inspections. The District uses the work processing program ASANA to submit requests for CCTV inspection. The CCTV crews will inspect on average over half a million feet per year. The second van in addition to assisting with daily video inspection routine of the District can be utilized for routine cleaning as well. Line segments on routine cleaning lists can be televised and cleaning is pinpointed to only the required areas. This reduces the amount of mechanical cleaning and subsequent damage. This can also contribute to water conservation.

The District records pipe observations using a national condition scoring standard developed by the [National Association of Sewer Service Companies \(NASSCO\)](#). The standard has been adopted by many agencies throughout the United States and provides a consistent method to assess the condition of a sewer system between individual operators and from one collection system to another. The scoring methodology also allows staff to rank the condition of each pipe in its system based upon its structural and operational characteristics. As the inspection continues and the assessment database continues to grow, staff utilizes the scores to rank and prioritize the rehabilitation projects in the District’s capital improvement program.

The District maintains a target for completing CCTV inspections of the collection system every 3-4 years (36-48 months), utilizing manual adjustments to this cycle when deemed necessary.

d. Maintenance Hole Inspections

The District has an existing maintenance hole inspection program where crews check asset conditions during cleaning and CCTV operations.

## e. Smoke Testing

The District owns smoke testing equipment to detect defects, cross connections, and unauthorized connections to the system and performs testing on an as-needed basis.

## f. Lift Station Maintenance and Repairs

The District has 12 Lift/Pump Stations. All stations have redundant pumps, and seven stations have dedicated on-site backup generators for providing power during outages. Eight stations have adequate wet-well capacity for an extended power outage and are also equipped with quick connects to allow portable generator connections during power outages. In the event of redundant pump failure, hoses, pumps and pump-around solutions have been preplanned and tested in training exercises. Personnel from the Collections, Operations, and Maintenance departments have been cross trained to deliver and connect emergency power to the stations. Each station has a data sheet indicating the number of homes connected to it, and in the event of total pump failure, how much time there is before the station will overflow. All 12 stations are connected by a licensed UHF radio system to a supervisory control and data acquisition (SCADA) system at the treatment plant, which is operated 24 hours a day, seven days a week. All maintenance records and lift station data are recorded in the CMMS.

District treatment plant operators support collections and maintenance staff with lift stations by carrying cell phones connected to the Supervisory Control and Data Acquisition (SCADA) system. This ensures continuous monitoring of all the lift stations and immediate notification of maintenance and collections if an alarm condition occurs. Lift stations have dedicated mechanics who service and inspect each facility based on required computerized maintenance management schedules. These activities include changing fluids, replacing floats, checking batteries and battery chargers, exercising standby generators, cleaning wet wells, clearing bar screens, applying degreaser, repairing pumps, and instrument panels.

The District maintains a replacement inventory of pumps and consumable parts in the event of unexpected failure. Stations are completely rehabilitated on an as-needed basis with new pumps, stainless steel pump rails, new cables, and updated electrical and instrumentation.

## g. Service Call Procedures

District offices are open Monday through Friday, 8:00 a.m. to 4:30 p.m., and all service calls are referred directly to the Collection System Manager. While there is a 24-hour telephone at the plant, the District uses an after-hours 24-hour answering service to take emergency calls. Emergency calls to the District's main line go directly to the service to insure quick response. The service then relays the message to the duty operator by pager and telephone. The duty operator makes a determination about the emergency, and, if necessary, summons the appropriate Collections employee on 24-hour standby. Collection workers summon additional help as necessary. The ability of the police, fire department, or citizen to talk to a live person 24 hours a day adds the positive benefits of human interaction, significantly reducing the possibility of a missed call or misunderstanding about the nature of a problem. The Collection System Manager and standby collection worker are each furnished with a District truck and cell phone.

The District's system of service call management, as well as dedicated collections and on-call staff, has resulted in best-in-class response time. Currently, the District manages its 'on-hours' response time to under 10 minutes. The District's response time for 'off-hours' calls is currently under 30 minutes. These response times work to eliminate or greatly reduce the impact of a stoppage, should one occur.

The Collection System Manager makes a report for every spill to the California Integrated Water Quality System. For spills needing additional engineering analysis, the report includes analysis and

recommendations for corrective action by the District Engineer. All spill reports go to the General Manager, who reviews them and ensures that they are forwarded to appropriate regulators on a timely basis.

Additional detailed procedures for incoming service call receiving and response operations are included in (District Standard Procedure No. IA.8).

h. Sewer Rehabilitation and Repairs

Sewer rehabilitation projects account for a majority of the District’s Collection System CIP expenditures to reduce the potential for sewage spills and stoppages. The District’s Board established significant 10-Year Strategic Plan Goals related to the collection system in 2018. The Board’s vision was for the system to be in better condition in 10 years, despite degradation due to aging. This big picture goal translated into two primary sub-goals, including reductions in the mileage of Grade 3, 4, and 5 defects and reducing the percentage of the system requiring high-frequency maintenance. Over the last 7 years the district has reduced the miles of Grade 3, 4, and 5 defects by 14.9 miles and reduced the percentage of the system requiring high frequency maintenance by 4.4% or 12 miles (see repair and replacement data presented in Figure 8 below).

Year	Point Repairs	Line Replacements
2024	66	5.6 miles
2023	7	7 miles
2022	55	6.7 miles
2021	127	2.5 miles
2020	56	3.2 miles
2019	104	3.5 miles
2018	130	4.7 miles
2017	139	3.5 miles
2016	121	3.4 miles

Figure 8 - District Pipe Repairs and Replacements (2016-2024)

District engineering staff maintains a 5-year plan prioritized for sewer system repair, replacement, rehabilitation, and enlargement. The plan inventories the District’s pipe system by age, type, and size. It also creates an annual plan and budget for two categories of repairs: point repairs and pipeline replacements. Lines selected for point repairs or replacements generally have defects posing imminent service disruption to a small segment of the collection system.

Pipe defects are identified and repaired in the following manner: the Collections crew member in the CCTV van identifies the pipe defect during routine CCTV inspection of the system and marks the defect using PACP and the code “general observation/start repair.” The Collection System Manager reviews the “start repairs” and submits work requests to Engineering for analysis and repair. The District Engineer reviews all work requests, investigates the defects and determines if the defect is to be watched, repaired, or if the pipe is to be replaced. Repairs and pipe replacements with the risk of imminent failure are immediately addressed

through change order work on existing sewer repair contracts. All other repairs are completed within 18 months and pipe replacements are placed on the five-year pipe replacement list.

The District identifies approximately 120 pipe defects every year that warrant immediate repair. These repairs are performed within 18 months of identification and consist of broken drops, broken pipes, root intrusion, worn maintenance hole channels, and broken maintenance hole castings.

Pipeline segments are replaced when required for upsizing to accommodate the District’s 10-year Design Storm, or there are enough defects that point repairs would be more costly than half the replacement cost. All 6”-line replacements are replaced with 8” HDPE or greater, depending upon the flow requirements. Pipelines that require replacement are placed, when identified, on a five-year list that is prioritized on an annual basis. Every year the District uses the prioritized list to develop a replacement project of approximately 3-4 miles of pipe.

The District has completed a large number of CIP Projects over the last ten years, rehabilitating nearly 47.5 miles of mainline, rehabilitation of approximately 800 maintenance holes, eliminated 2 lift stations, and rehabilitated or repaired as needed the remaining 12. The 10-Year CIP including budgeted items are provided in Appendix 8. Additional detailed information can be found in Element 8 below.

**EFFECTIVENESS**

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Were all map updates completed in a timely manner?
- Are all staff trained in the procedure for providing map update information?
- Are newly installed sewer assets incorporated into the system maps?
- Are there terrain features or assets that should be incorporated in future map updates (e.g. exposed pipe, siphons, ARVs, surface water, etc.)

**IMPLEMENTATION PLAN/SCHEDULE**

---

No	Plan	Schedule	Responsible Party		
			GM	DE	CSM
4.5.1	Review map update procedures with all affected staff.	Annually.		X	X
4.5.2	Review/ensure all newly installed facilities have been updated and included in the system maps.	Annually.		X	X

## 5 Design and Performance Provisions

### 5.1 Updated Design Criteria/Construction Standards/Specifications

#### WDR REQUIREMENTS

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##### Att. D-1.1 (pg. D-5)

*Updated design criteria, and construction standards and specifications, for the construction, installation, repair, and rehabilitation of existing and proposed system infrastructure components, including but not limited to pipelines, pump stations, and other system appurtenances. If existing design criteria and construction standards are deficient to address the necessary component-specific hydraulic capacity as specified in section 8 (System Evaluation, Capacity Assurance and Capital Improvements) of this Attachment, the procedures must include component-specific evaluation of the design criteria.*

#### COMPLIANCE

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##### a. Design and Construction Standards

The District has several engineering staff that inspect both new construction and repairs. The engineering staff ensures that all construction meets District standards and codes. All sewers constructed by outside contractors are cleaned, pressure tested, and video inspected before acceptance. The standards and codes are available to contractors and citizens at no charge and are updated at a minimum of every two years or as necessary. District [Ordinance 35-16](#) for sewer connection requirements and [District Standard Specifications \(November 2024\)](#) contain requirements to ensure for properly designed and constructed sewer components and connections. Enforcement of these standards, through design review, construction inspection, and materials testing provides assurance and confidence that the District's collection system, and the private systems connected to it, will function as designed and will effectively transport the collected wastewater stream throughout its long service life.

##### b. Standards for Installation, Rehabilitation and Repair

The District's Engineering Department maintains sewer system installation and design standards which are updated as needed and reviewed at least every two years. These standards are required for both new installations and replacement facilities. They are available to contractors and citizens at no charge and are updated as necessary.

#### EFFECTIVENESS

---

The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Is plan checking QA/QC processes helping to ensure adherence to the standards?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
5.1.1	Ensure all project plans are approved in accordance with the District's Standard Specifications and Details.	Each Project.		X	
5.1.2	Verify design standards and hydraulic model previously completed are adequate and consistent with current standards of practice.	2025/2026.		X	

## 5.2 Procedures and Standards

### WDR REQUIREMENTS

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[Att. D-1.1 \(pg. D-5\)](#)

*Procedures, and standards for the inspection and testing of newly constructed, newly installed, repaired, and rehabilitated system pipelines, pumps, and other equipment and appurtenances.*

### COMPLIANCE

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Inspection and Testing of New and Rehabilitated Facilities

The District has several Engineering staff members that inspect new construction and repairs. The Engineering staff ensures that all construction meets District standards and codes. All sewers constructed by outside contractors are pressure cleaned, tested, and video inspected before acceptance.

### EFFECTIVENESS

---

The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Were any design or installation deficiencies found during warranty inspections?
- Are deviations from standard procedures and/or specs, testing, etc., justified and documented?
- Does the District stay abreast of industry design standards and technical advances in the industry?

### IMPLEMENTATION PLAN/SCHEDULE

---

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
5.2.1	Verify inspection procedures are adequate and consistent with current standards of practice.	Every 2 years or as needed.			X
5.2.2	Verify design standards and hydraulic model previously completed are adequate and consistent with current standards of practice.	2025/2026.			X

### RESILIENCE

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Resilience is addressed for Element 5 by:

- Staying abreast of industry trends and standards.
- Performing warranty inspections of newly installed or repaired assets to evaluate design and installation practices.
- Evaluating as-built changes for trends and areas for design and performance improvements.

### APPENDIX 5 INCLUSIONS:

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- None

## 6 Spill Emergency Response Plan

### WDR REQUIREMENTS

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#### Att. D-1.1 (pg. D-6)

*The Plan must include an up-to-date Spill Emergency Response Plan to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills. The Spill Emergency Response Plan must include procedures to:*

- *Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner.*
- *Notify other potentially affected entities (for example, health agencies, water suppliers, etc.) of spills that potentially affect public health or reach waters of the State.*
- *Comply with the notification, monitoring and reporting requirements of this General Order, State law and regulations, and applicable Regional Water Board Orders.*
- *Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained.*
- *Address emergency system operations, traffic control and other necessary response activities.*
- *Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system.*
- *Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State.*
- *Remove sewage from the drainage conveyance system.*
- *Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters.*
- *Implement technologies, practices, equipment, and inter agency coordination to expedite spill containment and recovery.*
- *Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event.*
- *Conduct post-spill assessments of spill response activities.*
- *Document and report spill events as required in this General Order; and*
- *Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed.*

### COMPLIANCE

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The District's Spill Emergency Response Plan is embedded in District Procedure No. I.A.8 which includes specific procedures for collection system service call response handling, response, and reporting (see Appendix 6.1). The Plan is updated annually, or as regulatory changes occur, thus eliminating the need to update this SSMP when these changes are required. Any changes if required are documented in the SSMP change log.

### EFFECTIVENESS

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Have staff spill response efforts helped to prevent the discharge of sewage to surface waters?
- Do post-spill assessments indicate staff are following the procedures outlined in the SERP?
- Is SERP training effective and trainees demonstrating adequate knowledge and abilities?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
6.1	Perform SERP training including practice drills.	Annually.			X
6.2	Review Post Spill Assessments to ensure adherence and to identify any trends that should be addressed.	Annually.		X	X

RESILIENCE

Resilience is addressed for Element 6 by:

- Multiple staff are trained to respond to spill events.
- Post-spill assessments are conducted to evaluate staff adherence to the SERP and to identify areas for improvement.
- Data collection forms direct staff to collect all the required data to be submitted to CIWQS and are designed as a guide to a proper spill event response.
- The District employees practice several different spill volume estimation methods to account for different circumstances.

APPENDIX 6 INCLUSIONS:

- 6.1. Spill Emergency Response Plan (District Procedure No. I.A.8)

## 7 Sewer Pipe Blockage Program

### WDR REQUIREMENTS

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#### Att. D-7 (pg. D-7)

*The Sewer System Management Plan must include procedures for the evaluation of the Enrollee's service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags and debris. If the Enrollee determines that a program is not needed, the Enrollee shall provide justification in its Plan for why a program is not needed. The procedures must include, at minimum:*

- a. An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances.*
- b. A plan and schedule for the disposal of pipe-blocking substances 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 substances generated within a sanitary sewer system service area.*
- c. The legal authority to prohibit discharges to the system and identify measures to prevent spills and blockages.*
- d. Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practices requirements, recordkeeping and reporting requirements.*
- e. Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease ordinance.*
- f. An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and*
- g. Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.*

### COMPLIANCE

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The District's Industrial Waste Inspector is informed by Engineering when new or updated commercial establishments are connecting to the sewer and any pretreatment equipment is being installed. The District has a hot-spot identification program for FOG from existing dischargers. The Collections Department staff refers excess grease or other potential pipe blocking discharges coming from commercial establishments to the Industrial Waste Inspector for investigation and enforcement, if necessary. The Industrial Waste Inspector typically requests the AIMS CCTV inspection data available to support enforcement efforts.

The requirements above are addressed in order below:

- a. The District communicates FOG best practices to its customers (businesses and residents) routinely via its newsletter, website, social media, and public outreach.
- b. Pipe blocking substances collected during maintenance activities are disposed of, on an as-needed basis, at the Oro Loma Sanitary District/Castro Valley Sanitary District Water Pollution Control Plant.
- c. District [Ordinance 39-11](#), Section 4.4 (Regulations) provides the District with required authority and enforcement for limiting grease into the sanitary sewer system. Section 2.8 (Specific Pollutant Limitations) dictates a limitation of 100 mg/L as a daily maximum for grease into the sewer system. Additional review of the District's Ordinance will be pursued in the next review cycle to ensure all pipe blocking substances are addressed.
- d. Section 2.12 specifies sample collection and analysis procedures for grease.

- e. Section 4.6.1 has specific grease interceptor requirements for industrial and commercial users including maintenance requirements/best management practices, and records retention.
- f. Section 4.5 states the District has the right of inspection of the facilities of any user to ascertain whether the purpose of the Ordinance is being met, and all requirements are being complied with.
- g. OLSD has identified areas that require excessive cleaning or have a history of stoppages or spills caused by FOG. These areas were analyzed to determine possible upstream sources of grease. If the suspected FOG source is a permitted FSE, the District will follow up with the facility, or facilities, to determine if they are the source of FOG. Based on the results of the inspection(s), the District may issue a notice requiring corrective actions. Otherwise, cleaning frequencies, are adjusted to address mainlines with greater maintenance demands for grease, sand, grit, roots and other pipe blocking substances.

It is the purpose of the Districts FOG Control Program to ensure all customers in the OLSD service area are following the District Ordinance, and state and federal requirements, to prevent sewage Spills caused by FOG related blockages in our sewer collection system. The District has begun using the system Swift Comply to track FSEs’ and their maintenance records. This reporting program is overseen by the District industrial waste inspector.

**EFFECTIVENESS**

The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Have there been any blockages/spills from any identified problem area?
- Is the District receiving feedback on public outreach efforts?
- Is the debris and other sewage solids collected during cleaning activities being disposed of appropriately?
- Have there been spills due to excessive fats, oil, grease, roots, or non-dispersible wipes discovered in the sewer system during the audit period?
- Are there repeat offenders among FSEs?
- Are enforcement trends decreasing?
- Are Source Control and Collection staff included in the plan check process?

**IMPLEMENTATION PLAN/SCHEDULE**

No	Plan	Schedule	Responsible Party		
			GM	DE	CSM
7.1	Review/evaluate enforcement and inspection findings and implement changes as necessary.	Annually.		X	X
7.2	Review spill rates and causes and make changes to maintenance programs, as necessary.	Per Event.		X	X

## RESILIENCE

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Resilience is addressed for Element 7 by:

- Inspection of select assets directly downstream of grease producing businesses to ensure source control is effective.
- Residential FOG outreach and education program.
- Performance of regular assessments of system assets to monitor performance.
- QA/QA process for evaluating pipe cleaning effectiveness.
- Daily disposal of pipe blocking materials retrieved during maintenance activities.

## APPENDIX 7 INCLUSIONS:

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- None

## 8 System Evaluation, Capacity Assurance, Capital Improvements

### WDR REQUIREMENTS

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#### Att. D-8 (pgs. D-7/D-8)

*The Plan must include procedures and activities for:*

- *Routine evaluation and assessment of system conditions*
- *Capacity assessment and design criteria*
- *Prioritization of corrective actions; and*
- *A capital improvement plan*

### 8.1 System Capacity and Condition Assessment

#### WDR REQUIREMENTS

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#### Att. D-8 (pgs. D-7/D-8)

*The District SSMP must include procedures to:*

- a. *Evaluate the sanitary sewer system assets utilizing the best practices and technologies available.*
- b. *Identify and justify the amount (percentage) of its system for its condition to be assessed each year.*
- c. *Prioritize the condition assessment of system areas that:*
  - *Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies.*
  - *Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas.*
  - *Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List.*
- d. *Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods.*
- e. *Utilize observations/evidence of system conditions that may contribute to exiting of sewage from the system which can reasonably be expected to discharge into a water of the State.*
- f. *Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities; and*
- g. *Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: (a) sea level rise, (b) flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; (c) wildfires; and (4) increased power disruptions.*

## COMPLIANCE

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The above requirements are addressed in order below:

a. Evaluate System Using Best Practices and Technologies

The assessment of a collection system involves every component of the District collection system, including pipelines, maintenance holes, and siphons. The assessment of pipeline condition is the most significant condition assessment responsibility the District has. It is of key importance to regularly perform pipeline condition assessments to initially establish a condition baseline so conditions can be monitored over time. The condition rating of a pipeline is one of the key parameters used prioritizing risk, which in turn is used to help develop the District's CIP.

The District has divided their system into 4 areas containing 73 sub-basins, allowing for the efficient and systematic assessment of the collection system, allowing to District to achieve the goal of properly maintaining the system.

Field staff monitor easements via visual inspections either driving or walking the alignments to help ensure access. There are occasions when activities are performed on or about easements, which can create access concerns, such as the construction of a shed or other outbuildings, installation of fences, swimming pools, dumping of garbage and trash that blocks drivable easements, to name a few.

The District has a maintenance hole inspection program, and inspections are performed during routine maintenance operations. Maintenance holes are inspected employing a visual, top-down approach, without entry, during cleaning and CCTV inspections.

b. Justify the Amount of Yearly Condition Assessment

The District has a proven track record of reducing spills, which supports its justification for its CCTV condition assessment program. The District currently has two CCTV vans with multiple staff members to operate them. This ensures that there is always an operator available if needed. Staff assesses the condition of the collection system on a 3–4-year inspection interval. The District maintains a relatively low spill rate, incurring only 1.2 spills per 100 miles of sewers (between 1/1/2015 to 3/1/2025). In addition, the District cleans the system on a 30-month interval. District management continuously evaluate current practices and adjusts these schedules as necessary.

c. Prioritize Condition Assessment

The District CCTV program includes inspection of all gravity mains and sewer maintenance holes on a 3–4-year interval. Staff believes it is appropriate to address all pipe segments in the same manner as the risk and consequence of a spill from any portion of the collection is essentially the same. This is because the entire system has been assessed over 8 times over the last 25 years and staff is aware of system performance. In addition, the three-to four-year inspection cycle and 30-month cleaning cycle are aggressive, with some pipes being cleaned multiple times between inspections.

Lift stations are visually inspected twice a week and scheduled preventative maintenance tasks are performed during these visits. Larger projects are scheduled as needed. Lift stations have also proven to be reliable, as evidence by performance and spill histories. Each is inspected weekly, and maintenance staff are available 24/7 for maintenance and response activities.

The District performs routine visual inspections of maintenance holes, lift stations and easements. Maintenance hole inspections are performed in a top-down manner, without entry. Lift stations are visually inspected for performance, indications of probable failures. In addition, pumps are monitored for unusual vibrations and smells and excessive heat. Easements are visually inspected for evidence of vandalism, erosion that may impede access, illicit discharges into the system and construction activity on or about the facilities.

The District is not aware of exfiltration from their collection system. The District has identified all sewage conveyance facilities near surface water. Sewer lines near environmentally sensitive areas and areas with a high consequence of failure have been evaluated and rehabilitated as needed. The District continuously monitors defects such as cracks, separated joints, and infiltration through its CCTV inspection program, as points of entry into the system could be points of exit from the system. Any significant findings are addressed in a timely manner.

CCTV inspections are documented in CMMS software programs (OASIS, IT Pipes, and AIMS). Inspections are documented in Mainsaver. Maintenance hole inspections are performed visually while performing maintenance CCTV inspections. Defects are noted on the field work orders and submitted for repairs as needed. All data is utilized for evaluating system performance and making maintenance and corrective action decisions today and into the future.

- d. Collection System Managers are faced with the challenge of responding to climate change. OLSD has identified precipitation changes as the most likely climate challenge. The challenge is compounded by the uncertainty of whether change will lead to more or less precipitation and at what rate. For Oro Loma, we assume that Climate Change will lead to less annual precipitation, but that it will occur in more intense periods. This assumption is conservative in that it requires the District to provide for peak storm capacity and periods of low flow – mimicking both flood and drought conditions on a regular basis.
- e. The District's current Pipeline Program is well aligned with adaption to Climate Change. At an average rate of 1.5% per year of pipe replacement, the District will have replaced nearly 2/3 of its collection system with HDPE pipe in the next 50 years. HDPE is a flexible and jointless piping system that is expected to reduce infiltration in our system over time. Less infiltration will counter the impacts of higher-intensity storms. HDPE is also a smoother pipe and its jointless construction counters the impacts of drought or drought-like low flows. In short, the District's pace of pipe rehabilitation is expected to stay ahead of impacts from climate change. Since 2018 the District has replaced over 30.5 miles with HDPE.
- f. Although the District does not maintain or manage private sewer laterals, the trend is similar for property owners, as laterals in the District are often replaced with HDPE pipes. Over time, these jointless and flexible connections will reduce the amount of infiltration reaching the collection system. Even if the rate stays constant, staff projects that private laterals will be upgraded faster than the impacts from climate change.
- g. The District has implemented a maintenance hole sealing program and low-lying maintenance hole covers have been replaced with non-perforated style lids.

### EFFECTIVENESS

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Has the District maintained its schedule for and is data being reviewed in a timely manner?
  - CCTV Gravity Mains
  - Laterals
  - Maintenance holes
  - Pump Stations
- Are inspection efforts discovering deficiencies in a timely manner?
- Are maintenance and inspection activities being properly documented?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
8.1.1	Review/evaluate enforcement and inspection findings and implement changes as necessary.	Annually.		X	X
8.1.2	Review spill rates and causes and make changes to maintenance programs, as necessary.	Annually.		X	X
8.1.3	Hold meeting to discuss any issues that may result from climate changes.	As Needed.	X	X	X

## 8.2 Capacity Assessment and Design Criteria

### WDR REQUIREMENTS

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#### Att. D-8 (pgs. D-7/D-8)

*The Plan must include procedures to identify system components that are experiencing or contributing to spills caused by hydraulic deficiency and/or limited capacity, including procedures to identify the appropriate hydraulic capacity of key system elements for:*

- *Dry-weather peak flow conditions that cause or contributes to spill events.*
- *The appropriate design storm(s) or wet weather events that causes or contributes to spill events.*
- *The capacity of key system components; and*
- *Identify the major sources that contribute to the peak flows associated with sewer spills.*

*The capacity assessment must consider:*

- *Data from existing system condition assessments, system inspections, system audits, spill history, and other available information.*
- *Capacity of flood-prone systems subject to increased infiltration and inflow, under normal local and regional storm conditions.*
- *Capacity of systems subject to increased infiltration and inflow due to larger and/or higher-intensity storm events as a result of climate change.*
- *Increases of erosive forces in canyons and streams near underground and above-ground system components due to larger and/or higher-intensity storm events.*
- *Capacity of major system elements to accommodate dry weather peak flow conditions, and updated design storm and wet weather events; and*
- *Necessary redundancy in pumping and storage capacities.*

### COMPLIANCE

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#### a. Hydraulic modeling

In 2014, the District converted its Hydra-based flow model to the Danish Hydraulic Institute's integrated water modeling system - MIKE URBAN. The new software provides sophisticated and realistic modeling. The District is currently using the model to identify existing storage opportunities in the system to limit peak flows through the treatment facility. The District will perform a flow study in the Fall/Winter of 2025 and will use the data to update the MIKE URBAN model in the Spring of 2026. Over the last 7 years the District has replaced 30.5 miles of VCP with HDPE pipe over the past 7 years. The District anticipates seeing reductions as a result of these activities in the modeled peak flows due to help further reduce infiltration.

b. Capacity

The flow studies and hydraulic modeling shows that there are no dry weather conditions that will lead to an overflow and that the system can handle the flow from a 10-year 24-hour storm event without an overflow. During a 10-year 24-hour event the system will be surcharged, but it will not lead to an overflow. All District lift stations are multiple pump lift stations, designed to handle design flows with the largest pump out of service.

For ensuring adequate sewer system capacity, developers are required to hire independent engineers to conduct hydraulic capacity studies for residential developments of 10 units or more. The study examines both existing downstream line capacity and capacity at projected build-out. Commercial developments are also subject to the same requirements. These studies are kept on file by the District and are available for inspection. Additionally, the developer is required to address capacity issues in the collection system as a part of their development.

c. Master Plan

The District has a 2001 Sewer system Master Plan prepared by Carollo Engineers. This is an update to the 1988 Master Plan prepared by CH<sub>2</sub>M Hill. The Carollo Plan hydraulically modeled the District's entire Collection System, including all the lift stations, using all lines 10 inches in diameter and larger. The analysis was based on extensive flow monitoring, and recommendations were made based on a 10-year 24-hour Design Storm (2.87 inches/24 hrs. with a peak intensity of 0.5 inches per hour). The plan called for upsizing various line segments to eliminate bottlenecks and remain within a maintenance hole surcharge criteria of half full. All the District's lift stations were found to adequately handle the modeled 10-year 24-hour storm event. All the required lines were either upsized before or found to be adequate based upon subsequent storm flow monitoring. The plan also recommended upsizing various lines based on actual growth through a projected buildout in 2020. The Master Plan was amended in 2014 when the District updated and calibrated the hydraulic model after it performed a new flow study. The updated model showed that based on the 10-year 24-hour design storm the District will experience no Spills, verifying that the work that was completed in response to the 2001 sewer system master plan. The District will again amend the Master Plan in 2025/2026 after it performs a new flow study and updates and recalibrates the hydraulic model. The District anticipates that the results will show improvements due to the District's sewer line replacement program.

While the system is designed to handle a 10-year, 24-hour storm event, climate change may increase storm intensity and volume beyond this threshold. Larger or more frequent storms could exceed capacity, leading to overflows due to higher inflow and reduced infiltration. Resilience under these conditions depends on how future storm patterns align with current design limits. Additionally, the District no longer allows the installation of any new sewers in easements and has replaced and relocated, when necessary, easement sewers that are in areas of potential high erosion due to storm events.

**EFFECTIVENESS**

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Number of capacity-related spills or surcharge condition during the audit period?
- Has the system responded to rain events as indicated by the hydraulic model?
- Has there been any changes to zoning designations (residential, commercial, industrial)?

**IMPLEMENTATION PLAN/SCHEDULE**

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No	Plan	Schedule	Responsible Party		
			GM	DE	CSM
8.2.1	Monitor/Evaluate significant rain events to see if they exceed the design storm in the hydraulic model.	Each significant rain event.		X	X
8.2.2	Identify and monitor flood-prone areas susceptible to erosion from rain events.	After each significant rain event.		X	X
8.2.3	Monitor flows in each basin and update the hydraulic model.	Per Engineering Department schedule.		X	X

## 8.3 Prioritization of Correction Action

### WDR REQUIREMENTS

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#### Att. D-8 (pgs. D-7/D-8)

*The findings of the condition assessments and capacity assessments must be used to prioritize corrective actions. Prioritization must consider the severity of the consequences of potential spills.*

### COMPLIANCE

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The determination of repair priority for short-term repair activities and long-term CIP projects can be very challenging due to the complexity in analyzing all the various factors affecting the pipeline's risk of failure according to the Districts asset management plan.

All defects discovered from CCTV inspections of the gravity system are rated using the PACP defect coding system. Repairs are prioritized by considering the severity of defect, stability of the defect, likelihood the defect would cause a spill, and the consequence of a spill at that location. Engineering staff evaluates and prioritizes each defect and determines how to proceed with the repair of submitted defects.

Larger, more involved work such as line replacement or rehabilitation is determined by PACP scoring. Areas such as defects (structural vs. operational), cost to maintain the operational defects vs. the cost to rehabilitate, the distance the assets are from the District offices, environmental risks, and recommendations of the collections staff are taken into consideration. Engineering then designs the project and includes the projects in the CIP. When prioritizing work to be done, staff considers all factors such as: location of facility to surface water or other environmentally sensitive areas, difficulty of access and, likelihood and consequences of failure for inaction.

As a rule, for identified capacity improvements, any potential capacity deficiencies identified under peak dry weather flows (PDWF) conditions will be prioritized over those anticipated under peak wet weather flow (PWWF) conditions.

Risk scores are calculated and assigned for each pipe segment and are grouped into three zones of risk: Low, Medium, and High. The results from the latest Risk Model illustrate the relatively risk profile of the District's collection system:

- High Risk (3 % of the collection system)
- Medium Risk (40 % of the collection system)
- Low Risk (57 % of the collection system)

### EFFECTIVENESS

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Has the District adhered to its system evaluation/condition assessment schedule?
- Has the District adhered to its prioritization/corrective procedures for sewer repair and capacity improvement projects?
- Have projects been completed before deficiencies caused failures?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	Eng	Sup
8.3.1	Utilize all available data for prioritizing corrective actions considering severity and consequences of potential spills.	Continuously.		X	X
8.3.2	Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities.	Continuously.		X	X

## 8.4 Capital Improvement Plan

### WDR REQUIREMENTS

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Att. D-8 (pgs. D-7/D-8)

The capital improvement plan must include the following items:

- a. Project schedules include completion dates for all portions of the capital improvement program.
- b. Internal and external project funding sources for each project; and
- c. Joint coordination between operation and maintenance staff, and engineering staff/consultants during planning, design, and construction of capital improvement projects; and Inter-District coordination with other impacted utility agencies.

### COMPLIANCE

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The District has a [10 Year Strategic Vision and Goals](#); a 10-Year R&R and CIP projections which is presented to the Board on a monthly basis; and a 2-Year capital budget that clearly lays out the R&R and CIP projects that are planned, for its wastewater systems posted on its website; <https://oroloma.org/>. The 10-Year R&R and CIP Projections is updated on a monthly basis by the Engineering department; this involves meeting with all departments to determine needs.

The District’s capacity assurance efforts rely on its Collection System Master Plan and its internal Collection System Long-Term Rehabilitation Plan, which are updated annually. Using these documents as source data, capital projects are scheduled in a 2-year budget process. Point repairs are made soon after discovery and are frequently re-prioritized to ensure uninterrupted sewer service. Line repairs are part of the District’s repair and replacement budget, which allocates the amounts listed below every year. The upcoming two-year budget cycle allocates roughly \$15.8 million dollars to Point and Line Repairs, Pipeline Replacement, Source Detection, GIS Mapping System Upgrades, and the Asset Management Program.

The District also funds major structure or trunk sewer replacements in its capital budget. The District’s Capital Improvement Plan includes \$42 million for collection system upgrades over the next five years.

### EFFECTIVENESS

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Has the District’s capital improvement plan schedule been adhered to?
- Have there been any instances when a failure or service disruption occurred that would have been prevented if a project had been completed?

### IMPLEMENTATION PLAN/SCHEDULE

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No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
8.4.1	Hold regular coordination meetings, with all parties, to help keep the projects on track and resolve issues that may arise in a timely manner.	Bi-Weekly/Monthly.		X	X
8.4.2	For schedules that are not kept, justify and document the reason.	Each Delayed Project.		X	X

## RESILIENCE

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Resilience is addressed for Element 7 by:

- Is there an annual review of the Capital Improvement Plan by all appropriate individuals including both Engineering and Operations?

## APPENDIX 8 INCLUSIONS

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- 8.1 District Master Plan and Capital Improvement Program

## 9 Monitoring, Measurement, and Program Modifications

### WDR REQUIREMENTS

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#### Att. D-9 (pg. D-9)

*The District SSMP must include an Adaptive Management section that addresses Plan implementation effectiveness and the steps for necessary Plan improvement, including:*

- a. Maintaining relevant information, including audit findings, to establish and prioritize appropriate SSMP activities.*
- b. Monitoring the implementation and measuring the effectiveness of each element.*
- c. Assessing the success of the preventive operation and maintenance activities.*
- d. Updating SSMP procedures and activities, as appropriate, based on results of monitoring and performance evaluations; and*
- e. Identifying and illustrating spill trends, including spill frequency, locations, and estimated volumes.*

### COMPLIANCE

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The above requirements are addressed in order below:

- a. The District maintains accurate and relevant inspection and maintenance records for the collection system. The documentation is maintained electronically, which allows for ease of access and analysis. This helps District staff to make sound decisions and prioritize activities when dealing with the routine and the unexpected.
- b. Monitoring of the District's SSMP focuses on each element in terms of its implementation and effectiveness. Monitoring the implementation of SSMP elements would achieve the following goals:
  - Stated objectives of each element are valid and achievable
  - Tasks cited in each element leads to reaching these objectives
  - Tasks are being implemented
  - Responsibility for implementation is identified

By establishing specific performance indicators for each element, an assessment can be made to determine the degree of success achieved. The SSMP has been designed to include key performance indicators (KPIs) for each element, which are used to measure effectiveness.

- c. The District assesses the success of maintenance and operation activities by ensuring activities are being performed as expected, monitoring actual outcomes compared to intended outcomes, as well as monitoring spill trends.
- d. The District is committed to continuous improvement and monitors and evaluates performance of work programs and SSMP elements to ensure intended outcomes are achieved while looking for areas for improvement.
- e. The District monitors spill trends, annually and during required audits, utilizing the CMMS database, inspection records and CIWQS data. These resources are helpful in planning and programing work, and adjusting as needed, enabling the District to be adaptive and capitalize on lessons learned.
- f. Historic Spill Reduction Performance

The District has had an active Sewer System Management Program since 1988 and has experienced very few line stoppages and sewer spills are even less frequent. Spills have been on a steady decline since 1992 when

the District focused its efforts on aggressive line cleaning, continuous video inspection, and dedicated funding to repair or replace every line defect that could result in a service interruption. Historically, roots and debris caused about 50% of District stoppages, and the remaining 50% was from “other causes.” Vandalism in remote areas had caused over 50% of the spills exceeding 1,000 gallons. The District has taken action to identify locations to install locking maintenance hole covers in areas prone to vandalism (easements). There have been no stoppages or spills caused by system deterioration or pipe collapse on the gravity system in recent history.

The Table below present data showing the correlation between the District’s aggressive proactive maintenance efforts and stoppage, service call, and spill history from 2004-2023.

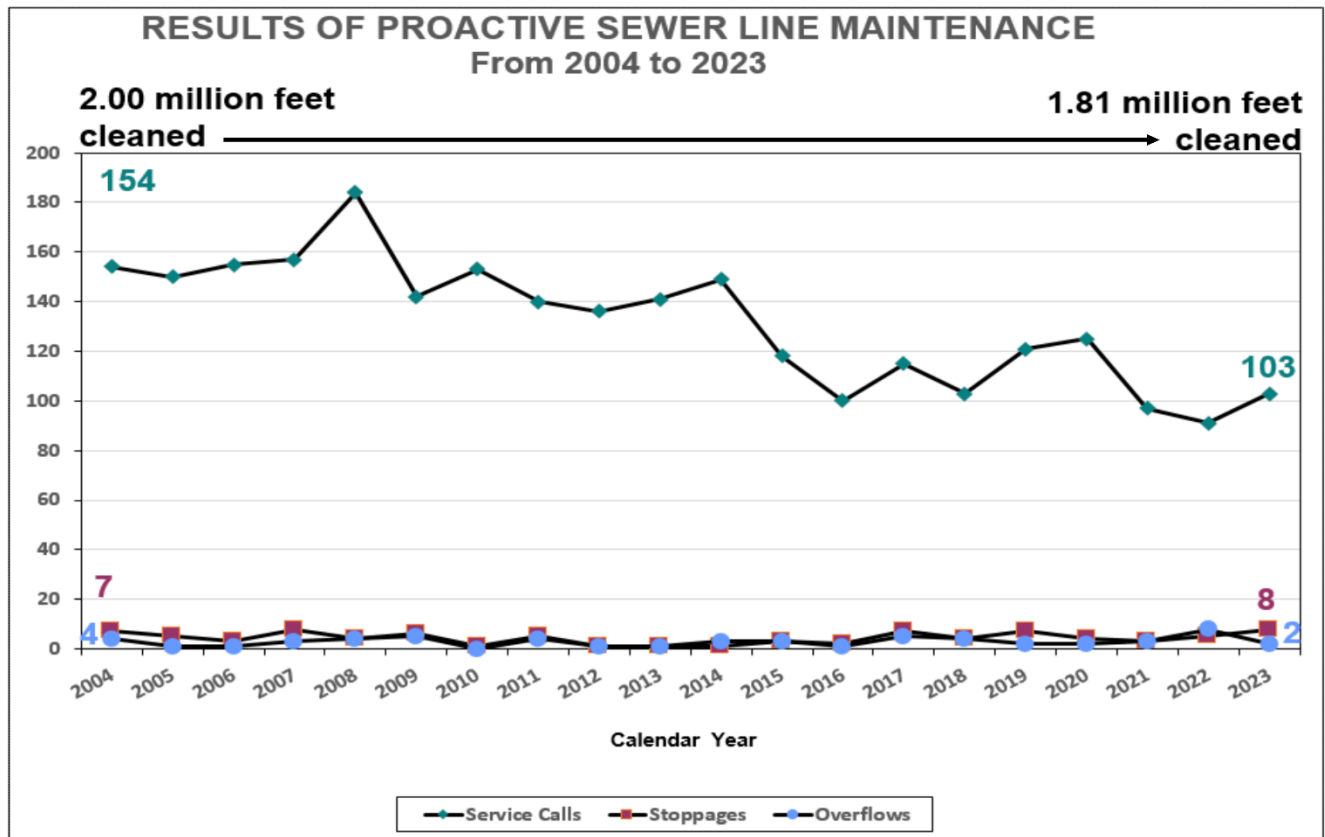


Figure 9 - Proactive Sewer Line Maintenance and Results (2004-2023)

EFFECTIVENESS

The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Are SSMP Elements being periodically evaluated for effectiveness?
- Are work activities and spill events being documented?
- Has a plan and schedule been established to address audit findings/deficiencies from the last audit?
- Is Trend Analysis being performed on spill causes?
- Have work programs been assessed and updated as necessary?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
9.1	Assess work programs to ensure outcomes are as intended.	Continuously/Annually.		X	X
9.2	Ensure updates to work programs and the SSMP based on assessments.	As Needed.		X	X
9.3	Monitor and evaluate spill trends. Document efforts.	Annually.		X	X

RESILIENCE

Resilience is addressed for Element 9 by:

- Development of key performance indicators to measure effectiveness of the Sewer System Management Plan.
- Performing periodic reviews of the Sewer System Management Plan to help ensure the plan is being properly implemented.
- Developing and adhering to a timeline to correct deficiencies found during the audit process.
- Periodically evaluating work programs to help ensure effectiveness.

The Collections department prepares a monthly report tied to specific performance measures, which are reviewed and refined each fiscal year. This includes a list of spot repairs identified and submitted for repair, stoppages, Spills, miles televised, miles cleaned, number of service calls, and service call response time during and after business hours.

EFFECTIVENESS

The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Are SSMP Elements being periodically evaluated for effectiveness?
- Are work activities and spill events being documented?
- Has a plan and schedule been established to address audit findings/deficiencies from the last audit?
- Is Trend Analysis being performed on spill causes?
- Have work programs been assessed and updated as necessary?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
9.1	Assess work programs to ensure outcomes are as intended.	Continuously.		X	X
9.2	Ensure updates to work programs and the SSMP based on assessments.	As Needed.		X	X
9.3	Monitor and evaluate spill trends. Document efforts.	Continuously.		X	X

## RESILIENCE

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Resilience is addressed for Element 9 by:

- Development of key performance indicators to measure effectiveness of the Sewer System Management Plan.
- Performing periodic reviews of the Sewer System Management Plan to help ensure the plan is being properly implemented.
- Developing and adhering to a timeline to correct deficiencies found during the audit process.
- Periodically evaluating work programs to help ensure effectiveness.

## APPENDIX 9 INCLUSIONS:

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- None



## 10 Internal Audits

### WDR REQUIREMENTS

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#### Att. D-10 (pg. D-10)

*The District SSMP shall include internal audit procedures, appropriate to the size and performance of the system, for the Enrollee to comply with section 5.4 (Sewer System Management Plan Audits) of this General Order.*

### COMPLIANCE

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The objective of the audit is to evaluate compliance, implementation and effectiveness of the SSMP.

The SSMP includes a description of how the District will comply with the requirements of each Element. The audit review includes an evaluation to determine if compliance has been met.

Implementation is evaluated by determining if the District is executing the SSMP as stated.

Effectiveness is evaluated by using key performance indicators, which have been developed specifically for each element.

An additional evaluation is performed to comply with Specifications 5.6 addressing resilience. Resilience indicators have been developed for each element, and they serve to demonstrate how resilience is built into the SSMP and inspection, maintenance and spill response activities.

Deficiencies discovered through the audit process are noted in the District's SSMP Audit report including a plan and schedule for addressing audit findings and respective necessary corrective measures.

### EFFECTIVENESS

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Have audits been performed as required?
- Have the audits assessed compliance, implementation, and effectiveness?
- Have deficiencies been identified?
- Has a plan and schedule to rectify the deficiencies been established?

## IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	DE	CSM
10.1	Schedule audits in advance of due dates to ensure adequate time to complete. District has 6 months to complete the audit from the end of the audit period.	Begin end of audit period.		X	X
10.2	Ensure a plan and schedule is developed to address deficiencies.	Once the Audit is completed.		X	X

## RESILIENCE

Resilience is addressed for Element 10 by:

- Periodically evaluate key performance indicators during the audit period to assess effectiveness and make corrections, if necessary, prior to the audit.
- Evaluate previous audit to ensure deficiencies have been rectified.
- Calendar the audit due dates and complete the audit on time.

## APPENDIX 10 INCLUSIONS:

- 10.1 District 2021-2024 SSMP Audit Report

## 11 Communication Program

### WDR REQUIREMENTS

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#### Att. D-11 (pg. D-10)

*The Plan must include procedures for the Enrollee to communicate with:*

- a. *The public for:*
  - *Spills and discharges resulting in closures of public areas, or that enter a source of drinking water, and*
  - *The development, implementation, and update of its Plan, including opportunities for public input to Plan implementation and updates.*
- b. *Owners/operators of systems that connect into the Enrollee's system, including satellite systems, for:*
  - *System operation, maintenance, and capital improvement-related activities.*

### COMPLIANCE

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- a. When the District experiences a spill, it is standard procedure to secure the affected area and keep the public away. This is generally done using barricades, traffic cones, and caution tape. Should the District experience a spill that may require closure of public areas or enter a source of drinking of water, signs will be immediately placed indicating the issue and providing contact information. Staff will remain on site to provide any additional safety factor until appropriate authorities respond and direct otherwise. In all cases, the District will follow the advice of higher authorities, such as the local environmental health department and other regulatory authorities.

During its initial development stage, the SSMP documents are presented to the District Board for review and acceptance. As previously noted, SSMP Audits are performed every three years and re-certification and acceptance of updated SSMPs are required every six years. In addition to the extensive initial development process, to date there have been five re-certifications of the SSMP that have been presented to the Board. Prior to each Board Meeting, these documents are included in Board Agenda packet which are readily available for review on the District's website. The approved SSMP is posted on the District's website, which provides the public several ways to contact the District, via the "Contact Us" feature.

- b. The District has one satellite collection system (Castro Valley Sanitary District who owns 25% of the District's treatment plant and independently transports its sewage into a joint interceptor system shared by the District just up-stream of the Treatment Plant. The Castro Valley Sanitary District general manager and one or two board members attend the agendized construction committee meetings held monthly at the District. The District has established regular ongoing communications to ensure Castro Valley Sanitary District is aware of District policies and procedures. The District posts Board meeting agendas in advance. The Public has an opportunity to comment and attend these meetings.

**EFFECTIVENESS**

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The District utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Does the District place all Sewer System Management Plan re-certifications on the agenda for regular board meetings?
- Does the District have signage, or other means, readily available to notify the public of environmental or public risk factors related to a sewage spill?
- Does the District perform outreach to residential customers?

**IMPLEMENTATION PLAN/SCHEDULE**

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No.	Plan	Schedule	Responsible Party		
			GM	Eng	CSM
11.1	Ensure the Board of Directors approves the SSMP per schedule.	Every 6 years.	X		X
11.2	Ensure the SSMP is posted on the District Website and the link functions properly.	Annually.	X		X
11.3	Ensure Sewage Spill Warning signs are readily available to communicate with the public when necessary.	Annually.			X

**RESILIENCE**

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Resilience is addressed for Element 11 by:

- Use the Sewer System Management Plan as a tool to communicate to the public how the District is managing the system.
- Maintain a consistent presence in the service area by attending community events or issuing periodic newsletters or other communications to the public.
- Make it clear and easy for the public to contact the District.

**APPENDIX 11 INCLUSIONS**

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- None

## List of Appendices

### APPENDIX 1

- None

### APPENDIX 2

- None

### APPENDIX 3

- None

### APPENDIX 4

- None

### APPENDIX 5

- None

### APPENDIX 6

- 6.1. Spill Emergency Response Plan (District Procedure No. I.A.8)

### APPENDIX 7

- None

### APPENDIX 8

- 8.1. District Master Plan and Capital Improvement Program

### APPENDIX 9

- None

### APPENDIX 10

- None

### APPENDIX 11

- None

### APPENDIX 12

- 12.1. SSMP Effectiveness Assessment Worksheet