



## 2023 Sewer System Management Plan

CITY OF PALO ALTO, CALIFORNIA

# 2023 Sewer System Management Plan

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## Introduction

### System Overview

The Sewer System Management Plan (SSMP) is a living planning document that includes the City of Palo Alto's wastewater program activities, procedures, and decision making. The State Water Resources Control Board (SWRCB) Division of Water Quality has issued statewide waste discharge requirements for sanitary sewer systems, which include requirements for the development of an SSMP. State Water Resources Control Board Order No. WQ 2022-0103-DWQ Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems. State Water Resources Control Board Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. State Water Resources Control Board Order No. WQ 2013-0058-EXEC, Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. NPDES Permit No. CA0037834 Incorporates the requirements to comply with the SSO WDR by reference in the treatment plant to operate Order No. R2-2014-0024 that regulates the Palo Alto Regional Water Quality Control Plan and City of Palo Alto's wastewater collection system.

### Documentation Organization

This SSMP has been prepared by The City of Palo Alto's Utilities Department – Wastewater Operations, Engineering, and Public Works – Environmental Services Staff in compliance with the SWRCB. Quoted language taken from the SSO WDR will be boxed at the beginning of each element. The SSO WDR uses the term “Enrollee” to mean each individual municipal wastewater agency that has completed and submitted the required application for coverage under the WDR (in this case, the Enrollee is the City of Palo Alto). The City of Palo Alto's waste discharger identification number (WDID) in the California Integrated Water Quality System (CIWQS) is 2SSO10164.

The City of Palo Alto's SSMP contains 11 elements and is designed to meet the SSO WDR requirements and the City's Treatment Plant NPDES Permit. The structure of this document follows the section numbering and nomenclature specified in the SSO WDR.

### SSMP Elements

This SSMP includes 11 elements that are listed below. Each element forms a section of this document.

1. Sewer System Management Plan Goal and Introduction
2. Organization
3. Legal Authority
4. Operation and Maintenance Program
5. Design and Performance Provisions
6. Spill Emergency Response Plan
7. Sewer Pipe Blockage Control Program
8. System Evaluation, Capacity Assurance and Capital Improvements
9. Monitoring, Measurement and Program Modifications
10. Internal Audits
11. Communication Program

## Element 1: Sewer System Management Plan Goal and Introduction

### **Statewide Waste Discharge Requirements**

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:

#### **1.1. Regulatory Context**

The Plan Introduction section must provide a general description of the local sewer system management program and discuss Plan implementation and updates.

#### **1.2. Sewer System Management Plan Update Schedule**

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.

#### **1.3. Sewer System Asset Overview**

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 percent 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.

### **City of Palo Alto SSMP Goals:**

- Repair, rehabilitate, replace, and upgrade system components as needed;
- Properly manage, operate and maintain the wastewater collection system;
- Cost effectively minimize I/I and provide sufficient system capacity;
- Eliminate all preventable overflows in dry and wet weather;
- Maintain an effective spill response that reduces overflow impact to public health & the environment;
- Analysis and evaluation of historical spills to provide recommendations to reduce future risk;
- Identify system blockages due to fats, oil, and grease (FOG) and develop strategies to decrease backups; and
- Provide regular training for City of Palo Alto Utility Staff and Contractors in wastewater collection system maintenance, operations, and emergency response.

### 1.1 Regulatory Context

The City of Palo Alto has adopted a SSMP in accordance with the SWRCB statewide waste discharge requirements. The first SSMP to be adopted by City Council was in July 2009. Since the first adoption of the SSMP, the plan has been audited and updated to remain compliant with the SWRCB's regulations. Under the reissued General Order, 2022-0103-DWQ, the SSMP must be updated within every six (6) years after the required due date of its last plan update.

### 1.2 Sewer System Management Plan Update Schedule

The SWRCB has created an online look up tool to show each System's SSMP audit and update due dates. [https://www.waterboards.ca.gov/water\\_issues/programs/sso/lookup/](https://www.waterboards.ca.gov/water_issues/programs/sso/lookup/)

The City's SSMP update schedule is shown in the **Table 1** below and follows the required plan update pattern of every six (6) years.

*Table 1: SSMP Audit Due Dates*

8/2/2025	8/2/2031	8/2/2037	8/2/2043
8/2/2049	8/2/2055	8/2/2061	8/2/2067
8/2/2073	8/2/2079	8/2/2085	8/2/2091

### 1.3 Sewer System Asset Overview

The City of Palo Alto's sanitary sewer system serves a population of 67,937 residents in a 26 square mile service area within Santa Clara County. The City owns and operates 206 miles of gravity wastewater collection system pipeline that ranges from 4 to 72 inches in diameter, 3,460 manholes, 80 lamp-holes, 900 feet of 10-inch diameter force main, and 1 wastewater lift station. Of the total piping system, 12% (25.8 miles) are located in easements. The City also owns and maintains the lower portion of 17,739 service laterals. The upper portion of the service lateral from the cleanout or property line to the building and the entire portion of the service lateral connected to the main pipeline located in easements are owned and maintained by the individual private property owners. Maintenance of and responsibility for upper laterals can be found in **Appendix G** or Rules and Regulations 23, Section C at the City of Palo Alto Utilities Website: <http://www.cityofpaloalto.org/civicax/filebank/documents/8211>

Wastewater is treated at the Regional Water Quality Control Plant (RWQCP) that is operated by the City of Palo Alto in partnership with the City of Mountain View, City of Los Altos, East Palo Alto Sanitary District, Town of Los Altos Hills, and Stanford University. In addition to the City of Palo Alto's collection system, wastewater is conveyed to the RWQCP from several wastewater collection systems operated by and serving the Cities of Los Altos and Mountain View, the Town of Los Altos Hills, the East Palo Alto Sanitary District. Each of the municipalities, districts, and unincorporated areas of Stanford University campus are obligated by agreement or contract to operate, maintain, and improve its wastewater collection system to ensure there are no adverse impacts to the RWQCP.

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*Table 2: Inventory of Mains by Diameter*

Pipe Diameter (IN)	Length (LF)	Number of Segments
4"	2,352	28
4.9"	8,625	29
5.4"	39,210	130
6"	332,754	1,252
6.6"	19,464	60
7.6"	9,728	34
8"	396,690	1,300
10"	70,554	252
12"	54,960	186
14"	6,515	24
15"	51,438	176
16"	6,034	20
18"	28,359	107
21"	13,920	48
24"	10,918	41
26"	570	2
27"	24,767	72
30"	15,325	35
33"	5,809	16
36"	15,327	39
39"	5,566	13
42"	7,545	24
54"	2,180	1
60"	536	1
72	8,450	12
Unknown	4,157	29
Total	1,141,753 (216.25 Miles)	3,931

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*Table 3: Inventory of Mains by Age*

<b>Sewer Construction Dates</b>	<b>Feet</b>	<b>Miles</b>
Sewer Constructed 2000 to Current	230,725	43.70
Sewer Constructed 1980 to 1999	88,844	16.83
Sewer Constructed 1960 to 1979	11,542	2.19
Sewer Constructed 1940 to 1959	38,225	7.24
Sewer Constructed 1920 to 1939	4,456	.84
Sewer Constructed 1900 to 1919	Unknown	Unknown
Sewer Constructed Before 1900	Unknown	Unknown
Unknown	767,962	145.45

*Table 4: Inventory of Mains by Material*

<b>Material</b>	<b>Feet</b>	<b>Miles</b>
ABS	116	.02
ACP	5,095	.96
CIP	530	.10
CIPP	19,406	3.68
DIP	136	.03
PCP	12,283	2.33
PE	301,138	57.03
PVC	42,331	8.02
RCP	29,746	5.63
Steel	248	.05
VCP	284,426	53.87
Unknown	446,659	84.59

*Table 5: Inventory of Lower Laterals*

<b>Agency</b>	<b>Number of Laterals</b>
City of Palo Alto	18093

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*Table 6: Inventory of City Owned Lower Laterals by Material*

<b>Material</b>	<b>Feet</b>	<b>Miles</b>
ABS	55,426	10.50
ACP	11,794	2.23
CIP	1,643	.31
DIP	16	.00
PE	115,712	21.92
PVC	17,895	3.39
Steel	114	.02
VCP	30,091	5.70
Unknown	17,637	3.34

#### Data Management Systems

The City is currently in contract with Sedaru, which is owned by Aquatic Informatics, as their enterprise asset management software. The Sedaru program can be used out in the field using tablets or in the office using a desktop computer. WGW Operations and Engineering team are working with the Sedaru to continue improving the software system.



## Element 2: Organization

### Statewide Waste Discharge Requirements

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:

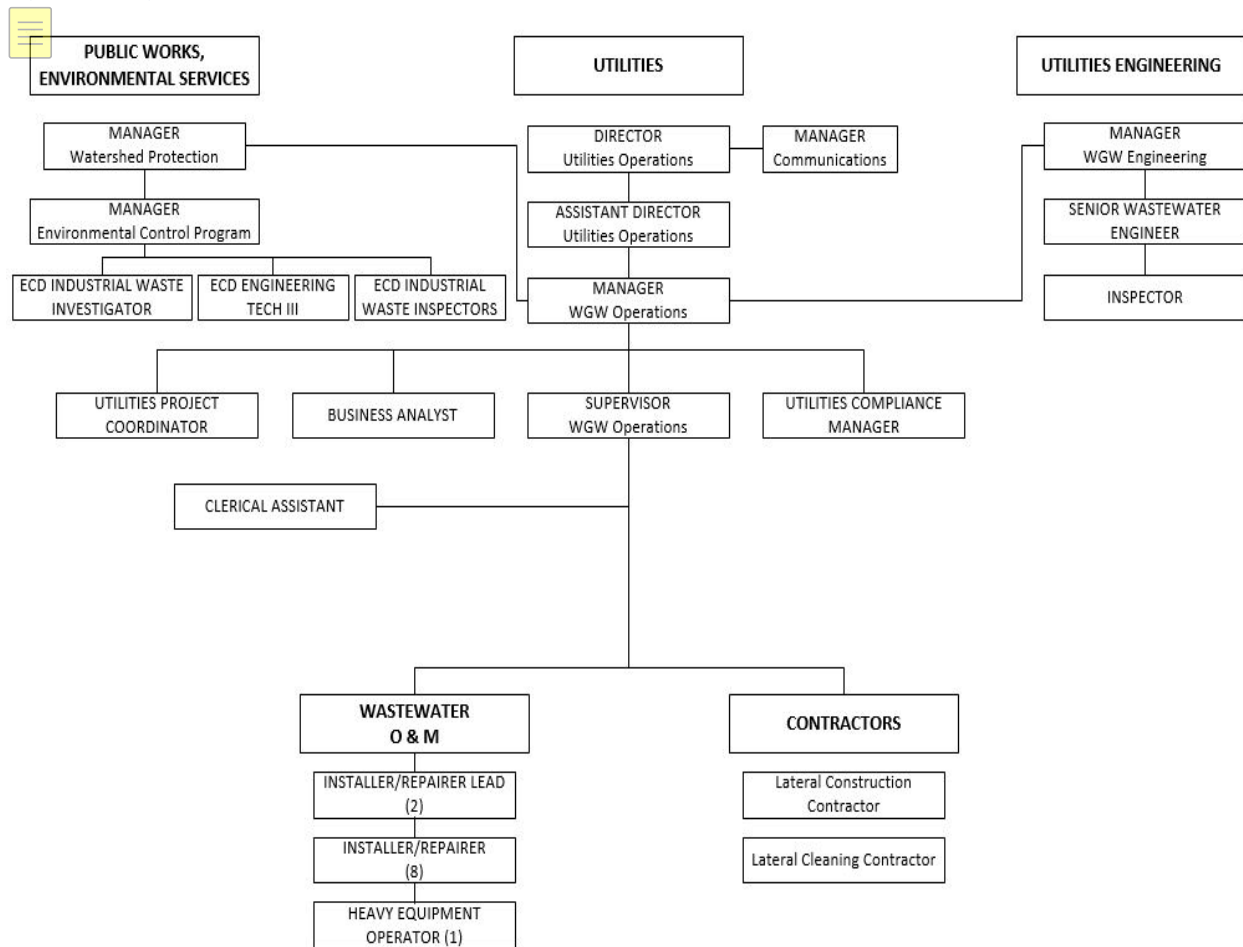
- The name of the Legally Responsible Official as required in section 5.1. (Designation of a Legally Responsible Official) of this General Order;
- The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific Sewer System Management Plan elements;
- Organizational lines of authority; and
- 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 agency, and State Office of Emergency Services.)

### 2.1 Organizational Structure

An organizational chart for Water Gas Wastewater Operations (WGW) is shown in **Figure 1**. This organization shows the lines of authority for administrative and field staff who are involved with implementing the SSMP.

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Figure 1: Organizational Chart



### Position Descriptions

Brief descriptions of the staff positions included on the organizational chart.

#### Utilities Director

Oversees the overall program, communicates with City Manager, provides reports to the City Council and designates Legally Responsible Official (LRO) to certify spill reports.

#### Assistant Director, WGW Operations and Engineering

Oversees the program and communicates with the media. This classification can be designated as an LRO.

#### Manager, Utilities Compliance

Supports the collection systems program through evaluation of service reliability inspections related to collection system programs. Provides support and assistance with regulatory and environmental compliance.

#### Manager, Utilities Communications

Disseminates urgent and pertinent information to the public in a timely manner.

#### Manager, WGW Operations

Manages five WGW Operations Supervisors. Has the appropriate knowledge and expertise of the City's wastewater infrastructure to make decisions. This classification can be designated as an LRO.

**Utilities Supervisor, Wastewater Operations**

Manages field operations and maintenance activities for the sanitary sewer collection system, provides relevant information to agency management, prepares, and implements contingency plans, leads emergency response, investigates, and reports spills, and trains field staff. This position has an account with the State Water Board online spill database and submits spill data that is ultimately reviewed and certified by the LRO. The State designates these persons as Data Submitter.

**Business Analyst**

Assist in wastewater collection system data analysis and report generation. The State designates these persons as Data Submitters.

**Installer/Repairer Lead**

Leads crews in the performance of routine maintenance and inspection. Oversees and participates in the installation and repair projects of Wastewater Operations. Responds to after hour spills if part of Standby Operations. Referred to as a Wastewater Operator in the SSMP.

**Installer/Repairer**

Under direction of Wastewater Supervisor, performs routine maintenance and inspection. Participates in the installation and repair projects of Wastewater Operations. Also responds to after hours spills if part of the Standby Operations Team. Referred to as the Wastewater Operator in the SSMP.

**Manager, WGW Engineering**

Establishes policy, plans strategy, reviews the SSMP engineering related information, leads engineering staff, allocates resources, delegates responsibility, and authorizes outside contractors to perform services for rehabilitation and new construction of wastewater improvements.

**Senior Wastewater Engineer**

Manages and administers the Capital Improvement Program (CIP).

**Utilities Project Coordinator**

This position has an account with the State Water Board online CIWQS database and submits spill data that is ultimately reviewed and certified by the LRO. This position is a Data Submitter for the City.

**Inspector**

Conducts inspections of construction projects including contract and CIP projects. Ensures that new and rehabilitated assets meet agency standards.

**Manager, Watershed Protection**

Manages the development, implementation and administration of various environmental compliance and water pollution prevention programs for the Regional Water Quality Control Plant. Maintains and updates the City's Sewer Use Ordinance.

**Manager, Environmental Control Program**

Administers the City's Fats, Oils and Grease (FOG), Industrial Waste, and Storm Water Programs.

**Environmental Compliance Division (ECD) Industrial Waste Investigator**

Conducts inspections and industrial, commercial, and food service facilities.

**Environmental Compliance Division (ECD) Industrial Waste Inspector, Storm Water**

Investigates the illegal discharge of wastewater to the storm drains.

**Environmental Compliance Division (ECD) Industrial Waste Inspector, Sampling**

Collects samples and inspects discharge locations including creeks and grease removal devices.

**Environmental Compliance Division (ECD) Engineering Tech III**

Inspects food service facilities

**2.2 Responsibility for SSMP Management, Administration, and Maintenance**

The City's Utilities Director has the ultimate responsibility for management, administration, and maintenance of all elements of the City's SSMP. The responsibility for day-to-day implementation and maintenance of each of the City's SSMP Elements has been delegated to City Staff. **Table 7** lists the City Staff involved with developing, implementing, and maintaining the City's SSMP, along with their job titles and contact information.

*Table 7: List of City Staff Responsible for the SSMP*

<b>SSMP Element</b>	<b>Responsible City Official</b>	<b>Phone</b>	<b>e-Mail</b>
Element 1 Sewer System Management Plan Goal and Introduction	Dean Batchelor, Utilities Director	(650)496-6981	<a href="mailto:Dean.Batchelor@cityofpaloalto.org">Dean.Batchelor@cityofpaloalto.org</a>
Element 2 Organization	Anthony Meneses, WGW Operations Manger	(650)496-6907	<a href="mailto:Anthony.Meneses@cityofpaloalto.org">Anthony.Meneses@cityofpaloalto.org</a>
Element 3 Legal Authority	Pam Boyle Rodriguez, Manager Environmental Control Program Watershed Protection	(650)329-2421	<a href="mailto:Pamela.BoyleRodriguez@cityofpaloalto.org">Pamela.BoyleRodriguez@cityofpaloalto.org</a>
Element 4 Operation and Maintenance Program	Robert Bishop, Interim Supervisor WGW Operations	(650)329-2218	<a href="mailto:Robert.Bishop@cityofpaloalto.org">Robert.Bishop@cityofpaloalto.org</a>
Element 5 Design and Performance Provisions	Silvia Santos, Manager WGW Engineering	(650)566-4520	<a href="mailto:Silvia.Santos@cityofpaloalto.org">Silvia.Santos@cityofpaloalto.org</a>
Element 6 Spill Emergency Response Plan	Robert Bishop, Interim Supervisor WGW Operations	(650)496-6917	<a href="mailto:Robert.Bishop@cityofpaloalto.org">Robert.Bishop@cityofpaloalto.org</a>
Element 7 Sewer Pipe Blockage Control Program	Pam Boyle Rodriguez, Manager Environmental Control Program Watershed Protection	(650)329-2421	<a href="mailto:Pamela.BoyleRodriguez@cityofpaloalto.org">Pamela.BoyleRodriguez@cityofpaloalto.org</a>
Element 8 System Evaluation, Capacity Assurance and Capital Improvements	Silvia Santos, Manager WGW Engineering	(650)566-4520	<a href="mailto:Silvia.Santos@cityofpaloalto.org">Silvia.Santos@cityofpaloalto.org</a>

Element 9 Monitoring, Measurement and Program Modifications	Anthony Meneses, Manager WGW Operations	(650)496-6932	<a href="mailto:Anthony.Meneses@cityofpaloalto.org">Anthony.Meneses@cityofpaloalto.org</a>
Element 10 Internal Audits	Anthony Meneses, Manager WGW Operations	(650)496-6932	<a href="mailto:Anthony.Meneses@cityofpaloalto.org">Anthony.Meneses@cityofpaloalto.org</a>
Element 11 Communications Program	Catherine Elvert, Manager Utilities Communications	(650)329-2417	<a href="mailto:Catherine.Elvert@cityofpaloalto.org">Catherine.Elvert@cityofpaloalto.org</a>

### 2.3 Legally Responsible Official

Under Resolution No. 9380, the City Council has adopted the following City employee classifications as potential Legally Responsible Officials (LROs):

- Assistant Director of Utilities
- Water Gas Wastewater Operations Manager
- Utilities Compliance Manager
- Wastewater Collections Supervisor

Out of these potential employee classifications, only the Assistant Director of Utilities and Water Gas Wastewater Operations Manager maintain the qualifications that are stipulated in the reissued General Order. Per Section 5.1 of the Order 2022-0103-DWQ, the LRO must have responsibility over the entire sanitary sewer system and have the authority to make decisions governing operations of the sewer system, including explicit or implicit duty of making capital improvement recommendations.

Furthermore, the LRO must have or be in direct authority over individuals that:

1. Possess a recognized degree or certificate related to operations and maintenance of the sewer system, and/or
2. Have professional training and experience related to the management of sanitary sewer systems, demonstrated through extensive knowledge, training and experience.

In consideration of the above criteria, the City of Palo Alto has designated Matt Zucca, Water Gas Wastewater Operations and Engineering Assistant Director, and Anthony Meneses, WGW Operations Manager, as the Legally Responsible Official.

### 2.4 Chain-of-Communication for Reporting and Responding to Spills

In response to a spill event, City of Palo Alto Utilities also known as Water, Gas, Wastewater Operations implements its Spill Emergency Response Plan, discussed in detail in Element 6. The Spill Emergency Response Plan provides direction for the immediate verbal and written notification of City Staff and California Office of Emergency Service (Cal OES).

All spill-related calls from the Public and City Staff are routed to the City's 24-hour Dispatch Center for proper documentation and tracking. The Dispatch Center is responsible for routing the spill calls to Wastewater Operations - Emergency Response Team (ERT) during regular business hours and to the Standby Operations - Emergency Response Team after hours.

### Wastewater Operations

ERT consists of Installer/Repairers (I/R). During regular business hours, the ERT arrives on site and assesses the situation. If the event is a Category 1 or 2 Spill, ERT will call the Utilities Supervisor as soon as possible while containing the spill, relieving the blockage/stoppage, and documenting the event. Category 3 and 4 Spills will have the same procedure stated above except notification to the Utilities Supervisor is not necessary. The ERT is responsible for communicating the details of the event to Management, ensuring all necessary paperwork is completed in full.

### Standby Operations

ERT consists of a team of 3 which includes 2 Installer/Repairers who are designated as Primary Responder, Secondary Responder, and a Heavy Equipment Operator (HEO) in case of major repairs. Standby Operations ERT is an after-hours operation and uses the same process as the Wastewater Operations ERT.

The Dispatch Center records communications between the callers, the responders and any other supporting team that is being dispatched to the spill scene. Important phone numbers for City Staff involved in spill response are shown on **Table 8**.

*Table 8: Phone Numbers for Spill Response*

Responsible Party	Name	Phone Number
24hr Dispatch Center	Utilities Emergency Dispatch	(650) 329-2579
Police Department	24-Hour Non-Emergency Police Dispatch	(650) 329-2413
Emergency/Crossbore/Radio Call Sign 413	I/R Class, Emergency Response normal working hours	(650)213-2633
Primary ERT	I/R Class, Standby Operations after hours	(650)444-6198
Secondary ERT	I/R Class, Standby Operations after hours	(650)444-5290
WGW Operations Office	Administrative Staff	(650) 496-6982
Utilities Supervisor (Interim Wastewater Operations)	Robert Bishop	(650) 329-2218
Legally Responsible Official(s)	Anthony Meneses Matt Zucca	(650)496-6907 (650) 329-2639
Data Submitters	Venessa Fujii	(650) 496-6994

## Element 3: Legal Authority

### **Statewide Waste Discharge Requirements**

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:

- 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;
- 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;
- Require that sewer system components and connections be properly designed and constructed;
- Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee;
- Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and
- Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.

### 3.1 Legal Authority

The Palo Alto City Council has the power to enact ordinances and other legally binding instruments to regulate usage and prevent discharges to the sewer, including but not limited to fats, oils, grease, and debris that may cause blockages. The City has approved and adopted the Sewer Use Ordinance (Palo Alto Municipal Code (PAMC), Title 16, Chapter 16.09 Appendix H), the Utilities Rules and Regulations (Appendix G) and the Utility Standards (Appendix I) to govern the collection, maintenance, and construction of the wastewater facilities within the City. In addition, the City has entered into several agreements with its partner agencies to the RWQCP that obligates those agencies to comply with both City requirements and the WDR and NPDES permit.

The specific purpose of the City's Sewer use Ordinance is to prevent the discharge of any pollutant into the sewer system, the storm drain system, or surface waters, which would:

1. Obstruct or damage the collection system;
2. Interfere with, inhibit or disrupt the Palo Alto Regional Water Quality Control plant or its treatment processes;
3. Pass through the treatment system and contribute to violations of the regulatory requirements placed upon the plant;
4. Result in or threaten harm to or deterioration of human health or the environment.

The Utilities Rules and Regulations, approved and adopted by resolution of the City of Palo Alto City Council, govern the business operation of the City's utilities, including access, maintenance, and inspection of City-owned laterals.

The Utility Standards govern the requirements for proper design, construction, and maintenance of water, gas, and wastewater utility facilities and connections within the City of Palo Alto. Element 5 contains

greater detail regarding the Utility Standards governing the design and construction of sanitary sewer systems.

Enforcement provisions are found in Palo Alto Municipal Code (PAMC). Violations of the PAMC can be addressed through criminal, judicial, administrative, and/or injunctive action. The City may assess monetary fines as well.

### 3.2 Sewer Use Ordinance

**Table 9** contains a summary of pertinent Sewer Use Ordinance provisions relevant to SSMP implementation. Note that this summary is provided for convenience only; users should consult with the Utilities Compliance Manager or the City Clerk's Office to confirm that they are using the most recent version of the City's Sewer Use Ordinance.

([https://codelibrary.amlegal.com/codes/paloalto/latest/paloalto\\_ca/0-0-0-71241](https://codelibrary.amlegal.com/codes/paloalto/latest/paloalto_ca/0-0-0-71241))

*Table 9: Palo Alto Municipal Code Provisions Relevant to SSMP*

Provision	Palo Alto Municipal Code Reference
Purpose and applicability	16.09.005
Limitations of point of discharge	16.09.030
Prohibitions	16.09.035
Standards	16.09.040
Grease disposal prohibited	16.09.050
Unpolluted water	16.09.055
Food service establishments	16.09.075
Industrial waste discharge permit	16.09.080
Requirements for construction operations	16.09.170
Root and pest control chemicals	16.09.210
Enforcement – Warning	16.09.240
Enforcement – Notice of noncompliance	16.09.245
Enforcement – Administrative compliance order	16.09.250
Enforcement – Criminal penalties	16.09.255
Enforcement – Administrative citation	16.09.260
Enforcement – Administrative civil penalties	16.09.265
Enforcement – Judicial civil penalties	16.09.270
Damage to facilities	16.09.275
City right to terminate discharge	16.09.280

### 3.3 Utilities Rules and Regulations

**Table 10** contains a summary of pertinent Utilities Rules and Regulations relevant to SSMP implementation. See **Appendix G** or check the link below for the most recent versions of the Utilities Rules and Regulations.



*Table 10: Utilities Rules and Regulations Relevant to SSMP*

<b>Rule/Regulation</b>	<b>Reference</b>
Adoption of Rules	RR01
Definitions and Abbreviations	RR02
Description of Utility Service	RR03
Application for Service	RR04
Access to Premises	RR08
Disconnection, Restoration & Termination of Service	RR09
Billing, Adjustment & Payment of Bills	RR11
Line Extensions	RR16
Utility Service Connections & Facilities on Customers' Premises	RR18
Special Wastewater Utility Regulations	RR23

### 3.4 Agreements with Other Agencies

The Regional Water Quality Control Plant administers and manages an agreement with each of the partner agencies: City of Mountain View, City of Los Altos, East Palo Alto Sanitary District, Town of Los Altos Hills and Stanford University. Provisions in the Partners Agreement, **Appendix M**, requires that the agencies adopt companion ordinances and regulations to assure no upset or damaging conditions will affect the RWQCP in the partner wastewater discharges. The City and partner agencies meet and discuss various issues on a regular basis. Each partner agency is responsible for its own collection operations maintenance and regulatory compliance.

## Element 4: Operation and Maintenance Program

### **Statewide Waste Discharge Requirements**

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

#### **4.1. Updated Map of Sanitary Sewer System**

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 manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundaries.

#### **4.2. Preventive Operation and Maintenance Activities**

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,
- Regular visual and closed-circuit television (CCTV) inspections of manholes and sewer pipes. The data collection system must document data from system inspection and maintenance activities.

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.

#### **4.3. Training** 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.

#### **4.4. Equipment Inventory**

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

### **4.1 Sanitary Sewer System Mapping**

The City of Palo Alto uses Geographic Information System (GIS) technology to create, maintain, and manage maps and data sets associated with its wastewater collection system facilities, storm drainage facilities, and force mains. Location, pipe, and manhole inventory data including length, diameter, material, rim/invert elevations, street address, and other information are maintained.

#### **4.1.1 Mapping**

Since 1995, the WGW Engineering staff has maintained and utilized the City's GIS system for the Wastewater Collection System. Wastewater Collection System Map Books are in all service vehicles assigned to Wastewater Operations, Offices, and in the WGW Operations center. Wastewater Collection

System Map Books are in the form of a 200-scale map book, which are in sizes of 11"x17" and 24"x16" with a green front cover.

#### Updates to Existing Drawings

Corrections are made to maps in the GIS system by WGW Engineering when requested by Wastewater Operations. Proposed corrections identified by Wastewater Operations are delivered by electronic service orders to the WGW Engineering staff as field staff discovers corrections. Engineering staff makes map revisions weekly based on these orders. Map books are provided to Wastewater Operations by WGW Engineering every 18 months to 2 years. Interim changes on individual pages can be printed from GIS and given to personnel prior to the distribution of map books.

#### Storm Drains

Storm drains are also shown on GIS and can be viewed by Wastewater Operations. The City's Public Works Engineering staff is responsible for maintaining the storm drain map. The Storm Drain System GIS is equipped with a tool called "FLO" that can electronically trace the location of any overflow from the source to downstream locations, including storm drains, lift station, or creeks. In addition to the GIS map, a Map Book of the City's Storm Drain System Map is kept in the WGW Operations Center and all service vehicles assigned to Wastewater Operation. The system map can be used to determine the routing of spills, to potentially block storm drains and contain the volume of overflows before they reach waters.

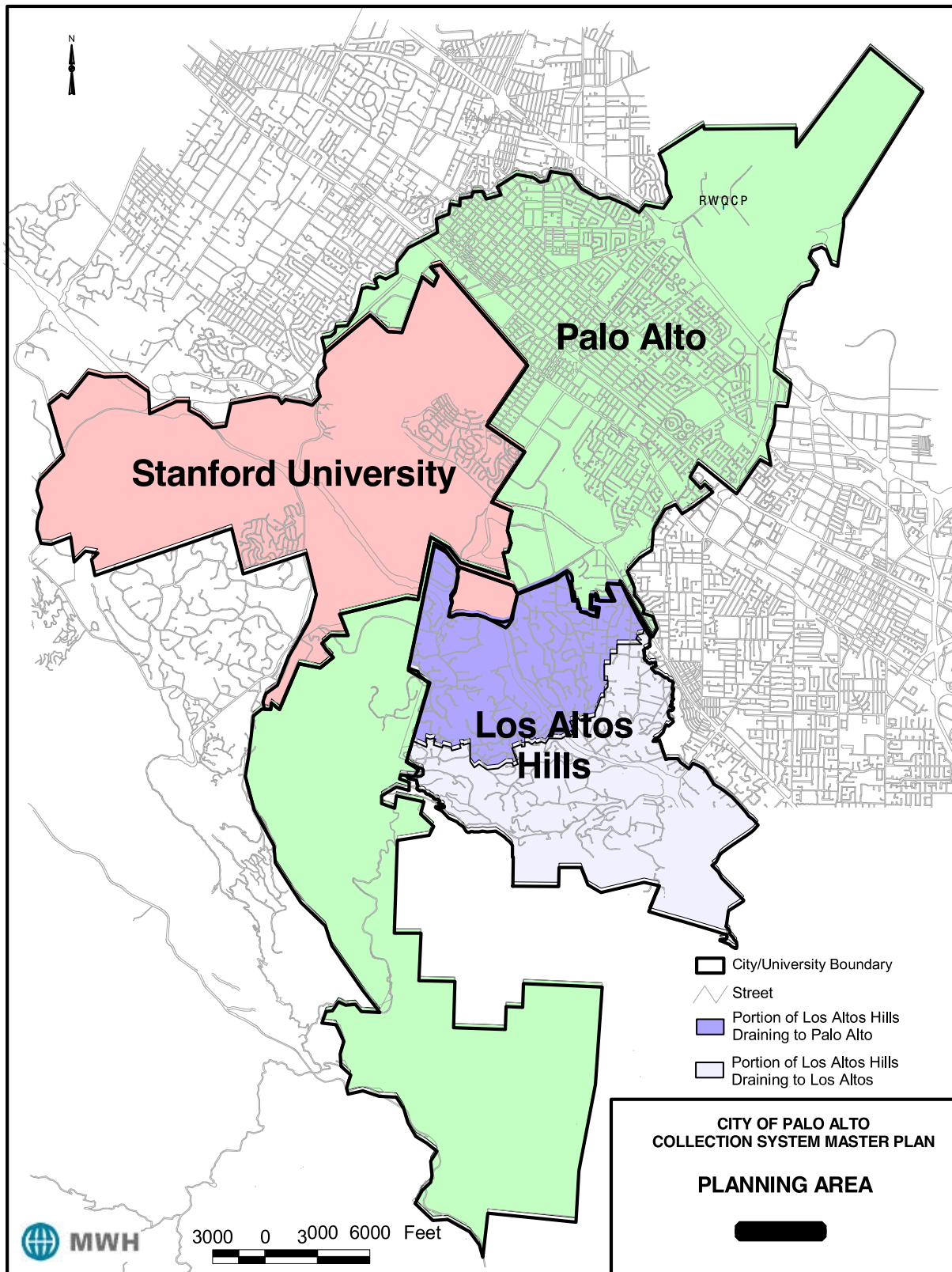
#### 4.1.2 New Improvement Plan Drawings

Upon acceptance by the City Council of all new and dedicated infrastructure, record drawings are prepared by WGW Engineering for inclusion in the GIS and sewer maps. A copy of record drawings are scanned for map updates, catalogued, and inserted into the GIS system upon installation of newly constructed and dedicated sewer mains, storm drains, and associated facilities. Drawings are submitted in both hard copy and electronic format. A scanned copy of record drawings from contractors and developers is provided to the Wastewater Operations so they have a record of improvements and facilities on hand prior to the publication and receipt of updated system maps. The hardcopies of records are maintained in the WGW Operations Center. As part of each rehabilitation and replacement project, contractors provide GPS data for sewer collection facilities like cleanouts, lateral connection locations, and manholes. Engineering uses this information in its updates of the GIS and wastewater collection system facilities.

#### 4.2 Preventative Maintenance

The City's wastewater collection system Operation and Maintenance (O&M) Program includes proactive, preventive, and corrective maintenance of gravity sewers, and regular inspection and preventive maintenance of the lift station and force main. **Figure 2** provides a map of the City's Wastewater Collection System service area including the Partner Agency service areas.

Figure 2: Sewer System Service Area



#### 4.2.1 Staffing

The City has twelve O&M employee positions dedicated to Wastewater Operations. The 12 O&M employees consist of the following budgeted positions:

- 1 Utilities Supervisor (Wastewater Operations)
- 2 Installer/Repairer Leads (I/R Leads)
- 8 Installer/Repairers (I/R)
- 1 Heavy Equipment Operator (HEO)

Other Wastewater Operation staff that support O&M include the Assistant Director, WGW Operations Manager, Utilities Project Coordinator, Business Analyst, Utilities Communications Manager, and a Program Assistant.

#### 4.2.2 Preventative Maintenance for Gravity Sewer Mains

The City is committed to proactively cleaning its entire collection system on a frequency of at least every 36 months except for trunk lines (lines greater than 15 inches) and certain lines located in easements. **Table 11** shows the cleaning frequencies for the various categories of lines. Pipes with historical maintenance issues like heavy FOG deposition, “hotspot” or high frequency lines, are cleaned on a preventive maintenance schedule every 3 or 6 months. The City collects and analyzes maintenance and other condition assessment data during its proactive and preventive cleaning of lines. The cleaning frequency of hotspot lines may vary and be increased seasonally, during holiday periods for example, and in areas with heavy FOG deposits. In the future, the frequency of sewer cleaning may be adjusted to optimize efforts based on cleaning results measured by the observed results and condition assessment by CCTV.

*Table 11: Minimum Cleaning Frequencies for Line Type*

Line Type	Minimum Cleaning Frequency in Months
Hot Spot Lines	3 to 6 months
Easement Lines	36 months
Trunk Lines (Lines greater than 15 inches)	60 months
Siphons	12 months
All Other Lines	12 to 36 months

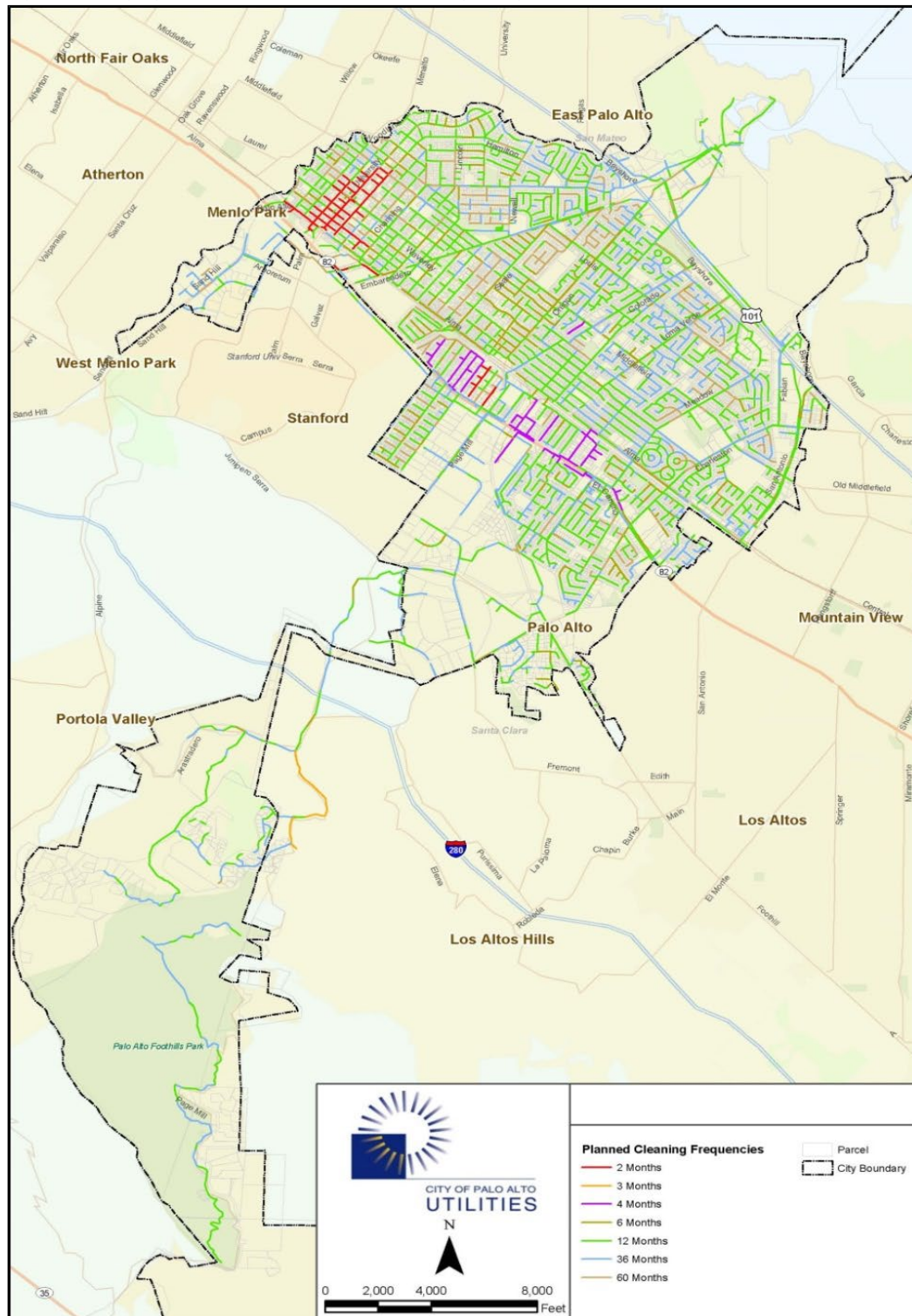
**Figure 3** provides a map of the City’s Wastewater Collection System and cleaning frequencies. The City uses its own staff and contractors to perform all cleaning of City wastewater collection system lines.

Gravity sewer maintenance is currently scheduled using a computerized maintenance management system (CMMS) called Sedaru. Maintenance activities and cleaning results are recorded in Sedaru for each segment of pipe cleaned. Work orders are generated and are used to schedule cleaning of “Hotspot” or high frequency lines as well as for the system-wide cleaning of all other pipes and siphons. Although the goal is to have all work orders assigned and completed within Sedaru, there are times when a paper work order is completed instead. Wastewater Operators are to deliver completed paper work orders to the Utilities Project Coordinator at the end of each working day so that it can be recorded into Sedaru. The City’s work order form used for dispatching work and recording completed work is shown in **Appendix A and B**.



2023 Sewer System Management Plan  
City of Palo Alto

Figure 3: City of Palo Alto Sewer Line Cleaning Frequencies



An important aspect of the City's sewer cleaning program is the recording of cleaning results for each manhole-to-manhole pipe segment using code-based standard results in the Standard Measures of Observed Results on the Mainline Work Order Form, **Appendix A**. The results provide a basis for the

Utilities Supervisor to modify the frequency or method of cleaning for that pipe segment to reflect current field conditions. Follow-up video inspections and/or repairs are requested as needed by the Utilities Supervisor to assure quality of the cleaning and for training of City employees. This process is shown in **Figure 4**.

The City is currently beginning a process to define the cleaning and maintenance requirements of all system siphons that have not had regular maintenance. This program will evaluate required equipment, procedures, frequency of evaluation and cleaning and the possible use of contractors to conduct this work when required.

Main cleaning is presently performed on a basin based approach utilizing twenty-seven (27) basins defined in the City's GIS. Basins are geographically located to reduce travel time to the basin and maximize productivity once work in the basin is initiated. **Figure 5** contains the current Wastewater Collection System Basin Map. Work orders are prepared in routes which include about 3,500 to 5,000 linear feet of cleaning and are provided to Wastewater Operators at the start of each day. A team of 2 Operators are assigned to complete daily wastewater main cleaning per a schedule. Sometimes there are two teams working on cleaning depending on emergency response, work load priorities, and projects. Most cleaning is accomplished by hydroflushing wastewater mains using a combination high velocity hydroflushing/vacuum truck. The City has two of these units assigned to Wastewater Operations.

Figure 4: Sewer Cleaning Scheduling Flowchart

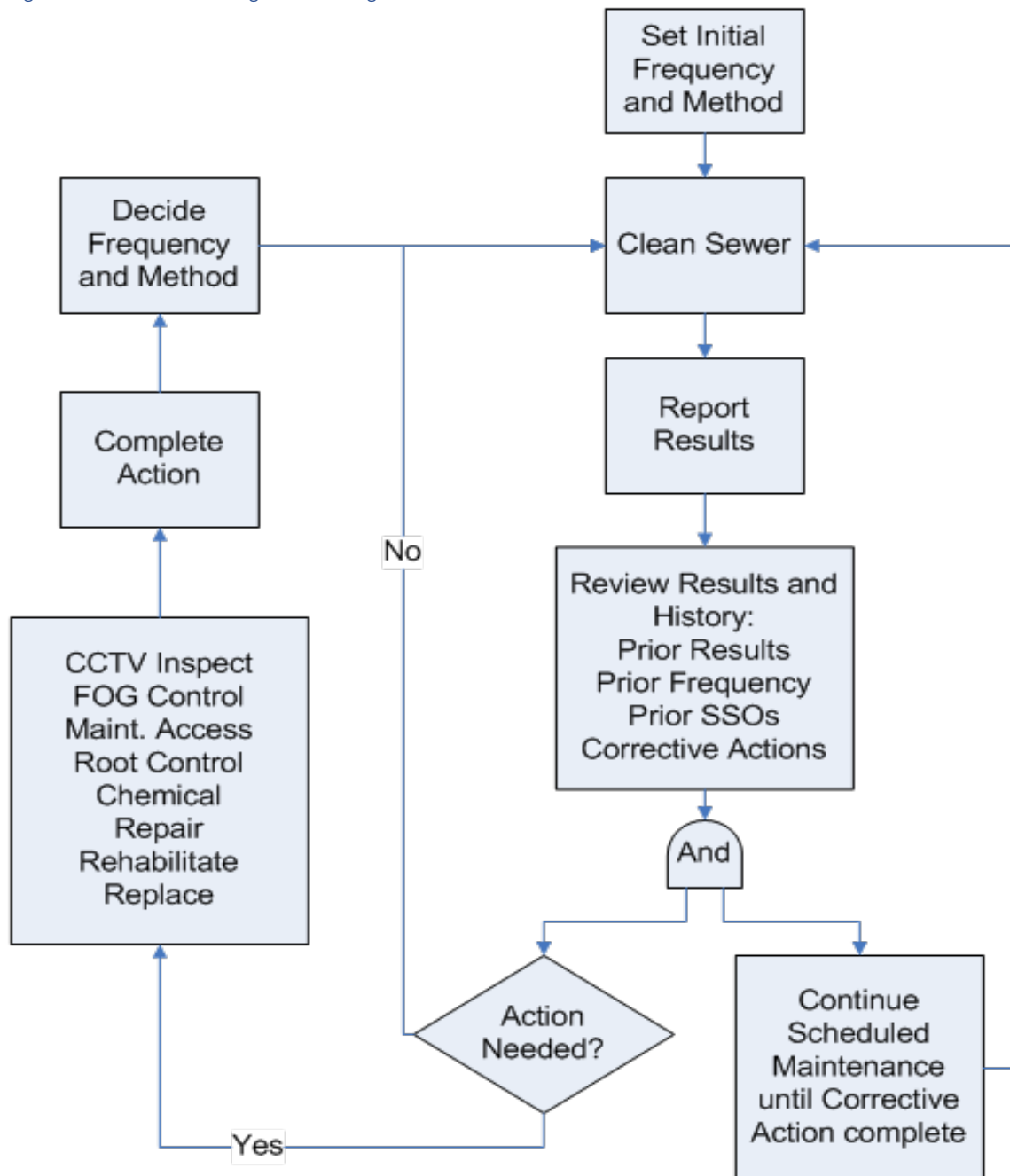
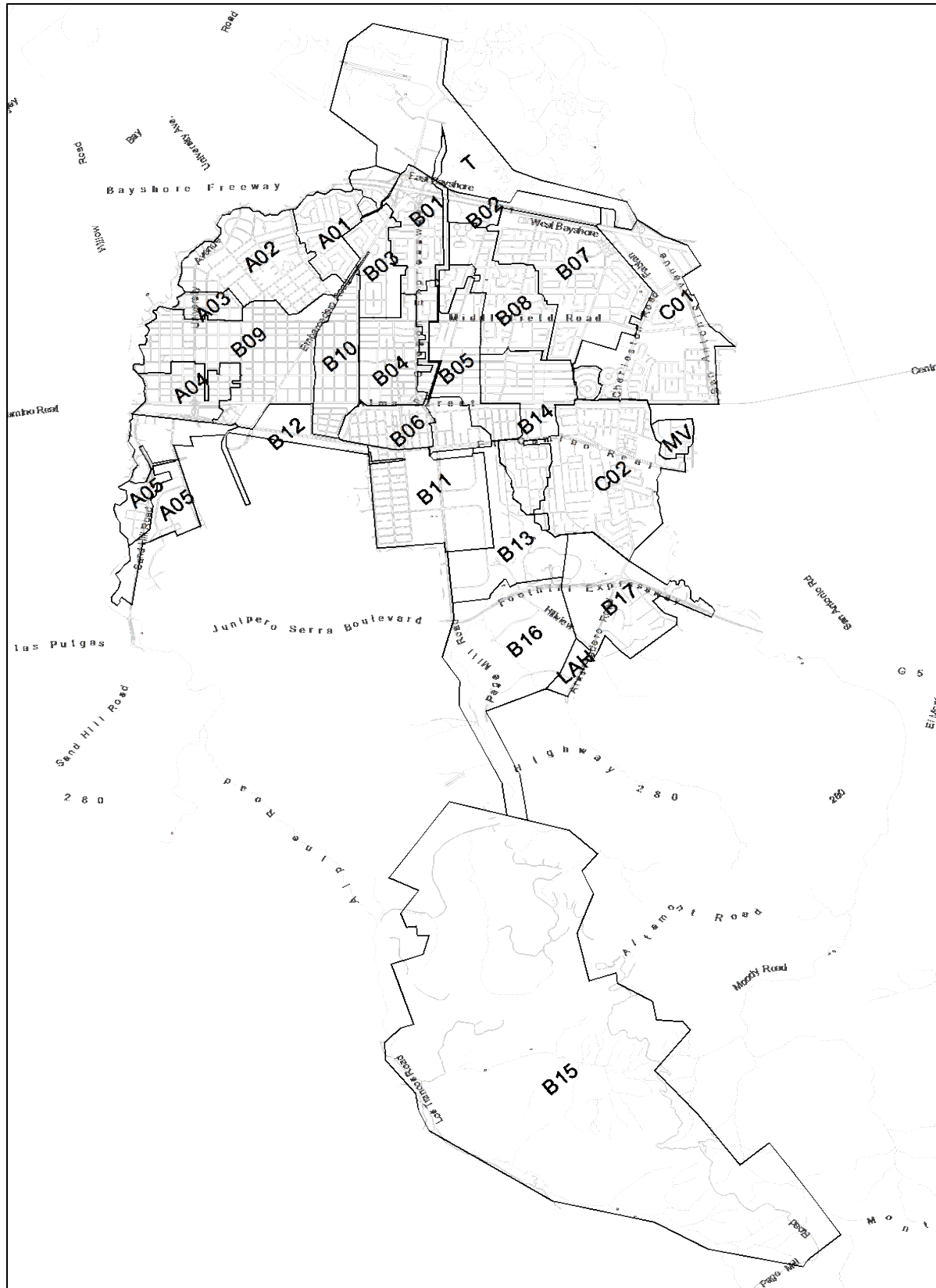




Figure 5: City of Palo Alto Wastewater Utility Basin Map



#### 4.2.3 Main Inspection

Inspections are performed by Wastewater Operations field staff with the use of a CCTV van equipped with a camera, a computer, and Granite Basic software. Small, portable cameras are also available for use in small diameter lines/laterals and special cases where the CCTV van system is cumbersome.

#### Quality Assurance/Quality Control (QA/QC)

Quality Assurance/Quality Control is used to provide feedback to Wastewater Operations on the quality of their cleaning on approximately 2% of the footage of cleaning performed. Formal QA/QC consists of performing CCTV inspection of selected lines within 2 weeks of their cleaning. The I/R Lead provides feedback to support modification of cleaning processes, practices, techniques, and tool-use to improve line cleaning quality located in the Sedaru work order. Feedback is generally given in staff meetings and in one-on-one meetings with employees.

#### Pipeline Assessment Certification Program (PACP)

Pipeline Assessment Certification Program is the North American Standard for pipeline defect identification and assessment, providing standardization and consistency to the methods in which pipeline conditions are identified, evaluated, and managed. This program provides a framework for ranking line segments based on severity of observed defects and conditions. The pipe ratings are based on the number of occurrences and severity of each defect or condition. Structural and O&M defects are calculated separately. The data obtained from these inspections are used to assist in the prioritization of the City's sewer rehabilitation and replacement program as well as the identification of hotspots requiring regular flushing. Currently, work orders are generated from Sedaru for Lateral Assessment Certification Program (LACP) and spills. These lines are inspected by an I/R Lead who holds a PACP Certification through NASSCO. Defects in the Wastewater Collection System are identified, graded and managed through the Granite Basic Software. PDF reports are exported and printed by Granite Basic and stapled together with the Sedaru work order. It is then turned in at the end of the day to be entered into Sedaru by the data submitter who must scan and attach the report to each work order form and close it out.

#### Manhole Inspections

The City will assess the condition of the manholes and other structures using City field crews and visual inspection methods during its system-wide sewer cleaning. Manhole Inspection forms should be completed on the SEDARU app when in the field.

#### 4.2.4 Lower Lateral Maintenance

As with mainline maintenance frequencies, problem laterals that warrant a higher cleaning frequency due to root intrusion or structural defect are placed on a 12 month cleaning frequency scheduled in Sedaru. If the problem lateral continues to have repeated service calls, or results in multiple backups or spills, it is placed on the lower lateral Replacement/Repair list and its cleaning frequency is increased. Lower lateral cleaning is performed by using 2 methods. One being an electric power rodder/snake mostly used by the ERT during preventive maintenance (SOAP) and our new Hydrojetter Truck used for the AJAC Program.

#### Sewer Overflow Alternative Program (SOAP)

SOAP is the City of Palo Alto's preventive maintenance program. The Wastewater Operations Department uses an electric power rodder which is a portable unit that is kept in the ERT Van. The Wastewater Operators assigned to the ERT will respond to emergency blockages, stoppages, and spills.

When there are no emergencies, the Operators will complete planned work in paper or digital SOAP work orders. A tablet with the Sedaru App is given to this team to complete work orders. The Wastewater Project Coordinator can review data that was submitted from the field, enter data, and close work orders in Sedaru.

#### Advanced Jetting And Cleaning (AJAC)

AJAC is similar to the SOAP program but dedicated to hydrojetting lines. The Wastewater Operators assigned to AJAC will focus on preventive maintenance. This team is to complete paper or digital AJAC work orders on the Sedaru App. A Utilities Project Coordinator can review data that was submitted from the field, enter data, and close work orders in Sedaru. Teams assigned to the Combination Truck can be assigned AJAC if all routes have been completed and there are no emergencies.

#### 4.2.5 Lower Lateral Inspection

Inspections are performed by Wastewater Operators by using small, portable CCTV units (Rigid See Snakes as well as other brands). It is used to confirm cleaning frequencies, methodologies, and determine effectiveness of a cleaning as well as finding crossbores, structural defects, and infiltration.

**CCTV of New Gas Service/Crossbore Program** Once a new gas service is installed/replaced by New Construction/Gas Operations, ERT is dispatched to do a sewer lateral inspection for crossbores. ERT must inspect the entire length of the sewer lateral, both City and Private. If there is no access for the private sewer lateral, a contractor must be dispatched to clear for crossbore. Wastewater Operators assigned to ERT will use a Portable CCTV Camera to complete inspections. Details of the inspection are recorded on a Lateral Work Order form, see **Appendix B**, which are turned in at the end of the day or submitted on the Sedaru App. If a crossbore is found, repairs are completed the same day.

**Quality Assurance/Quality Control (QA/QC)** Same as 4.2.3 Section A but for Laterals

**Lateral Assessment Certification Program (LACP)** Same as 4.2.3 Section B but for Laterals

#### 4.2.6 Lift Stations

The City operates and maintains one lift station. Wastewater Operations perform routine operational checks of the station once a month and the wet well is cleaned annually. The Water Transmission Division of Utilities also performs weekly visual inspections of the station. Preventive maintenance for mechanical and electrical equipment is done annually by WGW Operations General Shop. The station has an audible alarm and is connected through a SCADA system to the Utilities Dispatch Center. The station serves approximately 25 homes and a portable generator is available in the event of power outages.

#### 4.2.7 Force Mains

The City has one 10-inch diameter force main of 900 linear feet that serves the lift station in Foothill Park. (A force main moves wastewater under pressure by using pumps located in lift stations. They carry wastewater from lower to higher elevation). Wastewater Operations conducts annual above-ground visual inspections for signs of problems or leakage from the force main.

#### 4.2.8 Chemical Root and Grease Control

Lines with a history or record of significant root intrusion, or in areas that are not readily accessible such as parks or easements, may be treated with chemicals to control root growth on an as needed basis.

Wastewater Operations occasionally applies commonly used herbicides for this purpose as well as grease emulsifying agents to assist with FOG control. The City also contracts a root control contractor to apply root foaming applications to identified areas of high root intrusion throughout the City.

#### 4.3 Rehabilitation and Replacement Plan

Since 1988, the City has had an ongoing Capital Improvement Program (CIP) to rehabilitate and replace its sewer infrastructure. On average roughly 9,100 feet of sewer mains are replaced each year. Since 1988, approximately 64 miles of sewer mains have been rehabilitated or replaced, primarily by pipe bursting with high-density polyethylene (HDPE) pipe. Since 2005, the sewer rehabilitation projects have also included replacement of the associated lower laterals.

Areas of the system are targeted for rehabilitation based on the results of CCTV inspection, review of spill records, and line cleaning maintenance records. In addition, lines may be prioritized and replaced in selected “targeted work zones” where City Public Works has planned pavement rehabilitation and improvement work scheduled. The wastewater CIP is overseen by WGW Engineering. Other, repair work is conducted on an as-needed basis by Wastewater Operations to address wastewater maintenance or structural problems identified through regular maintenance or CCTV inspection activities.

##### 4.3.1 Gravity Sewers

The City’s Rehabilitation and Replacement Program is driven by the condition of its wastewater collection system assets as described above. In addition to main replacement, lower lateral replacements are done in response to maintenance problems, follow-up to spill events, and upon discovery by SOAP or QAQC program. Lateral repairs and replacements are performed by Wastewater Operations as well as contractors. Approximately 200 laterals are replaced annually in addition to those replaced as part of Sanitary Sewer Replacement (SSR) projects. Similar to main lines, lower laterals are generally replaced by pipe bursting with HDPE pipe.

#### 4.4 Training

Training includes City-specific issues, such as operation of its key pieces of equipment, as well as general safety and operational issues, the SSMP and Spill Emergency Response Plan (SERP). The City uses both contracted and in-house training services and requires training or certification of conformance of training of contractors on its SERP and spill response procedures.

##### 4.4.1 City Staff

Wastewater Operations uses a combination of in-house classes, on-the-job training, conferences, seminars, and other training opportunities to provide technical training for its wastewater collection system staff. Vendors provide training for new tools or equipment. A portion of weekly meetings are dedicated to training on various wastewater topics. These short meetings prior to the start of the day’s field work provide the opportunity for quick discussions of short topics related to specific collection system operations issues. The sources of technical training and training materials for the City’s wastewater collection staff are listed in **Table 12** and **Table 13**.

*Table 12: Training Resources (Conferences, Seminars & Courses)*

Organization	Event	Timeframe	References
California Water Environment Association (CWEA)	State Conference	April	<a href="http://www.cwea.org">www.cwea.org</a>
	Northern Regional Safety Conference	September	
	Santa Clara Valley Section Meetings & collections training events & Classes	Monthly	
CWEA – San Francisco Bay Area section	Meetings and collections training events & classes	Monthly	<a href="http://www.cwea.org">www.cwea.org</a>
Bay Area Clean Water Association (BACWA) Collection Systems Committee	Collection System Committee meetings	Monthly	<a href="http://www.bacwa.org">www.bacwa.org</a>

*Table 13: Training Materials*

Organization	Materials	Reference
California State University Sacramento (CSUS)	Videos, manuals, home study courses	<a href="http://www.owp.csus.edu">www.owp.csus.edu</a>

Other potential sources of training include the Water Environment Federation specialty conferences on collection system operations, webinars and publications that support sewer system education and training including the City’s risk management and insurance program pools that provide specific risk-based training for claims and risk reduction.

Wastewater Operators receive annual training on the following topics: volume estimation, storm water pollution prevention, confined space entry, biological and chemical hazards, Vector safety, underground construction, gas detector use, application of overflow control materials, back injury prevention, overflow reporting and field documentation, and the content and procedures of the SSMP. In addition, the City provides free training and seminars on various professional development topics including computer applications, writing, and communication skills.

Individual training records are documented and maintained by the City’s Department of Human Resources.

#### 4.4.2 Contractors Working on City Sewer Projects

The City requires contractors working on its wastewater collection system to have been trained on the City’s Sanitary Sewer Overflow Emergency Response Plan or have demonstrated they have been trained on an equivalent emergency response plan of their own. In addition, all City projects that may impact City wastewater collection system lines or facilities, require that the emergency procedures be discussed regularly, and especially at the pre-construction conference at the start of a project.

#### 4.5 Equipment and Parts Inventory

A summary of major tools and equipment used by staff to maintain the City’s wastewater collection system is shown in **Table 14**. The smaller tools are kept inside the service vehicles and are easily accessible to Wastewater Operators. The larger tools and equipment are housed inside the City’s Municipal Service Center (MSC). The City also operates a General Store that maintains spare parts and critical operational items used by Wastewater Operations. Access outside of regular working hours is

limited to supervisory and senior management. City vehicles are housed at the MSC as are bypass pumps, hoses, and other items to assist in containing and mitigating spills.

*Table 14: Tools and Equipment Inventory List*

Item	Quantity	Comments
Combination Hydroflush Truck by Vactor	2	#8748, 2015 FREIGHTLINERS #8747, 2015 FREIGHTLINERS
Hydrojetter Truck	1	#8791, 2017 FORD
Lead Service Truck	1	#8723, 2017 PETERBILT
Lateral Maintenance Vans	2	#7509, 2015 FORD #7215, 2017 FORD
Supervisor Truck	1	#8721, 2010 FORD
Dump Truck	1	#8802, 2003 GMC 5 yard
Dump Truck	1	#8725, 2008 PETERBILT 10 yard
HEO Backhoe	1	#8738, 2008 CATERPILLAR
Inspection CCTV Van	1	#8793, 2004 FORD video from 6" to 24" main lines
Inspection Cameras	6	Used as an assessment and inspection tool
Emergency Trailer	1	Located in MSC
Shoring Trailer	1	Located in MSC. Used for deep trenches.
6" Pump	1	Located in MSC
2" pump	3	Located in MSC
Snake/ Rooter Machine	4	Mechanical pipe cleaner. Cuts roots and debris.
Mini Snake/ Rooter Machine	1	Mechanical pipe cleaner. Cuts roots and debris.
Smoke Machine	1	Located in MSC
Spill Control Rubber Dam	2	Placed inside wastewater service vehicles
Spill Control Rubber Mat	4	Placed inside wastewater service vehicles
Gas Detector	20	Used to detect dangerous gases
Metal Detector	5	Used to locate parts of the Wastewater Collection System
4" to 6" Pipebursting machine	1	Used for trenchless pipe replacement

## Element 5: Design and Performance Provisions

### Statewide Waste Discharge Requirements

The Plan must include the following items as appropriate and applicable to the Enrollee's system:

#### 5.1. Updated Design Criteria and Construction Standards and Specifications

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.

#### 5.2. Procedures and Standards

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

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

The City has standard specifications for installation, rehabilitation, and repair of facilities. The City of Palo Alto Water, Gas, and Wastewater Utility Standards (**Appendix I**), which is updated every year, include standard detail design criteria, products, installation procedures and testing for wastewater facilities. The City's Utility Standards incorporate, by reference, other City department standards and drawings including Public Works and Traffic, technical association standards (i.e. ASTM, AASHTO, AWWA), and CALTRANS standards.

The current Utility Standards are posted on the City website:

<https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Engineering-and-Operations>

A summary of the City of Palo Alto Water, Gas, and Wastewater Utility Standard Sections, relevant to SSMP implementation and collection system design and rehabilitation are included in **Table 15**. As these Utility Standards are periodically updated, please note that this summary is provided for convenience only. Consult the website listed above for the most current version of the Utility Standards

*Table 15: Relevant Sections of City of Palo Alto WGW Utility Standards*

Section Title	Section Number
Excavation, Backfill, and Restoration	2200
Polyethylene Pipe Installation for Water, Gas and Wastewater	2300
Wastewater Design and Construction Standards	2730
Vitrified Clay Sewer Pipe	2731
Polyvinyl Chloride Sewer Pipe	2733
Sewer Construction with Polyethylene Pipe	2735
Cured-in-Place Pipe (CIPP)	2736
Sanitary Sewer Lateral	2737

Section Title	Section Number
Concrete Manholes	2738
Cleaning and Video Inspection of Sewer Pipe	2739
Wastewater Standard Details	Appendix D

## 5.2 Procedures and Standards

Inspection, testing, and repair standards are included in the appropriate Section of the Utility Standards related to the pipe material described above. All new construction plans are required to be prepared by a registered civil engineer and submitted to the City for review and approval prior to construction. The City has five full time inspectors to monitor the construction of CIP projects and customer service installations to ensure compliance with the City's specifications.

All City and private projects must be tested according to the requirements outlined in the specifications prior to consideration for City acceptance for maintenance. In addition, record drawings of all final project elements must be submitted and approved by WGW Engineering prior to final acceptance of any project on City infrastructure.



## Element 6: Spill Emergency Response Plan

### **Statewide Waste Discharge Requirements**

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 interagency 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.

### 6.1 Introduction

The State Water Resources Control Board (SWRCB) has issued statewide waste discharge requirements for sanitary sewer systems, which include requirements for development of an SSMP. The State Water Board requirements are outlined in Order No. WQ 2022-0103-DWQ Statewide General Waste Discharge Requirements General Order for Sanitary Sewer Systems, dated December 6, 2022, which supersedes the previous Order No. 2006-0003-DWQ, dated May 2, 2006, and amended by Order No. 2013-0058-EXEC, dated July 30, 2013. In addition, the City's NPDES Permit, No. CA0037834 incorporates the requirements to comply with the SSO WDR by reference in the treatment plant permit to operate Order No. R2-2014-0024 that regulates the Palo Alto Regional Water Quality Control Plant and City of Palo Alto's sewage collection system.

## Purpose

The purpose of this Spill Emergency Response Plan (SERP) is to provide City Staff task prioritization and a reference point in effectively responding to spill events. This SERP provides guidelines for City Staff to follow in responding to, cleaning, and reporting spills.

*Table 16: Spill Categories and Definitions*

Category	Definition
Category 1	<p>A spill of any volume of sewage from or caused by a sanitary sewer system regulated under the General Order that results in a discharge to:</p> <ul style="list-style-type: none"> <li>• A surface water, including a surface water body that contains no flow or volume of water; or</li> <li>• A drainage conveyance system that discharges to surface waters when sewage is not fully captured and returned to the sanitary sewer system or disposed of properly.</li> </ul> <p>Any spill volume that is not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drains conveyance system discharges to a dedicated stormwater infiltration basin or facility.</p>
Category 2	A spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under the General Order that does not discharge to a surface water
Category 3	A spill of equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under the General Order that does not discharge to a surface water.
Category 4	A spill of less than 50 gallons, from or caused by a sanitary sewer system regulated under the General Order that does not discharge to a surface water.
Enrollee Owned/Operated Lateral Spills	A spill of any volume from an Enrollee's owned and/or operated lateral that is caused by a failure or blockage in the lateral and that do not discharge to a surface water.
Private Lateral Sewage Discharge (PLSD)	A spill of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the Enrollee's sanitary sewer system or from other private sewer assets.

## 6.2 SERP Goals

- Prevent public health hazards by minimizing public exposure to spilled wastewater
- Protect the environment by preventing spills from entering storm drains and receiving water
- Comply with regulations
- Minimize the frequency of spills
- Mitigate the impact of spills
- Minimize disruptions in service
- Minimize complaints
- Provide quick response to minimize spill volume
- Prevent unnecessary damage to public/private property
- Provide immediate, responsive, and efficient service to all emergency calls
- Provide a safe work environment for employees, employers, and residents

- Perform all operations in a safe manner to prevent personal injury

### 6.3 Spill Detection and Notification

The Dispatch Center is responsible for collecting the following information from all collection system related incoming calls:

- Time and date of call
- Assigns an Incident Number
- Specific location of potential problem
- Nature of call
- In case of spill, estimated start time of overflow
- Reporting Party's name and phone number
- Reporting Party's observation (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Other relevant information

The Dispatch Center assigns a unique Incident Number which is used to track subsequent actions taken in response to the call. The Dispatch Center immediately notifies staff on the Emergency Response Notification Team (ERNT) of a call through a text/email notification. The list of individuals on the ERNT is included in **Table 17** below.

The Dispatch Center's text/email notification to the ERNT consists of the following information:

- Incident number
- Location
- Reporting Party's Name
- Reporting Party's phone number

*Table 17: Text/Email for Emergency Response Notification Team (ERNT)*

<b>Name</b>	<b>Email</b>	<b>Phone</b>
<b><i>Wastewater Operations ERT</i></b>	<b><i>N/A</i></b>	<b><i>650-213-2633</i></b>
<b><i>Standby Operations Primary</i></b>	<b><i>N/A</i></b>	<b><i>650-444-6198</i></b>
<b><i>Standby Operations Secondary</i></b>	<b><i>N/A</i></b>	<b><i>650-444-5290</i></b>
WGW Operations Mainline	<a href="mailto:wgw.operations@cityofpaloalto.org">wgw.operations@cityofpaloalto.org</a>	650-496-6982
Anthony Meneses, Manager	<a href="mailto:anthony.meneses@cityofpaloalto.org">anthony.meneses@cityofpaloalto.org</a>	650-496-6907
Robert Bishop, Supervisor (Interim)	<a href="mailto:robert.bishop@cityofpaloalto.org">robert.bishop@cityofpaloalto.org</a>	650-329-2218
Abel Silva, Supervisor	<a href="mailto:abel.silva@cityofpaloalto.org">abel.silva@cityofpaloalto.org</a>	650-496-6972
Todd Carlsen, Supervisor	<a href="mailto:todd.carlsen@cityofpaloalto.org">todd.carlsen@cityofpaloalto.org</a>	650-444-6334
Eric Talley, Supervisor	<a href="mailto:eric.talley@cityofpaloalto.org">eric.talley@cityofpaloalto.org</a>	650-496-6917
David Cordova, Supervisor	<a href="mailto:david.cordova@cityofpaloalto.org">david.cordova@cityofpaloalto.org</a>	650-444-6967
Venessa Fujii, Utility Project Coordinator	<a href="mailto:venessa.fujii@cityofpaloalto.org">venessa.fujii@cityofpaloalto.org</a>	650-496-6994

Within the ERNT is the Emergency Response Team (in bold italic font) who will respond to the incident. The ERT consists of Installer-Repairer class staff who are scheduled for ERT at the beginning of the day

and will respond during regular business hours. Standby Operations Primary and Secondary responders will respond outside of normal business hours.

The Dispatch Center records communications between callers, responders and any other supporting staff that is dispatched to the spill scene. **Figure 6** contains a flow chart of this Spill Detection and Dispatch process.

Depending on the time of the call, the Dispatch Center uses the schedule shown in **Table 18** to dispatch a response team.

*Table 18: Schedule for Dispatching a Response Team*

Days	Time	Spill Response Team
Weekdays*	0630 to 1600	Wastewater, Emergency Response Team (ERT)
	1600 to 0630	Standby, Primary and Secondary Responder
Saturdays	24hr Response	Standby, Primary and Secondary Responder
Sundays & Holidays	24hr Response	Standby, Primary and Secondary Responder

\*On Fridays, Standby receives sewer related calls starting at 1500 hours

#### 6.3.1 Public Observation

The Public can report spills by calling one of the following numbers:

Palo Alto Utilities Emergency Water, Gas, and Wastewater Dispatch Center at (650)329-2579

Palo Alto Police Non-Emergency at (650)329-2413

Or the Emergency 911 number.

These phone numbers are included in monthly utility bills sent to customers and on the City's website. Spill related calls from the public are routed through the City's 24-hour Dispatch Center.

#### 6.3.2 City Staff Observation

Spill related calls that are received by other departments and/or observed by Utilities Staff during their normal working hours are also routed to the Dispatch Center for proper documentation and tracking.

#### 6.3.3 Alarms

The City of Palo Alto's lift station is controlled by SCADA and maintained by the Utilities Operators. In case of any pump failure, the high level sensor activates the SCADA alarm system and the Utilities Communication Center (UCC) is contacted. Under this situation, the UCC serves the role of the City Dispatch by contacting the ERNT via text.

Wastewater Operations has contracted Gierlich-Mitchell, Inc to install and activate 39 sanitary sewer level monitoring alarms in hot spot areas throughout the City. The manhole alarm service and equipment, Mission M84 Manhole Monitor+, is supplied by Mission Communications ([https://www.123mc.com/123mc/log\\_in.asp](https://www.123mc.com/123mc/log_in.asp)). High level alarms will send a text message to the ERNT.

The status of each monitor can be accessed through Mission Communication's online portal. Mission Communications also provides technical support at (877) 993-1911.

#### 6.3.4 Coordination with Public Works Departments

If the spill is caused by FOG or an illicit discharge the WW Project Coordinator or WW Supervisor will notify the Public Works' Watershed Protection Group and coordinate a joint spill response to mitigate the spill. Once the spill has been eliminated the Wastewater Department will coordinate with Public Works' to implement a plan to prevent the spill from occurring again and if applicable apply fines and fees to the responsible party.

### 6.4 Spill Response Procedures

The Wastewater Operations Division has created a section withing the Wastewater Standard Operating Procedures for Emergency Response. These Wastewater Standard Operating Procedures are attached as **Appendix J**.

The Responder ensures all safety procedures are strictly adhered to, including traffic control, PPE (visibility vests, hard hats, safety glasses, gloves, etc.) as well as confined space entry procedures at all times.

#### 6.4.1 ERT and Standby Responder Priorities

ERT and Standby Responder priorities are:

1. To follow safe work practices;
2. To respond promptly with the appropriate equipment;
3. To minimize public access to and/or contact with the spilled sewage;
4. To contain the spill;
5. To restore the flow as soon as possible;
6. To promptly notify the Supervisor in the event of a major spill;
7. To return the spilled sewage to the sewer system and;
8. To restore the area close to its original condition.

#### 6.4.3 Initial Response

During Regular Hours, the Emergency Response Team will:

1. Be dispatched an 868 (Overflow) by Radio from the Dispatch Center.
  - a. If unanswered, Dispatch will then call the ERT Phone and the Wastewater Supervisor.
2. Document the address or location, call received time from Reporting Party to Dispatch, call received time from Dispatch to ERT, Incident Number, Reporting Party Name and number, and notes provided by Dispatch.
3. Call the Reporting Party and ask to verify that a spill or blockage is occurring.
4. Ask the Reporting Party where the spill is occurring. (cleanout, manhole, public, private, etc.)
  - a. If the spill is from a cleanout, inform the Reporting Party not to use water to minimize the spill.
5. Ask the Reporting Party for the Spill Start Time.
6. Inform Reporting Party of the estimated Responder arrival time.
7. Contact/coordinate with ERT Flush Team for cleanup if the spill is a minor event, Category 3, 4.

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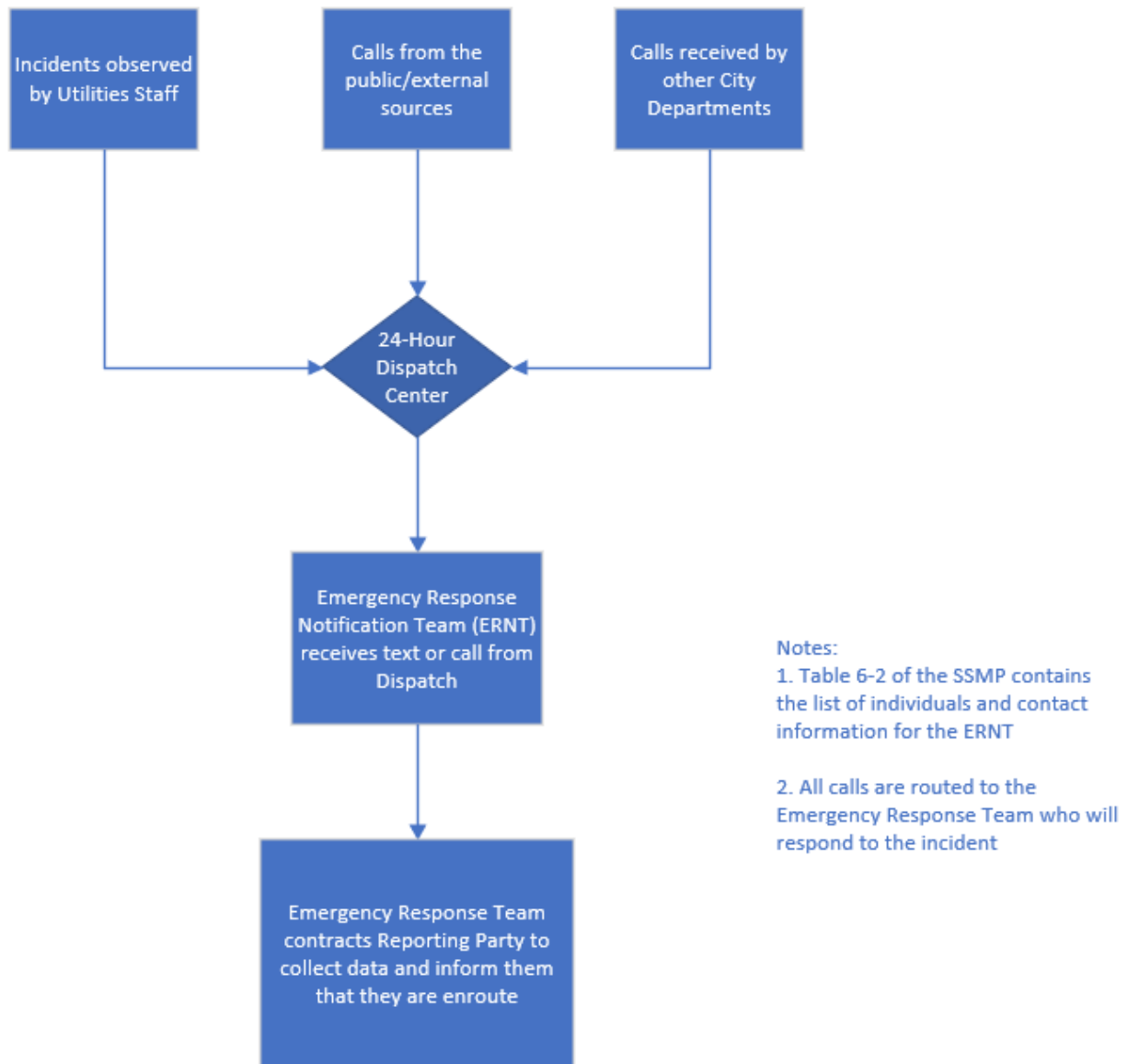
8. Contact/coordinate with the ERT Flush Team and Wastewater Supervisor if the spill is a major event, Category 1 or 2. (Wastewater Supervisor must call Cal OES within 2 hours of knowledge of 1,000 gallon or greater spill threatening surface water.)
9. Notify Dispatch of their arrival once onsite.
10. Verify extent of spill, document Arrival Time and photographs scene.
11. If spill has reached Public Works' storm drain and assistance is needed to collect the spill, the ERT Team will call the Public Works Department at (650)496-6974.

During After Hours

(Monday – Thursday 4PM – 6:30AM, Friday 3PM – 6:30AM, Saturday and Sunday all day) Standby Responders will:

1. Be dispatched an 868 (Overflow) by Primary Phone from the Dispatch Center.
  - a. If unanswered, Dispatch will call the Standby Secondary and lastly the Standby Supervisor.
2. Document the address or location, call received time from Reporting Party to Dispatch, call received time from Dispatch to ERT, Incident Number, Reporting Party name and number, and notes provided by Dispatch.
3. Call the Reporting Party and ask to verify that a spill or blockage is occurring.
4. Ask the Reporting Party where the spill is occurring. (cleanout, manhole, public, private, etc.)
  - a. If the spill is from a cleanout, inform the Reporting Party not to use water to minimize the spill.
5. Ask the Reporting Party for the Spill Start Time.
6. Inform Reporting Party of the estimated Responder arrival time.
7. Contact/coordinate with Standby Secondary for cleanup if the spill is a minor event, Category 3 or 4.
8. Contact/coordinate with Standby Secondary for cleanup and Standby Supervisor if the spill is a major event, Category 1 or 2. (Standby Supervisor must call Cal OES within 2 hours of knowledge of 1,000 gallon or greater spill threatening surface water.)
9. Notify Dispatch of their arrival once onsite.
10. Verify extent of spill, document Arrival Time and photographs scene.
11. If spill has reached Public Works storm drain and assistance is needed to collect the spill, the ERT Team will call the afterhours Public Works Department at (650)329-2413.

Figure 6: Process flow chart for the notification of a potential Spill



#### 6.4.4 Initiate Spill Containment Measures

Once at the scene, the Responder should attempt to contain the overflow to the best of their ability by:

1. Determining the immediate destination of the overflow.
2. Protect nearby catch basins that lead to the storm drain system and surface water by creating a dam with sandbags, spill mats, spill shark or dirt found nearby to dam/redirect the overflow.
3. Referencing the storm drain collection system map to identify and block the downstream storm drain so that the wastewater can be collected.

#### 6.4.5 Restore Flow

If the blockage is in the public lower lateral, setup the electric rodder at the City cleanout to clear the blockage, see **Appendix K** Electric Rodder Standard Operating Procedures.

If the blockage is in the private upper lateral, Initiate Spill Containment Measures as in Section 6.4.4 and have Private Owner call a plumber. The ERT or Standby Responders will assist with clean-up to prevent wastewater entering storm drain. If the overflow is greater than 1,000 gallons and has resulted or may result in a discharge to surface water, the ERT should contact the scheduled Supervisor, who is strongly encouraged to notify the California Office of Emergency Services.

If the blockage is in the public main, reference the Wastewater Collections System Map and check every manhole downstream of the blockage. If sewage is “up” or overflowing at the manhole, then the blockage is further downstream. Keep checking downstream manholes until you find a manhole that is barely flowing or “down”. During regular hours, the ERT is responsible for locating the “down” manhole and communicating the setup to the Flush ERT. After hours, the Standby Primary is responsible for locating the “down” manhole and communicating the setup to the Standby Secondary. See **Appendix L** Flush Truck Standard Operating Procedures.

If the blockage is in the private main, verify that ownership by referencing the Wastewater Collection System Map (all city assets are assigned Identification Numbers). Initiate Spill Containment Measures listed in Section 6.4.4 and have the Private Owner call a plumber. The ERT or Standby Responders will assist with clean-up to prevent wastewater from entering the storm drain. If the overflow is greater than 1,000 gallons and has resulted or may result in a discharge to surface water, the ERT should contact the scheduled Supervisor, who is strongly encouraged to notify the California Office of Emergency Services.

### 6.5 Spill-Specific Monitoring Requirements

#### 6.5.1 Spill Location and Spread

Responders shall visually assess the spill location(s) and spread using photography, global position system (GPS), and other best available tools. The Responders shall document the critical spill locations, including:

1. Photography and GPS coordinates for:
  - a. The system location where spill originated.
    - i. For multiple appearance points of a single spill event, the points closest to the spill origin.
2. Photography for:
  - a. Drainage conveyance system entry locations,
  - b. The location(s) of discharge into surface waters, as applicable,



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- c. Extent of spill spread, and
- d. The location(s) of clean up.

#### 6.5.3 Receiving Water Visual Observations

Through visual observations and spill volume estimating techniques the ERT shall document the following information regarding spills to surface water:

1. Estimated spill travel time to the receiving water;
  - a. For spills entering a drainage conveyance system, estimated spill travel time from point of entry into the drainage conveyance system to the point of discharge into the receiving water;
2. Estimated spill volume entering the receiving water; and
3. Photography of:
  - a. Waterbody bank erosion,
  - b. Floating matter,
  - c. Water surface sheen,
  - d. Discoloration of receiving water, and
  - e. Impact to the receiving water.

#### 6.5.2 Receiving Water – Water Quality Sampling and Analysis

Water quality sampling procedures for Responders are:

1. Contact the Public Works, Environmental Services Division, Watershed Protection Group (during business hours only) for technical assistance with water quality sampling;
2. Samples should be collected as soon as possible by the Responder after the discovery of the spill event. Sample kits are stored in the ERT van and at the Municipal Service Center for immediate use by responders.
3. If the spill is 50,000 gallons or greater, collect samples within 18 hours of becoming aware of the spill.
  - a. Collect one water sample each day of the duration of the spill at the point a point in the drainage conveyance system before the drainage conveyance system flow discharges into a receiving water (if the spill is discharging via a drainage conveyance system)
  - b. Collect one water sample each day for the duration of the spill at the three receiving water sampling locations:
    - i. Upstream: This sample will be collected far enough upstream of the spill's point of entry into the surface water as to be free of contaminants from the spill. Typically, 50 feet is sufficient, but this may vary on circumstances of the spill.
    - ii. Source: Immediate vicinity where the spill entered the surface water. This point will be downstream of the actual spill entry point for spills that have stopped entering the surface water to be sampled. If the spill has stopped, calculate the approximate downstream distance from the original spill location by dividing the time since the spill occurred by the estimated velocity. This is the approximate downstream distance from the spill discharge point to the "source" sampling location.
      - Due to tidal action in the surface water or other factors, another method maybe used to determine the "source" location at the discretion of the scheduled Supervisor.
    - iii. Downstream: This sample will be collected far enough downstream to be representative of the water quality of the surface water after adequate mixing of the surface water and the

- spill have occurred. Typically, this location will be 50 feet downstream of the “source” sampling, but this may vary on the size and velocity of the surface water to be sampled.
- c. If there is no flow during the duration of the spill, the CIWQS report must reflect “No Sampling Due To No Flow” for its receiving water sampling locations.
4. Samples shall be transported to the Regional Water Quality Control Plant Laboratory at 2501 Embarcadero Way, Palo Alto, CA 94303.
    - a. Samples are accepted 6AM – 5PM, if outside of normal business hours must make arrangements with Lab Manager or Senior Chemists

*Table 19: Contact Phone Numbers for Laboratory*

Main Lab Phone Number	(650)617-3169
Manager of Laboratory Services	(650)329-2334
After Hours Phone Numbers	(650)269-3298 or (408)666-7130

### 6.5.3 Water Quality Analysis Specifications

The collected samples shall be analyzed for the following constituents:

1. Ammonia, and
2. Appropriate bacterial indicator(s) per the applicable Basin Plan water quality objectives, including one or more of the following , unless directed otherwise by the Regional Water Board:
  - a. Total Coliform Bacteria
  - b. Fecal Coliform Bacteria
  - c. E-coli
  - d. EnterococcusSampling of these bacterial indicators shall meet the water quality objectives and bacterial standards of the California Ocean Plan or the California Inland Surface Water Enclosed Bays, and Estuaries Plan.
3. Additional sampling and analysis required by the Regional Water Board Executive Office or designee

Sample analysis must be completed using a sufficiently sensitive test method that complies with 40 Code of Federal Regulations Part 136. A method is considered sufficiently sensitive when the minimum level of the analytical method is at or below the receiving water pollutant criteria. Furthermore, water quality samples must be conducted by a laboratory that has accreditation pursuant to Article 3, Section 100825 of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code. The City’s Regional Water Quality Control Laboratory meets these accreditations and is recognized by the State Water Board through its Environmental Laboratory Accreditation Program (ELAP).

### 6.6 Recovery and Cleanup

The recovery and cleanup phase begin when the flow has been restored and the spilled sewage has been contained to the best of the Responder’s ability. The spill recovery and cleanup procedures are:

#### 6.6.1 Estimate the Volume of Spilled Sewage

To estimate the volume of spilled sewage, use the methods outlined on the third page of the WGW Operations Spill Report Form, see **Appendix C**. When possible, document the estimate using photos of the spill before and during the recovery procedure.

#### 6.6.2 Recovery of Spilled Sewage

If the spill is in a drainage conveyance system, the Operator must, to the best of their ability, recover the total volume of the spill with minimum impact to the environment, public, and private properties. Detailed instructions of how to recover the spill from a storm drain are in the Wastewater SOP. The Operator should utilize the vacuum and/or pump the overflow and discharge it back into the sanitary sewer system.

#### 6.6.3 Cleanup and Disinfection

Cleanup and disinfection procedures should be implemented to protect public health and the environment from a spill. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions.

##### Private Property

If an overflow occurs due to a blockage in a private lateral or private sewer system but has the potential to impact public property, the Responders will take action to contain, cleanup, and disinfect the spilled sewage. However, if it does not have a potential to impact public property and surface water – It is the Property Owners responsibility to clean and restore the site.

If the spill was caused by the City owned lateral or sewer system and has compromised private property, advise the Owner of the property of the City claims procedure, see <https://www.cityofpaloalto.org/civicax/filebank/documents/29341> for the Claims Form. If they are not onsite, leave a Door Hanger with relevant information.

##### Paved Surface Area

Take steps to contain and vacuum the wastewater. Collect all signs of sewage by hand, broom and shovel and push all wastewater debris toward the vacuum on the combo flush truck or position the vacuum over affected area and collect. Wash down the affected area with clean water until the water runs clear and push all wastewater and debris toward the vacuum on the combo flush truck. Apply disinfectant by using a bottle sprayer and disinfect all areas that were contaminated from the overflow. Wash down and vacuum again if additional cleaning is required.

##### Unpaved Surface Areas (Landscaping & Unimproved Natural Vegetation)

Take steps to contain and vacuum the wastewater. Collect all signs of sewage by hand, broom and shovel and push all wastewater debris toward the vacuum on the combo flush truck or position the vacuum over affected area and collect. Allow area to dry, repeat the process if additional cleaning is required.

##### Natural Waterways

The scheduled Supervisor is responsible for determining the proper course of action for Category 1 Spills. They will utilize the wastewater collection system map, storm drain collection system map and other

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documentation to minimize the impact of the overflow to the environment and protect public health. If a spill is confirmed to have entered a creek or waterway, the scheduled Supervisor and the WGW Operations Manager are immediately notified. The scheduled Supervisor may request additional assistance, if needed, from City staff and/or outside agencies that are the wastewater treatment plant partners (City of Mountain View, City of Los Altos, Town of Los Altos Hills, Stanford University, and the East Palo Alto Sanitary District).

The Responders are responsible for the following when Natural Waterways are affected:

1. Determines the extent of the spill by investigating downstream until there is no evidence of sewage or debris along the creek or water body.
2. Contact the Public Works, Environmental Services Division, Watershed Protection Group (during business hours only) for technical assistance with water quality sampling.
3. Immediately post contaminated water sign(s) and protect the creek from public access on both sides,  
**Appendix F.**
4. Photographs sign placement and evidence of the overflow in and around the creek to the farthest point reached by the sewage.
5. Determines if the creek is safe to enter. During the winter storm season, cleaning the creek may not be feasible due to high water flows.
6. If feasible, blocks the creek downstream of the affected area in a location that is safe to enter and is accessible to set up a pump or utilize combo flush trucks.
7. To extent feasible, recover and return contaminated water to the collection system;
8. If the spill is 50,000 gallons or greater, collects water quality samples within 18 hours of becoming aware of the spill.
9. Follow up sampling will be performed until the area shows no water quality impairment and the posted signs can be removed. The Utilities Director ultimately determines when this happens and makes any follow up calls to affected agencies.

### 6.6.4 Safety and Access Exceptions

For safety, omit sampling during heavy storm events with heavy runoff where flushing is not feasible and sampling would not provide meaningful results. The Wastewater Supervisor or their designee, must document the access restrictions or unsafe conditions that prevent them from completing the appropriate spill response or water quality monitoring. This documentation should be included in the Certified Report.

## 6.7 Notification Requirements

### 6.7.1 2 Hour Required Notification to California Office of Emergency Services

The State Water Resource Control Board Order No. 2022-0103-DWQ states that the California Office of Emergency Services (OES) is only to be notified of a Category 1 or 2 Spill greater than or equal to 1,000 gallons discharged to waters of the State or spilled in a location where it probably will be discharged to waters of the State. The Utilities Supervisor is responsible for reviewing field data to report to regulatory agencies. If it is determined that the criteria for OES notification was met, the Utilities Supervisor must notify Cal OES of the event no later than two (2) hours after:

1. The City has knowledge of the spill;
2. Notification can be proved without substantially impeding cleanup or other emergency measures.

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The Cal OES phone number is (800) 852-7550. The Utilities Supervisor is responsible for obtaining an OES Control Number.

### Spill Notification Information

The Utilities Supervisor shall provide the following information, as applicable, regarding the spill to Cal OES before receiving a Control Number:

1. Name and phone number of the person notifying the Cal OES;
2. Estimated spill volume (gallons);
3. Estimated spill rate from the system (gallons per minute);
4. Estimated discharge rate (gallons per minute) directly into waters of the State or indirectly into a drainage conveyance system;
5. Spill incident description:
6. Brief narrative of the spill event, and
7. Spill incident location (address, city, and zip code) and closest cross streets and/or landmarks;
8. Name and phone number of contact person on-scene;
9. Date and time the Enrollee was informed of the spill event;
10. Name of sanitary sewer system causing the spill;
11. Spill cause or suspected cause (if known);
12. Amount of spill contained;
13. Name of receiving water body receiving or potentially receiving discharge; and
14. Description of water body impact and/or potential impact to beneficial uses.

### Notification of Spill Report Updates

Following the initial notification to Cal OES and until the spill report is certified in the CIWQS online database, the Utilities Supervisor must provide updates to Cal OES regarding substantial changes to estimated volume of untreated or partially treated sewage discharged and any substantial changes to:

1. Estimated spill volume (increase or decrease in gallons initially estimated);
2. Estimated volume discharged directly into waters of the State or indirectly into a drainage conveyance system (increase or decrease in gallons initially estimated); and
3. Additional impact(s) to the receiving water(s) and beneficial uses.

### 6.7.3 Notification to Santa Clara County Health Department

Wastewater Supervisor or their designee, will send an email to [dehweb@deh.sccgov.org](mailto:dehweb@deh.sccgov.org) or call (408)918-3400 during working hours. Details of the spill should be included and that Cal OES was notified. Any correspondence with the County Health Department should also include carbon copies to the WGW Operations Manager and the Wastewater Supervisor.

### 6.7.4 Notification to Santa Clara Valley Water District

If the spill affects or threatens water bodies operated or maintained by the Santa Clara Valley Water District (SCVWD) the Wastewater Supervisor or their designee will contact the SCVWD Pollution Hotline at 1-888-510-5151 with spill details.

### 6.7.5 Media Notification Procedure

When an overflow is substantial and confirmed to be a significant public health threat, the following actions should be taken, if deemed necessary by City staff, to notify the media:

1. The scheduled Supervisor or the WGW Operations Manager will contact the Utilities Communications Manager (UCM) and provide a spill status report.
2. The UCM is responsible for contacting and updating the media.
3. Any calls from the media should be routed to the UCM.
4. The following personnel are designated spokespersons and authorized to release information on the incident and be interviewed by the media:

*Table 20: Media Notification Personnel*

Name	Position	Office Phone	Cell Phone
Catherine Elvert	Utilities Communications Manager	650-329-2417	650-833-9433
Matt Zucca	Utilities WGW Assistant Director	650-566-4506	

### 6.9 External Spill Reporting Requirements

All spill reports are to be electronically submitted to the California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database (<https://ciwqs.waterboards.ca.gov/>). Spill reports will be uploaded by the Data Submitter and certified by the Legally Responsible Official within the time frames set forth in the WDR.

Any information that is protected by the Homeland Security Act can be emailed to [sanitarysewer@waterboards.ca.gov](mailto:sanitarysewer@waterboards.ca.gov). A brief justification letter should also be included.

#### 6.9.1 Category 1 Spill Reporting

##### *Draft Spill Report for Category 1 Spills*

Within **3 business days** of being notified of the spill event -- the Water Gas Wastewater Operations Manager (WGW Operations Manager), or their designee, will submit a Draft Spill Report using the online CIWQS Sanitary Sewer System Database. This Draft Spill Report must include the following:

1. Contact information: Name and telephone number of City employee who can respond to spill specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Date and time the City notified CalOES, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;
  - a. If there is more than one appearance point, provide GPS coordinates for the appearance point closest to the failure point and describe the other appearances points in the explanation field;
8. Estimated spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
  - a. Description of the drainage conveyance system transporting the spill
  - b. Photographs of the drainage conveyance system entry location(s);

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- c. Estimated spill volume fully recovered from the drainage conveyance system;
- d. Estimated spill volume remaining within the drainage conveyance system;
- 11. Description and photographs of the all discharge point(s) into the surface water;
- 12. Estimated spill volume that discharged to surface waters; and
- 13. Estimated total spill volume recovered.

[Certified Spill Reports for Category 1 Spills](#)

Within **15 calendar days** of the spill end date -- the WGW Operations Manager, or their designee, will certify the final report using the online CIWQS Sanitary Sewer System Database. The Certified Spill Report must include the following in addition to the Draft Spill Report:

- 1. Description of spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
- 2. Spill end date and time;
- 3. Description of how the spill volume estimations were calculated, including at a minimum:
  - a. The methodology, assumptions and type of data relied upon, SCADA records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
  - b. The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;
- 4. Spill cause(s);
- 5. System failure location;
- 6. Description of the pipe material, and estimated age of the pipe material, at the failure location;
- 7. Description of the impact of the spill;
- 8. Whether or not the spill was associated with a storm event;
- 9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
- 10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
- 11. Spill response completion date;
- 12. Detailed narrative of investigation and investigation findings of cause of spill;
- 13. Reasons for an ongoing investigation (as applicable) and the expected date of completion;
- 14. Name and type of receiving water body(s);
- 15. Description of the water body(s), including but not limited to:
  - a. Observed impacts on aquatic life,
  - b. Public closure, restricted public access, temporary restricted use, and/or posted health warnings due to spill,
  - c. Responsible entity for closing /restricting use of water body, and
  - d. Number of days closed/restricted as a result of the spill.
- 16. Whether or not the spill was located within 1,000 feet of a municipal surface water intake; and
- 17. If water quality samples were collected, identify sample locations and the parameters the water quality samples were analyzed for. If no samples were taken, Not Applicable shall be selected.



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Spill Technical Report for Individual Category 1 Spill in which 50,000 Gallons or Greater Discharged into a Surface Water

Within **45 days calendar days** of the spill end date – the WGW Operations Manager, or their designee, will submit a Spill Technical report. If 50,000 gallons or greater from a spill reaches surface waters, an Spill Technical Report must be prepared and submitted to the CIWQS online spill database within **45 calendar days** of the spill end date. The Spill Technical Report must include, at a minimum, the following:

1. Causes and Circumstances of the spill:
  - Detailed explanation of how and when spill was discovered;
  - Photographs illustrating spill origin the extent and reach of the spill, drainage conveyance system entrance and exit, receiving water, and post cleanup site conditions;
  - Diagram indicating spill failure point, appearance point, spill flow path, and final destination (use attachments, maps and diagrams as needed);
  - Detailed description of methodology employed and available data used to calculate the spill volume and any volume recovered;
  - Detailed description of the spill cause(s);
  - Description of the pipe material, and estimated age of the pipe material, at the failure location;
  - Description of impact of the spill;
  - Copies of the original field crew records used to document the spill (attachment); and
  - Historical maintenance records for the lines involved in the cause of the spill.
2. Agency's Response to spill:
  - Chronological narrative description of actions taken by agency to terminate the spill;
  - Description of how the SERP was implemented to respond to and mitigate any impacts of the spill; and
  - Final corrective action(s) completed, including a schedule for actions not yet completed which include:
    - a. Local regulatory enforcement action applied to an illicit discharge;
    - b. Operational and maintenance program changes to prevent the spill from occurring again; and
    - c. Necessary modifications to the SERP to incorporate lessons learned in.
3. Water Quality Monitoring:
  - Description of all water quality sampling activities conducted, including analytical results and evaluation of the results;
  - Detailed location map illustrating all water quality sampling points.
  - List of pollutant and parameters monitored, sampled, and analyzed;
  - Laboratory results/reports; and
  - Other regulatory agencies receiving sample results (if applicable).
4. Evaluations
  - Short-term and long-term impact(s) spill impact(s) to beneficial uses of the surface water

The WGW Operations Manager or other designated LRO is responsible for the development and certification of the Spill Technical Report.

Amended Certified Spill Reports for Individual Category 1 Spills

The WGW Operations Manager, or their designee, will update the Certified Report as new or amended information becomes available. Reports can only be amended within **90 calendar days** after spill end date. Amended report needs to be certified by the LRO. After 90 calendar days, the WGW Ops Manager or their designed will need to contact the State Water Board at [sanitarysewer@waterboards.ca.gov](mailto:sanitarysewer@waterboards.ca.gov) to request to



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amend a Spill Report. The LRO must include justification for why the amended information was not reported within the 90 calendar days.

### 6.9.2 Category 2 Spill Reporting

#### Draft Spill Report for Category 2 Spills

Within **3 business days** of being notified of the spill event, the Wastewater Supervisor, or their designee, will submit a Draft Spill Report using the online CIWQS Sanitary Sewer System Database. The Draft Spill Report must include the following:

- Contact information: Name and telephone number of City employee who can respond to spill specific questions;
- Spill location name;
- Date and time the Enrollee was notified of, or self-discovered, the spill;
- Operator arrival time;
- Estimated spill start date and time;
- Date and time the City notified Cal OES, and the assigned control number;
- Description, photographs, and GPS coordinates of the system location where the spill originated;
  - If there is more than one appearance point, provide GPS coordinates for the appearance point closest to the failure point and describe the other appearances points in the explanation field;
- Estimated spill volume exiting the system;
- Description and photographs of the extent of the spill and spill boundaries;
- Did the spill reach a drainage conveyance system? If Yes:
  - Description of the drainage conveyance system transporting the spill
  - Photographs of the drainage conveyance system entry location(s);
  - Estimated spill volume fully recovered from the drainage conveyance system;
  - Estimated spill volume remaining within the drainage conveyance system;
- Description and photographs of the all discharge point(s) into the surface water;
- Estimated spill volume that discharged to a ground water infiltration basin or facility, if applicable; and
- Estimated total spill volume recovered.

#### Certified Spill Report for Category 2 Spills

Within **15 calendar days** of the spill end date, the WGW Operations Manager, or their designee, will certify the final report using the online CIWQS Sanitary Sewer System Database. In addition to the Draft Spill Report, the Certified Report must include the following:

1. Description of spill event destinations(s) including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
  - a. The methodology, assumptions and type of data relied upon, such as SCADA records, flow monitoring or other telemetry information used to estimated the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
  - b. The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and spill end time;
4. Spill cause(s);
5. System failure location;

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6. Description of pipe/infrastructure material, and estimated age of the material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion;
14. Whether or not the spill was located within 1,000 feet of a municipal surface water intake.

#### Amended Certified Spill Reports for Category 2 Spills

The WGW Operations Manager, or their designee, will update the Certified Report as new or changed information becomes available. Reports can only be amended within **90 calendar days** after spill end date. Amended report needs to be certified by the LRO. After 90 calendar days, the LRO will need to contact the State Water Board at [sanitarysewer@waterboards.ca.gov](mailto:sanitarysewer@waterboards.ca.gov) to request to amend a Spill Report and include justification as to why the additional information was not reported before the due date.

#### 6.9.3 Category 3 Spill Reporting

##### Monthly Certified Spill Reporting for Category 3 Spills

Within **30 calendar days** after the end of the calendar month in which the spill occurs, the WGW Operations Manager, or their designee, will submit a monthly Certified Spill Report using the online CIWQS Database. The WGW Operations Manager, or their designee, will certify the report. The report must include the following:

1. Contact information: Name and telephone number of the City employee who can respond to spill specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Description, photographs, and GPS coordinates where the spill originated:
  - a. If there is more than one appearance point, provide GPS coordinates for the appearance point closest to the failure point and describe the other appearance points in the explanation field;
7. Estimated total spill volume exiting the system;
8. Description and photographs of the extent of the spill and spill boundaries;
9. Did the spill reach a drainage conveyance system? If Yes:
  - a. Description of the drainage conveyance system transporting the spill;
  - b. Photographs of the drainage conveyance system entry location(s);
  - c. Estimated spill volume fully recovered from the drainage conveyance system; and
  - d. Estimated spill volume discharged to groundwater infiltration basin or facility, if applicable.
10. Estimated total spill volume recovered;

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11. Description of the spill event destination(s), including GPS coordinates, if available, that represent the full spread and reaches of the spill;
12. Spill end date and time;
13. Description of how the spill volume estimations were calculated, including, at minimum:
  - a. The methodology and type of data relied upon, including SCADA records, flow monitoring, or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
  - b. The methodology and type of data relied upon to estimated the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;
14. Spill cause(s);
15. System failure location;
16. Description of the pipe/infrastructure material and estimated age of the pipe/infrastructure material, at the failure location;
17. Description of the impact of the spill;
18. Whether or not the spill was associated with a storm event;
19. Description of spill response activities including description of immediate spill containment and cleanup efforts;
20. Description of spill corrective actions, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of the major milestones for those steps, including, at minimum:
  - a. Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable, and
  - b. Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences at the same spill even location including
    - i. Adjusted schedule/method of preventative maintenance,
    - ii. Planned rehabilitation or replacement of sanitary sewer asset,
    - iii. Inspected, repaired asset(s), or replaced defective asset(s),
    - iv. Capital improvements
    - v. Documentation verifying immediately implemented system modifications and operating/maintenance modifications,
    - vi. Description of spill response activities,
    - vii. Spill response completion date, and
    - viii. Ongoing investigation efforts, and expected completion date of investigation to determine the full cause of spill;
21. Detailed narrative of investigation and findings of cause of spill.

Amended Certified Spill Reports for Category 3 Spills

The WGW Operations Manager, or their designee, will update the Certified Report as new or changed information becomes available. Reports can only be amended within **90 calendar days** after spill end date. Amended report needs to be certified by the LRO. After **90 calendar days**, the LRO will need to contact the State Water Board at [sanitarysewer@waterboards.ca.gov](mailto:sanitarysewer@waterboards.ca.gov) to request to amend a Spill Report and include justification as to why the additional information was not reported before the due date.

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### 6.9.4 Category 4 Spill Reporting

#### Monthly Certified Spill Reporting for Category 4 Spills

The LRO shall report and certify the estimated spill volume exiting the sanitary sewer system, and the total number of all Category 4 Spills to the online CIWQS Sanitary Sewer System Database within **30 calendar days** after the end of the month in which the spills occurred.

#### Annual Certified Spill Reporting of Category 4 and/or Lateral Spills

For all Category 4 Spills and spills from the City owned and/or operated laterals that are caused by a failure or blockage in the lateral and that do not discharge to a surface water, the Enrollee shall:

1. Maintain records per section 6.6.4 of the SSMP
2. Annually upload and certify a report, in an appropriate digital format, of all recordkeeping of spills to the online CIWQS Sanitary Sewer System Database, by **February 1<sup>st</sup>** after the end of the calendar year in which the spills occurred.

### 6.9.5 Monthly Certification of “No Spills”, Category 4 Spills, and/or Non-Category 1 Lateral Spills

If either (1) no spills occur during a calendar month or (2) only Category 4, and/or Enrollee-owned and/or operated lateral spills (that do not discharge to a surface water) occur during a calendar month, the Enroll shall certify, within **30 calendar days** after the end of each calendar month, either a “No Spill” certification statement, or a “Category 4 Spills” and/or “Non-Category 1” certification statement in the online CIWQS Sanitary Sewer System Database, certifying that there were either no spills, or Category 4 and/or Non-Category 1 Laterals Spills that will be reported annually for the designated month.

### 6.9.6 Private Lateral Sewer Discharge (PLSD)

Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee’s sanitary sewer system or from other private sewer assets that the enrollee becomes aware of **may be voluntarily reported** to the CIWQS Online Spill Database.

### 6.9.7 CIWQS Not Available

If the CIWQS online spill database is not available, the Wastewater Collection Supervisor will fax or e-mail all required information to the RWQCB office at (510) 622-2460. In such an event, the City will submit the appropriate reports using the CIWQS online spill database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the Spill document file.

## 6.10 Internal Spill Reporting Procedures

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

### Category 1 and 2 Spills

During regular business hours, the ERT will notify the Wastewater Supervisor immediately of a Category 1 or 2 spill. After hours, the Standby Responders will notify the Standby Supervisor of a Category 1 or 2 spill. The Responders will fill out the Spill Form as soon as possible. Then turn it in to the Wastewater Supervisor or

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Wastewater Project Coordinator during regular hours. In the event of a Category 1 overflow in a sensitive area, the Wastewater/Standby Supervisor will notify the WGW Manager and WGW Assistant Director.

### Category 3 and 4 Spills

The ERT or Standby Responders will fill out the WGW Operations SSO Report Form, see **Appendix C**, and turn it into the Wastewater Project Coordinator to begin the reporting process.

### Internal Reporting of Spills related to FOG

If a spill is determined to be caused by FOG, either from one or more Food Service Establishment (FSE) or specific residential areas, the Wastewater Project Coordinator will notify the City's FOG Manager, Environmental Program, located at the Regional Water Quality Control Plan (RWQCP). The work order includes the following information, at minimum. The record should include the following information, at minimum:

1. Location of affected laterals, manholes, and sewer main segments;
2. Date, time, address, and cause of the spill;
3. Severity of the FOG; and
4. If available, a copy of the CCTV or a statement when it will be available.

WGW Operations should receive confirmation from the Public Works Watershed Protection Department that the FSE is integrated into the FOG Program and follow ups are completed.

## 6.11 Internal Spill Documentation

### Category 1, 2, 3, 4, and/or Enrollee Owned/Operated Spills

The Responder will complete a Spill Report form and turn it into the Wastewater Supervisor or Wastewater Project Coordinator. The Wastewater Supervisor or Wastewater Project Coordinator will create and maintain a file for each individual spill. The file should include the following:

- Spill Investigative Procedures Checklist, **Appendix E**
- Spill Report – Draft for review
- Spill Report – Final
- Photos
- Certified CIWQS Report

The following are for Category 1 and 2 Spills.

- Appropriate maps showing the spill location
- Water quality sampling and test results, if applicable

### Private Spills

The Responder will complete Spill Form and provide it to the Wastewater Supervisor or Wastewater Project Coordinator. A separate file will be prepared for each individual spill at the Wastewater Supervisor's discretion. The file should include any relevant information above.

## 6.12 Failure Analysis Investigation

### 6.12.1 Post Spill Debriefing

For each spill event **greater than 250 gallons**, all participants involved in the response – from the person who received the call to the last person to leave the site – should meet, as soon as feasible, after the event to review and evaluate the incident and the City response procedures. The objective of the Post-Spill Debrief is to determine actions necessary, if any, to reduce the recurrence and better mitigate the effects of spills. The results are documented and tracked on a Post-Spill Debrief form to ensure the identified action items are implemented. The Post-Spill Debrief Form is in **Appendix D**. The Post-Spill Debrief documentation is filed in the final spill file for the incident.

### 6.12.2 Spill Investigation and Mitigation

It is the responsibility of the Wastewater Supervisor to investigate spills and to ensure that the procedures in the SERP are followed or modified as a result of the incident failure analysis. The Utilities Supervisor failure analysis is intended to determine if additional maintenance, repair/replacement or other follow-up actions or response procedures changes are needed to reduce or eliminate the likelihood of future spills.

The procedures for investigating a spill are as follows:

1. Review the SSO Report Form, **Appendix C**;
2. Interview the following personnel, if applicable: Dispatch, Supervisor, Primary Responder, Field Service Representatives, Customer Service Representatives, responding crew members or any other; Agency staff that were involved with the response;
3. Review the incident timeline and other documentation regarding the incident;
4. Review communications with the Reporting party and witnesses;
5. Review photographs of the incident;
6. Review spill volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings;
7. Review past maintenance records of affected manholes and pipe segments;
8. Review past CCTV records.
9. Conduct new CCTV inspection, if necessary.
10. If the spill is located within the designated hot spot areas, consider increasing the maintenance frequency;
11. Review any FOG related information or results from RWQCP;
12. If the spill is due to pipe failure, schedule repair or replacement as soon as feasible;
13. If the spill is due to an under-sized pipe, infiltration/inflow or other engineering defect, contact the WGW Engineering for inclusion in the CIP work; and
14. Develop agreed upon changes and additions to the SERP and/or City Procedures resulting from the investigation and debrief session(s).

## 6.13 Record Keeping Requirements

The SWDR and MRP require that individual spill records be maintained by the City for a minimum of five years from the date of the spill. This period may be extended when requested by a Regional Water Quality Control Board Executive Officer.

All records shall be made available for review upon SWRCB or RWQCB staff's request during on-site inspection or through an information request.

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### Spill Reports

Records shall be retained for all spills, including but not limited to the following when applicable:

1. Service call records and complaint logs of calls received by the City, documenting how the City responded to all notifications of possible or actual spills (including complaints that do not result in spills), including:
  - a. Date, time, and method of notification
  - b. Date and time the complainant or informant first noticed the spill
  - c. Narrative description of the complaint, including any information the caller can provide regarding whether or not he/she knows if the spill has reached surface waters, drainage channels, or storm drains
  - d. Follow-up return contact information for complainant or informant for each complaint received, if not reported anonymously
  - e. Final resolution of the complaint
2. Records documenting steps and/or remedial actions take to control and terminate the spill and recover as much of the discharged volume as possible;
3. Records documenting how estimates of volume discharged and volume recovered were calculated; and
4. All California Office of Emergency Services notification records, as applicable.

### Recordkeeping of Category 4 Spills and Non-Category 1 Lateral Spills

The City must maintain the following records for each individual Category 4 Spill and for each individual non-Category 1 owned and/or operated lateral spill.

### Recordkeeping of Individual Category 4 Spill Information

1. Contact information: Name and telephone number of the City employee who can respond to spill specific questions;
2. Spill location name;
3. Description and GPS coordinates where the spill originated;
4. Did the spill reach a drainage conveyance system? If Yes:
  - a. Description of the drainage conveyance system transporting the spill;
  - b. Estimated spill volume fully recovered from the drainage conveyance system; and
  - c. Estimated spill volume remaining within the drainage conveyance system;
5. Estimated total spill volume exiting the system;
6. Spill date and start time;
7. Spill cause(s)
8. System failure location
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of how the volume estimation was calculated, including, at minimum:
  - a. The methodology and type of data relied upon, including SCADA records, flow monitoring, or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
  - b. The methodology and type of data relied upon to estimated the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;
11. Description of implemented system modifications and operating/maintenance modifications.

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#### Recordkeeping of Individual Lateral Spill Information

1. Date and time the Enrollee was notified of, or self-discovered, the spill;
2. Location of individual spill;
3. Estimated individual spill volume;
4. Spill cause(s);
5. Description of how the volume estimations were calculated.

#### Total Annual Spill Information

1. Estimated total annual spill volume;
2. Description of spill corrective actions, including at minimum:
  - a. Local regulatory enforcement action taken against the sewer lateral owner in response to a spill, as applicable, and
  - b. System operation, maintenance and program modifications implemented to prevent repeated spill occurrences at the same spill location.

#### Sewer System Telemetry Records

Electronic monitoring records relied upon for documenting spill events and/or estimating spill volume discharged, including:

1. Supervisory Control And Data Acquisition (SCADA) systems;
2. Alarm System(s);
3. Flow monitoring devices or other instruments used to estimate wastewater levels, flow rates, or volumes;
4. Computerized maintenance management system records; and
5. Asset management-related records.

#### Recordkeeping for Water Quality Sampling

If water quality samples are required by an environmental or health regulatory agency or State law or if voluntary monitoring is conducted by the City or its agent(s) as a result of any spill, records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individual(s) who performed the sampling or measurements;
3. The date(s) analyses were performed;
4. The individual(s) who performed the analyses;
5. The analytical technique or method used; and
6. The results of such analyses.

#### SSMP Implementation

WGW Operations shall maintain records documenting the implementation of its SSMP, including documents that support audits, corrections, modifications, and updates to the SSMP.

#### Audit Records

WGW Operations shall maintain, at minimum, the following records:

- Completed audit documents and findings;



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- Name and contact information of staff and/or consultants that participated in the audit; and
- Follow-up actions based on audit findings.

#### Equipment

WGW Operations shall maintain a log of all owned and leased sewer system cleaning, operational, maintenance, construction, and rehabilitation equipment.

#### Work Orders

WGW Operations shall maintain record of work orders for operations and maintenance projects.

### 6.14 Equipment

Tools and Equipment inventory:

*Table 21: Equipment*

Item	Quantity	Comments
Combination Hydroflush Truck by Vactor	2	#8748, 2015 FREIGHTLINERS #8747, 2015 FREIGHTLINERS
Hydrojetter Truck	1	#8791, 2017 FORD
Lead Service Truck	1	#8723, 2017 PETERBILT
Lateral Maintenance Vans	2	#7509, 2015 FORD #7215, 2017 FORD
Supervisor Truck	1	#8721, 2010 FORD
Dump Truck	2	#8802, 2003 GMC 5 yard #8725, 2008 PETERBILT 10 yard
HEO Backhoe	1	#8738, 2008 CATERPILLAR
Inspection CCTV Van	1	#8793, 2004 FORD video from 6" to 24" main lines
Inspection Cameras	6	Used as an assessment and inspection tool
Emergency Trailer	1	Located in MSC
Shoring Trailer	1	Located in MSC. Used for deep trenches.
6" Pump	1	Located in MSC
2" Pump	3	Located in MSC
Snake/ Rooter Machine	4	Mechanical pipe cleaner. Cuts roots and debris.
Mini Snake/ Rooter Machine	1	Mechanical pipe cleaner. Cuts roots and debris.
Smoke Machine	1	Located in MSC
Spill Control Rubber Dam	2	Placed inside wastewater service vehicles
Spill Control Rubber Mat	4	Placed inside wastewater service vehicles
Gas Detector	20	Used to detect dangerous gases
Metal Detector	5	Used to locate parts of the Wastewater Collection System
4" to 6" Pipebursting machine	1	Used for trenchless pipe replacement

### 6.15 Spill Response Training

Training includes City-specific issues, such as operation of its key pieces of equipment, as well as general safety and operational issues, the SSMP including the Spill Emergency Response Plan and spill response procedures practice drills. The City uses both contracted and in-house training services and requires training or certification of conformance of training of contractors on its SERP and spill response procedures.

#### Initial and Annual Refresher Training

The City uses a combination of in-house classes, on-the-job training, conferences, seminars, and other training opportunities to provide technical training for its wastewater collection system staff. Vendors provide training for new tools or equipment. A portion of bi-weekly tailgate meetings are dedicated to training on various wastewater topics. These short meetings prior to the start of the day's field work provide the opportunity for quick discussions of short topics related to specific collection system operations issues. The sources of technical training and training materials for the City's wastewater collection staff are listed in **Table 21** and **Table 22**.

*Table 22: Training Resources (Conferences, Seminars, and Courses)*

Sponsor	Event	Timeframe	References
California Water Environment Association (CWEA)	State Conference	April	www.cwea.org
	Northern Regional Safety Conference	September	
	Santa Clara Valley Section Meetings & collections training events & classes	Monthly	
CWEA - San Francisco Bay Area section	Meetings and collections training events & classes	Monthly	www.cwea.org
Bay Area Clean Water Association (BACWA) Collection Systems Committee	Collection System Committee meetings	Monthly	www.bacwa.org

*Table 23: Training Resources (Materials)*

Sponsor	Materials	Reference
California State University, Sacramento	Videos, manuals, home study courses	www.owp.csus.edu

Other potential sources of training include the Water Environment Federation specialty conferences on collection system operations, webinars and publications that support sewer system education and training including the City's risk management and insurance program pools that provide specific risk-based training for claims and risk reduction.

City staff receives annual training on the following topics: volume estimation, storm water pollution prevention, confined space entry, biological and chemical hazards, Vector safety, underground construction, gas detector use, application of overflow control materials, back injury prevention, overflow reporting and field documentation, and the content and procedures of the SSMP. In addition, the City provides free training and seminars on various professional development topics including computer applications, writing, and communication skills.

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Individual training records are documented and maintained by the City's Department of Human Resources.

### Spill Response Drills

Periodic training drills should be held to ensure that employees are up-to-date on the procedures, the equipment is in working order, and the required materials are readily available. The training drills should cover scenarios typically observed during sewer-related emergencies (e.g. mainline blockage, mainline failure, force main failure, pump station failure, and lateral blockage). The results and the observations during the drills should be recorded and action items should be tracked to ensure completion.

### Spill Response Training Record Keeping

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

### Contractors Working on City Sewer Facilities

All Contractors working on City sewer facilities will be required to develop a project-specific SERP that is subject to City approval. All contractor personnel will be required to receive training in the contractor's SERP and to follow that SERP in the event that they cause or observe a spill.

### 6.16 Annual Review of SERP

The Wastewater Operations Manager, or designee, shall annually review and assess the effectiveness of the Spill Emergency Response Plan. Upon completion of the review, the SERP shall be updated as soon as reasonably practicable.

## Element 7: Sewer Pipe Blockage Control Program

### **Statewide Waste Discharge Requirements**

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:

- An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances;
- 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;
- The legal authority to prohibit discharges to the system and identify measures to prevent spills and blockages;
- 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;
- 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;
- An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and
- Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.

### 7.1 FOG Program Goals

The City of Palo Alto implements a FOG Control Program due to the significant number of FOG-generating FSEs in the City. The benefits of a FOG Control Program include FOG discharge prevention to the sanitary sewer and storm drain systems, storm drain pollution prevention from spills and FSE practices, reducing the number of FOG-related spills, improving public health and safety, avoidance of overflow-related fines, minimizing property damage claims, reducing sewer maintenance costs, and improving the FSE business environment. The primary goal of the FOG program is to reduce the number, severity and frequency of spills linked to FOG and to reduce the environmental impacts and the costs associated with spill cleanup.

Since 1996, the City began development a food service program to include appropriate SUO provisions, site inspection procedures, enforcement action procedures, BMPs for FSEs, outreach and education. The FOG Program began during the second half of 2006 with the addition of a full time FOG Program Investigator. In 2008, the program enhanced its data management system to track inspections, follow-up letter enforcement and storm drain program inspections as they relate to FSEs.

## 7.2 Outreach

### 7.2.1 Regional Outreach

During 2014, the Bay Area Pollution Prevention Group (BAPPG) promoted proper disposal of kitchen fats, oils, and grease on Bay Area Univision Spanish radio stations between Thanksgiving week and New Year's Day. Univision aired a total of 73.3 paid radio spots (48 – 60 second and 20 – 30 second) on radio stations KSOL and KBRG. Additionally, Univision broadcasted 220 paid audio streaming ads on their radio website ([www.univision.org](http://www.univision.org)) featuring a banner directing the audience to [www.baywise.org](http://www.baywise.org) with more than 580 thousand gross impressions. Univision also included complimentary PSAs on KSOL, KBRG and KVVF. The campaign included a total of 288 spots making 1.74 million gross impressions at a cost of \$0.0042 per impression.

### 7.2.2 Residential Outreach

Outreach for residents continues to be an important component of the FOG program. In past years the RWQCP focused on providing residents with helpful tools, such as free grease scrapers, and utility bill inserts with disposal information of cooking oil and grease. In 2012 specific residential areas were targeted for outreach where more multi-family residential buildings existed and older neighborhoods that had continually high spill counts. In 2013 a seasonal utility bill insert was mailed that included information about HHW dates and disposal of used cooking oil and grease, especially from deep fryers for turkeys. Residents are able to dispose of their unwanted cooking oil at the weekly HHW events. Utility bill inserts continue to include HHW information and the importance of proper grease disposal. Outreach efforts are further detailed in the City's annual Clean Bay Plan report.

## 7.3 FOG Disposal

Adequate disposal options for FOG are available in the region.

### 7.3.1 Acceptance at RWQCP and Maximizing Energy Recovery

During 2008, City staff investigated the FOG acceptance procedures at the RWQCP. The goal was to evaluate the potential to receive all hauler loads associated with the Grease Waste Hauler Contract in the City of Palo Alto and possibly other Cities in the RWQCP's service area, which would include non-contracted haulers. At the present time, there is limited capacity for accepting more than the current amount of approximately 6,000 gallons of grease waste hauler loads per day. The RWQCP's acceptance of GCD waste material cannot exceed 130,000 gallons per month or 1.56 million gallons per year.

The RWQCP Long-Term Facilities Plan discussed the benefits of adding FOG to digesters, if digesters are chosen as a biosolids handling technology. FOG addition can significantly increase energy production.

### 7.3.2 Coordination/Data Management

During 2008, City staff investigated the FOG acceptance procedures at the RWQCP. The goal was to evaluate the potential to receive all hauler loads associated with the Grease Waste Hauler Contract in the City of Palo Alto and possibly other Cities in the RWQCP's service area, which would include non-contracted haulers. At the present time, there is limited capacity for accepting more than the current amount of approximately 6,000 gallons of grease waste hauler loads per day. The RWQCP's acceptance of GCD waste material cannot exceed 130,000 gallons per month or 1.56 million gallons per year.

The RWQCP Long-Term Facilities Plan discussed the benefits of adding FOG to digesters, if digesters are chosen as a biosolids handling technology. FOG addition can significantly increase energy production.

## 7.4 Legal Authority

Chapter 16.09 of the Palo Alto Municipal Code (SUO) provides the legal authority to regulate FOG discharges to the sewer system. The SUO has specific grease control requirements for Food Service Establishments.

**Table 23** contains a summary of the SUO provisions pertinent to FOG control.

*Table 24: Sewer Use Ordinance Provisions for FOG Control*

Provision	Palo Alto Municipal Code Reference
Prohibitions	16.09.035
Standards	16.09.040
Grease Disposal Prohibited	16.09.050
Unpolluted Water	16.09.055
Standards for Other Industrial Wastes	16.09.060
Best Management Practices	16.09.065
Trucker's Discharge Permit	16.09.070
Food Service Establishments	16.09.075
Reporting Requirements for all Permitted Dischargers	16.09.135
Requirements for Reporting Noncompliance, Increased Loading, Slug Discharges, Accidental Discharges	16.09.140
Storm Drains – Prohibited Discharges	16.09.165
Requirements for Construction Operations	16.09.170
General Prohibitions and Practices	16.09.175
Requirements for Newly Constructed, Remodeled or Converted Multi Residential, Commercial and Industrial Facilities	16.09.180
Enforcement – Notice of Non-Compliance	16.09.245
Enforcement – Administrative Compliance Order	16.09.250
Enforcement: Criminal Penalties	16.09.255
Enforcement – Administrative Citation	16.09.260
Enforcement – Administrative Civil Penalties	16.09.265
Enforcement – Judicial Civil Penalties	16.09.270
Damage to Facilities	16.09.275
City Right to Terminate Discharge	16.09.280

References: Palo Alto, California Municipal Code Ordinance No. 5561, passed September 27, 2022.

## 7.5 Source Control

The City has several high density and high volume restaurant areas including Downtown, Midtown, and the California Avenue Business District, which are known hotspots for collection system impacts related to FOG discharge. There are also several smaller clusters of FSEs and individual restaurants that warrant FOG controls. These areas and specific FSEs have been the primary targets for increased inspection, enforcement, and preventive cleaning.

The partner cities to the RWQCP (City of Mountain View, City of Los Altos, East Palo Alto Sanitary District, Town of Los Altos Hills, and Stanford University) remain responsible for their collection systems, SSMPs and FOG Control Programs. The City of Palo Alto will continue to support the satellite systems as needed with creation of outreach materials, training, and assistance with FSE inspections.

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The City's FOG Program staff in Public Works – Environmental Services manages plan check and specifications for newly constructed and remodeled FSEs to ensure items required by the Palo Alto Municipal Code and Uniform Plumbing Code are completed prior to approval of building permits. Grease-generating drainage fixtures must be connected to a grease control device (GCD). Non-grease generating drainage fixtures including hot discharge equipment can be connected directly to the sanitary sewer system. When drainage fixtures are properly plumbed and the GCDs are properly maintained, there should be very little to no FOG discharging to the sanitary sewer system. Improperly plumbed pipes and drainage fixtures are generally associated with FOG buildup downstream, and occurrences of sewer backups or spills. The SUO includes a requirement for undesignated retail spaced, ensuring that new buildings must retrofit to meet the requirements if an FSE is in a new building's undesignated retail space.

New buildings constructed to house food service establishments are required to include a covered area for trash, recycling, tallow (used oil) and compostable. The area is designed to prevent water run-on to the area and runoff from the area. Drains that are installed within the enclosure for recycle and waste bins, dumpsters, and tallow bins (used oil containers) serving food service facilities are optional. Any such drains installed must be connected to a GCD and the sanitary sewer. If tallow is to be stored outside, then an adequately sized, segregated space for a tallow bin must be included in the covered area.

### 7.6 Inspections

There are over 300 FSEs in the City of Palo Alto. The FOG program includes comprehensive inspections and enforcement. Inspections of FSEs occur on a routine basis, and the City conducts more frequent inspections and enforcement where necessary based upon FSE performance. The Clean Bay Pollution Prevention Plan includes the goal of inspecting at least one-third of the FSEs each year.

The City's main goals for FSEs are to have GCDs maintained frequently enough to prevent FOG from escaping from GCDs and entering the sanitary sewer system, ensuring drainage fixtures are correctly plumbed, keeping a maintenance log for GCDs, not to wash kitchen equipment or discharge wastewater to the storm drain system, and to maintain the tallow bin and trash areas free of FOG and debris.

The FSEs are categorized by their potential to contribute FOG to the sanitary sewer or storm drain system. Facilities located in hot spots or that have otherwise been problematic are addressed first and receive more frequent inspections. FSEs are prioritized in one of the following categories:

- Problem FSEs in hot spots
- Problem FSEs not in hot spots
- FSEs in hot spots
- FSEs that have only had minor issues in the past
- FSEs with potential to generate FOG
- FSEs without significant potential to generate FOG (juice bars, coffee shops, etc.)

Experience has shown that some facilities will frequently not meet all requirements and will need ongoing attention. These facilities will be re-visited as necessary. Facilities that demonstrate compliance will receive less attention. During the inspections, the FSE is ranked on a scale of 1 (worst) to 5 (best) on their compliance with BMPs and ordinance requirements. BMPs include:

- Removing food waste from preparation and service items prior to washing and disposal in the trash or food scrap container (dry wipe pots, pans, and dishes before washing);

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- Installing drain screens in all sinks, drains, floor drains, floor sinks, dishwashers, etc. Clean screens frequently into the trash or food scrap container;
- Cleaning water from floors, floor mats, exhaust hoods, large kitchen equipment, trash, recycling, tallow containers, or other dishwashing not done in a dishwasher, should be directed to the GCD prior to discharge, including outdoor cleaning;
- Maintain exhaust hood and vent grease collections devices, including those on roofs, in hoods and removable filters to prevent spills and overflows;
- Dispose of waste oil/grease in a tallow receptacle that is kept free of spills, and closed with a lid;
- Prevent storm water pollution by keeping waste containers and surrounding area covered, clean and free of FOG and food residue, debris and leaks; and
- Cleaning up spills using dry methods first (sweeping, rags, absorbent material that are disposed in the trash), then mop and bucket. Mop water is discharged through the GCD.

FSEs that cause problems in the sanitary sewer, storm drain systems or have violations of their BMPs are rated 1 or 2 depending on their location. The problematic facilities that rank 1 or 2 have one of more of the following issues:

- Experienced back-ups or overflows;
- Contributed to FOG build up in the sanitary sewer (identified by CCTV or cleaning records);
- Unresolved compliance issues;
- Failed to follow the proper BMPs;
- Failed to keep records;
- Had storm drain violations; and/or
- Failed to comply with verbal or written directives.

The City receives updated lists of FSEs from the County of Santa Clara, Department of Environmental Health and the Consumer Protection Division. Not all of the facilities on the list require an inspection by the City, as many are farmer's markets, gas stations and general food vendors. In addition, staff attends weekly Development Review Committee meetings and is routed building plans for buildings that include FSEs.

The program includes different inspection types including FSE storm drain system inspections, full FSE FOG inspections, and GCD building inspections. Efforts are concentrated in areas of known problems and facilities with historical issues or known potential to discharge grease. Enforcement actions include Verbal Warning, Warning Letters, Notices of Non-compliance, Compliance Agreements and Administrative Citations consistent with the Enforcement Response Plan (ERP) for either wastewater or storm water violations.

During FSE inspections, outreach materials are distributed as appropriate. The BAPPG funded CalFOG to create a poster that is available in English, Spanish, Korean, Chinese, and Vietnamese.

In addition to the posters, BAPPG created food scrapers with the RWQCP's insignia and local disposal contact info from [www.cleanbay.org](http://www.cleanbay.org) and a phone number. These food scrapers are BMP tools to help scrape off any remaining food and FOG waste into the trash prior to rinsing kitchen items. Food scrapers are generally distributed to FSEs during inspections.

In 2012, FOG Program staff created a fact sheet detailing the requirements for FSEs. This fact sheet is provided to FSEs during the permitting process to ensure that all are aware of the SUO requirements and enforcement response plan as well as other requirements such as the ban on Expanded Polystyrene (EPS) takeout containers and single use plastic checkout bags.



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City staff educates the FSE management and staff on ordinance requirements and BMPs to the extent practical during inspections. If a violation is observed, the inspector issues enforcement consistent with the Enforcement Response Plan. For FSE's that do not achieve compliance, enforcement will be escalated according to the appropriate Enforcement Response Plan (Pretreatment or Storm water).

During the FSE storm drain system inspections compliance with storm drain regulations is assessed. Outdoors cleaning of kitchen equipment, dumping of mop water, and poor housekeeping around trash compactors, trash bins and tallow bins are addressed. Outreach materials, including those developed by the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) are distributed to FSE's during inspections and with follow-up Letters as appropriate.

### 7.7 Compliance

Inspections and enforcement are described in the City's annual Clean Bay Plan report located on the Public Works, Environmental Services Publications and Reports website at <https://cleanbay.org/publications-permits/>.

### 7.8 Rags and Debris

If the Wastewater Operations Department can confirm the source of rags and debris in a sewer lateral or sewer main, the Wastewater Operations crew will try to contact the responsible party and inform them of the violation. If the responsible party cannot be reached, then a "Sewer Lateral Blockage Investigation" will be filled out accordingly and left at the premise.

## Element 8: System Evaluation, Capacity Assurance and Capital Improvements

### **Statewide Waste Discharge Requirements**

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 Evaluation and Condition Assessment**

The Plan must include procedures to:

- Evaluate the sanitary sewer system assets utilizing the best practices and technologies available;
- Identify and justify the amount (percentage) of it's system for its condition to be assessed each year;
- 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;
- Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods;
- 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;
- Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities; and
- Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: sea level rise; flooding and/or erosion due to increased storm volumes,

### **Statewide Discharge Requirements**

#### **8.2 Capacity Assessment and Design Criteria**

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 contribute 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 aboveground 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.

#### **8.3 Prioritization of Corrective Action**

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.

#### **8.4 Capital Improvement Plan**

The capital improvement plan must include the following items:

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

### **8.1 System Evaluation and Condition Assessment**

The City of Palo Alto's Sanitary Sewer CIP plan is based on the 2004 Wastewater Master Plan, CPA's Wastewater Operations' identified deficiencies (repairs or replacements), and CCTV evaluation and assessment. The WGW Engineering Department is currently in the process of procuring another contractor to complete and updated Master Plan Study. Since the updated plan is not available currently, the Wastewater Engineering and Operations Department is utilizing the information it currently has available to evaluate and assess its system.

During 2004, an update of the Master Plan was completed by MWH Americas titled, “Wastewater Collection System Master Plan – Capacity Assessment”, March 2004 (Master Plan) and approved by the City Council. The Master Plan evaluated the effectiveness of the previous 1988 Master Plan Study completed by CDM. It included a model of the collection system and an evaluation of the ability for the system to convey existing and future peak flows from a 5-year design storm, along with identification of areas with limited capacity and the need for system improvements and rehabilitation. Collection system improvements were designed for a 20-year design storm.

The City requires all new developments, on a case by case basis, that propose to connect to the City system, to provide capacity evaluations to determine that the existing system can transmit the proposed flows from the new development without exceeding the City’s design criteria from the Master Plans. If deficiencies are found, the evaluation must provide solutions to allow the addition of these expanded flows to the collection system without causing spills or system failures. This also includes capacity expansion evaluations for satellite agencies Stanford University and Los Altos Hills that currently discharge directly to and utilize capacity in the Palo Alto collection system.

## 8.2 Capacity Assessment and Design Criteria

The Master Plan Study was effective in identifying the capacity deficiencies and recommended appropriate CIP projects. Between 1990 and 2004, a majority of these CIP Capacity projects were designed and constructed. The 2004 Master Plan study further refined the previous study with more accurate modeling and significantly reduced the number of remaining capacity projects, which allowed us to refocus our attention on I/I CIP projects. Since 2004, the remaining CIP projects identified in the 2004 Master Plan, which addressed current capacity deficiencies, have been completed. See Section 5.1 for WW Design Standards governing design and construction methods.

## 8.3 Prioritization of Corrective Action

The City’s WGW Engineering Department is in the process of procuring a consultant to perform the Master Plan Study. Upon completion of the Master Plan Study the WGW Engineering and Operations Department will collaborate to create a plan that prioritizes corrective action throughout the sewer system.

## 8.4 Capital Improvement Plan

Projects in the 2004 Master Plan Study were broken into three groups, phases ‘A’, ‘B’, or ‘C’. The ‘A’ group consists of high priority projects. The ‘B’ group corrects relatively minor deficiencies. The ‘C’ group identifies potential future deficiencies. The groups relate to surcharge levels of the hydraulic grade line determined by the collection system model. The Master Plan identified eight locations where capacity-related improvements were required, generally in small diameter pipelines. These eight improvement projects have since been completed. The City is in the process of contracting a new vendor to complete an updated Master Plan Study which will include a capacity assessment and new recommendations for CIP.

The Wastewater Enterprise Fund, which is predominately funded by collection system sewer service charges, is the source of revenue for the annual CIP sewer rehabilitation projects. The funding is distributed among three operations: WGW Engineering, Customer Services and WGW Operations. **Table 24** shows this distribution.

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*Table 25: Sources of Annual Funding for Sanitary Sewer Rehabilitation*

Funding Source	Responsible City Division
General Equipment and Tools	WGW Engineering
Sewer System Extensions – new laterals and pipelines	Customer Services Division
Sewer Lateral/Manhole Rehab/Replacement	WGW Operations
Wastewater System Improvements	WGW Operations; WGW Engineering
Annual WW Collection System Rehabilitation	WGW Engineering
Annual O&M WGW Operations Contractual Line Item	WGW Operations

The sewer system rehabilitation and replacement projects are included in the City's Five Year Capital Improvement Program (CIP). The annual expenditures for the City's CIP, which totals an average of \$3 million to \$4 million annually for wastewater collection system rehabilitation and replacement, are shown by program in **Table 25**.

*Table 26: Five-Year Capital Improvement Plan*

Program	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	TOTAL
New Manholes/ Replacement	\$800,000	\$1,325,000	\$850,000	\$875,500	\$900,000	\$4,750,000
Pipeline Rehabilitation/ Augmentation	\$4,130,000	\$0	\$1,650,000	\$3,550,000	\$1,650,000	\$9,495,000
System Improvements	\$200,000	\$500,000	\$500,000	\$500,000	\$200,000	\$1,900,000
General Equipment and Tools	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$250,000
TOTAL	\$5,180,000	\$1,875,000	\$3,050,000	\$4,975,000	\$2,800,000	\$17,880,500

The funds that support the Capital Improvement Program come from the City's Sewer Fund. The Sewer Fund is an enterprise fund that includes annual sewer service charges, connection fees and interest. Additional funding from the Utilities Operations, operations and maintenance budget is made available for emergency repairs and lateral replacement, which is administered by Utility Operations.

#### 8.4.1 Schedule

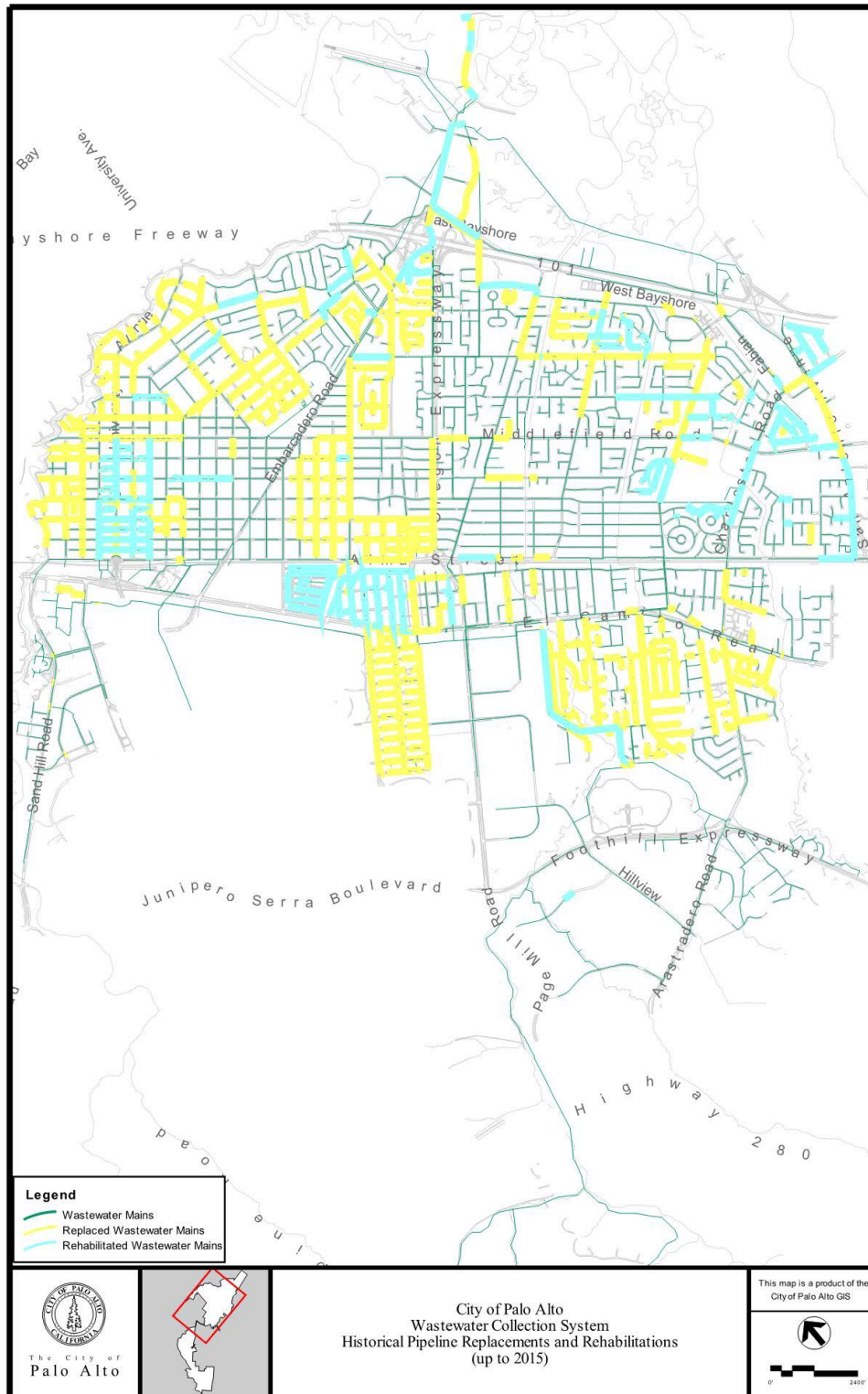
The annual projects include between 15,000 and 25,000 linear feet of pipe and associated manholes and attached lower laterals. The current capacity deficiencies identified in the 2004 Master Plan Study have all been constructed. An on-going 5-year CIP plan addresses and other maintenance issues typically replacing lines in place. **Figure 7** from the City's five-year Capital Improvement Program identifies approximately 75% of the line segments that are to be rehabilitated in the next five years. The remaining 25% are line segments that will be identified during the design phase. All projects are currently being or will be designed and implemented by WGW Engineering on an annual CIP Project Plan basis as detailed in **Figure 7**. All line segments represent sewer mains in the street blocks shown. The project usually takes a year after the start date to complete.

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The City has rehabilitated approximately 34% of the 217 miles of sanitary sewer system to date and expects to add an additional 20 to 25 miles of rehabilitation in the next five years. **Figure 7** identifies those lines that have been rehabilitated or replaced up to 2019.

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Figure 7: Proposed Pipeline Replacement and Rehabilitation 2015-2019.



## Element 9: Monitoring, Measurement and Program Modifications

### **Statewide Waste Discharge Requirements**

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

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

### 9.1 Maintenance of Relevant Data

The City of Palo Alto Utilities staff track relevant information that is used to establish and prioritize appropriate SSMP activities. Field data such as pipe cleaning and inspection frequencies, spills, and lateral replacements are tracked in Sedaru and/or other systems (for example GIS). On a monthly basis, the Business Analyst and the Operations Manager and Utilities Supervisor generate monthly reports to monitor and evaluate the effectiveness of the City's collection system operation. The monthly report is also discussed with WGW Engineering staff at the regular monthly meetings.

SSMP Audit findings should also be used to determine plan modification and prioritization. Details regarding the SSMP internal audits can be found in Element 10 of the SSMP.

### 9.2 Monitoring and Assessment

The City has selected certain performance indicators to assess the effectiveness of the SSMP and WGW Operations for the sanitary sewer collection system. These indicators were selected because they are straightforward, quantitative, and focused on results. Changes in the indicators over time can be used to assess the overall success of the SSMP or, conversely, to identify underlying conditions that inhibit success and necessary program revisions and changes to fully implement the SSMP. The two categories of performance indicators are listed below:

#### Data Regarding Implementation of SSMP Measures

- Feet of sewer main inspected with CCTV/year
- Feet of sewer main cleaned/year
- Number of lower laterals with PM activity/year
- Feet of sewer main treated for root control
- Feet of sewer main rehabilitated
- Number of lower laterals rehabilitated
- Number of FSE inspections



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- Average response time for spill event (Time between City becoming aware of potential spill and First Responder arriving on site)

Data Regarding Success of Preventative Maintenance

- Spill Rate (Spills/100 miles/year);
- Number of spills for each cause (roots, grease, debris, pipe failure, capacity, lift station failures, etc);
- Median spill volume (gallons)'
- Percentage of spills greater than 100 gallons; and
- Percentage of total spilled sewage reaching surface water.

### 9.3 Performance Data

**Table 26** contains the specific annual performance goals associated with the collection system work. The City's Business Analyst produces monthly and annual performance reports, which will provide the data to compare to the SSMP and individual Element stated goals. The reports also presents spill performance results as certified in the State CIWQS system. This information allows the City to optimize operations in a manner that yields favorable spill performance.

*Table 27: Palo Alto Annual Performance Goals*

Performance Indicator	Measured Units	Goal
Feet of sewer main inspected with CCTV	Feet	52,800
Feet of sewer main cleaned	Feet	385,440
Feet of sewer main treated for root control	Feet	5,280
Feet of sewer main rehabilitated	Feet	5,280
Number of lower laterals PM'ed	Number	2,400
Number of lower laterals rehabilitated	Number	110
Number of Food Establishment Inspections	Number	200
Average response time for spill event	Time	1 Hour

Sanitary Overflow Trends Performance Indicator	Measured Units
Total Annual Spills	Number
Spill Rate	Spills/100 miles/year
Percentage of Total Spilled Sewage Reaching Surface Water	Gallons
Percentage of Spills Greater Than 100 Gallons	Percentage
Spills by Cause	Roots
	Grease
	Debris
	Pipe Failure
	Lift Station Failure
	Other
Median Spill Volume	Gallons

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### Adaptive Management

The City will evaluate the performance of its SSMP on a biennial basis using the performance indicators noted in Section 9.2. Any operational changes that are made to improve specific performance indicators will be documented in the SSMP Audit and reflected in the revised language of the SSMP. Element 10 discusses the SSMP Audit process in detail.

#### Chart Data Regarding Implementation of SSMP Measures 2012 – 2022

Figure 8: Feet of sewer main inspected with CCTV, 2012-2022

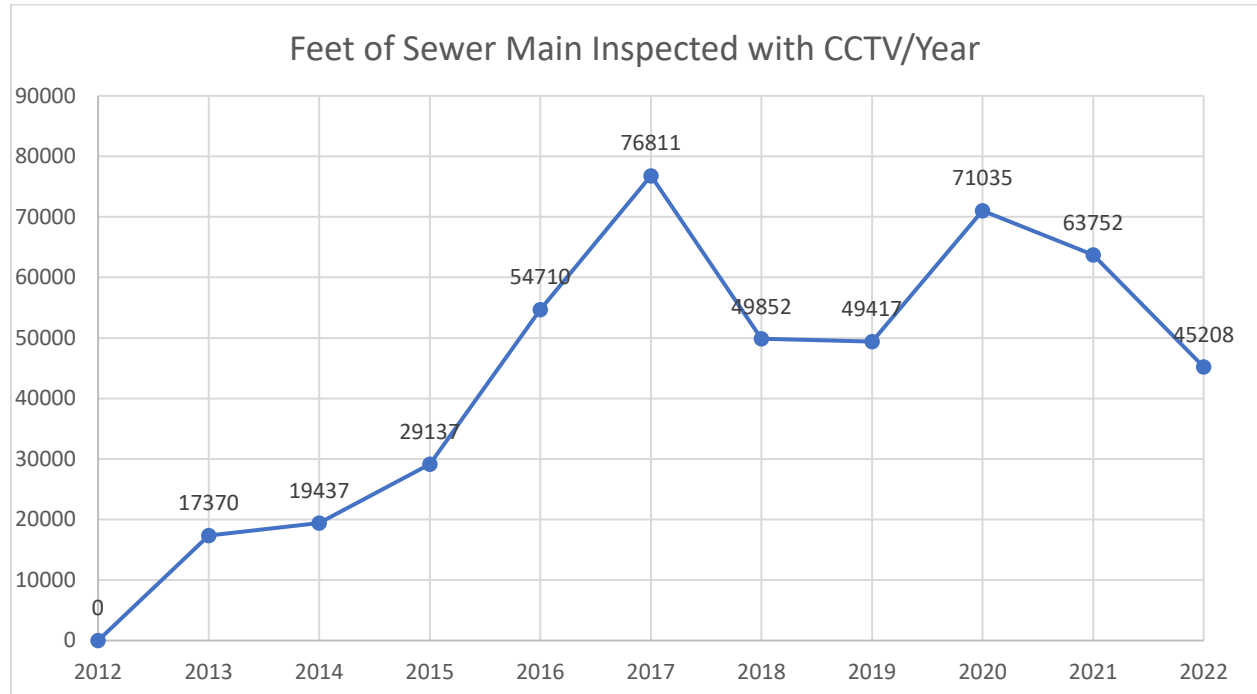
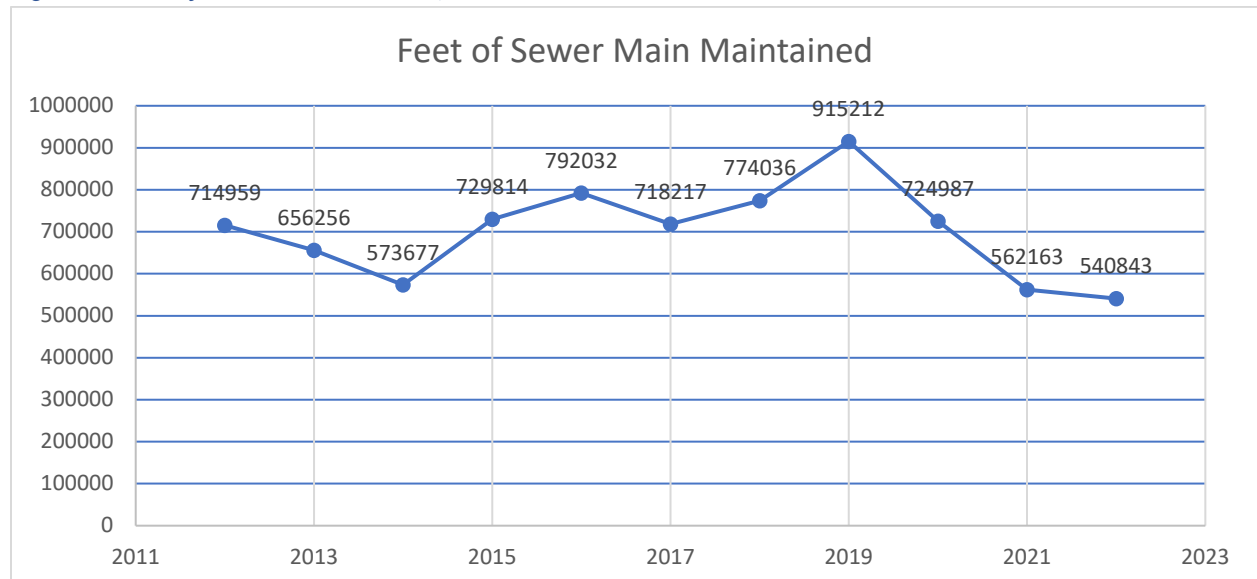


Figure 9: Feet of sewer main cleaned, 2021 – 2022



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Figure 10: Number of Lower Laterals PM'ed

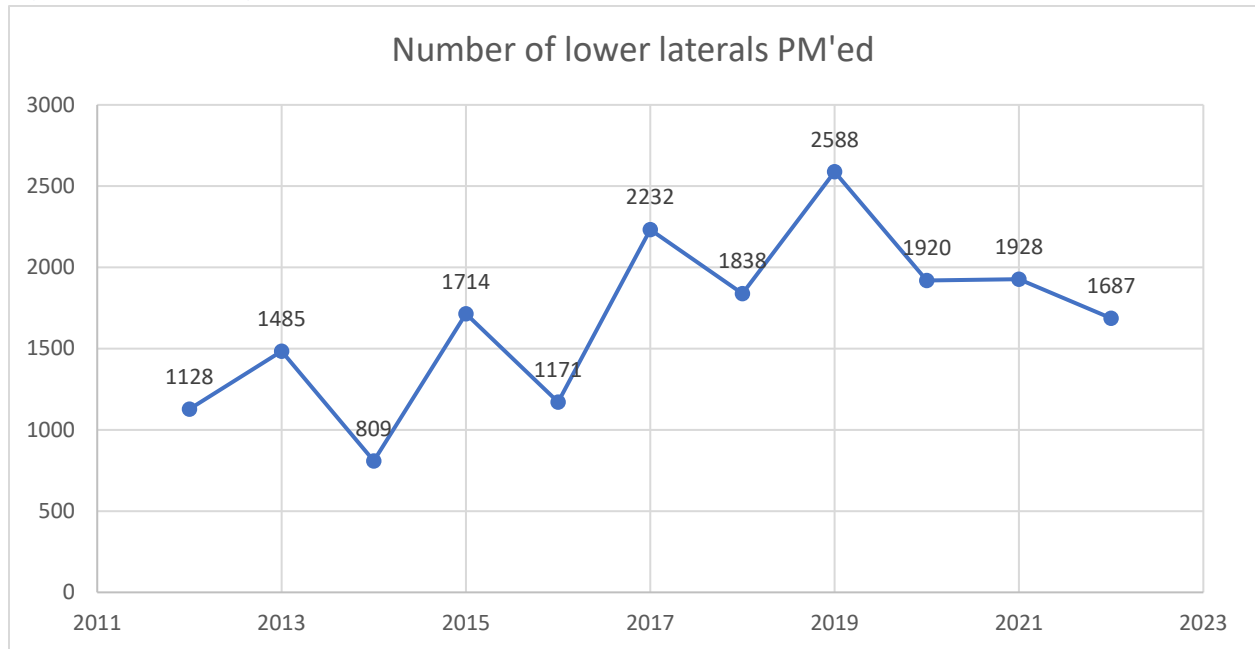
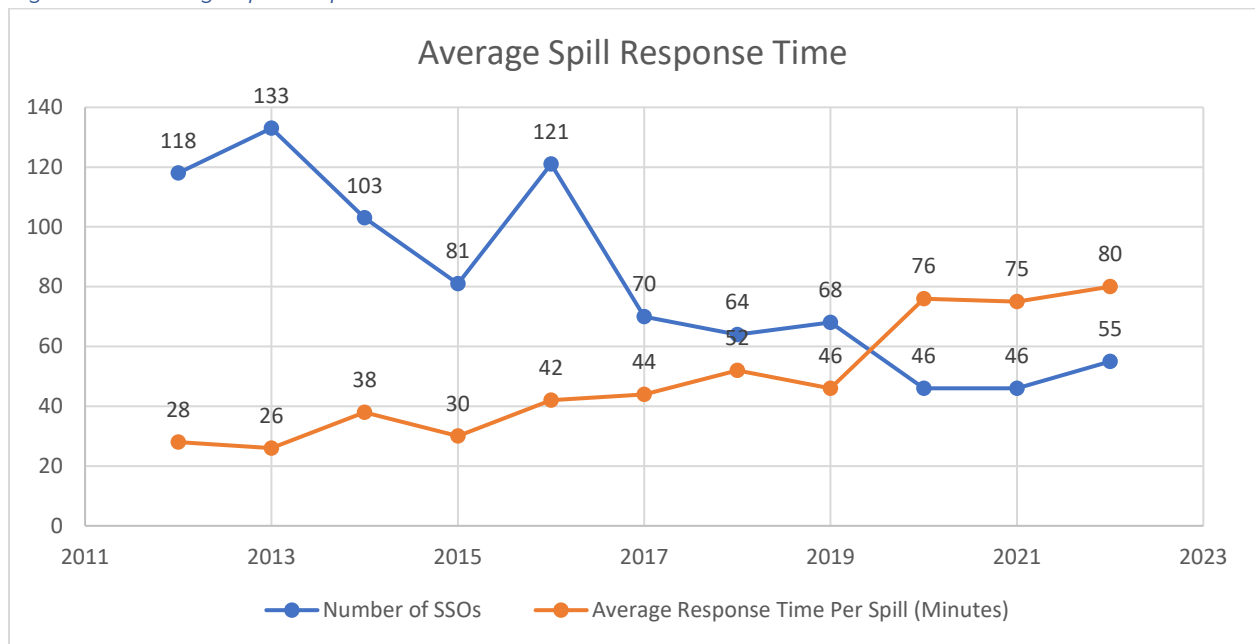


Figure 11: Average Spill Response Time



## 9.4 Spill Trends

Figure 12: Total Annual Number of Spills

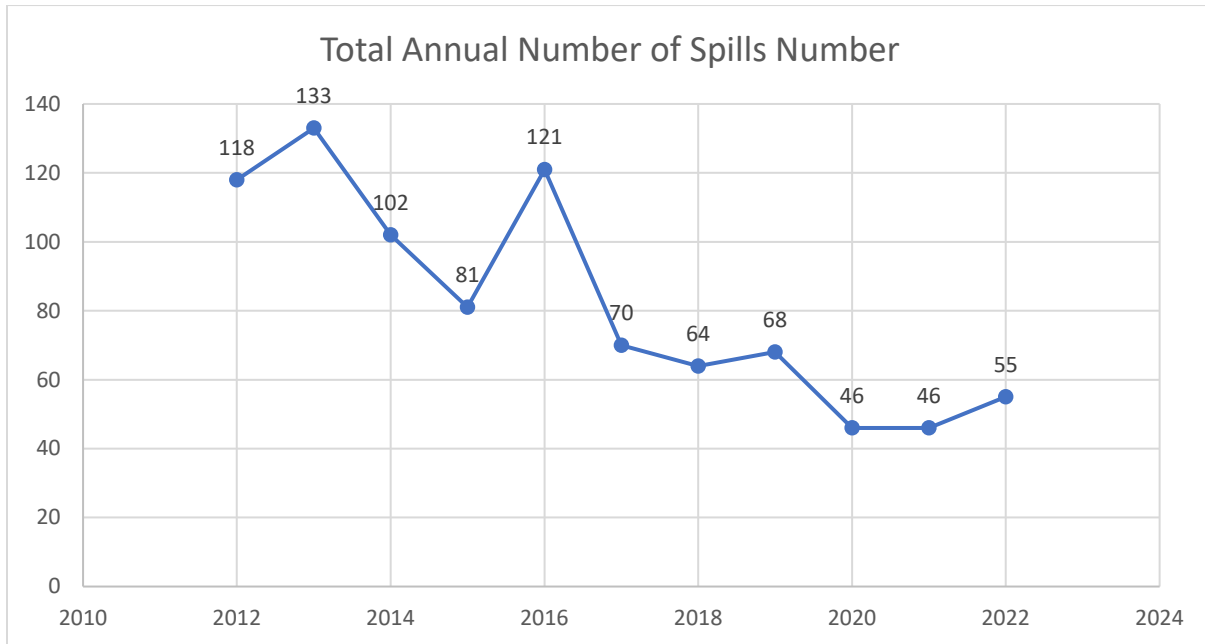
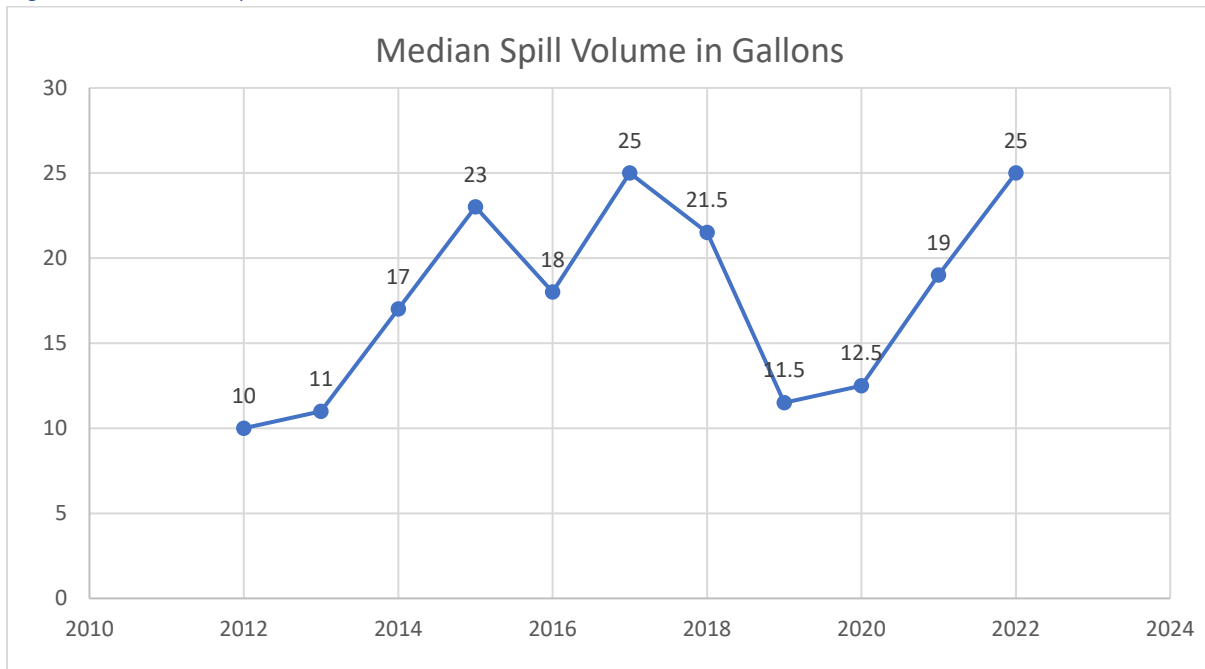


Figure 13: Median Spill Volume



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Figure 14: Percent Reached Surface Water

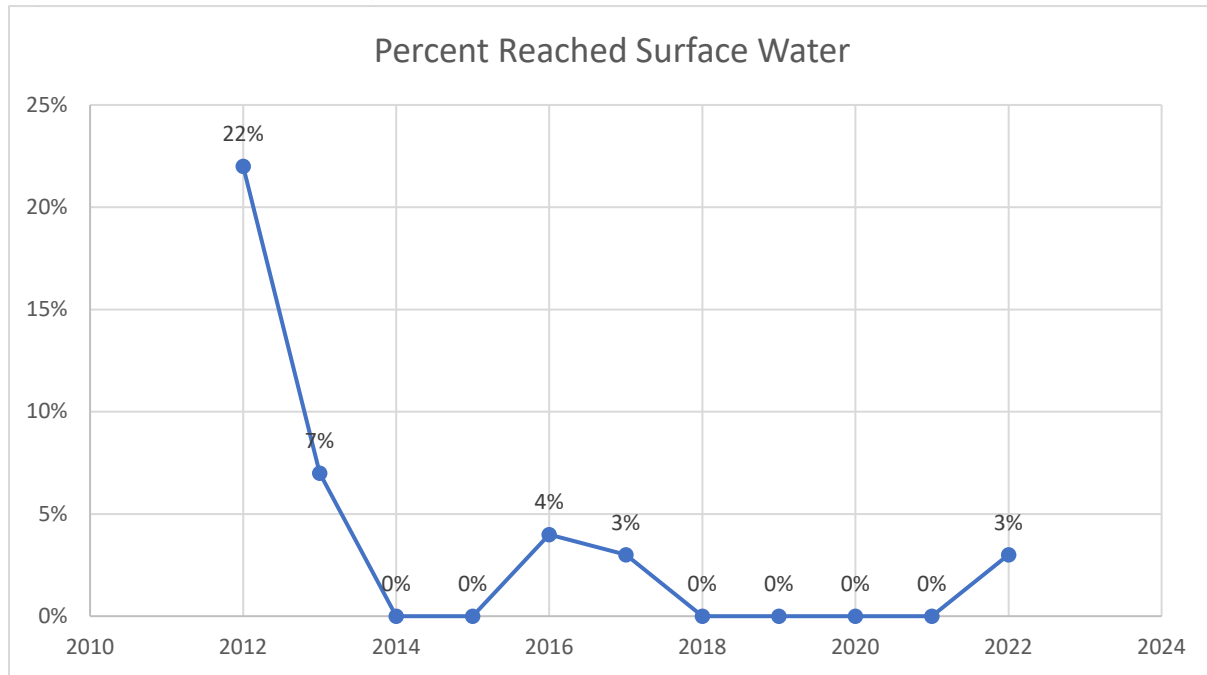
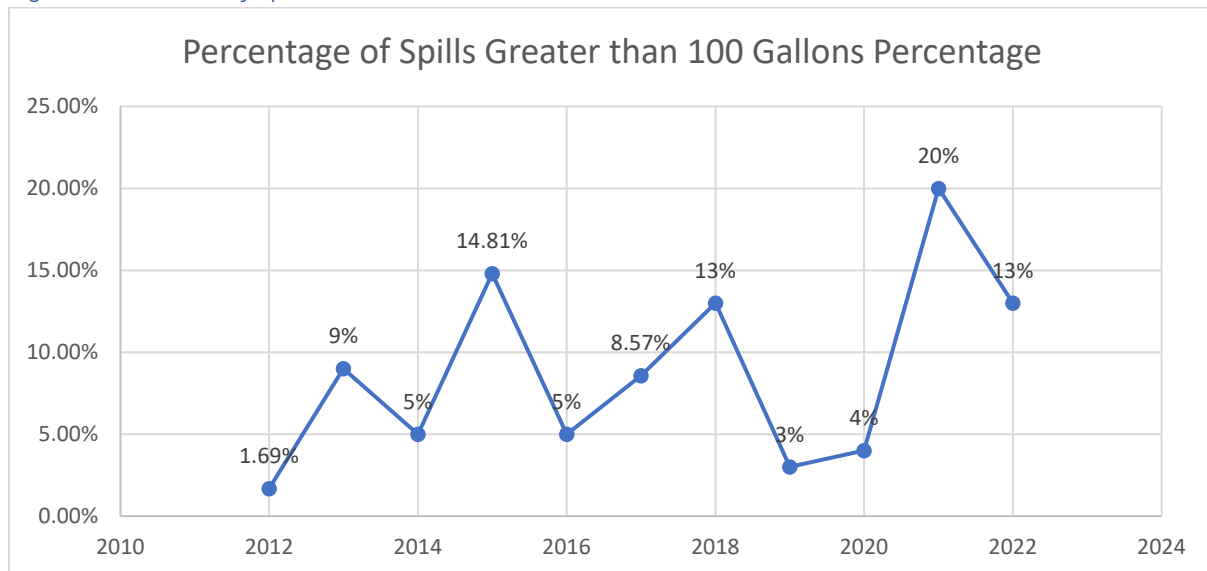
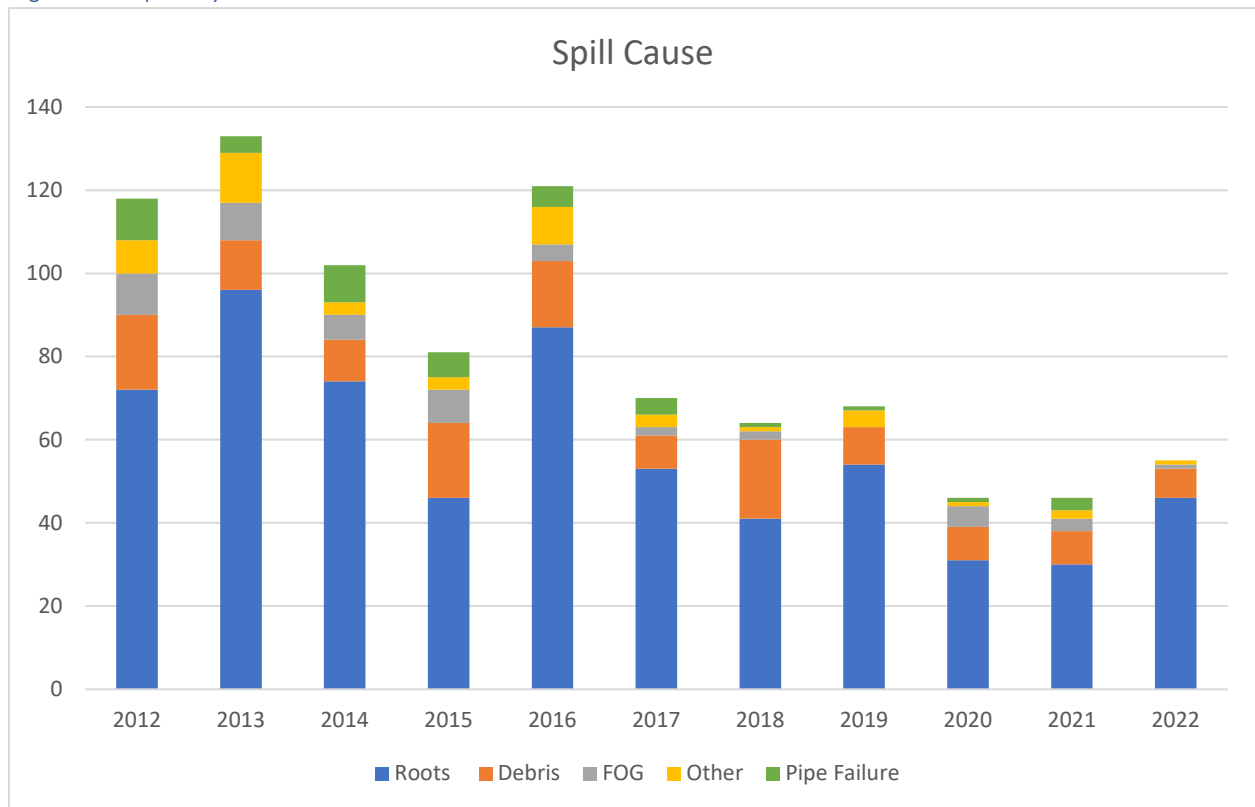


Figure 15: Percent of Spills Greater than 100 Gallons



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Figure 16: Spills by Cause



## Element 10: Internal Audits

### **Statewide Waste Discharge Requirements**

The Plan 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.

### **Internal Audits**

The reissued General Order, 2022-01-03-DWQ, requires the SSMP to be audited every three years. The audit report shall be uploaded to the online CIWQS database by six (6) months after the end of the 3-year audit period.

If the City fails to complete the audit, justification will need to be entered into the CIWQS database and sent to the Region 2 – San Francisco Bay Regional Water Quality Control Board. (Region 2's contact information: [RB2SpillReports@waterboards.ca.gov](mailto:RB2SpillReports@waterboards.ca.gov) or (510) 622-2639). Failure to complete the audit within the required timeframe is not justification for non-compliance with the General Order. Therefore, the City must submit the late audit and comply with subsequent audit requirements and due dates corresponding to the original audit cycle.

The audit will include a systematic review of each SSMP element to ensure the SSMP contains current information, regulatory requirements are satisfied, and programs are effective and meeting the City goals for the operation of the collection system stated in Element 1. If updates or changes are required, the content and timeline to complete those changes are described in the audit form.

As part of the audit process, City staff will update critical information in the SSMP, such as contact information, names of the required Designated Officials and the spill response chain of communication, as needed. A comprehensive SSMP update will occur every 6 years, as required by the SSS WDR.

Changes made to the SSMP will be documented in the Change Log located in **Appendix N**.

## Element 11: Communication Program

### **Statewide Waste Discharge Requirements**

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

- 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.
- Owners/operators of systems that connect into the Enrollee's system, including satellite systems, for:
  - System operation, maintenance, and capital improvement-related activities.

### 11.1 Public Education

Outreach and public education are an important part of the City of Palo Alto's operations. On an annual basis, the City utilizes various media (newspaper, utility bill inserts, website and social media) to inform utility customers of various topics including sanitary sewer collection system issues. Periodically throughout the year, public outreach material on sanitary sewer lateral and cleanout maintenance tips and requirements will be published in ads in the local newspaper's special publications, through digital online advertisements, distributed to customers through utility bill inserts, and posted on the Utilities website. The outreach material provides instructions for reporting sewer blockages and overflows to the City's dispatch center, as well as contacting the City's dispatch center. Additional outreach on keeping fats, oils, and greases (FOG) out of drains is distributed via these communication channels every year, typically around the fall and winter holiday seasons. The Environmental Compliance Division distributes public education materials on proper disposal and handling of the household and non-residential fats, oils, and grease.

A copy of the City of Palo Alto's 2018 SSMP is available on the City's web site. Subsequent updates to the SSMP will also be posted on the same website.

SSMP link: <https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Safety>

### 11.2 Public Notification of a Spill

In the event of a spill reaching surface water, contaminated water signs will be posted as needed. If notification to the public is necessary, the City of Palo Alto's Communication Manager will be the source of information and primary point of contact for the public. Additional details and contact information can be found in Element 6.7.5.

### 11.3 Connected Agencies

The City has an established communication plan with the Regional Water Quality Control Plant's (RWQCP) collection system tributary agencies. The partner agencies meet periodically with City staff to discuss various topics of mutual interest. These meetings are documented and copies of the meeting agendas are located at the WGW Operations offices.