



# Memorandum

**TO:** HONORABLE MAYOR  
AND CITY COUNCIL

**FROM:** John Ristow  
Matt Cano  
Kerrie Romanow

**SUBJECT: RECERTIFICATION OF THE  
SEWER SYSTEM MANAGEMENT  
PLAN (SSMP)**

**DATE:** January 27, 2020

Approved

Date

1-30-2020

## **RECOMMENDATION**

Approve the recertification of the Sewer System Management Plan provided to the State Water Resources Control Board.

## **OUTCOME**

The recertification of the Sewer System Management Plan (SSMP) will ensure the City is in compliance with the State Water Resources Control Board (State Water Board) requirement to update and recertify the SSMP at least every five years. Continued implementation and monitoring of the revised SSMP will facilitate proper management of the sanitary sewer system and help reduce sanitary sewer overflows (SSOs).

## **BACKGROUND**

On May 2, 2006, the State Water Board adopted Order No. 2006-0003 - Statewide General Waste Discharge Requirements for Sanitary Sewer Systems to regulate wastewater collection system management. The Order requires public agencies that own or operate sanitary sewer collection systems with more than one mile of sewer pipes that convey untreated wastewater to a publicly owned treatment facility to develop and implement a SSMP aimed at reducing and properly monitoring and reporting SSOs. The General Waste Discharge Requirements requires public agencies to update the SSMP every five years and include any significant program changes. Council recertification is required when significant updates are made from the prior SSMP. On August 26, 2008, the City Council certified the City's first SSMP; and on October 21, 2014, recertified a revised SSMP.

Five years have passed since the 2014 SSMP submission so the City again updated the SSMP and submitted the update to the State Water Board on December 20, 2019. Although the changes from the prior SSMP may not be deemed significant, Council previously certified the original SSMP and the 2014 update, so Council certification of this amendment is appropriate as well.

## **ANALYSIS**

The revised SSMP was updated through collaboration among staff in the Department of Transportation, Department of Public Works, and the Environmental Services Department. It includes the following required 11 elements demonstrating how the City constructs, rehabilitates, operates, and maintains its sanitary sewer system.

1. SSMP Goals
2. Organization, including SSO Reporting Chain of Command
3. Legal Authority to Operate and Maintain the City's Wastewater Collection System
4. Operation and Maintenance of the Wastewater Collection System
5. Design and Performance of the Wastewater Collection System
6. Overflow Emergency Response Plan
7. Fats, Oils, and Grease (FOG) Control Program
8. System Evaluation and Capacity Assurance Program
9. Monitoring, Measurements, and Modification Plan
10. SSMP Audits
11. Communication Program

The revised SSMP complies with the Stormwater Municipal Regional Permit (MRP) requirements. Since the program has been successful at reducing SSOs no major changes have been made. The updates to the 2014 SSMP include the following:

- Process for reporting discrepancies between field observations and Geographic Information Systems (GIS) maps of sewer infrastructure
- Update to after-hours call taking procedures
- Update of names and contact information for responsible individuals
- Formatting and consolidation of information

In addition to maintaining compliance with the State and Regional Water Board requirements, the revised SSMP carries forward the investments and changes that have led to very positive results over the last five years, including the following:

- SSO reductions
- Reduced response time to address SSOs
- Spill volume reductions
- Effective remedial procedures to address SSOs
- Rehabilitation of ailing sewer pipes

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- Cleaning and regular maintenance
- A robust capital improvement program

The decrease in SSO's is particularly noteworthy, as the number has decreased by 78% from 192 in FY 2011-2012 to 42 reported instances in FY 2018-2019.

The completed revised SSMP is attached to this memorandum and will be available on the City's website for review prior to the City Council meeting.

### **CONCLUSION**

The SSMP, originally implemented in 2008, has resulted in substantial and sustained improvements to the City's sanitary sewer system. The recertification of the Sewer SSMP will ensure that the City operates its sewer system in accordance with outlined policies and best practices and complies with State Water Board requirements.

### **EVALUATION AND FOLLOW-UP**

The City is required to monitor implementation and effectiveness of the SSMP. Various Core Service performance indicators related to the implementation of the SSMP are reported to City Council as part of the annual budget process. Staff also provides reports and information to the City Council describing the status and performance of various activities included in the SSMP through several reports, including the Sanitary Sewer System Annual Report.

The City is also required to update and recertify the SSMP if major changes are made at least every five years. Future SSMP revisions will be brought forward to the City Council for approval and recertification as necessary.

### **CLIMATE SMART SAN JOSE**

The recommendation in this memo has no effect on Climate Smart San José energy, water, or mobility goals.

### **COORDINATION**

Specific changes and the scheduled completion of the revision were coordinated with the State and Regional Water Boards. This memorandum has been coordinated with the City Attorney's Office and the City Manager's Budget Office.

**COMMISSION RECOMMENDATION/INPUT**

No commission recommendation or input is associated with this action.

**FISCAL/POLICY ALIGNMENT**

Recertification of the revised SSMP aligns with the Environment and Utilities CSA Outcome 1 – Reliable Utility Infrastructure.

**COST SUMMARY/IMPLICATIONS**

There are no fiscal impacts associated with the recertification of the SSMP. Ongoing implementation of the SSMP may require additional resources that would be considered during the annual budget process.

**CEQA**

Not a Project, File No. PP17-009, Staff Reports, Assessments, and Reports that involve no approvals of any City action.

/s/  
MATT CANO  
Director, Public Works Department

/s/  
JOHN RISTOW  
Director, Transportation

/s/  
KERRIE ROMANOW  
Director, Environmental Services

For questions please contact Rick Scott, Department of Transportation Deputy Director, at (408) 794-1925.

Attachment

# **City of San Jose**

# **Sewer System Management**

# **Plan**

## **December 2019**

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## **Introduction**

This Sewer System Management Plan (SSMP) has been prepared in compliance with the State Water Resources Control Board (SWRCB) Order 2006-0003: Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (GWDR), as revised by Order No. WQ 2008-0002.EXEC on February 20, 2008. The GWDR prohibits sanitary sewer overflows (SSOs), requires reporting of SSOs using the statewide electronic reporting system, and requires the preparation of an SSMP.

The scope of this SSMP is limited to the sanitary sewer collection system of the City of San José (City). The SSMP does not cover the City's stormwater drainage system or its wastewater treatment plant.

The preparation of this document required extension collaboration between three City departments: Department of Transportation (DOT), Department of Public Works (DPW) and Environmental Services Department (ESD).

## **System Overview**

The City sanitary sewer system serves a population of approximately one million people in a 178 square mile service area. The City owns and operates about 2,042 miles of wastewater collection system pipeline that ranges from 6 to 90 inches in diameter, and includes approximately 39,380 manholes, 17 sanitary lift stations, two soil beds, and one injection station.

The collected wastewater is conveyed to the San José-Santa Clara Regional Wastewater Facility ("Facility") by major interceptor pipelines located in the northern part of San José. In addition to the City's collection system, wastewater is conveyed to the Facility from several sewage collection systems operated by and serving the Cities of Santa Clara and Milpitas, County Sanitation District 2-3, West Valley Sanitation District, Cupertino Sanitary District, and Burbank Sanitary District. Each of these municipalities and districts is obligated by agreement to operate, maintain, and improve its collection system to ensure no adverse impacts to the Facility. Each satellite collection system is responsible for an ongoing program of maintenance and capital improvements for sewer lines and pump stations within its respective jurisdiction to ensure adequate capacity and reliability of the collection system. Responsibilities include managing overflows, controlling inflow and infiltration (I&I) and implementing collection system maintenance.

This Sewer System Management Plan (SSMP) describes the City's wastewater collection system management activities. The purposes of these activities are to:

1. Maintain and improve the condition of the collection system infrastructure,
2. Control I&I and provide appropriate sewer capacity, and to
3. Minimize the number and impact of sanitary sewer overflows (SSOs) that occur.

The State Water Resources Control Board (SWRCB) has issued statewide waste discharge requirements for sanitary sewer systems, which include provisions for the development of an SSMP. SWCRB requirements are outlined in Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated May 2, 2006 (SSO GWDR),

and amended by Order No. 2013-0058- EXEC, dated July 30, 2013. Also, the City's National Pollution Discharge Elimination System (NPDES) Permit incorporates the requirements of the SSO GWDR in the operation of the City's sewage collection system.

This SSMP is organized by the SWRCB outline of elements; and contains quoted language taken from the SSO GWDR and shown at the beginning of each element. The SSO GWDR uses the term "Enrollee" to define individual municipal wastewater agency that has completed and submitted the required application for coverage under the GWDR. In this case, the Enrollee is the City of San José.

The City's SSMP contains 11 elements and is designed to meet the SSO GWDR requirements and the City's San Jose-Santa Clara Regional Wastewater Facility NPDES Permit. The structure of this document follows the section numbering and terminology specified in the SSO GWDR.

## Definitions, Acronyms, and Abbreviations

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

**California Office of Emergency Services (Cal OES)** – Refers to the agency responsible for overseeing and coordinating emergency preparedness, response, recovery, and homeland security activities within the state.

**Calendar Year (CY)** – Refers to the period of time starting from the first of January to December 31.

**California Integrated Water Quality System (CIWQS)** – Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.

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

**Certification of SSO Reports** – The State Water Resources Control Board (SWRCB, defined below) requires the Legally Responsible Official (LRO, defined below) to login to CIWQS within a given time period to electronically sign submitted reports thereby stating that to the best of his/her knowledge and belief, the information submitted is true, accurate, and complete.

**City** – Refers to the City of San José.

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

**Collection System Risk (CSR)**

**County Health** – Refers to the Santa Clara County Public Health Department.

**Department of Transportation (DOT)**

**Environmental Protection Agency (EPA)** – Refers to the United States Environmental Protection Agency.

**Environmental Services Department (ESD)**

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

**First Responder** – Refers to the City employee who provides the City's initial response to a sewer system alarm, emergency, or other event.

**Field Report** – Refers to the Sanitary Sewer Overflow Report, a document used to provide the basis for entering an overflow report into CIWQS.

**Fiscal Year (FY)**

**FOG Discharge Risk (FDR)**

**Force Main** – Refers to a pressure sewer used to convey wastewater from a pump station to the

point of discharge.

***Food Service Establishment (FSE)***

***Gallons per Acre per Day (GPAD)***

***Gallons per Day (gpd)***

***Gallons per Minute (gpm)***

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

***Geographic Information System (GIS)*** – Refers to a City system used to capture, store, analyze, and manage geospatial data associated with the City's sanitary sewer system assets.

***Global Positioning System (GPS)*** – Refers to the handheld unit used to determine the longitude and latitude of sanitary sewer overflows for use in meeting the CIWQS Online SSO Reporting System reporting requirements. Google maps can be used in lieu of a GPS unit to obtain this information.

***Grease Control Device (GCD)*** – Refers to a gravity grease interceptor, a hydro-mechanical grease interceptor (grease trap), mechanical grease removal device, or other device designed to collect and control solid food wastes and floating grease from wastewater prior to discharge into the sanitary sewer collection system.

***House Connection Sewer (Upper Lateral)*** – Refers to that portion of the horizontal sewer piping from the building or structure to the property line of the public right-of-way or easement.

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

***Lateral*** – See sewer service lateral.

***Legally Responsible Official (LRO)*** – Refers to the individual who has the authority to certify reports and other actions that are submitted through the Online SSO Reporting System.

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

***Millions of Gallons per Day (MGD)***

***Monitoring and Reporting Program (MRP)***

***Monitoring, Measurement, and Program Modifications (MMPM)***

***National Pollution Discharge Elimination System (NPDES)***

***Not Applicable (NA)***

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

***Office of Emergency Services (OES)*** – See California Office of Emergency Services (Cal OES).

**Online SSO Reporting System** – Refers to the California Integrated Water Quality System (CIWQS).

**Operations and Maintenance (O&M)**

**Overflow Emergency Response Plan (OERP)**

**Pipeline Assessment and Certification Program (PACP)** – Refers to the program developed by National Association of Sewer Service Companies (NASSCO) for standardizing sewer pipe condition evaluation and reporting results of CCTV inspection.

**Preventative Maintenance (PM)** – Refers to maintenance activities intended to prevent failures of the sanitary sewer system facilities (e.g. cleaning, CCTV, inspection).

**Private Lateral Sewage Discharges (PLSD)** – Sewage discharges that are caused by blockages or other problems within a privately-owned sewer service lateral.

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

**Public Sewer** – As stated in the Municipal Code, “public sewer” refers to any mainline sewer constructed in any street, highway, alley, place or right-of-way dedicated for public use. The term does not include sewer laterals or house connection sewers.

**Regional Water Quality Control Board (RWQCB)** – Refers to the San Francisco Regional Water Quality Control Board – Region 2

**Responsible Party (RP)**

**San Jose-Santa Clara Regional Wastewater Facility (Facility or RWF)** – In ordinance called the “Plant”

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

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

**Sanitary Sewer System** – Refers to the portion of the sanitary sewer facilities that are owned and operated by the City of San José. The sanitary sewer system consists of collection sewers, trunk sewers, and pressure sewers (force mains).

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

**Sewer Service Lateral** – For the purposes of this SSMP, the sewer service lateral includes both the upper lateral (house connection sewer) and the lower lateral (sewer lateral).

**Sewer Lateral (Lower Lateral)** – Refers to the portion of the pipe between the house or building on private property and the sewer main, including the connection to the sewer main. The property owner is responsible to repair any failure or damage in the sewer lateral, including the connection

to the sewer main; unless it is determined that another party caused the failure or damage.

***Sewer System*** – See sanitary sewer system.

***Sewer System Management Plan (SSMP)***

***Santa Clara County Public Health Department (County Health)***

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

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

***Surface Waters*** – See waters of the State.

***System Evaluation and Capacity Assurance Plan (SECAP)***

***Trunk Sewer or Main Interceptor Sewer*** – The terms trunk sewer, gravity trunk line, and main interceptor sewer are used interchangeably to refer to the main branches of the sanitary sewer system, which carry flows from the collector sewers to the treatment plant.

***Volume Captured*** – The amount of spilled sewage that is returned to the sanitary sewer system. When recording the volume that is captured, the volume of water used for flushing and/or cleaning should not be included.

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

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

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

## **ELEMENT 1: Goals**

### ***SWRCB Waste Discharge Requirement:***

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

The purpose of the SSMP is to guide the City in operation, maintenance, and rehabilitation of the City's sewer assets. Revisions to this section were made in August 2014 to address the following SSO GWDR requirements, including the revised Monitoring and Reporting Program (MRP) effective September 9, 2013.

The goals of the SSMP are to:

- Properly manage, operate, and maintain the wastewater collection system.
- Develop and maintain design construction standards and specifications for the installation and repair of the collection system and its associated infrastructure.
- Minimize infiltration and inflow and provide adequate system capacity to handle peak flows during a storm event in a cost effective manner.
- Respond to sanitary sewer overflows quickly and mitigate the impact of the overflow to public and environmental health.
- Implement a collection system maintenance program to minimize sanitary sewer overflows.
- Provide regular training for DOT, DPW, and ESD staff and contractors in collection system maintenance and operations and emergency response.
- Provide standard forums for various tracking/reporting compliance requirements.



## ELEMENT 2: Organizations

### *SWRCB Waste Discharge Requirement:*

*The Sewer System Management Plan (SSMP) must identify:*

- a. The name of the responsible or authorized representative as described in Section J of the Order.*
- b. The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and*
- c. The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).*

### **2.1 Organizational Structure**

Organization charts are available for all three Departments (DPW, DOT & ESD) responsible for the management, operation, and maintenance of the City's wastewater collection system on the City of San Jose's Intranet.

DPW designs and builds sanitary sewer infrastructure funded through the City's Capital Improvement Program. Public Works staff also review and inspect sanitary sewer improvements performed by private developers and other public agencies.

DOT Infrastructure Maintenance Division staff perform day-to-day operations and maintenance of the collection system.

ESD manages the wastewater from the collection system at the Regional Wastewater Facility (RWF). The responsibility is to ensure suitable treatment and discharge into San Francisco Bay; and for beneficial reuse to protect the environment and public health. ESD also oversees the City's Pretreatment Program for the entire service area (i.e., San José and surrounding tributary cities). The Pretreatment Program permits, inspects, educates, and conducts surveillance of regulated industrial facilities to ensure wastewater is adequately treated before discharging to the collection system and the Facility. The process must comply with Federal, State, and local regulations. ESD also implements the City's Commercial/Industrial FOG Inspection Program. The program educates, inspects, and conducts grease investigations of commercial foodservice establishments to minimize FOG discharges and to ensure compliance with local regulations.

The following are the Directors of the departments and the senior staff in charge of contributions to SSMP development and modifications.

#### **DOT**

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**ESD**

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Napp Fukuda, Assistant Director (408) 793-5353  
Sharon Newton, Deputy Director (408) 793-5351  
Steven Osborn, Program Manager (408) 793-5352  
Casey Fitzgerald, Program Manager (408) 793-5378

| <b>Table 2-1: Responsible City Officials for Each SSMP Element</b> |  |                                |
|--|--|--------------------------------|
| <b>SSMP Element</b>  | <b>Responsible City Official</b>         | <b>E-Mail</b>                  |
| Element 1 – Goals  | Rick Scott, Deputy Director DOT IM       | rick.scott@sanjoseca.gov       |
| Element 2 – Organization   | Jennifer Seguin, Division Manager DOT IM | jennifer.seguin@sanjoseca.gov  |
| Element 3- Legal Authority   | Jennifer Seguin, Division Manager DOT IM | jennifer.seguin@sanjoseca.gov  |
| Element 4- Operation and Maintenance                               | Jennifer Seguin, Division Manager DOT IM | jennifer.seguin@sanjoseca.gov  |
| Element 5- Design and Performance Standard                         | Michael O’Connell, Deputy Director DPW   | michael.oconnell@sanjoseca.gov |
| Element 6- Sanitary Sewer Overflow Emergency                       | Jennifer Seguin, Division Manager DOT IM | jennifer.seguin@sanjoseca.gov  |
| Element 7- Fat, Oils and Grease Program                            | Steven Osborn, Program Manager ESD       | steven.osborn@sanjoseca.gov    |
| Element 8- System Evaluation and Capacity                          | Shelley Guo, Senior Engineer DPW         | shelly.guo@sanjoseca.gov       |
| Element 9- Monitoring, Measurement, and Program Modifications      | Jennifer Seguin, Division Manager DOT IM | jennifer.seguin@sanjoseca.gov  |
| Element 10- Program Audits   | Jennifer Seguin, Division Manager DOT IM | jennifer.seguin@sanjoseca.gov  |
| Element 11- Communication Program                                  | Jennifer Seguin, Division Manager DOT IM | jennifer.seguin@sanjoseca.gov  |

## 2.2 Authorized Representatives

The city's primary Authorized Representative for sanitary sewer system matters is Ben Nguyen. Alberto Gaxiola is also an Authorized Representative. These individuals are authorized to submit verbal, electronic, and written spill reports to the CalOES and SWRCB, and to certify electronic spill reports submitted to the SWRCB.

## 2.3 Responsibility for SSMP Management, Administration, and Maintenance

The Deputy Director of Infrastructure Maintenance 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 1 lists the City staff involved with developing, implementing, and maintaining the City's SSMP, along with their job titles and contact information.

## 2.4 Chain of Communications for Reporting

In response to an SSO event, DOT immediately implements its Sanitary Sewer Overflow Emergency Response Plan (OERP), discussed in detail in Element 6. The OERP provides direction for the immediate verbal and written notification of City staff and Cal OES.

The initial notification of a blockage or SSO from the public is typically received through the City's 24-hour Call Center. The Call Center routes the call to DOT's Dispatch Center. SSO-related calls received by other City departments are routed to the Dispatch Center for proper documentation and tracking. The Dispatch Center is responsible for routing the calls to the First Responder or Duty Supervisor. SSOs observed by City Staff in the course of their normal duties are also reported immediately to the Dispatch Center, if feasible. Table 2 provides the responsible parties and phone numbers to notify the City regarding SSOs.

| Table 2-2: SSO Responder Phone Numbers |              |                |
|--|--------------|----------------|
| Responsible Party                      | Name         | Phone Number   |
| Police Department                      |              | 311            |
| Call Center                            |              | (408) 535-3500 |
| DOT Dispatch Center                    |              | (408) 794-1900 |
| Storm and Sewer Superintendents        | Roger Jesus  | (408) 794-1933 |
|  | Moses Arroyo | (408) 794-6876 |

| <b>Table 2-3: CIWQS Reporting Contacts</b> |                 |                     |
|--|-----------------|---------------------|
| <b>Responsible Party</b>                   | <b>Name</b>     | <b>Phone Number</b> |
| Official (LRO)                             | Ben Nguyen      | (408) 794-6450      |
|  | Alberto Gaxiola | (408) 535-3850      |
| Data Submitters                            | Alberto Gaxiola | (408) 535-3850      |
|  | Scott Ogilvie   | (408) 975-3731      |
|  | Anjali Athavale | (408) 794-1946      |
| Deputy Director DOT IM                     | Rick Scott      | (408) 794-1925      |

During the response time, the dispatcher is in communication with the responding team to ensure each call is being routed to the appropriate supervisor or other supporting team. The Dispatch Center records communications between the callers, the responders and any other supporting team that is being dispatched to the SSO scene.

## **ELEMENT 3: Legal Authority**

### ***SWRCB Waste Discharge Requirement:***

*Each Enrollee must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:*

- a. Prevent illicit discharges into its sanitary sewer system (examples may include I&I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);*
- b. Require that sewers and connections be properly designed and constructed;*
- c. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;*
- d. Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and*
- e. Enforce any violation of its sewer ordinances.*

### **3.1 Legal Authority**

This chapter describes the legal authority, through sewer use ordinances, services agreements, and other legally binding procedures, to implement the SSMP plans to:

- Control infiltration and inflow from satellite wastewater collection systems and laterals
- Require proper design and construction of new and rehabilitated sewers and connections
- Require proper installation, testing, and inspection of new and rehabilitated sewers

Applicable ordinances pertinent to sanitary sewer include Chapter 15.12 Sewers, Chapter 15.14 Sewer Use Regulations, Chapter 15.16 Sewer Connection and Storm Drainage, and Chapter 15.17 Sanitary Sewer Extension Program of the San Jose Municipal Code (SJMC).

Authority for control of I&I from satellite wastewater collection systems and laterals are described under Chapter 15.14 Sewer Use Regulations of the SJMC. The primary responsibility for enforcement of the provisions of Chapter 15.14 shall be vested in the Director of Environmental Services. The regulations include permit requirements and conditions, limitation on point of discharge to a city-approved sewer connection; inspection, sampling and flow measurement of the building sewer through monitoring facilities; prohibition of any stormwater, surface water, or roof runoff to be discharged into the sanitary sewer system; restriction on groundwater or subsurface water to be discharged into the sanitary sewer system without a wastewater discharge permit issued by the Director; and requirement of filing of a discharge report. For non-compliances or violations, Chapter 15.14 also describes termination of service and permit revocation; correction of violations; and Civil penalties.

City of San José Standard Specifications (adopted in 1992) for Public Works Construction is issued by the Department of Public Works. The Drainage and Sewer Facilities element of the Standard Specifications provides specifications for the construction of new and rehabilitated sewers and lateral connections. For private development or subdivision, under Title 19 Subdivision, Section 19.32.050 Sanitary Sewer Facilities (Ordinance 26386) of Chapter 19.32 Improvements and Fees in the SJMC describes the requirements for sewer facility installation by sub-divider. Such sanitary sewer facilities shall conform to standard specifications at the time of

tentative map approval. Also, the work must be approved by the City Engineer.

The San Jose Municipal Code is located at the following website:

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances](https://library.municode.com/ca/san_jose/codes/code_of_ordinances)

The following website lists the City of San José Schedule of Fines administered for violations of the Municipal Code:

<https://www.sanjoseca.gov/your-government/departments/city-clerk/schedule-of-fines>

### **3.2     Agreements with Other Agencies**

The Regional Wastewater Facility administers and manages a Master Agreement with each of the agencies that discharge to the RWF: City of Santa Clara, City of Milpitas, West Valley Sanitation District, Cupertino Sanitary District, County Sanitation District No. 2-3, and Burbank Sanitary District. Provisions in the Master Agreement require that the agencies adopt companion ordinances and regulations to assure no upset or damaging conditions will affect the RWF in the partner wastewater discharges. The City and partner agencies meet and discuss various issues regularly. Each partner agency is responsible for its own collection operations maintenance and regulatory compliance.

## **ELEMENT 4: Operation and Maintenance Program**

### ***SWRCB Waste Discharge Requirement:***

***The Sewer System Management Plan (SSMP) must include those elements listed below that are appropriate and applicable to the Enrollee's system:***

- a. Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable storm water conveyance facilities;***
- b. Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;***
- c. Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;***
- d. Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and***
- e. Provide equipment and replacement part inventories, including identification of critical replacement parts.***

## **4.1 Sanitary Sewer Mapping and Computer System**

### **4.1.1 Collections System Maps**

The City 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. The Department of Public Works Information Technology (DPW IT) section manages the City's sanitary sewer and storm drain GIS data. Location, pipe, and manhole inventory data, including length, diameter, material, rim/invert elevations, street address, and other information, are maintained. Hard copies of system maps are kept in many service vehicles assigned to the wastewater collection system operations. Hard copy maps are in the form of a 200-scale 24"x16" map book.

#### 4.1.1.1 Updates to Existing Drawings

Discrepancies between GIS maps and field observations are reported to DPW IT through a Helpdesk ticket. DPW IT staff reviews the discrepancies and updates the GIS database as needed.

#### 4.1.1.2 Storm Drains

Storm drains are also shown on a GIS-based map and can be viewed by field and engineering staff. In addition to the GIS map, a hard copy of the City's storm drain system map is kept in the DOT Mabury Yard and many service vehicles assigned to the wastewater collections operation. The system map can be used to determine the routing of SSOs and identify storm drains that can be blocked to minimize or contain the volume of overflows before they reach waters.

The City sanitary sewer collection system is available in a published map-book format or can be accessed through the DPW's internet site at the following:

<https://www.sanjoseca.gov/your-government/departments/public-works/maps-resources>

Internal staff can access the sewer collection system map via an interactive web map application available on the City's intranet.

**Figure 4-2 Example of DPW's Infrastructure Dashboard**



#### 4.1.2 Information Management Systems

The City currently uses two tools to provide information to effectively manage the City's collection system: A Geographical Information System (GIS) and a Computerized Maintenance Management System (CMMS).



#### **4.1.2.1 Geographical Information System**

GIS is a computer mapping system that links databases of geographically based information to maps that display the information. Over the past decade, the City has converted all its sanitary sewer collection mapping and infrastructure inventory data into a GIS format.

#### **4.1.2.2 Computerized Sewer Management System**

The City is currently using an in-house developed Computerized Maintenance Management System (CMMS) to track performance metrics and sanitary asset maintenance history. DOT's Information Technology team is migrating this system to an internally developed Salesforce-based, GIS connected platform called "Unity." The primary functions of the City's CMMS are to:

- Maintain service request and maintenance history information for sanitary collection assets.
- Produce work orders and regularly update the maintenance schedules for sanitary mains based on data collected from cleaning operations.
- Generate reports that support data analysis and decision-making.
- Provide documentation for use in regulatory compliance reporting.
- Indicate line segments or structures that may be candidates for replacement or rehabilitation under the capital improvement program.

### **4.2 Prevention Operation and Maintenance**

The City's wastewater collection system Operation and Maintenance Program includes proactive, preventive, and corrective maintenance of gravity sewers, and regular inspection and preventive maintenance of the lift stations and force mains. The details of the City's O&M programs are described in sections 4.2 through 4.3.

#### **4.2.1 Pipe Frequency Calculator**

The City developed the Pipe Frequency Calculator (PFC) in 2012 for the following reasons:

- The City had an informal "High-Priority Cleaning" (HPC) list, but it only accounted for roughly 12% of the entire sanitary sewer system and was updated infrequently.
- DOT had more than 20 years of recorded cleaning data detailing the cleaning and video work performed on each segment.
- Sewer personnel reviewing a line segment's history were highly variable in both the analysis and rating of the pipe resulting in inconsistent scheduling.
- A proactive, citywide approach to cleaning was desired which would help reduce the likelihood of SSOs and improve the practice of reacting as problems occurred.

By June 2013, DOT had developed a working prototype that analyzed the maintenance

history of every sewer segment 15” and smaller in diameter and recommended a cleaning cycle.

Cleaning cycles currently range from 7 days to 96 months. Cycles dynamically update every time a new maintenance entry is recorded based on the amount of grease, debris, etc. found and the length of time since the last cleaning. DOT continues to fine-tune the process of determining proper cleaning cycles and improving the PFC.

#### **4.2.2 Scheduled Monthly High-Priority Cleaning**

On a monthly basis, the sewer engineering team develops a list of segments that are “due” for cleaning and creates maps for the maintenance crews to use. These high-priority cleaning (HPC) segments are also highlighted in DOT’s ArcGIS Online Sewer Map.

Segments are grouped together geographically into “maintenance zones” where every segment has the same primary cleaning month. This spatial grouping saves on travel time and allows crews to clean more efficiently. A 24-month segment in an April zone, for example, will be scheduled once every two years, but always in April.

Segments larger than 15” in diameter typically have adequate flow to be effectively self-cleaning, but there are occasional exceptions. If a large segment is found to have recurring problems, it will be placed on a regular cleaning cycle.

#### **4.2.3 Targeted Zone Cleaning**

In addition to the scheduled monthly cleaning, DOT chooses 1-3 maintenance zones every month and cleans all segments within those zones, regardless of whether they are “due” or not. This “zone cleaning” is intended to be an additional proactive measure to supplement the high-priority cleaning. It also helps gather more data on segments that have short or empty maintenance records, which in turn improves the ability of the PFC to assign appropriate cleaning cycles.

### **4.3 Other DOT Maintenance Programs**

Scheduled maintenance of pump stations is also performed to increase pump station reliability and efficiency, resulting in fewer stoppages. All stations are visited daily to assess the condition of the pumps (checked for leaks and proper function) and wet wells.

DOT also works closely with DPW to address neighborhood sewer issues. The City conducts monthly meetings between DPW and DOT to continue ongoing dialogue between the departments and mitigate problems DOT is experiencing in the field.

DOT has also implemented a Root Control Program to address chronic root intrusion issues in established neighborhoods. Areas with a history of root problems are maintained with power rodding, high-pressure cleaning, or application of chemical root control.

#### 4.4 Anticipated Capital Improvements and Maintenance Needs

The primary sources of funding for the Sanitary Sewer System CIP include an annual transfer from the Sewer Service and Use Charge Fund, the Sanitary Sewer Connection Fee, and joint participation revenues. The Sewer Service and Use Charge Fund provides funding for capital improvement projects through the Sewer Service and Use Charge Capital Improvement Fund. This funding is allocated between three broad categories, which include capacity improvements, rehabilitation, and non-construction activities. The majority of funds in the Sanitary Sewer System CIP are used to construct sewer improvement projects and to repair or rehabilitate the system to minimize Sanitary Sewer Overflows. Construction projects in the Proposed CIP meet one of two goals: (a) enhance sewer capacity to meet economic development; or (b) rehabilitate existing sewers, with higher priority given to those with extensive, severe deterioration. For the City's budget process, the Capacity Improvement Project enhances the capacity of usage. The Rehabilitation Project restores the structural integrity of the existing system. Priority is given to larger lines within each category or those that are considered having high risk. The Sanitary Sewer Master Plan Capacity Assessment on the trunk sewer system was completed in April 2013 and is used to help identify high priority capacity in this Proposed CIP.

- a) Capacity Improvement projects are selected by utilizing a computerized sewer flow model (which utilizes the San José 2040 General Plan to project sewage flows in the system), and flow monitoring data. These allow sewer capacity constraints to be identified. The trunk sewer Master Plan identified a total of 93 new capacity projects that will address predicted existing deficiencies and will accommodate near-term and long-term flows.
- b) Rehabilitation projects are selected based on hydrogen sulfide studies that analyze pipe corrosion, condition assessment studies, video inspections, maintenance records and reports, and actual pipe failures due to pipe corrosion or other physical deficiencies. The actual condition of candidate projects is verified by internal videotape inspections, which are then evaluated to establish project priorities.

Table 4-1 provides an update on the miles of pipe that have been rehabilitated and replaced between FY 2009-10 and FY 2018-19 and the planned pipe rehabilitation or replacement for the next ten years.

| <b>Table 4-1: Miles of Pipe Rehabilitated or Replaced: Last 10 Years and Planned Next Ten Years</b> |                      |  |
|---|----------------------|--|
| <b>Date Range<br/>(By Fiscal Year)</b>  | <b>Miles of Pipe</b> | <b>% of System (System<br/>miles: 2,043)</b> |
| FY2009-10 to FY2018-19  | 70                   | 3%   |
| FY2020-21 to FY2029-30  | 70                   | 3%   |

#### 4.5 Other Sanitary Sewer CIP Programs

Other significant non-construction programs in the CIP include the Master Planning Program, Inflow and Infiltration (I&I) Reduction, Sanitary Sewer System Flow Monitoring, and Sanitary Sewer Condition Assessment.

The **Master Planning Program** actively monitors and manages sewer system capacity needs using a computerized hydraulic model of the San José sewer system, supported by sewer flow monitoring that collects flow data at strategic locations within the system. The Master Planning Program continues to enhance the accuracy of the computerized model by incorporating land use changes and updated sewer and flow data. The Master Planning Program also supports economic development in the City by providing sewer capacity review and planning using the models. Within this five-year CIP, the Master Planning Program will continue to develop detailed models of the growth areas included in the General Plan.

City has established an **Inflow and Infiltration (I&I) Reduction Program**. This I&I Reduction Program is a key element of the Environmental and Utility Services Business Plan. This program is intended to rehabilitate portions of the sewer system where groundwater, stormwater, and other sources of water enter the sewers. The goal of the I&I Reduction Program is to decrease the flow to the Regional Wastewater Facility and help continue to meet the discharge flow cap. This program operates in conjunction with the Flow Monitoring and Master Planning Program to identify areas of the system that have substantial I&I and construct improvements to reduce I&I.

The **Sanitary Sewer Condition Assessment Program**, initiated by DPW in 2010, is an ongoing program to assess the structural integrity of the collection system including pipes, force mains, manholes, junction structures, and pump stations. Data collected through visual and closed-circuit television inspection (CCTV) and as-built information will be reviewed, analyzed, and prioritized based on a risk analysis approach using information such as pipe size, location, design flow, physical conditions, and maintenance histories. As a result, rehabilitation budgets and preventive maintenance and improvement programs can be planned and prioritized.

The original pilot project utilized CCTV to video and collect data on a 46-mile representative sample, of the City's 2,042 mile sanitary sewer system. The raw data gathered established the foundation to begin analysis of the overall condition of the City's sanitary sewer network. Table 4-2 summarizes the miles of sanitary sewer pipes inspected by CCTV each year by fiscal year. In Fiscal Year 2012-13, the City procured a sanitary sewer asset management software program to gain an understanding of the system's condition. The program evaluates the system's condition and plans for short- and long-term budget needs. As more data is collected through each year's CCTV contracts, more analysis is performed to refine the needs of San Jose's Sanitary Sewer System.

| <b>Table 4-2: Miles of Pipe Inspected per Fiscal Year</b> |                                 |
|---|---------------------------------|
| <b>Fiscal Year</b>  | <b>Miles of Pipes Inspected</b> |
| 2010 Pilot and Prior to 2011                              | 123                             |
| 2011-2012   | 26                              |
| 2012-2013   | 267                             |
| 2013-2014   | 85                              |
| 2014-2015   | 147                             |
| 2015-2016   | 173                             |
| 2016-2017   | 251                             |
| 2017-2018   | 293                             |
| 2018-2019   | 216                             |
| Total   | 1,581                           |

#### 4.6 Training

The City uses a combination of in-house classes, on-the-job training, conferences and seminars, and other training opportunities to train its sanitary sewer system maintenance staff. All personnel are provided a copy of the Code of Standard Practices (COSP) and trained on each piece of equipment assigned to the section to which they are assigned. 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 operational issues. Table 4-3 lists the sources of technical training and training materials available.

City staff receives annual training on the following topics: volume estimation, stormwater pollution prevention, confined space entry, biological and chemical hazards, combination sewer truck safety, underground construction, gas detector use, application of overflow control materials, back injury prevention, overflow reporting and field documentation, and SSMP content and procedures. In addition, the City provides free training 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.

| <b>Table 4-3: Sources of Training and Training Materials</b>          |   |                  |  |
|---|---|------------------|--|
| <b>Sponsor</b>  | <b>Event</b>  | <b>Timeframe</b> | <b>References</b>  |
| 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  | Quarterly        | <a href="http://www.bacwa.org">www.bacwa.org</a>         |
| Pipe Users Group (PUG) Northern California                            | Meetings, training events, technology sharing                               | Monthly          | <a href="http://www.norcalpug.com">www.norcalpug.com</a> |

#### 4.7 Equipment

Table 4-4 provides a summary of the equipment used to maintain the wastewater collection system. Furthermore, DOT works closely with the Department of Public Works to ensure each piece of equipment functions properly and safely. Replacement of equipment and spare parts for emergencies are addressed as budgets will allow.

| <b>Table 4-4: List of Major Equipment owned by the City.</b> |               |                          |
|--|---------------|--------------------------|
| <b>Equipment</b>   | <b>Number</b> | <b>Number in Service</b> |
| Combination Trucks<br>combination sewer truck                | 20            | 20                       |
| Mechanical Rodder  | 2             | 2                        |
| CCTV Truck   | 3             | 3                        |
| Utility Truck  | 15            | 14                       |
| Light Duty Truck   | 13            | 13                       |
| Crane Truck  | 1             | 1                        |
| Portable Pumps   | 16            | 14                       |
| Portable Generator   | 8 *           | 8                        |
| Dump Trucks  | 5             | 5                        |
| Backhoes   | 5             | 4                        |

\* Large Portable Generators available and maintained at General Services Yard by DPW

## ELEMENT 5: Design and Performance Provisions

### *SWRCB Waste Discharge Requirement:*

- a. Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and*
- b. Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.*

### **5.1 Design Guidelines**

The City utilizes the Design Guidelines for Sanitary Sewer (“Guidelines”) for establishing minimum standards for the construction of public sanitary sewers. This document was prepared by City staff in 1991. These guidelines are intended to aid consulting engineers, developers, and others doing work in the City on public sanitary sewer projects.

The Guidelines describe the calculation for peak flow rate; design flow depth and minimum slope; pipe material, soil cover, minimum spacing/clearance and sizing for laterals mains and manholes; sewer connection; site planning; and required submittals.

The Guidelines do not include the design standards or design specifications for pump stations or force mains. These types of facilities are typically designed by an engineering consultant.

### **5.2 Sanitary Sewer Design Procedures**

The first edition Sanitary Sewer Design Procedures (In-House) manual was prepared in 1991. Since then, the Design Procedures have been followed by City staff for in-house and consultant designed projects. The Design Procedures incorporate the previously mentioned Guidelines, in addition to outlining project management procedures to deliver a project from initial scoping to the award of contract. The additional procedures include:

- ***Preliminary Engineering*** including planning; scheduling; budgeting; requesting for services or information from utility companies, material testing, survey, and transportation departments; hydraulic analysis; preliminary design; and environmental clearance applications such as exemption, negative declaration, or EIR.
- ***Initial Design and Plan Check Distribution*** for review to utility companies, impacted agencies, and involved departments and divisions including material testing lab, survey, transportation, sewer maintenance, and construction, and other CIP groups within the Sanitary Sewer Section for peer review.
- ***Final Design*** includes property acquisition, request for insurance specification, request for encroachment permits, construction quantities and cost estimates, preparation of final plans and specifications, final review and approval, and bid and award.

The Procedures ensures the communication, coordination, and collaboration with the involved parties in the design review process.

### **5.3 Sewer Level of Service Policy**

In June 1982, City Council adopted a Sanitary Sewer Level of Service Policy (“Policy”). The primary purpose of the Policy is to ensure that the City will not have sewage spills due to insufficient capacity in the collection system; and that there is adequate capacity in existing sewer mains before development occurs which could compromise the ability of the system. There are six levels of service (LOS) that are used to determine under what conditions new developments are allowed to connect to the existing sewer system. The LOS is defined based on comparison of flows to existing sewer capacity.

### **5.4 Other Design Standards Used**

When a trenchless method or a lining system for pipelines is used to rehabilitate an existing system, the design conforms to ASTM and appropriate industry standards. Some of the trenchless methods used by the City for rehabilitation are:

- Cured-in-Place Pipe Lining
- Sliplining
- Fold and Form Lining
- Spirally-Wound Pipe Lining
- Directional Drilling
- Pipe Bursting
- Micro-Tunneling/Jack & Bore

The engineering analysis during the design phase includes factors such as pipe size, length, and depth; existing pipe condition; capacity requirement; access conditions; right-of-way requirements; soil condition and cover; groundwater conditions; project locations; traffic conditions; environmental impacts; etc.

ASTM and other industry standards are also used for the design of manhole rehabilitation with lining method. City has specified the following lining methods in the Special Provisions for various manhole rehabilitation projects:

- Cementitious Liner with Corrosion Protection Epoxy Coating
- Cementitious Liner with Calcium Aluminate Mortar
- Epoxy Lining
- Cured-in-Place Lining

### **5.5 City’s Standard Specifications and Details for Construction**

The 1992 edition of the City of San José Standard Specifications and Details for Public Works Construction, issued by the Department of Public Works, identifies minimum construction standards and specifications for the installation of new sanitary sewer systems and the rehabilitation and repair of existing systems.



Specifically, the specifications that directly relate to the sewer construction and rehabilitation are included in the “Drainage and Sewer Facilities” general provisions and include the following sections:

- 1207. Pipe and Structures
- 1301. Trench Excavation, Bedding and Backfill
- 1302. Pipe Installation
- 1305. Pipeline Structures
- 1307. Acceptance Tests for Sanitary Sewers
- 1308. Cleaning Pipelines
- 1501. Sanitary Sewer Rehabilitation

Standard drawings for manholes and lateral connections are included in the “Sewer/Drainage Structures” section of the City’s Standard Details.

The complete City of San José Standard Specifications and Details are available at City’s internet website in Adobe PDF format:

<https://www.sanjoseca.gov/your-government/departments/public-works/resources/standard-details-and-specifications>

These documents can also be purchased in book form from Public Works.

## **5.6 Standards for Inspection and Testing for New and Rehabilitated Facilities**

### **5.6.1 City’s Standard Specifications and Details**

Inspection and testing of new and rehabilitated facilities is essential to ensure that the standards established in Section 7.a., “Standards for Installation, Rehabilitation and Repair” are adequately implemented in the field. The standards for inspection and testing of new and rehabilitated facilities are described in the following sections of the City’s 1992 edition of the Standard Specifications (Standard Specifications) issued by Public Works:

- Section 1207, Pipe and Structures
- Section 1301, Trench Excavation, Bedding and Backfill
- Section 1302, Pipe Installation
- Section 1305, Pipeline Structures
- Section 1307. Acceptance Tests for Sanitary Sewers
- Section 1308, Cleaning Pipelines
- Section 1501, Sanitary Sewer Rehabilitation

Along with Standard Specifications, the Standard Details provide the “Sewer and Drainage Structures” Section for sewer facility construction.

Section 1307, “Acceptance Tests for Sanitary Sewers,” provides specifications for sewers and force mains testing for leakage and deflection. The methods of testing specified in this section include:

- ***Air Pressure Test*** to determine watertight integrity for all sewers

- ***Hydrostatic Leakage Test*** to be used only when specifically ordered by the Engineer in writing
- ***Deflection Test*** to be required for flexible pipe sewers only
- ***Television Inspection*** to look for deficiencies such as joint separation, offset joints, cracked or damaged liner pipe, infiltration points, debris in sanitary sewer and liner installation

City requires all developers and design consultant to reference or use the City's Standard Specifications as the minimum compliance standards in the design and construction of new, repaired and rehabilitated sewer projects.

### **5.6.2 Greenbook and ASTM Standards**

When a specification for certain construction or testing method is not provided in City's Standard Specifications, the project Special Provision will make reference to the Greenbook, Caltrans Standard Specifications, and/or ASTM standards with modified provisions that meet the City's requirements. Each capital project has its own special provisions that include sections on material, installation of pipes and appurtenances, inspection, testing and acceptance of work.

### **5.6.3 Inspection Guidelines**

The City prepared the Construction Inspection Guidelines in March 1990 (First Edition). The Guidelines includes inspection guidelines in the following areas:

- Before construction: plan check, pre-job, material submittals
- Clearing and grubbing checklist
- Sewers: sanitary sewer project procedures and sewer inspection checklists
- Roadway, subgrade and base
- Concrete
- Utilities and electrical
- Paving
- After construction: punch list, final inspection and record drawings
- Contract change orders – forms and procedures
- Reporting and documentation
- The Guidelines also provide checklists for sewer construction in these categories:
  - General and preliminary dealing with permits, safety, traffic control, etc.
  - Trenching
  - Pipe laying
  - Trench backfill and jetting (or compaction)
  - Manholes and structures
  - Miscellaneous and testing

## **5.7 Construction Management**

The City's construction management includes continuous onsite inspection. Inspections are performed during the progress of the work through to the completion of the construction. All testing for gravity sewers are performed in the presence of the project inspector. All sampling of liners is performed in the presence of the project inspector. Third-party testing firms will perform material testing. The project will not be accepted until all results of the testing of sewers or liners meet the requirements of the project plans and specifications or established standards. When acceptance tests fail, the City requires contractors to submit a repair plan for approval and conduct the repair according to the approved plan. Acceptance testing is then performed again until the testing results meet the City's requirements.

For a CIP project, a full-time inspector is assigned to the project. For each development project, an inspector will follow the project until its acceptance. Inspectors are under a Principal Construction Inspector's (PCI) and Engineer's supervision. They should report any discrepancies directly to the PCI and the Engineer. All communications between the contractor and the Engineers are through the project Inspector.

The inspector will mark any changes to the design plans in his/her working plans. At the acceptance of a project, the inspector will provide the marked working plans to the engineer in preparation for the "record-drawings." The record drawings will incorporate all the field changes from the original plan drawings.

## **ELEMENT 6: Overflow Emergency Response Plan**

### ***SWRCB Waste Discharge Requirement:***

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

- a. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;*
- b. A program to ensure an appropriate response to all overflows;*
- c. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The Sewer System Management Plan (SSMP) should identify the officials who will receive immediate notification;*
- d. Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;*
- e. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and*

*A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.*

### **6.1 Goals of the Sanitary Sewer Overflow Emergency Response Plan**

The City's goals with respect to responding to SSOs are:

- Worker safety;
- Minimize public contact with the spilled wastewater;
- Respond quickly to minimize the volume of the SSO;
- Contain spilled wastewater to the extent feasible;
- Eliminate the cause of the SSO;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Mitigate the impact of the SSO;
- Meet the reporting requirements in the SSS GWDR;
- Evaluate the causes of failure related to certain SSOs; and
- Revise response procedures resulting from the debrief and failure analysis of certain SSOs.

## **6.2 SSO Detection**

### **6.2.1 Public Observation**

Public observation is the most common way the City is notified of blockages and spills. Contact information for reporting sewer spills and backups is on the City's website: [www.sanjoseca.gov](http://www.sanjoseca.gov). During all hours, the public is instructed to call DOT Dispatch at (408) 794-1900 and City field crews are available to respond.

When a report of a sewer spill or backup is made during regular business hours, City staff receives the call, takes the information from the caller and fills out a Service Request.

The call taker verbally communicates the details to the collection system field crew.

#### **6.2.1.1 After Regular Work Hours**

After-hours calls are answered by a contractor staffed Call Center who obtains the name and phone number of the caller and address of the SSO. The contractor's call taker will contact a DOT staff person who will determine the appropriate response measures based on information provided by the caller.

### **6.2.2 Receipt of the Pump Station and Smart Cover Unit Alarms**

Pump Station and Smart Cover Unit alarms are considered high priority events that warrant a prompt response. Alarms are received either through dispatch or through SMS text message.

### **6.2.3 City Staff Observation**

City staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City staff who, in turn, respond to emergency situations. Work orders are issued to correct emergency and non-emergency conditions.

## **6.3 SSO Response and Procedures**

### **6.3.1 Safety**

The First Responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work to protect the health of workers and the public, preserve the environment and impacted property, and to restore the area back to normal as soon as possible. There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards associated with sewer work. In such cases, it is appropriate to take the time to identify hazards, discuss safety issues, consider the order of work, and check safety equipment before starting the job.

### **6.3.2 Initial Response**

All sanitary sewer system calls require a response to the reported location of the event to determine if an overflow has occurred and then minimize or eliminate any overflow. The First Responder must respond to the site of the reported problem immediately, and visually check for potential sewer stoppages or overflows.

**Response Time** - It is the goal of the City to respond to an SSO within 30 minutes of the initial call.

First Responder's (First Person at SSO Site) Role is to:

1. Identify and clearly assess the affected area and extent of spill and note arrival time at spill site.
2. Establish perimeters and control zones with traffic cones, barricades, vehicles, or terrain.
3. Document conditions upon arrival with photographs and video.
4. Promptly notify the Sewer Superintendent in the event of a major SSO or when the spill appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed, and request additional resources (e.g. people, equipment, etc.).
5. Contain and control the sewage discharged to the maximum extent possible.
6. Make every effort to prevent the discharge of sewage into waterways.
7. Notify ESD if sewage may have entered a waterway by calling the Stormwater Hotline at (408) 945-3000.
8. Restore the flow as soon as practicable and contact the caller for additional information, as needed.
9. Return the spilled sewage to the sewer system.
10. Restore the area to its original condition (or as close as possible).

If the problem is in a private sewer lateral and the flow has entered the public right-of-way, then the First Responder should:

1. Request the responsible party (RP) cease activities that are causing continuation of the sewer spill (e.g. flushing toilets, washing laundry).
2. Ensure containment of any spilled sewage. Return any spill that has entered the public right-of-way back to the sanitary sewer system. Instruct the RP to call a plumber to correct the problem with their lateral.

### **6.3.3 Containment**

The First Responder should also attempt to contain as much of the spilled sewage as possible using the following steps:

1. Determine the immediate destination of the overflowing sewage.
2. Plug storm drains using sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by stopping downstream storm drainage facilities with sandbags.
3. Call for additional assistance to pump around the blockage/pipe failure/pump station if necessary.

### 6.3.4 Restore Flow

The responding crew should attempt to restore the flow when practical. Once the flow is restored, the crew should observe and note flows in the sewer main to ensure the blockage does not create a blockage downstream.

If the blockage cannot be cleared within a reasonable time or the sewer main requires construction repairs to restore flow, then initiate containment and bypass pumping. If further assistance is needed, immediately contact the Sewer Superintendent to determine next steps. Contacting contractors or equipment suppliers may be necessary if DOT does not have the ability to repair the pipe in-house.

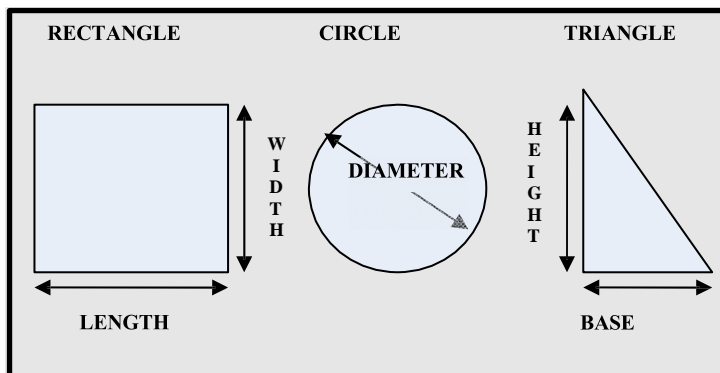
### 6.3.5 SSO Volume Estimation

A variety of approaches exist for estimating the volume of a sanitary sewer spill. This section discusses the three methods that are most often employed. The person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available.

#### 6.3.5.1 Measured Volume

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed.

**Figure 6-1: Common Shapes and Dimensions**



The shape and dimensions are used to calculate the area of the spills multiplied by the average depth of wastewater to calculate the volume. The following are the steps required to calculate the volume utilizing these shapes.

Step 1: Sketch the shape of the contained sewage (see figure above).

Step 2: Measure or pace off the dimensions.

Step 3: Calculate the area in square feet using the following formulas:

Rectangle: Area = length (feet) x width (feet)

Circle: Area = diameter (feet) x diameter (feet) x 0.785  
Triangle: Area = base (feet) x height (feet) x 0.5

Step 4: Multiply the area (square feet) by the depth (in feet) to obtain the volume in cubic feet.

Step 5: Multiply the volume in cubic feet by 7.5 to convert it to gallons

#### **6.3.5.2 Duration and Flow Rate**

Calculating the volume of spills, where it is difficult or impossible to measure the area and depth, requires a different approach. In this method, separate estimates are made of the duration of the spill and the flow rate. The methods of estimating duration and flow rate are:

##### **Duration**

The duration is the elapsed time from the time the spill started to the time the flow was restored. Duration time for an SSO does not include the time required to perform cleaning efforts.

##### **Flow Rates**

There are two methods for determining the flow rates. One is using the flow discharging from the manhole and the other is using per household flow rates to determine an aggregate of flow rate. The following describes each of these methods.

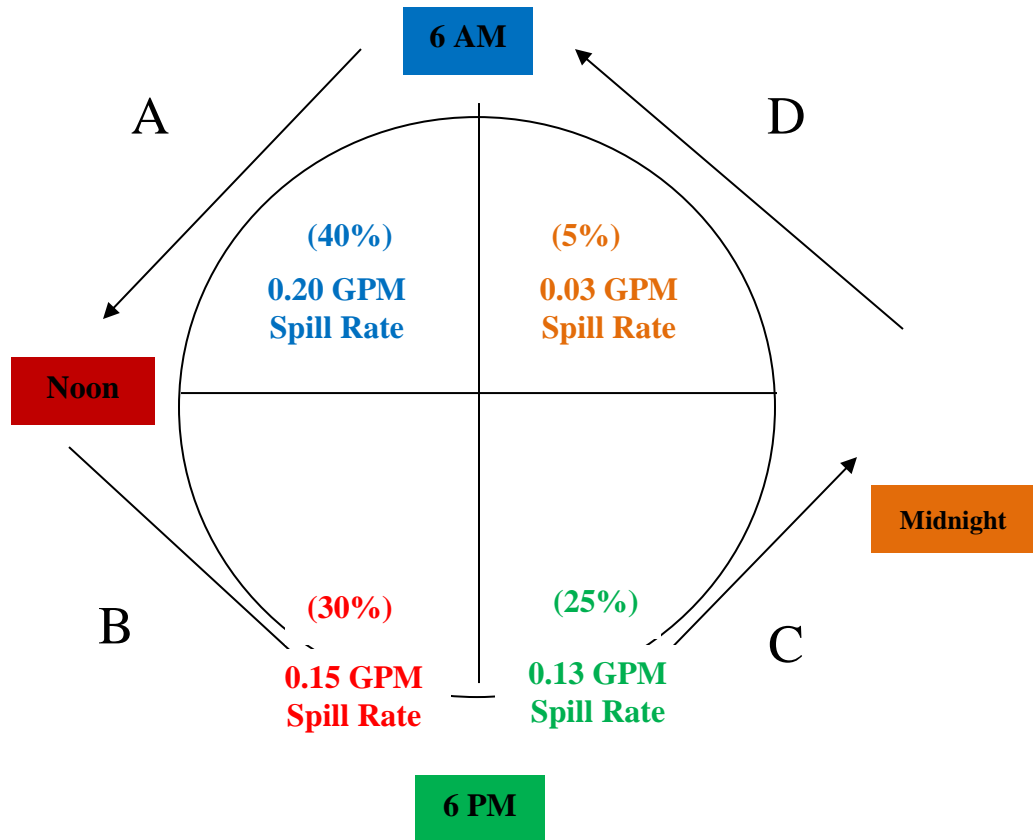
**Manhole Flow Rate:** The flow rate is the average flow that left the sewer system during the time of the spill. The San Diego Manhole Flow Rate Chart is used to estimate the manhole overflow rate. Photographs showing the actual measurement should be taken to document the basis for the flow rate estimate. Union Sanitary District Videos of various manholes are also used.

**Number of Households Flow Rate:** The spill flow rate can also be estimated based on the gallons per day for all households upstream of the spill location. The California Water Environment Association developed a spill estimation work sheet. Figure 6-2 and Table 6-1 show the diurnal flow patterns to be applied to estimate the flow for the various time periods. The table is based on the total gallons per day for any household being 180 gpd. The worksheet is located at the following link:

<https://www.cwea.org/et-ssowdr.shtml>



Figure 6-2: The Flow Rate Per Household



| Table 6-1: Gallons   |                 |               |                 |
|----------------------|-----------------|---------------|-----------------|
| Time Period          | Gals per Minute | Gals per Hour | Gals per Period |
| Entire Day           |                 |               | 180             |
| A - 6 AM to Noon     | 0.20            | 12.0          | 72              |
| B - Noon to 6 PM     | 0.15            | 9             | 54              |
| C - 6PM to Midnight  | 0.13            | 7.8           | 45              |
| D - Midnight to 6 AM | 0.03            | 1.8           | 9               |

**SSO Start time:** The start time is sometimes difficult to establish. Here are some approaches:

**Nearby Witnesses:** Witnesses can be used to establish start time. Contact and interview the reporting party, nearby residents, business owners, or any witnesses that may have observed the incident. Inquire about their observations. Spills that occur in rights-of-way are usually found and reported promptly. Spills that occur out of the public view can go

on longer. Sometimes observations like odors or sounds (e.g., water running in a usually dry creek bed) can be used to estimate the start time.

**Site Conditions:** Conditions at the spill site change over time. Initially, there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage increases over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.

**Accounting for Flow Variation:** It is important to remember that spills may not be continuous and uniform. Blockages are not usually complete (some flow continues). In this case, the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Peak-flow spills occur during and after heavy rain event for a short period.

**Spill Volume/Flow rate:** Start time can be calculated using the estimated flow rate and estimated spill volume. Crewmembers will use the San Diego Manhole Flow Rate Chart to estimate the flow rate and to estimate the spill volume using approved methodology (please see method two calculation above). The start time then is calculated by using both the estimated flow rate and the estimated spill volume.

**SSO Stop time:** The stop time is usually much easier to establish. The stop time is determined when field crews visually confirm that the SSO has stopped. This typically is the time when the blockage has been removed.

**Spill Volume calculation using flow rate:** Once duration and flow rate have been estimated, the volume of the spill is the product of the duration in hours or days and the flow rate in gallons per hour or gallons per day.

For example:

Spill start time = 11:00 Spill end time = 14:00 Spill duration = 3 hours

3.3 gallons per minute x 3 hours x 60 minutes per hour= 594 gallons

### **6.3.5.3 Estimating Recovered Sewage Volume**

In addition to the above if the entire spill is recovered, the following methods can be used, depending on the circumstances for estimating recovered sewage volume:

**Two Truck or Hydrant and Meter Sewage Recovery Method:** The sewage recovery and clean-up effort often requires fresh water usage to clean the affected area or storm pipelines. When this is the case, the liquid collected in the tank will not represent the actual spill sewage volume. By using this method, crewmembers will use two combination sewer trucks, one with an empty tank at a downstream collection manhole and one with filled fresh water at an upstream manhole where the freshwater is introduced. The total recovered volume will include water and sewage; by knowing how much water is introduced the actual sewage spill is calculated. The total amount of collected truck tanks less water used would provide the actual sewage spilled/recovered.

**Pipe Volume Calculation:** Using this method, before vacuuming the sewage from a storm pipeline into a tank, crewmembers will measure the level of liquid standing in the pipe. By knowing the pipe size, level of liquid in the pipe and the length, spill sewage volume is calculated.

**Vacuum Truck Log Record:** The DOT staff will keep log records in every combination sewer truck. The log sheet will include the SSO address, truck number, the date, and the volume of water and debris collected for each truck. The information is used to corroborate the actual volume recovered from an SSO event.

### **6.3.6 Clean Up**

The recovery and clean up phases begin when the flow has been restored and the spilled sewage has been contained to the extent possible. Clean up and disinfection procedures should be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The methods described are for dry weather conditions and should be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of City staff, a cleanup contractor will be used.

#### **6.3.6.1 Hard Surface Areas**

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

Wash down the affected area with clean water. Take reasonable steps to contain and vacuum up the wastewater.

Disinfect all areas that were contaminated from the overflow using the disinfectant solution. Apply minimal amounts of the disinfectant solution using a hand sprayer.

Repeat the process if additional cleaning is required.

#### **6.3.6.2 Landscape and Unimproved Natural Vegetation**

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

Wash down the affected area with clean water.

Contain and vacuum up the wash water so that none is released.

Repeat the process if additional cleaning is required.

#### **6.3.6.3 Natural Waterways**

The California Department of Fish and Wildlife should be notified in the event an SSO impacts any creeks or natural waterways. Fish and Wildlife will provide the professional guidance for effectively cleaning up spills that occur in these sensitive environments.

Clean up should proceed quickly in order to minimize negative impact.

DOT will notify ESD whenever an SSO reaches a waterway by calling the (408) 945-3000 Stormwater Hotline. ESD will respond and will determine if additional measurements, observations, monitoring, or sampling are required and act accordingly.

#### **6.3.6.4 Wet Weather Modifications**

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

#### **6.3.6.5 Follow-up Activities**

If sewage has reached the storm drain system, use the combination sewer cleaning truck to vacuum/pump/flush out the affected portions of the catch basin and any other portion of the storm drain that may contain sewage.

In the event that an overflow occurs at night, inspect the location the following day. Look for any signs of sewage solids and sewage-related material that may require additional cleanup activities.

#### **6.3.7 Public Notification**

As needed, post “Raw Sewage” signs, or place barricades or caution tape to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed.

Creeks and streams that have been contaminated as a result of an SSO will be posted at visible access locations until cleanup is completed.

Major spills may warrant broader public notice. The City Manager will authorize contact with local media when significant areas may have been contaminated by sewage. The City Manager’s Office or the DOT Director will provide and update the contact information for local media.

#### **6.3.8 Water Quality Sampling and Testing**

Water quality sampling and testing are required by the Water Board to assess impacts of the SSO whenever 50,000 or more gallons of spilled sewage enters surface waters and are not recovered. In such an event, the following steps should be taken:

- The First Responder should notify the Environmental Services Department (ESD) to collect samples.
- Samples should be collected as soon as practicable and within 48 hours after the discovery of the SSO event.
- In flowing water (e.g. creeks), samples should be collected from upstream of the spill, from the spill area, and downstream of the spill.
- In stationary water bodies (e.g. ponds and lakes), samples should be collected near the point of entry of the spilled sewage and at appropriate intervals away from the entry point.
- If samples must be collected during non-business hours to be taken to adhere to the 48-hour time limitation described in the WDR, trained DOT staff will collect the samples.
- Basic analyses should include ammonia and appropriate bacterial indicators.
- ESD Stormwater Management staff may recommend or carry out other monitoring as needed.
- ESD’s laboratory, which is certified by the State Water Resources Control Board

under the Environmental Laboratory Accreditation Program (ELAP), will analyze the samples.

- ESD Stormwater Management and Laboratory staff will evaluate results. ESD Stormwater Management will communicate and provide a copy of the laboratory analysis results to DOT.

#### **6.3.9 SSO Meeting (Failure Analysis Investigation)**

The objective of the failure analysis investigation is to determine the “primary cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur. Every SSO event is an opportunity to evaluate the maintenance history of the relevant segment(s), the response, and reporting procedures. Each overflow event is unique, with its elements and challenges, including volume, cause, location, terrain, and other parameters.

All relevant participants, from maintenance personnel, sewer superintendent, and engineering staff meet weekly, as needed, to review the procedures used and discuss what worked and where improvements could be made for future SSO event response and mitigation. The results of the debriefing are recorded and tracked to ensure the action items are completed.

The investigation should include reviewing all relevant data to determine appropriate corrective action(s). The product of the failure analysis investigation should be the determination of the primary cause and the identification of the corrective actions.

Investigations include the following, as appropriate:

- Reviewing and completing the Sanitary Sewer Overflow Report.
- Reviewing input from maintenance personnel who responded to the spill.
- Reviewing the incident timeline and other documentation regarding the incident.
- Reviewing communications with the Reporting Party and witnesses.
- Reviewing photographs of the incident.
- Reviewing SSO volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings.
- Reviewing past maintenance records of affected manholes and pipe segments.
- Reviewing past CCTV records.
- Conducting a new CCTV inspection, if necessary.
- If the SSO is located within a designated hot spot area, considering increasing the maintenance frequency.
- Reviewing any FOG related information or results from RWQCB.
- If the SSO is due to pipe failure, scheduling repair or replacement as soon as feasible.
- If the SSO is due to an under-sized pipe, I&I, or other engineering defect, contacting DPW for inclusion in the CIP work.
- If the SSO is in a commercial area and is due to FOG, contacting ESD for possible Grease Investigation (see Element 7.6.5)
- Developing agreed upon changes and additions to the OERP or City Procedures resulting from the investigation and debriefing session(s).

## 6.4 SSO Documentation and Reporting

All SSOs should be thoroughly investigated and documented for use in managing the sewer system and meeting established reporting requirements. Reporting and documentation requirements vary based on the type of SSO.

### 6.4.1 SSO Categories

The SWRCB has established guidelines for classifying and reporting SSOs. There are three categories of SSOs as defined by the SWRCB<sup>1</sup>:

**CATEGORY 1** - ALL discharges of sewage of ANY volume resulting from the City's sanitary sewer system failure that

- a) Reach surface water; or
- b) Reach the City's storm system and is not fully captured and returned to the sanitary sewer collection. Any volume of wastewater not recovered from City's storm system is considered to have reached surface water.

**CATEGORY 2** – ALL discharges of sewage of **1,000 GALLONS OR GREATER** resulting from a failure in the City's sanitary sewer system that **DO NOT** reach surface water or a drainage channel, unless the entire SSO discharged to the City's storm system is fully recovered and returned to the sanitary collection system.

**CATEGORY 3** - ALL other discharges of sewage resulting from a failure in the City's sanitary sewer system.

### 6.4.2 Internal SSO Reporting and Documentation Procedures

#### 6.4.2.1 Internal Reporting Category 1 & Category 2 SSOs

The First Responder will immediately notify the supervisor on duty who will notify the Sewer Superintendent of the SSO event.

The First Responder will fill out the SSO Report Form, take photos and make the report available to the Sewer Superintendent. The Sewer Superintendent or his /her designee will meet with field crew(s) at the site of the SSO event to assess the situation and to document the conditions with photos.

In the event that wastewater reaches surface water, the First Responder will notify ESD inspector for testing surface water for any contamination and follow up.

In the event of a very large overflow or an overflow in a sensitive area, the Sewer Superintendent or the DOT Director or designee may notify the City Manager and the City Council.

<sup>1</sup> State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2013-0058.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

#### **6.4.2.2 Internal Reporting Category 3 SSOs**

The First Responder will fill out the SSO Report Form, take photos and make the report available to the Sewer Superintendent.

#### **6.4.2.3 Documentation**

For each SSO, a file will be kept which includes the following information:

- Initial service call information
- Sanitary Sewer Overflow Report form
- Copy of the CIWQS report forms
- Failure Analysis Investigation results

#### **6.4.3 External Notification and SSO Reporting Procedures**

The California Integrated Water Quality System (CIWQS) electronic reporting system will be used for reporting SSO information to the SWRCB. If there are no SSOs during the calendar month, the Sewer Superintendent or his/her designee will submit an electronic report that the City did not have any SSOs, within 30 calendar days after the end of each calendar month. The Legally Responsible Official (LRO) or his /her designee will certify the report.

If CIWQS is not available, the Sewer Superintendent or his/her designee will forward all required information to the RWQCB in accordance with the time schedules. In such an event, the City will submit the appropriate reports using CIWQS as soon as practical.

#### **6.4.4 External Notification and Reporting Category 1 SSOs**

Within **2 hours** of being notified of the spill event, the First Responder will notify:

- Cal OES (and obtain spill number for use in other reports), (800) 852- 7550
- Department of Fish and Wildlife (DFW), 408-499-8714
- Environmental Services Department (ESD), 408-945-3000

Within **3 business days** of being notified of the spill event, the LRO or his/her designee will submit the initial report using CIWQS.

Within **15 calendar days** of the conclusion of SSO response and remediation, the LRO or his/her designee will certify the final report using CIWQS. The LRO or his /her designee will update the certified report as new or changed information becomes available. The updates can be submitted at any time and must be certified.

At minimum, the following mandatory information shall be reported prior to finalizing and certifying an SSO report:

#### **6.4.5 Draft Category 1 SSO:**

1. SSO Contact Information: Name and telephone number of City staff who can answer specific questions about the SSO being reported.
2. SSO Location Name.
3. Location of the overflow event (SSO) by entering GPS coordinates. If a single overflow event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional

- appearance point in the SSO appearance point explanation field.
4. When a SSO reaches surface water, a drainage channel, or entered and was discharged from a drainage structure.
  5. Whether the SSO reached a municipal separate storm drain system.
  6. Results in a discharge to a storm drain that was not fully captured and returned to the sanitary sewer system.
  7. Estimate of the SSO volume, inclusive of all discharge point(s).
  8. Estimate of the SSO volume that reached surface water, a drainage channel, or was not recovered from a storm drain.
  9. Estimate of the SSO volume recovered (if applicable).
  10. Number of SSO appearance point(s).
  11. Description and location of SSO appearance point(s). If a single sanitary sewer system failure results in multiple SSO appearance points, each appearance point must be described.
  12. SSO start date and time.
  13. Date and time the enrollee was notified of, or self-discovered, the SSO.
  14. Estimated operator arrival time.
  15. For spills greater than or equal to 1,000 gallons, the date and time OES was called.
  16. For spills greater than or equal to 1,000 gallons, the OES control number.

#### **6.4.6 Certified Category 1 SSO:**

At a minimum, the following mandatory information shall be reported for a certified Category 1 SSO report, in addition to items 1-16 above:

1. Description of SSO destination(s).
2. SSO end date and time.
3. SSO causes (mainline blockage, roots, etc.).
4. SSO failure point (main, lateral, etc.).
5. Whether or not the spill was associated with a storm event.
6. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps.
7. Description of spill response activities.
8. Spill response completion date.
9. Whether or not there is an ongoing investigation, the reasons for the investigation and the expected date of completion.
10. Whether or not a beach closure occurred or may have occurred as a result of the SSO.
11. Whether or not health warnings were posted as a result of the SSO.
12. Name of any beaches closed and/or impacted. If no beach was impacted, NA must be selected.
13. Name of any surface waters impacted.
14. If water quality samples were collected, identify parameters the water quality samples were analyzed for. If no samples were taken, NA shall be selected.
15. If water quality samples were taken, identify which regulatory agencies received sample results (if applicable). If no samples were taken, NA shall be selected.
16. Description of all methodologies and type of data relied upon for estimations of



the SSO volume discharged and recovered.

17. SSO Certification: Upon SSO Certification, the CIWQS Online SSO Database will issue a final SSO identification (ID) number.
18. SSO Technical Report, for spills in which **50,000 gallons or greater** reach surface waters, an SSO Technical Report will be submitted in CIWQS within 45 calendar days of the SSO end date. The report will detail the following:
  - Causes and Circumstances of the SSO
  - Response to the SSO
  - Water Quality Monitoring Activities

#### **6.4.7 External Notification and Reporting Category 2 SSOs**

Within 3 business days of being notified of the spill event, the LRO or his/her designee will submit the initial report using CIWQS.

Within 15 calendar days of the conclusion of SSO response and remediation, the LRO or his/her designee will certify the final report using CIWQS. The LRO or his/her designee will update the certified report as new or changed information becomes available. The updates can be submitted at any time and must be certified.

At a minimum, the following mandatory information shall be reported prior to finalizing and certifying a Category 2 SSO report:

#### **6.4.8 Draft Category 2 SSO:**

Items 1-3 and 12-14 in the Draft Category 1 section above.

#### **6.4.9 Certified Category 2 SSOs:**

In addition to Items 1-3 and 12-14 in the Draft Category 1 section, Items 1-9, and 17 in the Certified Category 1 SSO section above.

#### **6.4.10 External Reporting Category 3 SSOs:**

Within 30 calendar days after the end of the calendar month in which the SSO occurs, the LRO or his/her designee will submit an electronic report using CIWQS. The LRO or his/her designee will certify the report. The report will include the information to meet the GWDR requirements.

At minimum, the following mandatory information shall be reported prior to finalizing and certifying a Category 3 SSO report:

#### **6.4.11 Certified Category 3 SSOs:**

In addition to Items 1-3 and 12-14 in the Draft Category 1 section, Items 1-6, and 17 in the Certified Category 1 SSO section above.

#### **6.4.12 Private Lateral Sewage Discharges (PLSDs)**

The LRO or his/her designee may report private lateral SSOs using CIWQS and specifying that the sewage discharge occurred and was caused by a private lateral and identifying the responsible party (other than the City), if known. No LRO certification is required for PLSDs.

#### **6.4.13 No Spill Certification (Monthly)**

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

#### **6.4.14 CIWQS Not Available**

In the event the CIWQS online SSO 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 accordance with the time schedules identified above. In such an event, the City will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO document file.

#### **6.4.15 Amending SSO Reports**

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

Gil Vazquez  
Water Resource Control Engineer  
State Water Resources Control Board Division of Water Quality  
1001 I Street 15<sup>th</sup> Floor Sacramento, CA 95814  
E-mail: [gvazquez@waterboards.ca.gov](mailto:gvazquez@waterboards.ca.gov)  
Phone: (916) 322-1400

### **6.5 Post SSO Analysis**

#### **6.5.1 Post SSO Debriefing**

After the SSO event, 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. Meeting participants will review and evaluate the incident and the City response procedures. The objective of the Post-SSO Debriefing is to determine actions necessary, if any, to reduce recurrence and better mitigate the effects of SSOs. The results are documented and tracked on a Post-SSO Debriefing form to ensure the identified action items are implemented. The Post-SSO Debriefing documentation is filed in the final SSO file for the incident.

#### **6.5.2 SSO Investigation and Mitigation**

The LRO's responsibility is to investigate the SSO using the procedures in the OERP, and modify the result of the incident failure analysis. The 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 SSOs. The procedures for investigating an SSO are as follows:

- Review the incident/overflow report.
- Interview dispatch, first line supervisor, primary person, field service representatives, customers service representatives (if used) responding crew members or any other agency staff that were involved with the response.
- Review the incident timeline and other documentation regarding the incident.
- Review communications with the Reporting Party and witnesses.
- Review photographs of the incident.
- Review SSO volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings.
- Review past maintenance records of affected manholes and pipe segments.
- Review past CCTV records.
- Conduct new CCTV inspection, if necessary.
- If the SSO is located within the designated hot spot areas, consider increasing the maintenance frequency.
- Review any FOG related information
- If the SSO is due to pipe failure, schedule repair or replacement as soon as feasible.
- If the SSO is due to an under-sized pipe, I&I, or other engineering defect, contact DPW for inclusion in the CIP work.
- If the SSO is in a commercial area and is due to FOG, contact ESD for possible Grease Investigation (see Element 7.6.5)
- Develop agreed upon changes and additions to the OERP and/or City Procedures resulting from the investigation and debriefing session(s).

### **6.5.3 SSO Recording Keeping Requirements**

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

- Copy of Certified CIWQS report(s);
- All original recordings for continuous monitoring instrumentation;
- Service call records and complaint logs of calls received by the City;
- SSO calls;
- SSO records;
- Steps that have been and will be taken to prevent the SSO from recurring and a schedule to implement those steps;
- Work orders, work completed, and any other maintenance records from the previous five years which are associated with responses and investigations of system problems related to SSOs;
- A list and description of complaints from customers or others from the previous five years; and
- Documentation of performance and implementation measures for the previous five years.

If SSO water samples are taken for water quality results, the records of monitoring information shall include the following:

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

## **6.6 Video Inspection and Equipment**

The City maintains specialized equipment that is required to support this OERP, including:

**Closed Circuit Television (CCTV) Inspection Unit** – A CCTV Inspection Unit to help determine the primary cause for all SSOs from gravity sewers.

**Camera** – A digital, disposable, or cell phone camera to record the conditions upon arrival, during clean up, and upon departure.

**GPS Unit (Global Positioning System)** – A hand held GPS unit to determine the coordinates of spills for use in meeting RWQCB SSO reporting requirements, unless otherwise stored in the City's GIS.

**Combination Sewer Cleaning Truck** – A combination high velocity sewer cleaning truck with vacuum tank to clear blockages in gravity sewers, and clean up the impacted area following the SSO event.

**Portable Generators, Portable Pumps, Piping, and Hoses** – Portable generators, pumps, piping and hoses to pump around failed sewers, force mains, or pump stations.

## **6.7 SSO Response Training**

This section provides information on the training that is required to support the OERP.

### **6.7.1 Initial and Annual Refresher Training**

All City personnel who may have a role in responding to, reporting, or mitigating a sewer system overflow will receive training on the contents of this OERP. Current employees will receive annual refresher training or as needed on this plan and the procedures to be followed.

### **6.7.2 SSO Response Drills**

Periodic training drills will be held to ensure that employees are up to date on the procedures, the equipment is in working condition, and the required materials are readily available. The training drills 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.

### **6.7.3 SSO Training Record Keeping**

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

### **6.7.4 Contractors Working on City Sewer Facilities**

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

## **ELEMENT 7: Fats, Oils, and Grease (FOG) Control Program**

### ***SWRCB Waste Discharge Requirement:***

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

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

### **7.1 Introduction**

Fats, oils, and grease (FOG) are produced from residential and commercial food preparation activities and are pollutants of concern due to their potential clogging impact on the sanitary sewer collection system. The goal of the City's FOG Control Program is to reduce the number of SSOs caused by FOG in the collection system by minimizing FOG discharged into the sanitary sewer system. The City's Department of Transportation (DOT) and Environmental Services Department (ESD) implement various programs to address FOG and meet these goals.

### **7.2 Public Education and Outreach**

The goal of FOG public education and outreach is to educate residents about preventing grease blockages through proper handling and disposal of FOG. When a grease-related SSO occurs in a residential area, DOT staff distributes educational materials to nearby residents. These door hangers notify residents that an SSO occurred in their area and include information on proper disposal of FOG. DOT staff also analyze maintenance data to determine areas where grease flyers could be proactively distributed. DOT has been and will continue working with the Department's Public Information Officer to craft effective messaging about FOG and to expand outreach

through social media and other platforms. ESD also distributes information about proper FOG disposal along with other materials at neighborhood resource fairs.

In addition, the City participates in developing and delivering grease-related messages in both English and Spanish through the Bay Area Clean Water Agencies (BACWA) and Bay Area Pollution Prevention Group (BAPPG). These media campaigns deliver pollution prevention messages to audiences in the 9-county San Francisco Bay Area.

### **7.3 FOG Disposal**

FOG is collected from commercial food service establishments (FSEs) by private grease haulers. San José posts a list of grease haulers on its website, though the list is not all-encompassing, and the City does not endorse or vouch for any hauler.

When City sewer maintenance crews remove significant amounts of grease from a sanitary sewer line, they will empty their trucks at the San José/Santa Clara Regional Wastewater Facility. Other trucked grease waste is not currently accepted at the San José/Santa Clara Regional Wastewater Facility. Haulers typically take trucked grease waste to one of the following receiving stations:

- East Bay Municipal Utility District Wastewater Treatment Plant, 2020 Wake Ave., Oakland CA, <http://www.ebmud.com/wastewater/commercial-waste/trucked-waste/>
- East Bay Dischargers Authority – Hayward Water Pollution Control Facility, 3700 Enterprise Ave., Hayward CA.
- Silicon Valley Clean Water (SVCW) Wastewater Treatment Plant, 1400 Radio Road, Redwood City CA, <http://www.svcw.org/>
- Watsonville Wastewater Treatment Plant, 401 Panabaker Lane, Watsonville CA, <https://cityofwatsonville.org/812/Wastewater-Division>

### **7.4 Best Management Practices (BMP) Requirements**

San José Municipal Code 15.14.650 D states “All dischargers shall implement best management practices in their operations to minimize the discharge of grease to the sanitary sewer system.” Environmental Inspectors educate FSE staff on Best Management Practices (BMPs) that protect the collection system and maximize removal efficiency of GCDs and strongly encourage their use. BMPs are detailed in [outreach materials](#), available in multiple languages, given to FSEs during inspections and also available for download from the City’s website.

### **7.5 Grease Control Devices (GCDs)**

#### **7.5.1 GCD Installation Requirements**

San José Municipal Code 15.14.630 A states that any food service establishment, or other type of business or establishment where grease or other viscous, obstructing, or objectionable materials may be discharged into a public or private sewage main or disposal system, shall have a grease control device (GCD) and related plumbing of a size and design approved by the director. The City’s Building Division determines the requirements for GCDs.

### **7.5.2 GCD Design Standards**

An FSE's potential for discharging grease into the sanitary sewer determines the size and type of GCD required to treat their waste stream. Some of the factors considered in order to determine the required GCD size include the size of the restaurant, the type and amount of cooking and cleaning equipment installed, and the number of meals served. GCD requirements range from a small hydromechanical grease interceptor (grease trap) installed inside the facility to a large in-ground gravity grease interceptor. Approved grease trap sizes range from 40 to 100 pounds (20 to 50 gpm). Grease interceptors should be a minimum of 1,000 gallons. The City has a variance procedure for these requirements available by request on a case-by-case basis for facilities where implementing the typical requirements are not physically feasible.

The GCD design and sizing utilizes the requirements contained in the 2016 Uniform Plumbing Code (UPC).

### **7.5.3 GCD Installation**

In 2013, the City started its small business owner space at the following link:

<http://www.businessownerspace.com>

This site assists new businesses navigate their way through required reviews and permits before starting their business. FSEs receive their GCD requirements through the process of applying for building permits for new construction or remodeling of existing facilities. FSEs submit their plans for review to the Planning, Building, and Code Enforcement Department. They are given a list of clearances to obtain, typically from the Santa Clara County Department of Environmental Health and ESD, which must be completed before the issuance of building permits. After receiving approval and having the plans stamped by the Santa Clara County Department of Environmental Health, the FSE representative will schedule an appointment for the foodservice plan check. A Building Division plan-checker is on duty each business day.

The plans are reviewed by the plan-checker, who determines if and what type of GCD will be required. The size and type of GCD required is determined based upon the facility's potential for discharging grease into the wastewater.

At the conclusion of the plan-check, the plans are stamped with the GCD requirements, and a letter is generated summarizing the requirements. The applicant is given a copy of the letter. The plumbing plan check review verifies compliance with applicable building codes for the installation of the GCD prior to the issuance of the building permits. Building inspectors from the Department of Planning, Building, and Code Enforcement verify the installation and connections of the GCD.

### **7.5.4 GCD Maintenance Requirements**

San José Municipal Code 15.14.650 details the minimum maintenance requirements for GCDs:

- A. Grease control devices shall be maintained in efficient operating condition by periodic removal of the accumulated grease. The use of chemicals, bacteria, enzymes, or other additives that have the effect of emulsifying or dissolving



grease is prohibited unless specifically authorized by the director in writing. No accumulated grease shall be introduced into any drainage piping or public or private sewer.

- B. Grease control devices shall be cleaned on a frequency sufficient to prevent objectionable odors, surcharge of the grease control device, or interference with the operation of the sanitary sewer system.
  - 1. Grease traps shall be cleaned at least once every thirty days.
  - 2. Grease interceptors shall be cleaned once every ninety days.
  - 3. Mechanical grease removal devices must be maintained in a manner and frequency consistent with manufacturer specifications and guidance.
  - 4. Grease control devices shall be cleaned when their last chamber is filled to twenty-five percent or more of capacity with grease or settled solids.
  - 5. Grease interceptors with a sample box shall be cleaned immediately when grease is evident in the sample box.
  - 6. Grease control devices shall be cleaned by being pumped dry and all accumulated sludge on all surfaces shall be removed by washing down the sides, baffles, and tees. No water removed from the device during cleaning shall be returned to the grease control device.

Environmental Inspectors review records during FOG inspections to verify compliance with these requirements. Please see the Inspection and Enforcement Procedures section for more information.

#### **7.5.5 GCD Maintenance Records**

San José Municipal Code 15.14.650E details the minimum record-keeping requirements for GCDs:

Dischargers shall maintain records on site for a period of at least three years as follows:

- 1. Dischargers with an installed grease control device shall maintain records showing that the grease control device has been properly maintained and cleaned as required by Subsections A. and B.; and
- 2. Food service establishments shall maintain records showing the following related to all grease hauled off site: date and time material removed off site; volume removed; hauler name; truck license number, type of grease removed, and final destination of material collected.

Environmental Inspectors review records during FOG inspections to verify compliance with these requirements. Please see the Inspection and Enforcement Procedures section for more information.

### **7.6 Inspections and Enforcement Procedures**

#### **7.6.1 Legal Authority**

The San José Municipal Code grants the authority to manage and/or prohibit discharges to the sanitary sewer collection system, and grants authority to inspect facilities connected to the sanitary sewer collection system.

SJMC 15.14.130 gives “The primary responsibility for enforcement of the provisions of

this chapter shall be vested in the director of environmental services” or his/her duly authorized employees and agents of the city. SJMC 15.14.690 states that “The director and other duly authorized employees and agents of the city bearing credentials and identification shall have the right to access upon all properties for the purpose of inspecting any sewer or storm drain connection, including all discharge connections of roof and surface drains and plumbing fixtures; inspecting, observing, measuring, photographing, sampling, and testing the quality, consistency, and characteristics of sewage and industrial wastewaters being discharged into any public sewer or natural outlet; and inspecting and copying any records relating to quantity and quality of wastewater discharges, including but not limited to water usage and effluent discharged, chemical usage, and hazardous waste records.”

The complete San José Municipal Code is available online at the following link

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances](https://library.municode.com/ca/san_jose/codes/code_of_ordinances)

### **7.6.2 Staffing**

Approximately 2,500 grease control devices (GCDs) are installed in San José at approximately 4,300 active food service establishments (FSEs). As of 2019, the City has a staff of four (4) environmental inspectors assigned to inspect FSEs and GCDs, and enforce FOG ordinances in the City of San José.

### **7.6.3 GCD Inspections**

The City conducts GCD inspections at all City FSEs with GCDs (traps, interceptors, powered grease control devices). GCD inspections differ from FSE inspections (see FSE section below) in that they are wholly focused on the condition and functionality of the GCD. Basic steps of a GCD inspection include the following:

- GCD pre-inspection
  - Senior Environmental Inspector assigns annual workload to each Environmental Inspector.
  - Environmental Inspector plans inspections geographically to maximize efficiency and minimize drive time between facilities.
  - Although GCD Inspections are unannounced, plan GCD inspections to accommodate FSE-specific scheduling issues, such as avoiding opening traps during the busy lunch hours.
  - Review pre-inspection report for pertinent site-specific information.
  - Download inspection forms from Enforcement database.
  - Gather and prepare any needed tools, supplies, educational materials, documentation, etc.
- GCD Inspection
  - Introduce and identify yourself to the facility operator, typically the owner or manager on duty.
  - Explain the purpose of the inspection, what areas need inspecting, and request permission to inspect GCD.
  - Inspect and document the condition of all pertinent components.
    - Baffle plates, stand pipes, flow restrictors, sample boxes, overall device integrity

- Heating elements, skimmers, timers, catch bins, and other components of powered GCDs
  - Take a core sample to determine depth of grease and solids in the device.
  - Measure length, width, and depth of device.
  - Determine and document if FOG present in the effluent.
  - Determine and document if any major faults in the device need attention, such as an unsecured lid, evidence of bypass, evidence of incorrectly-plumbed device (grinder, dishwasher, sanitizer, etc.), evidence of domestic sewage, device is installed backwards, powered device is unplugged, etc.
- GCD Inspection Report
  - Input inspection findings into the Enforcement database
  - Senior Environmental Inspector reviews data. CDs found to have components broken or missing, incorrectly plumbed, or over 25% full of grease and solids are referred for a FSE inspection.

#### **7.6.4 FSE Inspections**

In addition to GCD Inspections, the City also conducts FSE inspections. The City's FSE Inspection Program uses an SSO risk-based approach to identify which facilities to inspect and how often to inspect them.

The Business Inspection Plan prioritizes FSE inspections based on grease producing, pretreatment adequacy, SSO risk, and blockage risk to the collection system. Also, the Plan takes into account past FOG violation and inspection dates. These criteria are revised and updated annually.

Collection System Risk (CSR) is determined based on a grease-related blockage or SSO, elevated cleaning schedule, or significant grease or structural issues. DOT identifies sewer segments impacted by FOG and other factors and, as needed, assigns a high priority cleaning frequency for each segment. This data is compiled and mapped using GIS tools to identify areas of high, medium, low, and no CSR level.

FOG Discharge Risk (FDR) is determined based on the number and type of grease-producing fixtures in use at a given facility (i.e., 3-compartment sinks, wok ranges, dishwashers, etc.). This information is collected through plan checks and by inspectors conducting FSE inspections, stored in the Enforcement database, and each facility is assigned a high, medium, or low FDR level based on this data.

The City's FSE Inspection Program risk-based approach focuses inspection efforts in locations most likely to cause or contribute to SSOs.

Basic steps of a FSE inspection include the following:

- FSE pre-inspection
  - Senior Environmental Inspector assigns annual workload to each Environmental Inspector.
  - Plan inspections geographically to maximize efficiency and minimize drive time between facilities.
  - Although FSE inspections are unannounced, plan inspections to accommodate FSE-specific scheduling issues, such as avoiding busy lunch

hours.

- Review the pre-inspection report. Determine if the facility has plan check requirements, and what they are. Identify whether the facility has a GCD, type of GCD, if the facility is the responsible party for the GCD, any variances to GCD cleaning frequencies issued, previous violations, previous BMPs distributed, etc. Review violation history, previous GCD inspection information, and other pertinent information.
- Download cases from Enforcement database onto field device.
- Gather and prepare any needed tools, supplies, educational materials, documentation, etc.
- FSE inspection
  - Introduce and identify yourself to the Responsible Party, typically the owner or manager on duty.
  - Explain the purpose of the inspection, what areas and documentation need inspecting, and request permission to inspect facility.
- GCD records review
  - Request to review self-maintenance logs and/or pumping receipts.
  - Review available records for compliance with applicable ordinances.
  - If necessary, the inspector can contact the facility's grease hauler to obtain records as a courtesy. However, it is the facility's responsibility to keep three (3) years of records on-site and available for inspection.
- GCD review
  - Locate and identify GCD. Confirm type, size, and connected equipment, including plumbing fixtures discharging to the sanitary sewer and compare them to the wastewater plan check information (if available) in the pre-inspection report.
  - Check the parking lot and perimeter to look for GCDs.
  - Document if the pre-inspection report has incomplete information or needs to be updated (e.g. GCD found to be a different size, different fixtures connected to GCD, more fixtures discovered, untreated grease waste streams identified, etc.).
  - Conduct GCD inspection, if needed, and record information needed to require adjustments to minimum GCD cleaning frequencies.
- Kitchen grease control BMP review
  - Inspect floor drains and floor sinks. Are grates/screens present and secure? Is there excessive food waste or debris? Are they flowing freely?
  - Are there floor mats? Where are they cleaned? (Stormwater violations are referred to the Industrial/Commercial or Illicit Discharge Inspection Programs.)
  - Is there a mop sink? Is it being used for anything other than intended purpose? Are grates/screens present and secure? Is there excessive food waste or debris?
  - Is there a grinder? If yes, is it plumbed to a grease trap? If there is no grinder, where is food waste scraped or rinsed?
  - Are there screens for the sinks? Are employees using them properly?
  - Is there a dishwasher? Is it plumbed to a grease trap?

- Any signs of drain problems? Is there a plumbing snake? Are there drain cleaners?
  - Are there hoods and/or exhaust ducts? If the facility self-cleans vent filters, ask about the emulsified grease (detergents, caustic, acid, etc.) disposal method and document.
- FSE inspection report
  - Document findings and generate FSE Inspection Report (in field) detailing violations, corrective actions, and due dates (if any), as well as recommendations.
- Exit interview
  - Give a copy of the FSE Inspection Report to the Responsible Party.
  - Educate the Responsible Party on the importance of kitchen BMPs.
  - Present and review BMPs with the Responsible Party. When appropriate, give BMPs in English as well as other languages.
- Follow-up inspections and case completion
  - If needed, conduct follow-up FSE inspections to ensure corrective actions are completed and the facility is back in compliance.
  - Input FSE Inspection Report(s) into Enforcement database by syncing field device.
  - Finalize case file and submit for supervisor/peer review and dead filing.

Violations of the San José Municipal Code are documented and implemented per the Enforcement Response Plan. The Environmental inspectors document enforcement actions, timelines of corrective actions, and staff responsibility. The Environmental inspectors follow up with the FSE until all violations are resolved. Educational and outreach materials are distributed to restaurant operators during the inspections. The materials include kitchen practices to minimize the discharge of grease into the sewer system, maintenance tips for grease traps and interceptors, and record-keeping requirements. All inspection data is tracked in the Environmental Enforcement Data Management System.

#### **7.6.5 Grease Investigations**

ESD Watershed Protection Environmental Inspectors also conduct inspections at FSEs which may be contributing to a grease blockage or unusual grease build-up that has occurred in the sanitary sewer as reported by DOT. Referrals from DOT are sent from the maintenance supervisor or senior maintenance worker, then to the Senior Environmental Inspector. Some common reasons for requesting grease investigations include:

- Excessive grease build up
- Odor complaints
- Blockages due to grease
- Excessive grease evident during preventative maintenance
- Reduced flow
- Video Inspection identifies excessive grease
- Litigation

Upon notification, Environmental Inspectors review the area upstream of the problem

area for potential sources. This review includes researching the Enforcement database for FSEs near the area in question, and visually inspecting the area in question to look for any FSEs or other potential sources. If a potential commercial source is found, an FSE Inspection and/or a GCD Inspection is performed. The presence and size of GCDs are documented, and GCD cleaning and maintenance records are reviewed. Enforcement action is taken against FSEs determined to be causing or contributing to grease blockages in the sanitary sewer, and additional requirements for cleaning or installation of GCDs can be imposed.

## **7.7 FOG Blockages and Maintenance Schedules**

The Department of Transportation is responsible for the identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section. In addition, each SSO is thoroughly reviewed to determine if changes to the maintenance frequency of the sanitary sewer segment(s) are needed. Please see Elements 4.2, 6.3.9, and 6.5.2 of the SSMP for details.

## ELEMENT 8: System Evaluation and Capacity Assurance Plan

### *SWRCB Waste Discharge Requirement:*

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

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

### 8.1 System Evaluation

The City has conducted multiple master plan capacity assessments of its trunk sewer system since 2002. The purpose of these assessments is to determine whether the wastewater collection system has adequate capacity to convey peak dry and wet weather flows, identify capacity constraints that might contribute to an SSO or other hydraulic deficiencies, and develop solutions.

Capacity assessments were conducted using a computer hydraulic model. The model consists of key system components such as pipes, manholes, siphons, weirs, gates, and pump stations, and it conducts fully dynamic simulations that represent the effects of flow splits, storage, or other hydraulic conditions. The model incorporates population estimates, water use data, flow monitoring data, rainfall data, and land use planning information as inputs. The model estimates wastewater, groundwater infiltration (GWI), and rainfall-dependent inflow/infiltration (RDI/I) flows in the system. The purpose is to predict surcharge, backwater, and SSO events under peak dry and wet weather conditions. The model allows staff to estimate peak flows under various scenarios, evaluate the capacity of the modeled system, identify capacity deficiencies or other hydraulic issues in the system, and develop improvement projects to address these deficiencies.

The two-phase master plan capacity assessment for the City's entire trunk system of 10 inches and larger in diameter (*Sanitary Sewer Master Plan Capacity Assessment*, commonly referred to as Master Plan) was completed in 2013. The study identified a total of 93 capacity improvement

projects to address predicted capacity deficiencies. These projects not only provide the capacity and accommodating wet season I/I, but also further ensure air space in pipe under dry weather conditions to prevent odor issues.

The Master Plan also concluded that in most areas of the City, GWI was not determined to be a significant source of flow during dry weather periods; and that RDI/I in the system is relatively low, with the most noticeable response occurring in the Almaden Valley area and areas receiving flow from the West Valley Sanitation District (WVSD). However, it should be noted that WVSD doesn't necessarily have a higher rate of RDI/I, as that area receives significantly more rainfall than many areas of the City.

Following the completion of the trunk system Master Plan, due to the need of the North San Jose Area Development Policy for significant long-term growth, the City completed the *North San Jose Area Sanitary Sewer Capacity Assessment* in September 2013. The North San Jose Study provided a more detailed analysis, ensuring adequate accommodation for future development. It also takes in account of flow monitoring data the City has collected over past several years. The study identified additional sewer capacity improvement projects in smaller diameter pipes.

In addition to trunk system capacity assessment, the City also reviews each SSO the City has experienced for any hydraulic or structural deficiencies that would require a CIP project as a post SSO follow up discussed in Section 6.5. Since the 2016 internal audit, the sanitary sewer system has not been experiencing an SSO discharge caused by hydraulic deficiency.

## **8.2 Design Criteria**

The City has an existing *Design Guidelines for Sanitary Sewers* that includes guidelines for sanitary sewer design calculations, sewer manholes, mains, laterals and connections. Capacity improvement projects are sized according to the City's design criteria to provide ample capacity while also ensuring the City will receive a lasting benefit for the investment. In general, new facilities are sized to convey future (long-term) peak wet weather flow with a maximum depth-to-diameter ratio (d/D) of approximately 2/3, as well as to provide a daily cleaning velocity of at least 2 fps for gravity pipes and 3 fps for inverted siphons and force mains under existing peak dry weather flow.

## **8.3 Capacity Enhancement Measures**

The Master Plan and the detailed North San Jose Area Sanitary Sewer Capacity Assessment identified a total of 105 capacity improvement projects, totaling more than 210,000 feet of new pipelines and approximately \$195 million in capital costs. Each project either provides more capacity (with a larger or new parallel pipe, and/or upgrade pump station capacity), or diverts flow away from the capacity deficient area to another sewer system with excess available capacity.

These capacity improvement projects were prioritized from "1" (highest priority) to "5" (lowest priority) based on the severity of deficiencies. Each project was also given a flow confirmation rating from "Level 1" (project confirmed by flow monitoring data) to "Level 5" (no reliable confirmation of model flows), which indicates the level of confidence in the model flow based on available metered flow in the area. These projects were then placed into a Capital



Improvement Program (CIP) for design and construction according to their priority and flow confirmation rating.

Revenue for Sanitary Sewer CIP is derived from the following sources: transfers from Sewer Service and Use Charge (SSUC) Fund, Sanitary Sewer Connection Fees, and “Joint Participation” contributions from other jurisdictions served by the City’s sanitary sewer system. Among these revenues, the SSUC Fund transfer continues to be the primary funding sources for the program.

In the past five years, the revenue stayed around \$34 million annually. The expenditure on capacity improvement projects during the past several 5-year CIPs has been around one third of the total funds. With the focus on and sufficient funding of the on-going sewer master planning effort and implementing needed capacity improvements, the City is confident to ensure adequate capacity to prevent spills up to a 10-year 24-hour design storm event.

In addition to citywide studies, the Master Plan team also performs as-needed model simulations for large-scale developments to make sure the projected growth would not trigger new capacity deficiencies in the system. Improvements on deficiencies triggered by developments would be funded by the developers.

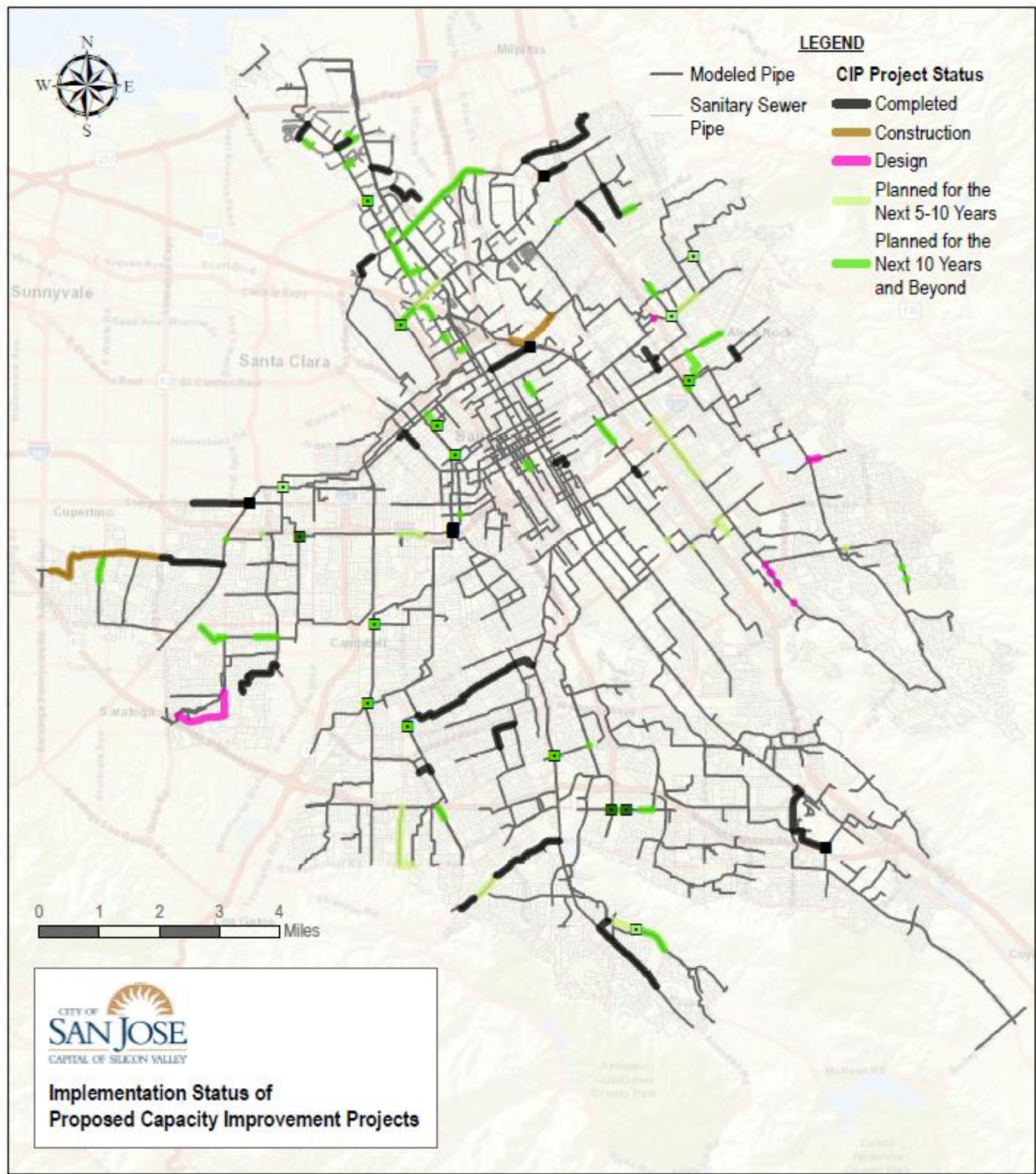
The Master Plan team also manages a long-term flow monitoring program, which maintains more than 50 flow meters and 16 rain gauges at strategic locations throughout the City. Every year, a GWI and RDI/I analysis of the metered systems is prepared. As part of the City’s Condition Assessment Program, inflow and infiltration sources are identified along with other defects in the sewer system.

#### **8.4 Schedule**

The capacity projects are scheduled in a 20-year plan according to the degree of deficiencies as predicted by the hydraulic model for existing, near-term and long-term (General Plan 2040) future land use scenarios. Before a project is placed into a CIP for design and construction, model-predicted flow must be confirmed by conducting flow monitoring within the project deficiency areas. As such, the actual schedule of each high priority project may not strictly follow the priorities originally identified in the Master Plan studies if the project could not be confirmed in time by good flow monitoring data.

The color-coded map below (Figure 8.1) provides the project timeline in the 20-year plan along with completed projects and projects in design and construction phases. New projects will be added to the CIP as staff update and expand the model with land use changes, new sewer information, and additional flow and rain data.

Figure 8.1 - Master Plan Recommended Sanitary Sewer Improvement Projects



## **ELEMENT 9: Monitoring, Measurement, and Program Modifications**

### ***SWRCB Waste Discharge Requirement:***

#### ***The Enrollee shall:***

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

### **9.1 Maintenance of Relevant Data**

The City tracks relevant information used to establish and prioritize appropriate SSMP activities. Field data such as pipe cleaning and inspection frequencies, SSOs, and lateral replacements are tracked in the CMMS and/or other systems (for example GIS). On a quarterly basis, the division manager, superintendent, and supervisors meet to review system data to evaluate the effectiveness of the City's collection system operation.

### **9.2 Monitoring and Assessment**

The City has selected certain performance indicators to assess the effectiveness of the SSMP and the Utilities Operations Division of 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:

#### **9.2.1 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 FSEs inspected Number of FOG inspections
- Number of GCD inspections
- Number of Grease Investigations
- Average response time for SSO event (time between City becoming aware of potential SSO and First Responder arriving on site).

#### **9.2.2 Data Regarding Success of Preventative Maintenance**

- SSO Rate (SSOs/100 miles/year);

- Number of SSOs for each cause (roots, grease, debris, pipe failure, capacity, lift station failures, and other) for each zoning parameter (e.g.: residential, commercial);
- Median SSO volume (gallons);
- Percentage of SSOs greater than 100 gallons; and
- Percentage of total spilled sewage reaching surface water.

| <b>Table 9-1: Sanitary Sewer Overflows Summary from 2014 to 2018</b> |                                |   |  |   |                                       |   |
|--|--------------------------------|---|--|---|---------------------------------------|---|
| <b>Year</b>  | <b>Mains<br/>(2,042 Miles)</b> |   | <b>Laterals<br/>(Miles of Laterals NA)</b> |   | <b>Totals<br/>(2,042 Total Miles)</b> |   |
|  | <b>#SSOs</b>                   | <b>Gross<br/>Spill<br/>Volume<br/>(gallons)</b> | <b>#SSOs</b>                               | <b>Gross<br/>Spill<br/>Volume<br/>(gallons)</b> | <b>Total SSOs</b>                     | <b>Total<br/>Gross Spill<br/>Volume<br/>(gallons)</b> |
| 2014   | 101                            | 77,190  | -  | -   | 101                                   | 77,190  |
| 2015   | 74                             | 153,023   | -  | -   | 74                                    | 153,023   |
| 2016   | 58                             | 44,941  | -  | -   | 58                                    | 44,941  |
| 2017   | 40                             | 27,764  | -  | -   | 40                                    | 27,764  |
| 2018   | 29                             | 23,348  | -  | -   | 29                                    | 23,348  |
| <b>Total</b>   | <b>302</b>                     | <b>326,266</b>                                  | <b>-</b>                                   | <b>-</b>  | <b>302</b>                            | <b>326,266</b>  |

### 9.3 SSMP Updates

The City will re-certify its SSMP at least every five (5) years in compliance with the requirements of the GWDR. The City will continue to monitor the need to update its SSMP more frequently based on the results of the biennial audit (required by the RWCQB) and the performance of its sanitary sewer system. In the event the City decides an update is warranted, the process to complete the update will be identified at that time. The City will complete the update within one year following identification of the need for an update.

The authority for approval of changes such as employee names, contact information, or minor procedural changes is delegated to the Division Manager of DOT-IM.

## ELEMENT 10: SSMP Programs Audits

### *SWRCB Waste Discharge Requirement:*

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

The City will audit its SSMP every two years. The audit will determine whether the SSMP meets the current requirements of the GWDR, whether the SSMP reflects the City's current practices, and whether the City is following the SSMP. The City audited the SSMP in 2016 and most recently in 2018. The audits are kept on file at the Mabury Service Yard at 1404 Mabury Road, and saved electronically on the City's network.

Table 10-1 shows the list of questions considered when conducting internal audits.

| Table 10-1 SSMP Internal Audit Questions                     |   |     |    |
|--|---|-----|----|
| Element 1 - Goals  |   | Yes | No |
| <b>A</b>   | Are the goals stated in the SSMP still appropriate and accurate?  |     |    |
| Element 2 - Organization                                     |   | Yes | No |
| <b>A</b>   | Is the Contact Information current?   |     |    |
| <b>B</b>   | Is the Organization Chart of the SSMP current?  |     |    |
| <b>C</b>   | Is the chain of communication for reporting and responding to SSOs accurate and up-to-date?                         |     |    |
| Element 3 – Legal Authority                                  |   | Yes | No |
| <b>Does the SSMP document the City's legal authority to:</b> |   |     |    |
| <b>A</b>   | Prevent Illicit Discharges?   |     |    |
| <b>B</b>   | Require proper design and construction of sewers and connections?   |     |    |
| <b>C</b>   | Ensure access for maintenance, inspection, or repairs for portions of the lateral owned and maintained by the City? |     |    |
| <b>D</b>   | Limit discharges of fats, oil, and grease?  |     |    |
| <b>E</b>   | Enforce any violation of its sewer ordinances?  |     |    |

| Element 4 – Operations and Maintenance                 |   | Yes | No |
|--|---|-----|----|
| <b>Collection System Maps</b>                          |   |     |    |
| <b>A</b>   | Does the SSMP reference the current process and procedures for maintaining the City's sanitary sewer system maps?   |     |    |
| <b>B</b>   | Are the City's sanitary sewer system maps complete, current, and sufficiently detailed?   |     |    |
| <b>Resources and Budget</b>                            |   |     |    |
| <b>C</b>   | Does the City allocate sufficient funds for the effective operations, maintenance, and repair of the sewer system and is the current budget structure documented in the SSMP?   |     |    |
| <b>Prioritized Preventative Maintenance</b>            |   |     |    |
| <b>D</b>   | Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewer lines?   |     |    |
| <b>E</b>   | Based upon the SSO information in CIWQS, are the City's preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?  |     |    |
| <b>Scheduled Inspections and Condition Assessments</b> |   |     |    |
| <b>F</b>   | Is there an ongoing condition assessment program sufficient to develop a capital improvement program addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP? |     |    |
| <b>Contingency Equipment and Replacement Inventory</b> |   |     |    |
| <b>G</b>   | Does the SSMP list the major equipment currently used in the operation and maintenance of the sanitary sewer system and document the procedures for inventory management?   |     |    |
| <b>H</b>   | Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?  |     |    |
| <b>Training</b>  |   |     |    |
| <b>I</b>   | Are the training records current?   |     |    |
| <b>J</b>   | Does the SSMP document current training within the City?  |     |    |

| <b>Element 5 – Design and Performance Standards</b>     |   | <b>Yes</b> | <b>No</b> |
|---|---|------------|-----------|
| <b>A</b>  | Does the SSMP contain current design and construction standards for the installation of new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems? |            |           |
| <b>B</b>  | Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?                        |            |           |
| <b>Element 6 – Overflow and Emergency Response Plan</b> |   | <b>Yes</b> | <b>No</b> |
| <b>A</b>  | Does the City’s Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of sanitary sewer overflows (SSOs)?   |            |           |
| <b>B</b>  | Are Public Works staff and contractor personnel trained on the procedures of the Overflow Emergency Response Plan?  |            |           |
| <b>C</b>  | Is the SSO procedure current?   |            |           |
| <b>D</b>  | Are the SSO External Reporting Requirements current?  |            |           |
| <b>E</b>  | Is the After Hours Information current and complete?  |            |           |
| <b>F</b>  | Is the Emergency Contact List for reporting SSOs current and complete?  |            |           |
| <b>G</b>  | Is the Overflow Emergency Response Plan effective in handling SSOs in order to protect public health and the environment?   |            |           |
| <b>Element 7 – Fats, Oils, and Grease (FOG) Program</b> |   | <b>Yes</b> | <b>No</b> |
| <b>A</b>  | Does the Fats, Oils, and Grease (FOG) Control Program include efforts to educate the public on the proper handling and disposal of FOG?   |            |           |
| <b>B</b>  | Does the City’s FOG Control Program identify sections of the sanitary sewer system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?                         |            |           |
| <b>C</b>  | Are requirements for grease removal devices, best management practices (BMP), record keeping, and reporting established in the City’s FOG Control Program?  |            |           |
| <b>D</b>  | Is the current FOG Control Program effective in   |            |           |

|   |   |            |           |
|---|---|------------|-----------|
|   | minimizing blockages of sewer lines resulting from discharges of FOG to the system?   |            |           |
| <b>Element 8 – System Evaluation and Capacity Assurance Plan</b>      |   | <b>Yes</b> | <b>No</b> |
| <b>A</b>  | Does the City’s Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short-term and long- term capacity enhancement and improvement projects?   |            |           |
| <b>B</b>  | Does the City’s capital improvement program (CIP) establish a schedule of completion dates for both short-term and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment? |            |           |
| <b>Element 9 – Monitoring, Measurement, and Program Modifications</b> |   | <b>Yes</b> | <b>No</b> |
| <b>A</b>  | Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?   |            |           |
| <b>B</b>  | Is the City able to evaluate the effectiveness of SSMP elements based on relevant information?  |            |           |
| <b>Element 10 – SSMP Audits</b>                                       |   | <b>Yes</b> | <b>No</b> |
| <b>A</b>  | Were the results of prior SSMP Audits recorded in a written report?   |            |           |
| <b>B</b>  | Were the actions recommended in the SSMP Audit report(s) implemented?   |            |           |
| <b>Element 11 – Communication Program</b>                             |   | <b>Yes</b> | <b>No</b> |
| <b>A</b>  | Does the City effectively communicate with the public and other agencies about the development and implementation of the SSMP and continue to address any feedback?   |            |           |



## **ELEMENT 11: Communication Program**

### ***SWRCB Waste Discharge Requirement:***

***The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its Sewer System Management Plan (SSMP). The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.***

***The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.***

This section highlights the communications and outreach plan developed for the City of San Jose's Sewer System Management Plan (SSMP).

The City of San Jose's primary "customers" are the residential, industrial, and commercial customers that connect to the sewers located within San José. In addition, six "satellite agencies" contribute flow to the City of San José sanitary sewer collection system. These contributing agencies are the City of Santa Clara, the City of Milpitas, West Valley Sanitation District, Cupertino Sanitary District, Burbank Sanitary District, and County Sanitation Districts 2 and 3.

### **11.1 Communications With and Outreach to Residential, Industrial, and Commercial Customers and the General Public**

The City of San José conducts extensive public outreach and education to residents and businesses related to sanitary sewer overflows, preventing grease blockages and Best Management Practices for handling of grease waste. In addition to providing information through neighborhood resource fairs and the City web site, information is also shared through social media posts through Facebook, Twitter, and NextDoor.

In areas where a sewer overflow is attributed to the buildup of fats, oil, or grease in the sewer pipes, the City canvasses the vicinity with door hanger type flyers notifying the neighbors of the event, reinforcing the message to avoid pouring these items down the drain and describing the continued negative impacts that putting grease down the drain may have on the sewer system. Both the annual mailer and the door hanger provide information in English, Spanish, and Vietnamese.

### **11.2 Communications With and Outreach to Land Developers, Consultant Engineers, Contractors**

The City has disseminated information, in meetings and/or by flyers, to land developers, consultant engineers, and plumbing contractors regarding the need and methods to reduce SSOs. The City has communicated and solicited input regarding the SSMP requirements with emphasis on design and construction practices that reduce SSOs.

The City is reviewing the need for updates to the existing Sewer Level of Service Policy adopted in 1982. There will be outreach effort to the development communities and City Council to discuss City's master plan effort, capacity issues, and SSMP requirements for capacity assurance, and recommended updates to the existing policy.

For the Sewer Connection Fee Study, the City will provide outreach to ratepayers, local

neighborhood associations and the development communities and City Council discuss proposed rate changes and impacts on capital programs with such changes.

Internally, the City will communicate within various departments, such as ESD, DPW, DOT, and Building and Code Enforcement regarding the overall SSMP, program audits, emergency response plan, FOG program, and design standards.

For the CIP, key stakeholders including engineering consultants and contractors may be included in the outreach efforts. Potential issues of interest include design standards, capital program, and consulting and contracting opportunities.

## Appendix A: Document Version Control

This Sewer System Management Plan (SSMP) is a living document that is anticipated to change over time. This version control sheet is intended to support the City's efforts to keep the copies of the SSMP that have been assigned to City Staff current. Please contact Jennifer Seguin prior to making copies for use by others, initiating changes, or for information regarding the current version of this document.

SSMP Copy Number: \_\_\_\_\_

This copy assigned to telephone \_\_\_\_\_ No. \_\_\_\_\_

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| <b>1. Goals</b>  | 12   | August 2008           | December 2019        |
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| <b>6. Overflow Emergency Response Plan</b>                   | 32   | August 2008           | December 2019        |
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| <b>8. System Evaluation and Capacity Assurance Plan</b>      | 59   | August 2008           | December 2019        |
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