SEWER SYSTEM MANAGEMENT PLAN
BURBANK SANITARY DISTRICT
OF SANTA CLARA COUNTY

Approved by Burbank Sanitary District Board of Directors on April 21, 2026

Submitted To:
State Water Resources Control Board

Submitted Date:
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Prepared For:
Burbank Sanitary District

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DOCUMENT VERSION CONTROL

This Sewer System Management Plan (SSMP) is a living document that will change over time. This version control sheet is intended to keep track of the copies of the SSMP that have been assigned to the District Staff. Please contact District Manager Please contact the District Manager at administrator@burbanksanitary.org or (408) 255-2137 prior to making copies for use by others, initiating changes, or for information regarding the current version of this document.

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SSMP Section	Original Version Certified Date	Previous Version Date	Current Version Date
1. Goals	January 2018	May 2021	May 2026
2. Organization	May 2020	May 2021	May 2026
3. Legal Authority	January 2018	May 2021	May 2026
4. O&M Program	January 2018	May 2021	May 2026
5. Design and Performance Provisions	January 2018	May 2021	May 2026
6. Overflow Emergency Response Plan	May 2020	May 2021	May 2026
7. Blockage Control Program			May 2026
8. System Evaluation and Capacity Assurance Plan	January 2018	May 2021	May 2026
9. Monitoring, Measurement, and Program Modifications	January 2018	May 2021	May 2026
10. SSMP Program Audit	May 2020	May 2021	May 2026
11. Communications Plan	January 2018	May 2021	May 2026

ELEMENT 1 – GOAL & INTRODUCTION

Requirements

The goal of the Sewer System Management Plan (Plan) is to provide a plan and schedule to:

- *Properly manage, operate, and maintain all parts of the wastewater collection system,*
- *Reduce and prevent spills,*
- *Contain and mitigate the impact of spills*

1.1 Regulatory Context

Requirements

The Plan Goal & Introduction section provides a general description of the Burbank Sanitary District's sewer system management program and discusses Plan implementation and updates.

Compliance

This Sewer System Management Plan (Plan) has been prepared to comply with the State Water Resources Control Board (SWRCB) Order 2006-0003: Statewide General Waste Discharge Requirements (WDR)[1] for Sanitary Sewer Systems, as revised by Order No. WQ 2022-0103-DWQ on December 6, 2022. The order became effective 180 days after the Adoption Date of the General Order, on June 5, 2023.

The Burbank Sanitary District's (District's) sewer system management program plays a crucial role in advancing the objectives outlined in the broader operational Plan. This program is dedicated to the comprehensive management, operation, and maintenance of all elements within the wastewater collection system, ensuring that each component functions optimally and sustainably.

A key focus of this initiative is the proactive reduction and prevention of spills, which can pose significant environmental and public health risks. To achieve this, the program employs a range of strategies designed to identify potential issues before they escalate into spills. These strategies include regular inspections, timely maintenance, and the implementation of advanced monitoring technologies that facilitate early detection of any anomalies within the system.

In addition to spill prevention, the program is also equipped with robust containment measures. Should a spill occur despite these precautions, the District is prepared to act swiftly to mitigate its impact. This encompasses immediate response protocols, which involve containment and cleanup efforts aimed at minimizing environmental damage and safeguarding community health.

Overall, the Burbank Sanitary District's sewer system management plan exemplifies commitment to excellence in wastewater management, balancing operational efficiency with environmental stewardship

[1] https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2006/wqo/wqo2006_0003.pdf

to protect both the community and the ecosystem. The WDR prohibits sanitary sewer spills (spills), requires reporting of spills using the statewide electronic reporting system, and requires the preparation of an SSMP. The revised WDR calls for changes to the format and content for Sewer System Management Plans. The last SSMP for Burbank Sanitary District was certified in May of 2021.

This Plan addresses all 11 SSMP elements required by the SWRCB and is organized following the SWRCB outline. All of the SWRCB requirements are addressed in each element. Each requirement is shown as stated in the WDR and the Bay Area Clean Water Agencies (BACWA) "Guide for Developing and Updating SSMP's"[2], July 2024.

The California Integrated Water Quality System (CIWQS) website provides a link to the required due dates for the SSMP Audits and SSMP certification for each sewer system in the State of California. The SSMP Audit for the District began in May 2025 and was certified and submitted to the SWRCB in November 2025. The audit identified gaps between the previous Plan and the requirements of the new WDR.

The District assembled a team of engineers and operators to develop the Plan. The team collaborated to document the District's processes and procedures to meet the requirements of the WDR. The SSMP team included Vani Kathula, Senior Sanitary Engineer, Robert Woodhouse, Deputy District Manager, Julie Almondia, Associate Sanitary Engineer, Rick Almondia, Lead Inspector, Derionne Dyous, Inspector, and Benjamin Porter, District Manager-Engineer. A workplan was developed to assign resources and create milestone dates for closing the gaps prior to the submittal of the revised Plan.

The current version of the Plan for the District will be submitted and certified in May 2026. Going forward, the plan will be updated every 6 years.

1.2 Sewer System Management Plan Update Schedule

Requirements

The Plan must include a schedule to update the Plan, including the schedule for conducting internal audits. The schedule must include milestones for the incorporation of activities that address the prevention of spills.

Compliance

The purpose of the SSMP is to provide guidance to the District in the operation, management and maintenance of its sewer collection system in order to comply with the SWRCB Order No. 2006-0003: Statewide General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems, as revised by Order No. WQ 2022-0103-DWQ on December 6, 2022. The District is charged with collecting sewage waste within its service boundaries and conveying it to the San Jose/Santa Clara Water Pollution Control Plant.

[2] https://bacwa.org/document/guide-for-developing-and-updating-ssmps-july-2024/guide-for-developing-and-updating-ssmps-july-2024-1/

The District's goal is to properly manage, operate, and maintain all parts of the wastewater collection system, reduce and prevent spills, and contain and mitigate the impact of spills.

The provisions of the SSMP were developed and updated to ensure that the District can meet its goals by:

- Implement a collection system maintenance program to minimize the frequency of sanitary sewer overflows.
- Respond to sanitary sewer overflows quickly and mitigate the impact of the Spill.
- Perform follow up investigations to identify the cause of the Spill and use that information to either adjust the maintenance schedule or schedule a repair/replacement.
- Properly manage, operate, and maintain all elements of the wastewater collection system to better allocate resources and manpower.
- Develop and maintain design construction standards and specifications for the installation and repair of the collection system and its associated infrastructure.
- Maintain comprehensive and up-to-date maps of the wastewater collection system.
- Coordinate with the City of San Jose and Santa Clara County to maintain storm water maps.
- Provide training on a regular basis for staff in collection system maintenance and operations.
- Encourage and support participation in the quarterly meetings with the neighboring collection system agencies and the partners to the wastewater treatment plant.
- Maintain Fats, Oils, and Grease (FOG) program to limit fats, oils, and grease, and other debris that may cause blockages in the sewage collection system.
- Develop and implement a condition assessment program for the collection system.

The District has implemented policies and procedures for the systematic inspection and continued maintenance of its infrastructure and engages contracted, competent, trained personnel to carry out the scheduled tasks.

Compliance Schedule

Self-audits have been completed by the District in 2017, 2019, and 2022. The most recent audit was completed in November 2025 when it was certified and submitted to the SWRCB in accordance with the schedule shown in CIWQS.

SSMPs have been completed by the District in 2012, 2016, and 2021. The current SSMP is being submitted and certified in May 2026 in accordance with the schedule shown in the WDR. The District will update and re-certify the Plan every 6 years, unless significant work, procedures, programs, audits and or organizational changes are made or significant changes to the system occur at which time the Plan will be updated. The SSMP Audit and SSMP dues dates are provided in Table 1:

Table 1: SSMP Audit and Compliance Timeline

Item	Date / Timeframe
SSMP Audit (Most Recent – Conducted)	May 2025 – November 2025
SSMP Audit (Submitted)	November 2, 2025
Next SSMP Audit Due	November 2, 2028
Current SSMP Due	May 2, 2026
Next SSMP Due	May 2, 2032

Spill Prevention Activities

Shown below are milestone dates for activities that will reduce the risk of spills in the District.

- Cleaning all the main line sewers and accessible lower lateral sewers every year.
- The Design of Phase 1A Lower Lateral Rehabilitation project began in September 2025 and was completed in November 2025.
- Construction of Phase 1A of the Lower Lateral rehabilitation project started in December 2025 and will be completed in January 2026.
- As part of Phase 1B of the project, inspection of the lower laterals will be done to evaluate for any structural issues. Phase 1B of the Lower Lateral rehabilitation project began in February 2026 and will be completed in August 2026.
- During Phase 1C of the project, laterals with major structural defects will be fixed. Construction of Phase 1C of the Lower Lateral rehabilitation project will begin in August 2026 and will be completed in December 2026.
- Phase 2A work includes CCTV of laterals with Cleanout Access. There are 176 locations with cleanouts. CCTV Inspection and Design of Phase 2A of the Lower Lateral rehabilitation project will begin in May 2026 and will be completed in August 2027.
- Phase 2B work includes fixing the laterals with major structural defects. Construction of Phase 2B of the Lower Lateral rehabilitation project will begin in September 2027 and end in January 2028.
- Phase 3 work includes condition assessment of 815 laterals with no cleanouts. Phase 3 of the project will begin in during FY 2028 – 2029.

These sewer system management plan milestones are being monitored and will be reported in the next SSMP audit in February 2028.

1.3 Sewer System Asset Overview

Requirements

The District's Plan must provide a description of the District's assets and service area including the following:

- *Location, including counties,*
- *Service area boundary,*
- *Population and communities served,*
- *System size including total length in miles, length of gravity mainlines, length of pressurized force mains, and number of lift stations and siphons.*
- *Data management systems, Sewer system ownership and operations responsibilities between the District and private entities for upper and lower laterals,*
- *Estimated number or percentage of residential, commercial, and industrial service connections*
- *Reference to the District's Arc-GIS Computerized Utility Mapping of the sewer system.*

Compliance

Burbank Sanitary District (BSD) is a separate governmental entity established as a special district of the State of California. BSD provides sewer collection services for unincorporated pockets within the City of San Jose. The District contracts with the San Jose-Santa Clara Regional Wastewater Facility for wastewater treatment and disposal. Additionally, BSD provides solid waste collection services through franchise agreements with private contractors.

BSD was established in 1940 to acquire, build, operate, and maintain a wastewater disposal system and provide solid waste collection services within an unincorporated area of Santa Clara County. The principal act that governs the District is the Sanitary District Act of 1923. The principal act empowers the District to acquire, plan, construct, reconstruct, alter, enlarge, lay, renew, replace, maintain, and operate all of the following: garbage dumpsites, garbage collection and disposal systems; sewers, drains, septic tanks, sewage collection, outfall, treatment works and other sanitary disposal systems; storm water drains, collection, outfall and disposal systems; and water recycling and distribution systems. BSD boundaries consist of two non-contiguous unincorporated areas that are surrounded by the City of San Jose and within San Jose's Urban Service Area (USA). The District's boundaries currently encompass 0.28 square miles.

The District is one of a number of stakeholder agencies within a local watershed area of Santa Clara County each accountable by permit to the State Water Resources Control Board under the Clean Water Act. These stakeholders include:

- San Jose/Santa Clara Regional Wastewater Facility, Department of Environmental Services
- Santa Clara Valley Water District

- City of San Jose, Department of Transportation and Public Works
- Santa Clara County Roads and Airports and Public Works Departments

Other stakeholders include the Santa Clara County Environmental Services Department and several privately organized environmental groups. The District provides wastewater collection services to its residential, commercial establishments, and institutional customers. Figure 1 below shows the map of the District's service area.

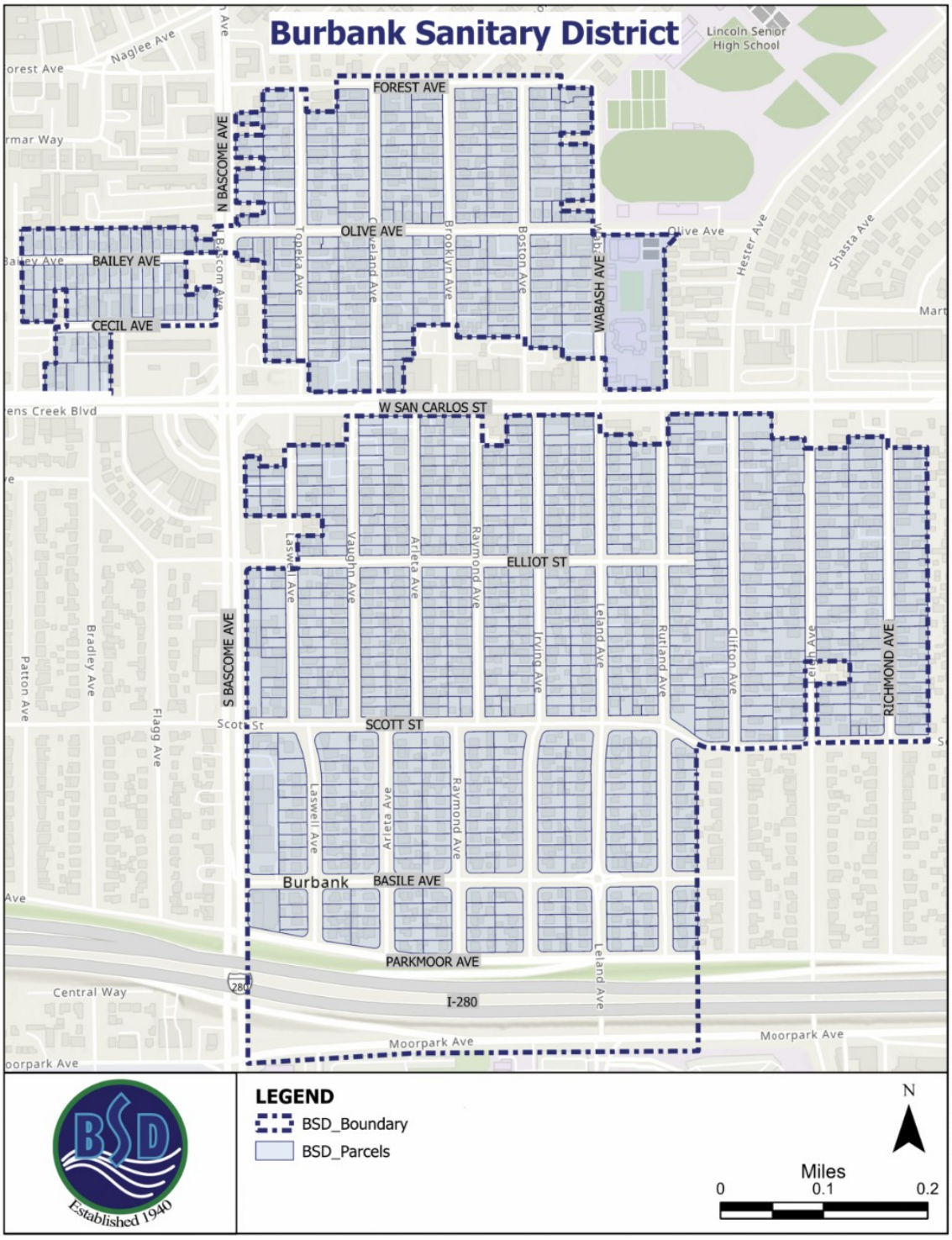


Figure 1: BSD Service Area Map

Population and Communities Served

Spanning approximately 0.28 square miles, the District provides sewage collection by serving over 3,756 residents across homes and businesses within an unincorporated area of Santa Clara County.

System Size

The District operates a comprehensive wastewater collection system to effectively serve the community. This system includes 6.65 miles of gravity mainlines for efficient wastewater transport. It also features 4.73 miles of lower laterals, connecting properties to the mainlines, which are vital for reliable wastewater conveyance.

Collected wastewater is conveyed to the San Jose/Santa Clara Regional Wastewater Facility, where it undergoes treatment to meet environmental standards before discharge or reuse, promoting public health and sustainability. Through this complex system, the District ensures safe, efficient wastewater collection and transport, minimizing environmental risks and maintaining high service standards for the community.

- Table 2 provides the length of sewer mains by pipe diameter.
- Table 3 provides the distribution of sewer laterals by size.

Table 2. BSD - Size and Distribution of Sewer Pipes by Diameter and Length

Pipe Diameter (inches)	Length (Number of Mainlines)	Total Length (Feet)	Total Length (Miles)	Percentage of System (By Length)
6	73	31,563	5.98	90 %
8	17	3,534	0.67	10 %
Totals	**90**	**35,097**	**6.65**	**100%**

Table 3: Size and Distribution of Sewer Lower Laterals

Pipe Diameter (inches)	Number of Lower Laterals	Total Length (Feet)	Total Length (Miles)	Percentage of System (By Length)
4	1001	2,4974.4	4.73	100%

Data Management Systems

Data Management

The District utilizes Microsoft Excel to plan, and schedule sewer inspection activities, to record completed work, track customer complaints, and sewer overflow activities and for managing and prioritizing the District's maintenance operations. This maintenance information is transferred to the

Arc-GIS[3] system. Operations staff are working with Microsoft Excel and GIS in both desktop and web-based applications.

- Sewer asset information (pipe locations, material, size, manhole locations) can be accessed through the GIS application. Gravity sewer cleaning is scheduled using Microsoft Excel. Completed work is documented in Microsoft Access.
- Engineering utilizes asset information to develop the Capital Improvement Plan CIP) and prioritize projects.
- Inspectors use Microsoft Excel to query the facilities that are due for inspections.
- Admin staff use Microsoft Excel to schedule Inspections.
- Operations staff use Microsoft Excel to track all fats, oils, and grease (FOG)-producing facilities. This data helps staff implement the appropriate source control measures, from public outreach in residential areas to the inspection and monitoring of FOG-producing facilities and their pretreatment devices.

Computerized Utility Mapping of The Sewer System (Arc-GIS)

The District's primary collection system mapping is a computerized geographical information system using the Arc-GIS Computerized Utility Mapping System which includes the following information:

- All Sewer Mains and Laterals within the District
- All Storm Drain pipes within the District
- The District's Boundary
- Manhole Designations
- County Assessor Maps
- As-Built Information
- Maintenance Records
- Waterways

The sewer system map can be accessed in PDF format through the District's website.

CCTV Inspection Database

The District uses GraniteNet[4] for CCTV inspection data and transfers the CCTV data, video, and photos logs into Microsoft Access software and keeps an up-to-date database that is readily accessible. The CCTV data is used to develop the District's maintenance, repair and replacement project.

[3] *https://www.esri.com/en-us/what-is-gis/overview*

[4] *GraniteNet is a web-based asset management system used to store, manage, and track CCTV inspection data for sewer mains and laterals, including condition assessments, defect coding, and inspection history*

Sewer Connections by Land Use

The District has 918 residential and 41 commercial service connections.

ELEMENT 2 – ORGANIZATION

Requirements

The Sewer System Management Plan (SSMP) must identify:

- *The name of the Legally Responsible Official as required by Section 5.1 of the General Order.*
- *The position titles, telephone numbers and email addresses for management, administrative, and maintenance positions that are responsible for implementing specific Sewer System Management Plan elements.*
- *Organizational lines of authority.*
- *The chain of communication for reporting spills, from receipt of a complaint or other information, including the person responsible for reporting spills to the State and Regional Water Board and other agencies, as applicable (such as County Health Officer, County Environmental Health Agency, and Cal State Office of Emergency Services).*

Compliance

Names of Legally Responsible Officials

The District's Authorized Representatives in all sanitary sewer system matters are Benjamin Porter (the District Manager-Engineer), Robert Woodhouse (Deputy District Manager) and Vani Kathula (Senior Sanitary Engineer). Benjamin Porter is the District's designated Legally Responsible Official (LRO) and is authorized to prepare electronic spill reports submitted to the SWRCB. The RWQCB requires the spill reports to be certified by an LRO. The District policy is to have a senior engineer review and determine that the spill report, audit, or Plan is "ready for certification." The District Manager then certifies the spill report, audit, and the SSMP for submittal to the SWRCB.

Position Titles/Contacts

Robert Woodhouse and Vani Kathula are responsible for interpreting all WDR requirements and leading the development of the system SSMP Audit and SSMP report. Frank Quach (Operations and Maintenance Manager) is responsible for reporting the spill to County Health and Cal Office of Emergency Services (OES). The District staff who responsible are shown in Table 4.

Benjamin Porter is responsible for certifying and implementing the SSMP.

Organization Lines of Authority

The Organization Chart shown in Figure 2 indicates the lines of authority for the management, operation and maintenance of the District's sewer collection system.

Table 4: District Staff and Contact Information

Name	Title	Phone	Email
Benjamin Porter	District Manager-Engineer	(408) 497-3933	bporter@markthomas.com
Robert Woodhouse	Deputy District Manager	(408) 315-1896	rwoodhouse@markthomas.com
Vani Kathula	Senior Sanitary Engineer	(408) 477-7320	vkathula@markthomas.com
Frank Quach	Operations and Maintenance Manager	(510) 299-0917	fquach@markthomas.com

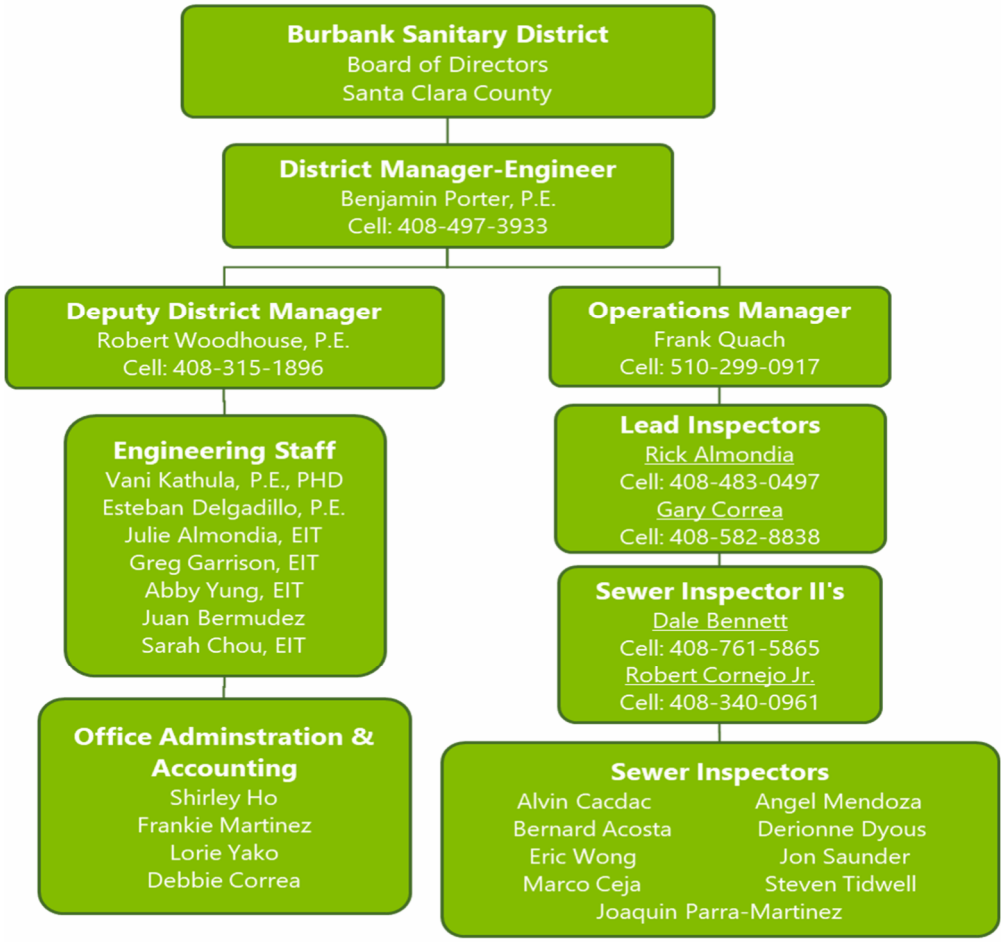


Figure 2: District Organization Chart

Chain of Communication for Reporting Spills

The District follows the following chain of communications for reporting spills.

- The District dispatches a First Responder to the location of the spill.
- The First Responder requests dispatch of the Response Crew to the spill location.
- The First Responder completes the Spill Report form.
- The Field Operation Supervisor or designated Senior Inspector reviews the Spill Report form for completeness and compliance with the reporting requirements of the WDR.
- Designated Senior Inspector forwards the completed Spill Report form to Vani Kathula, who designates an engineer (Data Submitter) to review the form and submit the draft spill report to the CIWQS database.
- Vani Kathula reviews the draft report and prepares it for certification.
- Benjamin Porter reviews the "ready-to-certify" report, certifies the report, and submits it to CIWQS.

The flow chart shown in Figure 3 provides the chain of communication for reporting spills that occur in the District.

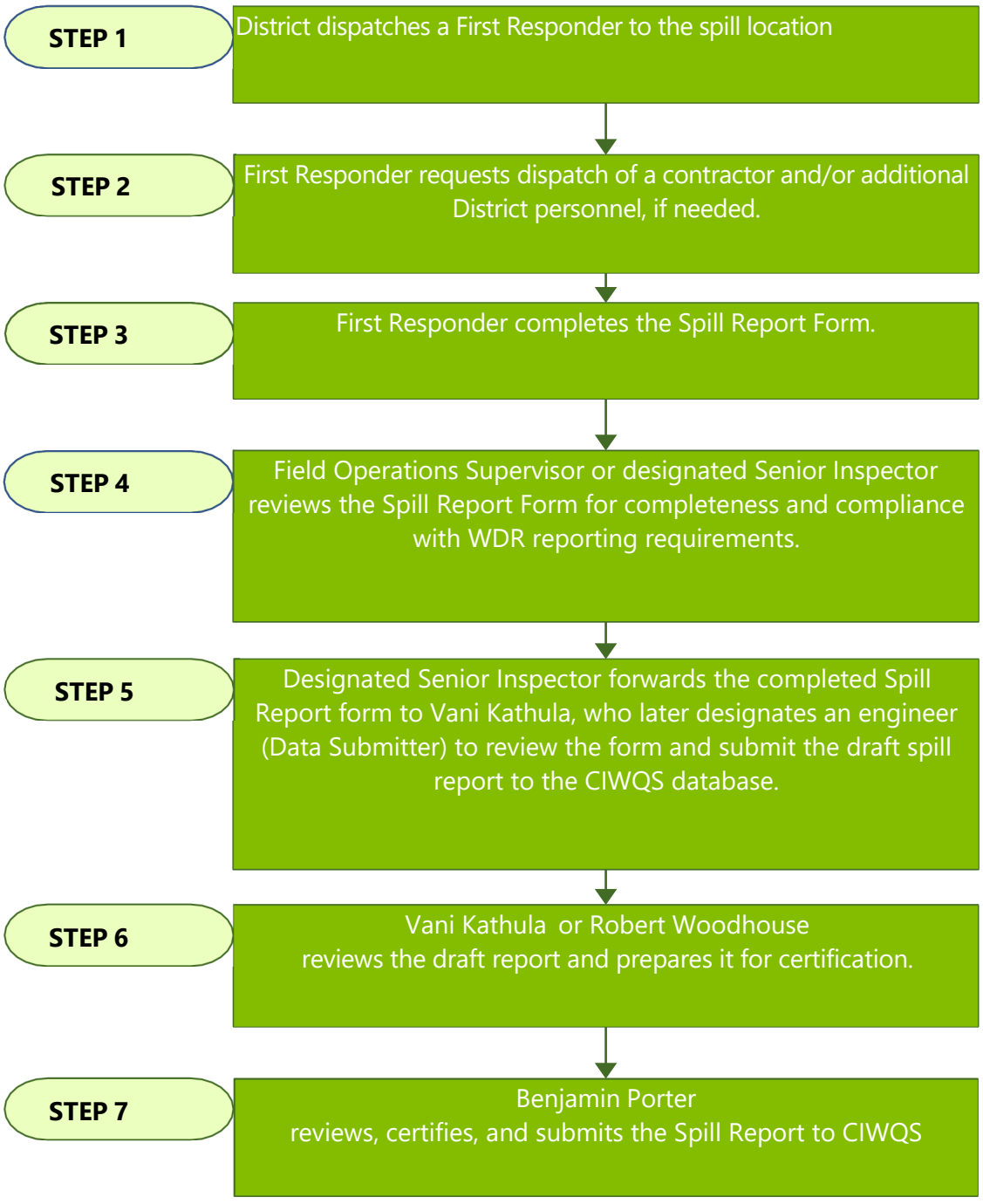


Figure 3: Chain of Communication for Reporting Spill

ELEMENT 3 – LEGAL AUTHORITY

Requirements

Each enrollee must provide an electronic link to the District's, current sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

1. *Prevent illegal Discharges into the District's sanitary sewer system including I/I, storm water, FOG, roots, and other debris that may cause blockages.*
2. *Collaborate with storm sewer agencies to coordinate spill response.*
3. *Require that new and rehabilitated sewers and connections are properly designed and constructed.*
4. *Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District*
5. *Require proper installation, inspection and testing of new and rehabilitated sewers and connections.*
6. *Enforce violations of sewer ordinances, service agreements, or other legally binding procedures.*
7. *Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance.*

Compliance

The District's Operations Code was updated in July 2019. The current version is available on the District's website: https://burbanksanitary.org/operation-code/. The Operations Code will be revised to incorporate all outstanding ordinances that were created since 2019 and the new ordinance that will address the legal authority requirements of the WDR. A new District ordinance will be created to address illegal discharges into the District sewer system and to ensure access for maintenance of the laterals that are owned by the District. The new Ordinance will be added to the website once it has been created and approved by the BSD Board of Directors.

Legal Authority

The powers of and the execution of Legal Authority provided by and through the governing body of the Burbank Sanitary District (District) and directed by the District Manager-Engineer, for sewer use, services, construction, permits and procedures are applicable to all industrial, business or residential entities and are cited in the District Ordinance No. 4, dated September 1941 and Ordinance No. 5, dated May 9, 1942 and as amended. The Legal Authority provided by and through the governing body of the District and directed by the District Manager-Engineer, for sewer use, services, construction, permits, and procedures are applicable to all industrial, business or residential entities.

The Operations code, Chapter 3, Organization, Section 3000, Legal Authority, will be revised to incorporate District Ordinances 4 and 5.

Enforcement

The foregoing procedures are established as a means of enforcement of the terms and conditions of the District Operations Code. The Government Code of the State of California, Health and Safety Code of the State of California, Code of Federal Regulations, City Health Department, County Health Department, Environmental Protection Agency, Civil Code of the State of California, County of Santa Clara, NPDES, and Plumbing Codes are referenced within the District's Operations Code.

The primary responsibility for enforcing the provisions of this Code lies with the District Manager-Engineer or their designated agents, such as field inspectors or the District Engineering. These individuals are empowered to inspect properties, identify violations, and issue notices for any non-compliance with the Code's requirements.

The District Manager-Engineer serves as the central authority overseeing the enforcement of this Code. However, the Manager-Engineer can delegate this enforcement responsibility to various field inspectors and District Engineering staff. These authorized agents have the necessary powers to conduct inspections, document any violations, and issue formal notices to property owners or responsible parties when the Code's provisions are not being upheld.

This centralized enforcement approach, with the District Manager-Engineer at the helm and a network of field inspectors and District Engineering staff carrying out inspections and issuing notices, ensures comprehensive oversight and application of the Code's requirements across the District's jurisdiction.

The following regulations and codes are established as a means of enforcement of the terms and conditions of this Code or any other ordinances, rules and regulations, and not as a penalty.

- The Government Code of the State of California,
- Health and Safety Code of the State of California,
- Code of Federal Regulations,
- Civil Code of the State of California,
- National Pollutant Discharge Elimination System (NPDES),
- 2025 California Plumbing Codes
- California Code of Regulations

The following procedures are established as a means of enforcement of the terms and conditions of the District Operations Code. The Government Code of the State of California, Health and Safety Code of the State of California, Code of Federal Regulations, Department of Environmental Health, County Department of Environmental health, Consumer and Environmental Protection Agency, Civil Code of the State of California, County of Santa Clara, NPDES, California Plumbing and Electrical Codes are referenced within the District's Operations Code.

The primary responsibility for enforcement of the provisions of the District Operations Code is vested in the District Manager-Engineer or designee and the San Jose-Santa Clara Regional Wastewater Facility

authorized to act on behalf of the District Manager-Engineer, having the power to inspect and issue notices for violations.

ELEMENT 4 – OPERATIONS & MAINTENANCE

Requirements

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

- ***Updated Map of Sewer System:*** *Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes, and applicable neighboring stormwater conveyance facilities.*
- ***Preventive Operations and Maintenance Activities:*** *Describe preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventive Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders.*
- ***Training:*** *Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and hire competent contractors that have training and experience maintaining sewers; and*
- ***Equipment Inventory:*** *Provide equipment and replacement part inventories, including identification of critical replacement parts.*

4.1 Updated Map of Sewer System

Requirements

The Plan needs to describe the District's up-to-date sewer system maps, and procedures for maintaining and providing State and Regional Water Board staff access to the maps. The maps must include current infrastructure assets owned and operated by the District (gravity mains and manholes) and stormwater conveyance systems. The Plan needs to provide details for pipes such as pipe diameter and direction of flow, a legend for map symbol clarity, and maps of stormwater conveyance systems and drinking water intakes facilities within your service area.

Compliance

Updated Map of the Sewer System

The District provides wastewater collection services to its residential, commercial establishments, and institutional customers. The District's collection system mapping is a computerized geographical information system using the Arc-GIS Computerized Utility Mapping System which includes the following required information:

- Gravity Sewer Mains
- Manholes
- Lower laterals

- Stormwater conveyance systems
- Details for pipes including diameter and direction of flow
- District Boundary
- A legend that provides map symbol clarity

The District utilizes a Trimble R2 GPS Receiver and a TDC 600 smartphone device to Geo-locate and map sewer assets. The Trimble R2 GPS Receiver allows the District to Geo-locate sewer assets up to sub inch accuracy in ideal conditions. The sewer assets are positionally updated and integrated with the District MS Access and Arc-GIS System, and can import and store the District GIS data, assets and attributes

Figure 4 shows the map of the District's boundary showing its service area and the sewer mains.

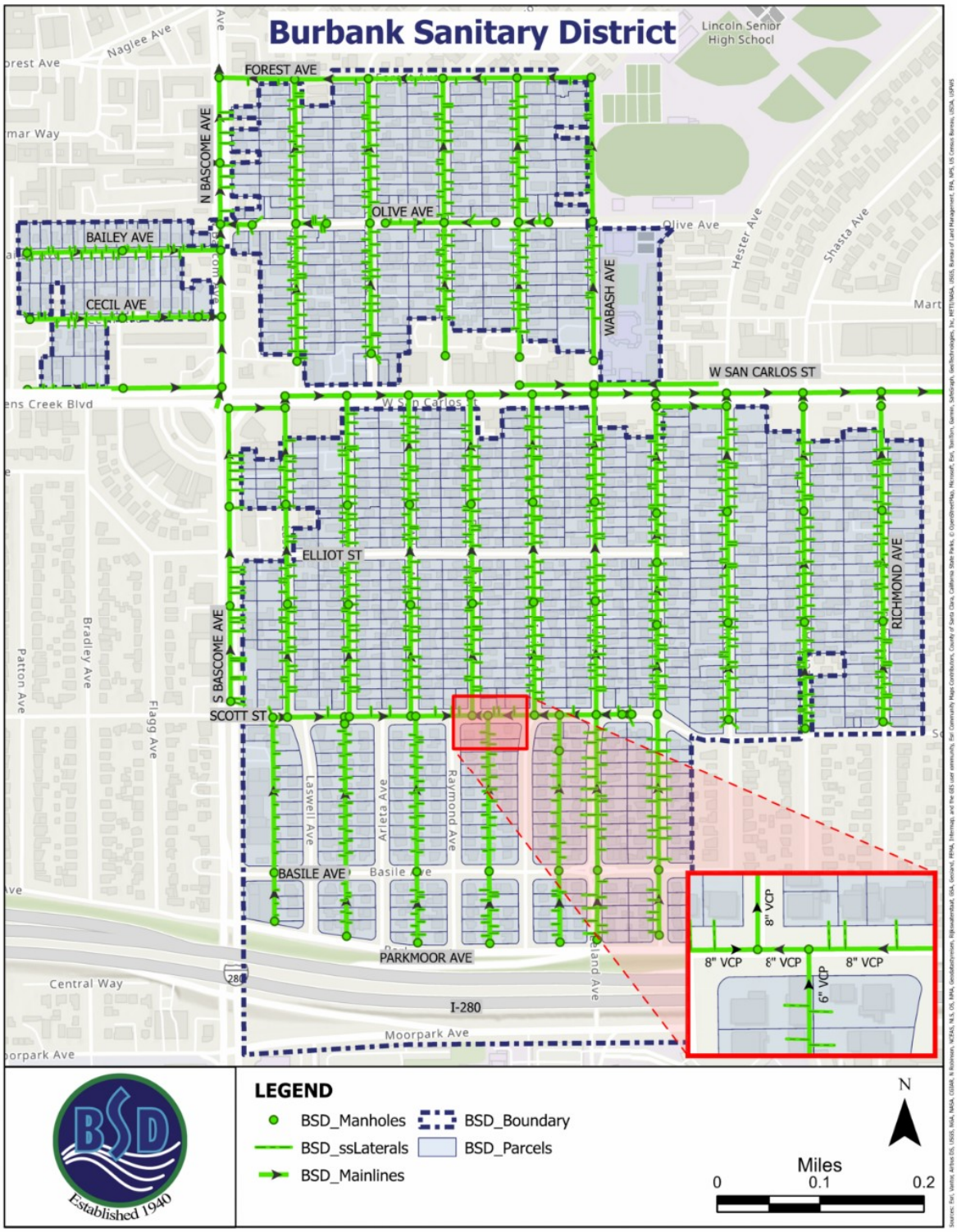


Figure 4: BSD Sewer System GIS Map

Storm Sewer Maps

The Santa Clara County Roads and Airports Division also utilizes Arc-GIS for the storm sewer base map for the area served by the District. The GIS file of the Santa Clara County stormwater facilities have been added to the District's GIS maps of the sewer system.

Figure 5 provides a map with the District Sewer Service Sub-Area Map with Sewers and Storm Drains for a sub-area of the District. This map provides an example of the detailed mapping of the Storm Sewers and Sanitary Sewers with direction of flow and pipe sizes shown in accordance with the requirements of the WDR.

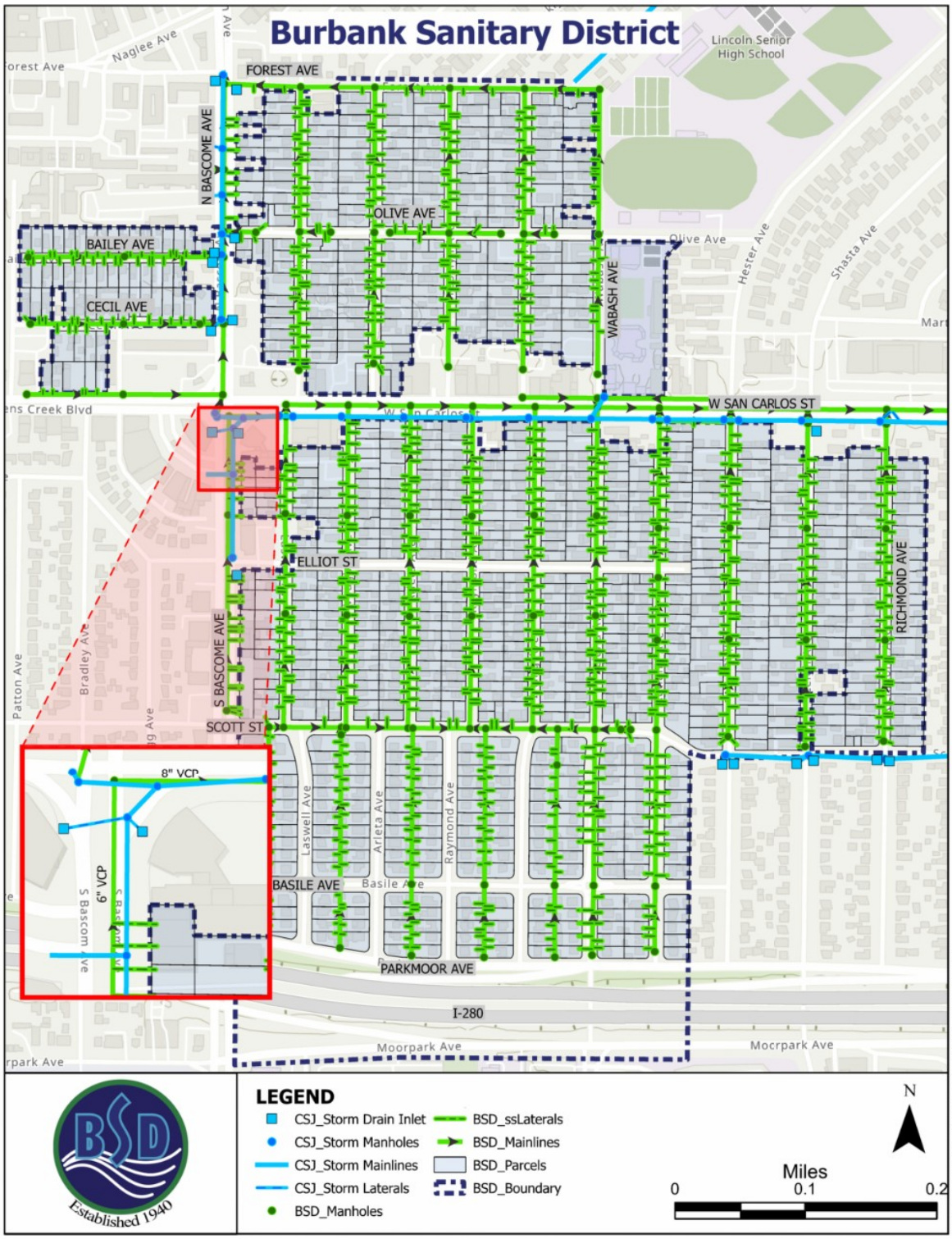


Figure 5: District Sewer Service Sub-Area Map with Sewers and Storm Drains

4.2 Preventive Operation & Maintenance Activities

Requirements

A scheduling system and a data collection system for preventative operation and maintenance activities conducted by enrollee's staff and contractors. The scheduling system must include:

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

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

Compliance

The District has implemented policies and procedures for the systematic inspection and continued maintenance of its infrastructure and engages contracted, competent, trained personnel to carry out the scheduled tasks.

The major elements of the District's Operation and Maintenance Program are:

1. Cleaning Program – Main Lines and Lower Laterals
2. Pipeline Inspection Program
3. Manhole Inspection Program
4. Pipe Repair Program
5. Root Control
6. FOG Control

Cleaning Program – Main Lines

The District follows annual cleaning schedules included in its maintenance program for all mainlines and laterals to take care of the maintenance and operational needs of the system. This maintenance program provides the required level of service for the District's assets. The goal of the District's Routine Maintenance Schedule is to clean all sewer mains every year.

System-wide cleaning is scheduled by zones utilizing Arc-GIS, and Microsoft Excel as the management tools. All completed sewer cleaning is recorded in the District Arc-GIS database. Work orders are generated for maintenance operation; and scheduling is developed using the database information. The primary functions of the District's MS Excel data recording systems are:

- Maintain service request and maintenance history information for each individual collection system asset.
- Provide documentation for use in regulatory compliance reporting.
- Indicate line segment or structures that may be candidates for replacement or rehabilitation under the capital improvement program.

District staff schedule annual cleaning for the sewer mains.

Cleaning Program – Lower Laterals

A District ordinance allows for servicing lower laterals for properties that have an accessible property line cleanout in compliance with District standards (176 out of 1001 laterals). The District perform lateral maintenance on 17.6% of laterals on an annual basis for the majority of laterals with a property line cleanout.

Implementation

Pipeline Inspection Program

The District has established a mainline CCTV inspection schedule that ensures all sewer mains undergo CCTV inspections every year. District staff are certified by the National Association of Sewer Service Companies (NASSCO) and conduct the assessments according to NASSCO standards. The data from these CCTV inspections is used to prioritize future cleaning and inspection tasks. Once the pipeline has been repaired or replaced, the cleaning maintenance frequency for the pipe segment returns to its regular cycle. The repair or replacement details are updated in the District's MS Excel files.

Pipe Repair Program

Maintenance activities are overseen by the District staff and findings of the existing condition of sewer mains are logged and evaluated based on the priority of needed service or repair. Maintenance services range from increased frequency of cleaning to video inspection to determine extent of needed spot repairs or eventual replacement of a significant section of sewer main if the defects are impacting the level of service. Mains found to be significantly in disrepair or undersized are placed on a prioritized list on the District's Capital Improvement Program to be rehabilitated by pipe lining, or replacement by pipe-bursting or open-cut construction to increase capacity, eliminate sources of inflow and infiltration (I & I) and/or improve the reliability of the system.

Root Control

Mainlines and Lateral Sewer systems with a history of root intrusion are maintained using high-pressure rodding machine with one of the following nozzles: Chisel, pipe wolf, root cutter, or warthog.

Grease Control

The District works closely with the County of Santa Clara Environmental Health Department in the implementation of the Fats, Oils, and Grease (FOG) reduction program by educating food establishments on Best Management Practices. FOG inspection is done annually.

4.3 Training

Requirements

In-house and external training provided on a regular basis for sanitary sewer system operations and maintenance staff and contractors. The training must cover the requirements of this General Order; the Enrollee's Spill Emergency Response Plan procedures and practice drills, skilled estimation of spill volume for field operators, and electronic CIWQS reporting procedures for staff submitting data."

Implementation

Suggested training program outlines:

- *Spill Response Personnel:*
  - *General Reissued WDR overview*
  - *Spill Emergency Response Plan, including:*
    - *Methods and strategies for estimating spill volume and volume recovered.*
    - *Methods and strategies for estimating spill start time and end time.*
    - *Drills, to simulate spill response activities (including training for service providers; some agencies require service providers to be trained as part of their contracting process).*
    - *Pertinent definitions (see Reissued WDR, Attachment A)*
    - *Spill categories.*
    - *Notification requirements (Cal-OES).*
    - *Monitoring requirements for spill location and spread and receiving water.*
    - *Spill response documentation, including photo documentation.*
- *Data Submitters:*
  - *General Reissued WDR overview.*
  - *Attachment E1 – Notification, Monitoring, Reporting and Recordkeeping.*
  - *Reporting timelines*
  - *Data Entry for California Integrated Water Quality System (CIWQS)*
- *Legally Responsible Officials (LROs)*

- *General Reissued WDR, with focus on:*
- *Prohibitions*
- *Specifications*
- *Attachment A1 of Reissued WDR – Definitions*
- *Attachment D1 of Reissued WDR – Sewer System Management Plan (Sewer System Management Plan)*
  - *With attention on Spill Emergency Response Plan*
- *Attachment E1 of Reissued WDR – Notification, Monitoring, Reporting and Recordkeeping.*
- *Data Entry for California Integrated Water Quality System (CIWQS)*

Compliance

The District provides comprehensive training for its Spill Response Personnel, Data Submitters, and Legally Responsible Official (LRO) through a combination of on-the-job training, standard operating procedures, in-person and online training webinars, conferences, and certification courses with exams. Training resources, as detailed in Table 5, include the DKF Solutions Group Training Program, technical seminars hosted by the California Water Environment Association (CWEA), and National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP), Lateral Assessment Certification Program (LACP), and Manhole Assessment Certification Program (MACP). These programs provide online and live training sessions covering pipeline, lateral, and manhole condition assessments to determine whether infrastructure is in good condition or requires replacement.

The CWEA Technical Certification Program offers wastewater professionals certifications in various disciplines to enhance their knowledge and effectiveness. The District encourages its maintenance staff to obtain CWEA certification to demonstrate their competency in collection system maintenance. To reinforce the importance of certification established specific grade-level certification requirements for career advancement. Currently, five of the District's thirteen inspectors hold a CWEA Grade certification, and all thirteen are members of CWEA.

Table 5: BSD Training Program

Training	Spill Response Personnel	Data Submitters	LRO
DKF Self-Directed Training Modules			
Accident Prevention Signs and Tags	X	X	
Transite Pipe (Asbestos) Initial Training	X	X	
Transite Pipe (Asbestos) Refresher Training	X	X	
Back Safety	X	X	

Training	Spill Response Personnel	Data Submitters	LRO
DKF Self-Directed Training Modules			
Bloodborne Pathogens	X		
Confined Space-Entrant/Attendant	X		
Confined Space Non-Entry Rescue	X		
Confined Space Entry – Supervisor Training	X		
Electrical Safety	X	X	
Emergency Action Plan	X	X	
Evacuation Drill	X	X	
Ergonomics	X		
Excavation – Competent Person	X	X	
Fall Protection – Authorized Person	X	X	
Fire Extinguisher Training	X	X	
Fire Prevention	X	X	
First Aid/CPR/AED	X	X	
Flagging/Traffic Control	X	X	
Hazard Communication	X	X	
Hazardous Waste Management	X	X	
Hearing Conservation	X		
Heat Illness (outdoor)	X		
Injury and Illness Prevention Program	X	X	
Lockout/Tagout Training For Authorized Employees	X		
Lockout-Tagout Program Review and Auth EE Competency Checks	X		
Non-Mobile Cranes and Hoists	X		
Outdoor Safety (Bites, Stings, Poison Oak)	X		
Personal Protective Equipment	X		
Pesticide Handling	X	X	
Portable Ladder Safety	X		
Sewer Spills and Backups	X	X	
Silica Hazard Awareness	X	X	
Underground Marking & Locating	X		
Workplace Violence	X	X	
NASSCO Training			
Pipeline Assessment Certification Program (PACP), Lateral Assessment Certification Program (LACP) and Manhole Assessment Certification Program (MACP)	X	X	X
California Water Environment Association (CWEA) Certification Program			
Collection System Maintenance Certification Grade 1-Entry Level	X		
Collection System Maintenance Certification Grade 2-Journey	X		

Training	Spill Response Personnel	Data Submitters	LRO
DKF Self-Directed Training Modules			
Collection System Maintenance Certification Grade 3-Lead	X		
Collection System Maintenance Certification Grade 4-Manager	X		

To ensure spill response personnel are well-prepared for emergency situations, the District provides Spill and Backup Response Training. New employees participate in a shadowing program where they accompany experienced staff members when responding to backup calls during work hours. Additionally, all personnel receive copies of Standard Operating Procedures (SOPs) for operations and maintenance tasks to ensure adherence to best practices.

The District's Data Submitter staff play a crucial role in supporting spill response efforts by handling key responsibilities related to notification, monitoring, reporting, and recordkeeping. Their work ensures that all regulatory requirements are met efficiently and accurately.

- Notification & Reporting Timelines: Data submitters ensure that all spill incidents are reported within the required regulatory timeframes. They collaborate with field inspectors to compile and verify critical spill response details before submitting reports to the appropriate agencies. This includes ensuring that notifications to the California Office of Emergency Services (Cal-OES) and other regulatory bodies are made promptly and that all follow-up reports adhere to strict deadlines.
- Monitoring & Data Collection: Data submitters assist in monitoring spill locations by reviewing field reports, tracking spill spread, and ensuring compliance with the Reissued Waste Discharge Requirements (WDR). They also help maintain accurate records of response activities, ensuring that information is properly documented and readily available for audits or regulatory reviews.
- Data Entry & CIWQS Compliance: One of the primary responsibilities of data submitters is accurately entering spill-related data into the California Integrated Water Quality System (CIWQS), the state's regulatory reporting database. This includes recording spill volumes, start and end times, recovery efforts, and mitigation measures taken. Proper data entry is essential for compliance with state regulations and helps maintain transparency in spill response activities.
- Recordkeeping & Documentation: In addition to data entry, data submitters ensure that all required documentation—such as spill response logs, monitoring reports, photo documentation, and regulatory notifications—are organized and archived properly. They assist in preparing summary reports and compiling historical spill data to support regulatory compliance, performance tracking, and process improvements.

By working closely with spill response personnel, data submitter staff help maintain the accuracy, timeliness, and compliance of the District's reporting and recordkeeping efforts. Their role is essential in

ensuring that all spill incidents are documented, reported, and monitored effectively, contributing to the overall success of the District's spill response and environmental protection initiatives.

The District's Legally Responsible Official (LRO) ensures compliance with state regulations by overseeing key aspects of Notification, Monitoring, Reporting, and Recordkeeping. Their responsibilities focus on regulatory adherence, proper data management, and maintaining accurate documentation to support the District's sewer system operations.

- General Reissued Waste Discharge Requirements (WDR) Compliance: LROs are responsible for understanding and enforcing the General Reissued WDR, with a particular focus on:
    - *Prohibitions:* Ensuring that all sewer system operations comply with state-mandated restrictions to prevent unauthorized discharges.
    - *Specifications:* Overseeing compliance with the technical and operational requirements outlined in the WDR.
    - *Attachment A1 – Definitions:* Maintaining familiarity with key regulatory terms to ensure accurate classification and reporting.
- SSMP Oversight (Attachment D1): LROs ensure that the Sewer System Management Plan is properly implemented and maintained. A significant aspect of this involves overseeing the Spill Emergency Response Plan to ensure preparedness and compliance in the event of a spill.
- Notification, Monitoring, Reporting, and Recordkeeping (Attachment E1): LROs are directly responsible for ensuring that all reporting and monitoring activities comply with Attachment E1 of the WDR. This includes verifying that spills are properly documented, monitoring protocols are followed, and all required records are maintained for regulatory review.
- Data Entry & CIWQS Compliance: LROs oversee the accurate and timely submission of data into the California Integrated Water Quality System (CIWQS), ensuring that all required spill reports, monitoring data, and compliance records are properly logged and submitted to regulatory agencies.

Through their oversight and enforcement of these requirements, LROs help maintain the District's regulatory compliance, environmental responsibility, and operational efficiency in wastewater management.

4.4 Equipment Inventory

Requirements

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

Implementation

Guidance 4.4.2: To facilitate implementation, an agency can consider the following:

- *Develop an equipment inventory including all equipment used for maintenance, inspections, and emergency response procedures. This can be done utilizing a database, spreadsheet, or paper form.*
- *A critical spare part can be defined as anything that will shut down equipment or processes if it fails. Critical spare parts are a key component to an inventory that will reduce the impact of failure.*
  - *EXAMPLES: transducers, floats or other control switches for lift stations, radio, or power supplies for SCADA systems, fuses, and relays, pipe, and fittings for quick responses to gravity and force main failure, spare pump(s), including any specialty tool that equipment or process relies on.*
- *When developing this list, consider any emergency response equipment that is relied upon, such as:*
  - *Emergency response (e.g., bypass pump, portable generator, etc.), including providing appropriate contact number(s) if relying on mutual aid assistance from other agencies or outside contractors.*
  - *Critical spare parts should be clearly labeled, and personnel should be aware of their location and have access to facilitate a timely response.*

Compliance

Maintenance Equipment

The District Sewer System is operated and maintained by Mark Thomas Consultants with assistance by sewer maintenance contractors. The District, Mark Thomas and the sewer contractors own the equipment that is used to maintain the sewer system. The District outsources the cleaning of all sewer mainlines and laterals. The following equipment owned by Mark Thomas is used for smaller jobs such as unblocking sewer lateral blockages.

- Sonde hand rods, blow bags and plungers for unblocking obstructions within the lower sewer laterals. Sewer Mainline inspections are performed by Mark Thomas's CCTV truck.
- CCTV inspection of mainline sewers - The District uses a Computerized OZ III Built-In Sonde Camera from (Q CUES) with a self-leveling head that pans, tilts, and rotates for easy identification of defects along junctions and around manholes. A CCTV operator operates the camera, codes defects, observed and provides a structural rating for each segment using NASSCO PACP standards.
- CCTV inspection of lower laterals is conducted using lateral CCTV cameras from Vivax and Rigid.

ELEMENT 5 – DESIGN & PERFORMANCE STANDARDS

5.1 Updated Design Criteria & Construction Standards

Requirements

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

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

Compliance

Guidance 5.1.1: To comply with this requirement, an agency should consider ensuring:

- Confirm the agency has design standards and specifications.
- Periodically review existing agency design criteria, and construction standards and specifications to ensure the industry's best practices are considered.
- Confirm design standards address hydraulic capacity for both pipes and lift stations.

Design Guidelines

The District follows the Guidelines of our District Ordinances, District Standard Details, District Specifications, City and County Standards and Specifications and Caltrans methodologies to establish minimum standards for construction of public sanitary sewers. These documents provide a framework for ensuring that projects are executed with consistency, safety, and compliance with regulatory requirements.

The District has developed a set of procedures to apply to projects. These procedures are designed to promote communication, coordination, and collaboration among the Design Engineers, the District Inspectors, and the District Board of Directors. All parties are involved in the design and review process, ensuring that project goals are clearly defined and successfully achieved.

Design Stages

1. Preliminary Engineering is the foundational step in the design process. It involves assessing the feasibility of a project and evaluating different alternatives to determine the most effective solution. Key activities during this stage include:
    - Feasibility and Alternatives Analysis: Evaluating multiple options for the project to identify the best approach.

- Planning, Scheduling, and Budgeting: Establishing timelines and budgets that align with project goals and constraints.
- Requests for Services/Information: Engaging with utility companies to obtain necessary data on existing infrastructure.
- Material Testing: Conducting tests to ensure materials meet project specifications and standards.
- In-house Surveying: Collaborating with the Mark Thomas Surveying Department for surveying services that ensure accurate measurements for design.
- Hydraulic Analysis: Ensuring the sewer system can meet capacity and flow requirements.
- Preliminary Design: Creating initial designs that reflect engineering best practices.
- Environmental Clearances: Submitting applications for environmental exemptions, negative declarations, or Environmental Impact Reports (EIR) as required.

This phase ensures the project is feasible, technically sound, and aligned with both environmental regulations and the District's overall infrastructure strategy.

2. Initial Design and Plan Check Distribution Once the preliminary engineering work is completed, the initial design is distributed for review. This step ensures that all stakeholders, including utility companies, impacted agencies, and other relevant departments, can provide feedback. Key actions include:
    - Plan Distribution: Sharing design documents with utility companies, public works departments, and other impacted agencies.
    - Material Testing Lab Involvement: Ensuring materials are tested and certified to meet the required specifications.
    - Survey and Public Works Departments: Collaborating with City departments to ensure that the project integrates with existing infrastructure and complies with local standards.

    This phase is critical for identifying and addressing potential conflicts early in the process, ensuring smooth coordination across multiple agencies.
3. Final Design The final design stage involves refining the initial designs and preparing the project for construction. Key tasks include:
    - Property Acquisition: Securing any land or easements required for the project.
    - Preparation of Installer's Agreements: Drafting agreements that outline the responsibilities of the contractor or installer.
    - Insurance Specifications: Ensuring contractors provide the necessary insurance to cover project risks.
    - Encroachment Permits: Obtaining the required permits for work that affects public roads, utilities, or other public spaces.

- Construction Quantities and Cost Estimates: Finalizing detailed construction plans and developing accurate cost estimates to ensure the project stays within budget.
- Preparation of Final Plans and Specifications: Completing the detailed plans that guide the construction phase.
- Final Review and Approval: Ensuring that all design documents meet the required standards and obtaining approval from relevant authorities.
- Bid and Award: Finalizing bidding documents and awarding contracts to qualified contractors based on competitive bids.

This phase ensures that the project is fully compliant with regulations, accurately budgeted, and ready for construction, with all necessary legal and logistical arrangements in place.

By adhering to these design guidelines and procedures, the District ensures that all sanitary sewer projects are designed, reviewed, and constructed with the highest level of care and precision. Each stage—from preliminary engineering to final design and construction—ensures thorough planning, stakeholder involvement, and regulatory compliance, leading to long-term infrastructure success.

Engineering Analysis

A comprehensive engineering analysis is needed during the design process to consider several critical factors that ensure the effectiveness, durability, and feasibility of the pipeline rehabilitation. These factors include:

1. Pipe Size, Length, and Depth
   - Pipe Size: It is crucial to determine the pipe diameter to meet the system's capacity and flow requirements. Incorrect sizing could lead to inefficiencies, blockages, and backups.
   - Pipe Length: The total pipeline length influences material selection, installation time, and cost. Accurate measurements are critical to ensure the system can meet operational demands.
   - Pipe Depth: Pipeline depth impacts construction methods, access points, and equipment selection. Deeper pipes may require advanced trenchless technology or excavation strategies to maintain safety and avoid disruptions.
2. Existing Pipe Condition
   - Condition Assessment: A thorough inspection of the existing pipeline is essential. It identifies structural weaknesses, leaks, and corrosion that may affect rehabilitation choices. The pipe's current state determines whether replacement, repair, or lining is needed.
3. Capacity Requirement
   - Flow Capacity: The pipeline must be designed to handle expected flow volumes, accounting for future growth. Under sizing could lead to overflows, while oversizing increases costs. Hydraulic analysis helps determine the optimal pipe size.
4. Access Conditions

- Accessibility: Pipeline accessibility affects both construction and maintenance. Restricted access areas, such as densely populated urban zones or remote locations, may require specialized technologies to minimize disruption.

5. Right-of-Way Requirements
   - Property and Legal Considerations: The pipeline may pass through public or private property, necessitating right-of-way agreements. Ensuring permissions are in place avoids legal delays during construction. ROW constraints may also affect pipeline placement and alignment.
6. Soil Condition and Cover
   - Soil Type and Stability: Soil conditions in the project area influence construction methods, equipment, and materials. Unstable soils may require reinforcement or alternative installation techniques like trenchless technology.
   - Cover: Adequate soil cover protects the pipeline from external loads, such as traffic, ensuring its longevity and reducing the risk of damage.
7. Groundwater Conditions
   - Groundwater Levels: High groundwater levels complicate excavation and installation, increasing the risk of water ingress and instability. Dewatering methods may be needed to protect pipeline integrity.
8. Project Locations
   - Geographical and Site-Specific Factors: The project's location affects material choice, construction techniques, and scheduling. Urban, rural, or complex topography each pose unique challenges that must be addressed in the design phase.
9. Traffic Conditions
   - Impact on Traffic Flow: Projects near roads or heavily trafficked areas must consider vehicular and pedestrian movement. Phased construction or trenchless methods can minimize disruptions and improve public relations.
10. Environmental Impacts
    - Sustainability and Environmental Regulations: Compliance with environmental laws on water protection, air quality, and wildlife preservation is essential. Construction methods should minimize environmental disruption, such as avoiding unnecessary tree removal, soil contamination, or ecosystem damage.

Each of these factors must be thoroughly evaluated during the engineering design phase to ensure the pipeline rehabilitation project is feasible, cost-effective, and compliant with all relevant standards. This analysis is essential for delivering a system that meets both present and future demands, while minimizing risks and maximizing operational efficiency.

Preferred Approach to Pipeline Repairs

1. Open Trench Spot Repairs: Is the standard method used for pipeline rehabilitation and replacement. This technique involves excavating the ground to access the damaged pipeline directly, allowing for the removal, repair, or replacement of specific sections. Given its long-standing reliability, open trench repair remains a primary choice for addressing pipeline issues in the District. However, like all rehabilitation techniques, this method must adhere to the same

rigorous design standards and regulatory requirements as other advanced alternatives, ensuring that it is both effective and sustainable in the long term.

A. Application: The open trench method is used when there is a need for direct access to the damaged section of the pipe, making it ideal for spot repairs where a portion of the pipe has failed. This technique is especially effective when:

- The pipe is shallow and easily accessible.
- The existing pipe is severely damaged (pipes that are collapsed and have large offsets at pipe joints) and require removal and replacement.
- The surrounding soil is stable, reducing the risk of trench collapse or excessive groundwater intrusion.

This method is widely used in areas where surface disruption is acceptable, such as open spaces, less populated areas, or during planned construction that allows for road closures or traffic redirection.

B. Advantages

- Direct Access and Visibility: The open trench method allows engineers and contractors to visually inspect and directly access the damaged section of the pipe. This provides a clear view of the problem and ensures the repair is completed with precision.
- Effective for Severe Damage: In cases where the pipeline is severely deteriorated, corroded, or collapsed, open trench repairs offer a reliable way to remove and replace the damaged sections. This method is particularly advantageous when minor rehabilitation techniques, such as lining, are insufficient.
- Versatility: Open trench repairs can accommodate various pipe sizes, materials, and depths, making it suitable for different types of pipelines within the District's system.

C. Considerations: Despite its reliability, the open trench method has limitations that must be considered during the planning and design phase:

- Surface Disruption: Excavating the ground requires significant surface disruption, which can affect roads, sidewalks, landscaping, and even underground utilities. In heavily populated areas or near critical infrastructure, this disruption can be costly and inconvenient.
- Longer Project Timelines: Open trench repairs typically take more time compared to trenchless methods due to the excavation, repair, and restoration process. This can lead to longer project durations and potentially higher labor costs.
- Environmental Impact: The excavation process can disturb ecosystems, vegetation, and soil stability, particularly in environmentally sensitive areas. Proper mitigation measures must be in place to minimize any adverse environmental effects.

Alternative Design Methodologies

In addition to open trench repairs, BSD also considers trenchless techniques like Micro Tunneling, Horizontal Directional Drilling (HDD), Pipe Bursting, and Cured-In-Place Pipe (CIPP) lining. These methods cause less surface disruption and offer efficient solutions for certain pipeline repairs. When deciding which method to use, factors such as pipe size, condition, and environmental impact are considered.

- Pipe Size, Length, and Depth: Trenchless methods are often preferred for deeper pipes or longer sections where traditional digging is harder or more expensive.
- Existing Pipe Condition: If a pipe is too damaged (collapsed or has large offsets), it may require open trench repairs. However, for less severe issues, trenchless options like CIPP lining might work.
- Accessibility: In busy urban areas or where roads and railways are involved, trenchless methods minimize surface disruption.
- Environmental Impact: Trenchless repairs are generally more eco-friendly, requiring less excavation and reducing the need for land restoration.

Alternative Methods

1. Horizontal Directional Drilling (HDD)
   HDD is a trenchless technique to install or replace pipelines with minimal surface disruption. It involves drilling a pilot hole along the intended path, then enlarging the hole and pulling in the new pipeline.
   A. Applications: Ideal for installing pipelines beneath obstacles like roads, rivers, or highly developed areas where open-cut excavation isn't feasible.
   B. Advantages: Minimizes environmental impact, cuts restoration costs, and allows for deeper or longer installations. It is particularly useful in areas where traditional excavation would be too disruptive.
   C. Considerations: HDD requires careful planning, including geotechnical analysis, to ensure suitable soil conditions. Pipe materials must be flexible enough to withstand bending forces during installation.
2. Pipe Bursting
   Pipe bursting is a trenchless method where an old, damaged pipeline is fractured while a new pipe is simultaneously pulled into place.
   A. Applications: Commonly used for upsizing old pipelines or replacing them with durable materials like HDPE or PVC.
   B. Advantages: Enables pipeline replacement without extensive surface digging, reducing disruption and costly restorations. Particularly useful in urban areas where underground utilities may be congested.
   C. Considerations: Best suited for structurally compromised or undersized pipelines. Soil and nearby utilities must be assessed to prevent collateral damage during the process.

3. Cured-In-Place Pipe (CIPP) Lining
   CIPP is a trenchless rehabilitation technique where a resin-impregnated flexible liner is inserted into the existing pipe and cured to form a new, structurally sound pipe within the old one.
   A. Applications: Ideal for rehabilitating deteriorated or leaky pipelines without replacing the existing structure, applicable in both gravity and pressure pipelines.
   B. Advantages: Minimal excavation required, significantly reducing project time and cost. The new liner provides a smooth, jointless interior, improving flow capacity and preventing infiltration or exfiltration issues.
   C. Considerations: Successful CIPP lining requires proper cleaning and inspection of the existing pipe. The curing process may vary (steam, hot water, UV light) depending on project needs, and the quality of installation depends on precise control of these factors.
4. Micro-tunneling
   Micro-tunneling is a highly precise trenchless construction method where underground pipelines and utilities are installed with minimal surface disruption. It operates entirely underground, using a remotely controlled laser-guided machine to bore tunnels and install pipes simultaneously.
   A. Applications: Micro-tunneling is ideal for highly developed urban areas with environmental sensitivity, minimizing surface disruption. It is also effective for pipelines beneath rivers, roadways, railways, or congested traffic zones. Additionally, it is a great option for pipelines that require precise grading or when faced with challenging ground conditions such as mixed soils or high groundwater levels.
   B. Advantages:
      - Precision: The laser-guided system ensures high accuracy, making micro-tunneling ideal for long installations and projects requiring precise alignment.
      - Minimal Surface Disruption: Since the process is underground, it eliminates the need for open-cut trenches, reducing surface restoration costs and minimizing impacts on traffic and infrastructure.
      - Adaptability to Ground Conditions: It can be applied to a range of soil types—from sand and clay to rock—while managing groundwater effectively. It also reduces the risk of ground subsidence, which is a common concern with traditional methods.
   C. Considerations:
      - Micro-tunneling requires the construction of launch and reception shafts at the pipeline's start and end points. While these shafts introduce some surface disruption, they are much smaller than those needed for conventional trenching methods.
      - The technique involves a high upfront investment, particularly for smaller projects, due to the equipment cost and setup complexity.
      - Geotechnical studies and pre-engineering assessments are crucial to evaluate soil conditions and groundwater levels for optimal performance. Micro-tunneling is typically used for larger-diameter pipelines and projects where the precision justifies the higher costs associated with the technique.

Additional Considerations for Rehabilitation Projects

Different trenchless technologies offer practical alternatives for rehabilitating or replacing existing pipelines with minimal environmental and surface impacts. The District should consider the following factors when selecting a method:

- Pipeline Size and Material Requirements: The chosen technique must accommodate the pipeline's size, material, and flexibility—whether steel, HDPE, or concrete.
- Soil and Groundwater Conditions: A thorough geotechnical evaluation is essential to determine the appropriate trenchless method, accounting for challenges like groundwater presence, soil stability, or rock formations.
- Environmental and Regulatory Compliance: The selected method must comply with relevant environmental regulations, minimizing disturbance to local ecosystems and meeting ASTM standards.

Each technique has its own advantages and considerations, and the appropriate solution will depend on the specific constraints and requirements of the project site. Choosing the right method involves careful assessment of the existing condition, budget, and long-term operational objectives.

District Standard Details

The District's Standard Details are intended to aid consulting engineers, developers, and others doing work in the District on public sanitary sewer projects. The District Standard Details are as follows:

1. Standard Trench
2. Standard Manhole
3. Sewer Manhole Channels
4. Sewer Manhole Frame & Cover
5. Standard Flushing Inlet
6. Lower Sanitary Sewer Lateral
7. Standard Property Line Clean Out
8. Standard Backflow Preventer Device
9. Pump Connection to Lateral
10. Sewer Lateral Connections to Sewer Mains
11. Sand/Oil Separator
12. Grease Interceptor
13. BSD BMP Details
14. Sanitary Sewer Notes

The complete District Standard Details can be accessed at our office, located at 20863 Stevens Creek Boulevard, Suite 100, Cupertino, CA 95014, or on the District's website as BSD-District-Wide-CIP-Specification-06182021.pdf.

The District began updating the front-end and technical specifications for the Pipeline Rehabilitation and Repair projects in 2026 and those will be completed at the end of calendar year 2026. These specifications will be available on the District website by December 2026.

5.2 Procedures & Standards

Requirements

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

Compliance

Guidance 5.2.1: To comply with this requirement, an agency can consider the following:

- Ensure agency has procedures and standards for inspection and testing of newly constructed facilities and repaired and rehabilitated facilities.

Inspection Procedures

The District has created a specific procedure for each of the following sewer inspections to ensure consistency with industry standards. These procedures cover various aspects of sewer system maintenance, property connections, construction oversight, and reporting. Key areas include:

1. Lateral Maintenance Inspection
   - Purpose: Ensures sewer laterals—connecting individual properties to the main sewer line—are clear of blockages and damage.
   - Scope: Inspectors assess lower lateral sewer condition with a push camera for defects such as cracks, root intrusions, and other deterioration. Routine maintenance helps prevent blockages and system failure.
   - Outcomes: Necessary repairs are noted, and property/business owners may be notified if repairs are needed.
2. Property Line Cleanout and CCTV Inspection
   - Purpose: Ensures property line cleanouts, which provide access for lateral maintenance, are correctly installed. CCTV inspections are used to visually inspect the interior of sewer lines.
   - Scope: Inspectors check cleanouts for accessibility, construction, and alignment, while CCTV verifies that pipes are clear and undamaged.
   - Outcomes: Confirms compliance with project specifications and certifies system readiness for operation.

3. Sewer Lateral Capping Inspection Checklist
   - Purpose: Guides inspections of capped sewer laterals to ensure abandoned or inactive connections are capped and sealed at the main to prevent leakage or infiltration.
   - Scope: Inspectors verify that capping materials meet District standards and are installed properly to prevent groundwater infiltration or unauthorized connections.
   - Outcomes: Proper capping maintains system integrity and prevents contamination.
4. Pre and Post Construction Checklist and Punch List
   - Purpose: Ensures all steps are followed before and after construction, providing a detailed record of tasks completed or corrections needed.
   - Scope: Pre-construction inspections verify work readiness, while post-construction inspections ensure all tasks meet District standards. Outstanding issues are documented on a punch list.
   - Outcomes: Ensures quality control and that the project is complete before final acceptance.
5. Contract Change Orders
   - Purpose: Documents adjustments to the original scope of work, such as additional tasks or material changes due to unforeseen conditions or design changes.
   - Scope: Inspectors confirm that changes are necessary and comply with District standards. Modifications are documented and authorized.
   - Outcomes: Proper management of change orders keeps the project on track and within budget while adapting to necessary changes.
6. Reporting and Documentation
   - Purpose: Accurate record-keeping of sewer maintenance and rehabilitation activities.
   - Scope: Inspectors complete detailed reports, documenting findings, actions, and follow-up recommendations. This includes photos, notes on materials used, and compliance with standards.
   - Outcomes: Ensures transparency, accountability, and a clear record of system conditions and maintenance activities.
7. Miscellaneous and Testing
   - Purpose: Covers additional inspections and testing procedures needed to ensure the sewer system's health and functionality.
   - Scope: Tasks may include pressure testing, smoke testing, or specialized evaluations to detect leaks, blockages, or other issues not covered by routine inspections.
   - Outcomes: Ensures the sewer system operates efficiently, and potential issues are identified and addressed early.

These guidelines ensure that all sewer inspections and construction projects are carried out consistently, thoroughly, and in compliance with standards, maintaining the integrity of the sewer infrastructure and protecting public health and environmental safety.

Construction Management Phases of Sanitary Sewer Projects

Once a project is successfully designed, the plans, specifications, and engineering estimate must be approved by the District's Board of Directors to be ready for the Bidding Phase. The District utilizes an online platform called Bid Express[5] for secure construction bidding. Bid Express helps the District manage the bidding process by offering error-checking, instant bid rankings, and paperless submissions.

The District Engineers use Bid Express to streamline the bidding process by submitting and adjusting bids online, reducing the time and cost of manual submissions, and preventing disqualification due to technical errors. The platform also supports remote bid openings, making it easier to manage and evaluate bids in real-time.

After a Contractor submits their Bid and the Award is given out, the District utilizes a Construction document organization software called CMIS (Construction Management Integrated Software). This tool is designed to simplify construction project management by streamlining document control, daily reporting, and compliance with federal/state regulations.

CMIS assists District engineers in managing various aspects of construction, including submittals, RFIs (Requests for Information), and punch lists. This functionality allows for easier documentation review and facilitates prompt responses to Contractors and subcontractors, when necessary. Tailored for construction managers and project engineers, CMIS offers user-friendly, push-button simplicity, minimizing the need for complex software customization for project reporting.

Moreover, CMIS enhances document management by ensuring that all project-related materials are organized, up-to-date, and readily accessible in a single, centralized system. It also improves communication by streamlining interactions between the District, Contractors, and other stakeholders throughout the Bidding and Construction Phases.

Construction Controls and Inspection

Ensuring that work is done according to plans and specifications requires continuous, rigorous on-site inspections by the District throughout the Construction Management process. Key aspects include:

- Ongoing Inspections: Construction is inspected throughout the process and at completion. This ensures that work complies with District Ordinance, Specifications, and plans.
- Acceptance Testing: Gravity sewers will not be accepted until all acceptance tests are conducted in the presence of a District Sewer Inspector. The project will not be accepted until all sewer tests meet the project plans and specifications. If a test fails, the contractor must submit a repair

[5] Bid Express. *Infotech*, https://www.bidexpress.com.

plan for District approval and make the necessary corrections. Acceptance testing will continue until the sewer system meets District Standards.

Role of the Inspector and Responsibilities

In Capital Improvement Projects (CIP), the District Sewer Inspector serves as a dedicated, full-time overseer from start to finish, ensuring each stage of construction adheres to the required standards. Key responsibilities include:

- Pre-Construction Review: Prior to the start of work, the inspector reviews the Construction Binder, which includes essential documents such as contracts, plans, specifications, submittals, RFIs, change orders, and other project documentation. This review ensures the inspector fully understands the project's technical requirements.
- Monitoring Construction Progress: The inspector ensures that all construction activities conform to approved plans, specifications, and safety standards. Any deviations are addressed promptly to maintain the project's alignment with the intended design.
- Reporting Anomalies: If issues arise, the inspector immediately reports them to the Project Engineer to enable timely resolution and minimize potential delays.
- Communication Facilitation: Acting as a liaison between the contractor and the Project Engineer, the inspector documents all site matters to ensure clear communication, reducing misunderstandings and improving project flow.
- Documentation: The inspector maintains daily logs, field reports, and photographic records, providing a detailed account of the construction process, which tracks progress and documents any challenges encountered.

District Inspector and Resident Engineer Roles During Construction

Both the District Inspector and the Resident Engineer play crucial roles in the successful completion of CIP projects, though their responsibilities differ significantly in focus and scope.

Oversight

- District Inspectors concentrate on on-site construction, ensuring compliance with plans, specifications, and safety standards through continuous inspection and monitoring.
- Resident Engineers oversee the entire project, managing contractors, inspectors, and project schedules to ensure that construction remains on track, within budget, and aligned with project goals.

Pre-Construction

- District Inspectors review project specifications and familiarize themselves with the Construction Binder, enabling them to understand project requirements thoroughly.

- Resident Engineers take a proactive role during pre-construction, participating in plan reviews, contractor selection, and aligning project goals to ensure all pre-construction activities meet the project's expectations.

Project Management

- District Inspectors monitor construction progress in real-time, ensuring that each step adheres to the approved plans and specifications, addressing compliance issues as they arise.
- Resident Engineers are responsible for broader project management, including scheduling, budgeting, and resource allocation, and they work to address potential challenges before they impact the project.

Communication

- District Inspectors serve as a direct line of communication between the contractor and the Project Engineer, relaying site-specific issues for prompt resolution.
- Resident Engineers facilitate communication across the project's teams, coordinating meetings, resolving disputes, and ensuring alignment among all stakeholders.

Documentation

- District Inspectors maintain daily logs and reports focused on compliance and immediate site issues, capturing a detailed record of on-site activities.
- Resident Engineers compile and analyze documentation from various sources, creating comprehensive reports that provide an overview of project status, challenges, and recommendations for stakeholders.

Problem Resolution

- District Inspectors address compliance-related issues on-site, reporting any deviations to the Project Engineer for resolution.
- Resident Engineers handle more complex problems, such as contract negotiations, major project adjustments, and strategic challenges, ensuring that solutions align with overall project goals.

Field Changes and Record Drawings

Field conditions during construction often necessitate design changes. The Project Inspector works with the Contractor and Project Engineer to redline changes to the working plans, including:

- Redlining Field Changes: The Inspector documents all deviations from the design on the working plans.
- Record Drawings: Upon project completion and acceptance, the Inspector submits the redlined working drawings to the Project Engineer. These changes are then incorporated into "Record Drawings" to provide a record of all project modifications.

This process ensures that all design changes are documented and supported in the project drawings, updated to reflect the as-built conditions. This attention to detail maintains project integrity and supports long-term system performance.

ELEMENT 6 – SPILL EMERGENCY RESPONSE PLAN

Requirements

The Plan must include an up-to-date Spill Emergency Response Plan (SERP) to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills. The Spill Emergency Response Plan must include procedures to meet all the following.

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

Compliance

Spill Emergency Response Plan

The purpose of the SERP is to document the procedures used by the District to respond to spills and backups in the District service area, identify the root cause of the spill or backup, and take the necessary steps to reduce the impacts of the spill or backup on the environment. For spills that occur as a result of the District lower laterals, main sewers, or manholes, the District will cleanup the spills and prepare the reports, records, monitoring and notifications that are required by the new SWRCB Statewide Waste Discharge Requirements (WDR) This SERP satisfies the new WDR regulations, which require wastewater collection agencies to have a Spill Emergency Response Plan. The following topics are discussed in this section.

- Spill Detection
- Spill Response
- Root Cause Analysis (Failure Analysis Investigation)
- Spill Notification, Monitoring, and Reporting
- Resources
- Spill Response Training

Spill Detection

The District receives notifications about the presence of a spill through public observations, contractor observations, and District staff observations. Figure 6 provides a Spill Detection Flowchart outlining the process. During work hours from 8 AM to 3 PM, the District Lead Inspector is notified of the spill. After hours, the County communicates with the District On-Call staff member, and if the On-Call staff member does not respond, the Lead Inspector is contacted.

A. Public Observation

Public observation is the most common way that the District is notified of blockages and spills. Contact information for reporting sewer spills and backups is on the District's website: https://burbanksanitary.org/. The public is instructed to call the District office at (408)-255-2137 during business hours between 8:00 am and 5:00 pm. County Communication at (408) 299-2507 dispatches sewage-related calls to the first responder after hours, weekends, and holidays.

When a report of a sewer spill or backup is made, the District staff receives the call and takes the information from the caller. The person who receives the call will verbally communicate, plus send out an e-mail of the service request to the Sewer Inspector for follow up. A service request is created when the call is received. Once the spill has been cleaned up an email is sent to Operation Manager, Lead Inspector, and Office Administrator. The Office Administrator will create a work order in Microsoft Word to track the spill and to schedule a follow-up CCTV inspection.

B. District Personnel Observation

District personnel conduct periodic inspections of sewer system facilities as part of their routine activities. Any identified issues are reported to the appropriate staff, who respond to emergency situations as needed. If a sewer overflow is determined to be caused by a blockage within a privately owned lateral, District personnel follow the Private Lateral Sewer Discharge (PLSD) Response and Procedure outlined in Element 7. Work orders are created for both regular and emergency maintenance to ensure the proper functioning of the system.

C. City or Other Agency Observation or Contractor Observation

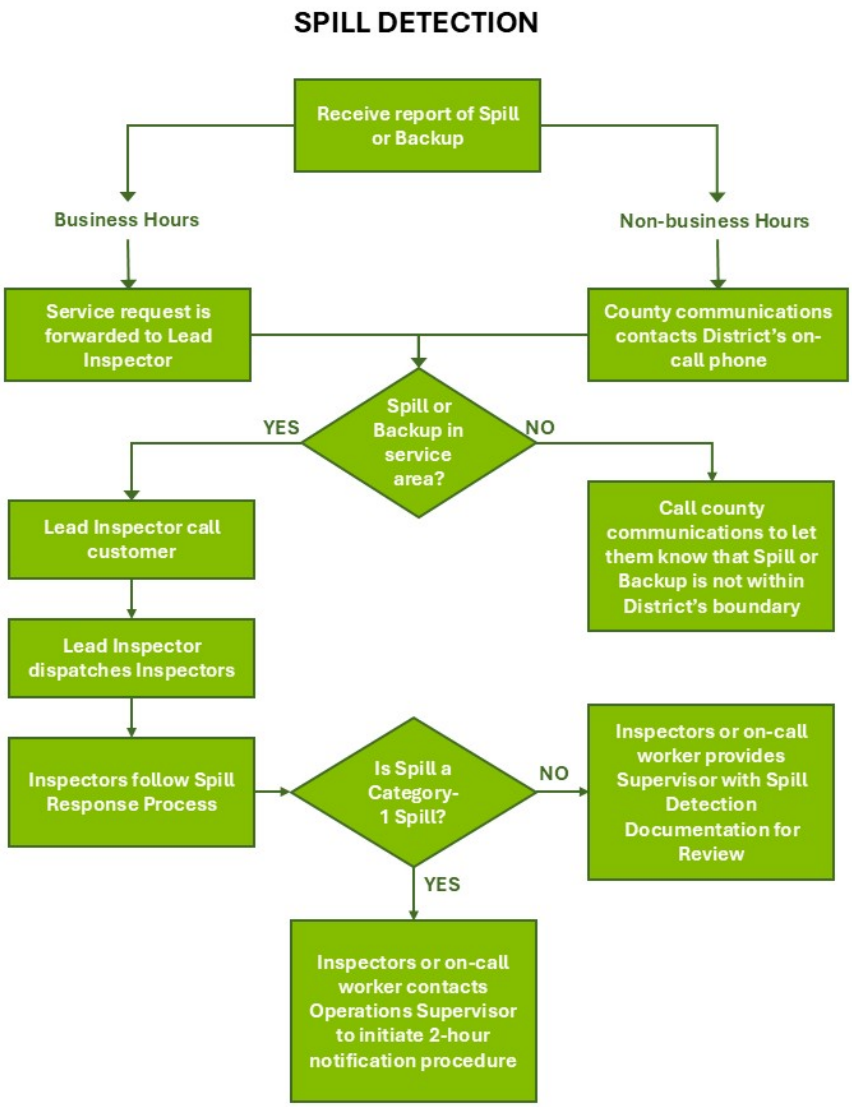


Figure 6: Spill Detection Flowchart

Spill Response

The Spill Emergency Response Plan is described in this section and the response steps to be taken are shown in the Spill Emergency Response Plan Flow Chart shown on Figure 7. All sanitary sewer system calls within the District boundary require a response to the reported location of the event to minimize or eliminate an overflow. The first responder must arrive at the site of the reported problem within 30 minutes during business hours and one hour after business hours and visually check for potential sewer stoppages or overflows.

A. Safety

The first responder is responsible for always following safety procedures. Special safety precautions must be observed when performing sewer work to protect and restore public health, environment, and property from sewage spill events. There may be times when the District personnel respond to a sewer system event, they are not familiar with potential safety hazards for that particular sewer task. In such cases, it would be appropriate to take the time to identify hazards, discuss safety issues, consider the order of work, and check safety equipment before starting the job.

B. Initial Response

All sanitary sewer system calls within the District boundary require a response to the reported location of the event to minimize or eliminate an overflow. It is the goal of the District to respond to a Spill within 30 minutes of the first call during regular business hours (Monday through Friday between 8:00 am and 5:00 pm), and within 60 minutes after hours and during weekends and holidays. The first responder must arrive at the site of the reported problem within 30 minutes during business hours and one hour after business hours and visually check for potential sewer stoppages or overflows.

First Responder's (First Person at Spill site) Role is to:

- Identify and clearly assess the affected area and extent of spill and note arrival time at spill site.
- Establish perimeters and control zones with traffic cones, barricades, vehicles, or terrain.
- Document conditions upon arrival with photographs.
- Promptly notify the Authorized Representative in the event of a Category 1 Spill 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.)
- Contain and control the sewage discharged to the maximum extent possible.
- Make every effort to prevent the discharge of sewage into waterways.
- Restore the flow as soon as practicable and contact the caller for additional information.
- Depending on the situation, utilize the vactor truck, hydro truck, and/or spill response vehicle.

- Return the spilled sewage to the sewer system when possible.
- Restore the area to its original condition (or as close as possible).

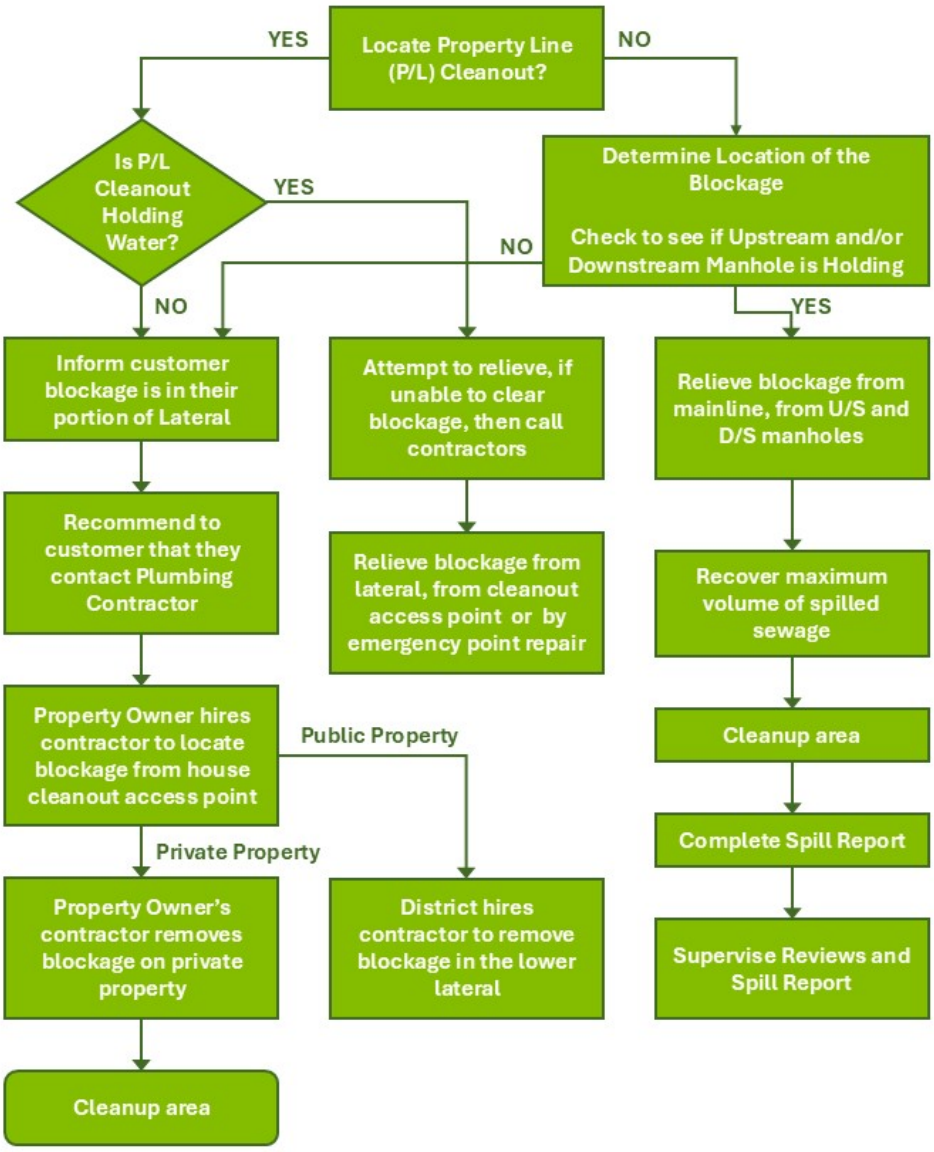


Figure 7: Spill Emergency Response Plan Flowchart

C. Containment of Spill

The priority for containment is determined not only by the volume of the spill but also by its location and proximity to waterways, storm drains, and sensitive areas such as schools, bus stops, grocery stores, and playgrounds.

Decide whether to proceed with clearing the blockage to restore the flow or to initiate containment measures. The guidance for this decision is:

- Small Spills (less than 50 gallons) – proceed with clearing the blockage.
- Moderate spill where containment is anticipated to be simple (greater than 50 gallons to 999 gallons) – proceed with containment measures.
- Large spills where containment is anticipated to be difficult (greater than 1,000 gallons) – proceed with clearing the blockage, however, call for additional assistance after 15 minutes if unable to clear the blockage and implement containment measures.

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

- Determine the immediate destination of the overflowing sewage.
- Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If spilled sewage has made contact with the storm drainage system, attempt to contain the spilled sewage by plugging downstream storm drain facilities with sandbags.
- Contain/direct the spilled sewage using dike/dam or sandbags.
- Lift around the blockage/pipe failure.
- Note: The priority for containment is determined not only by the volume of the spill but also by its location and proximity to waterways, storm drains, and sensitive areas such as schools, bus stops, grocery stores, and playgrounds.

D. Restore Flow

Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not recur downstream.

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

E. Spill Volume Estimation

A variety of approaches exist for estimating the volume of a sanitary sewer spill. It should be noted that the person preparing the estimate should use the method most appropriate to the sewer overflow in question and use the best information available. Below are three commonly used methods:

1. Measured Volume – The volume of most spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

   Step 1 Sketch the shape of the contained sewage.

   Step 2 Measure or pace off the dimensions.

   Step 3 Measure the depth at several locations and select an average.

   Step 4 Convert the dimensions, including depth, to feet.

   Step 5 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 6 Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.

   Step 7 Multiply the volume in cubic feet by 7.48 to convert to gallons.

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 that the flow was restored. Duration time for a Spill does not include the time required to perform cleaning efforts.

   Flow Rate: The flow rate is the average flow that left the sewage 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.

   Figure 8 and Figure 9 provide an examples of the District's Manhole Spill flow rate estimating methodology.

MANHOLE SPILL FLOW RATE ESTIMATION: MANHOLE PICK HOLE METHOD

Total Estimated Volume: Gallons

Detail Calculations:

Follow these steps to estimate spill from Manhole:

1. For spills exiting a manhole cover pick hole:
2. Determine the spill height – Measure the dimensions of the height of the spout above the manhole frame as shown in the Figure 2.

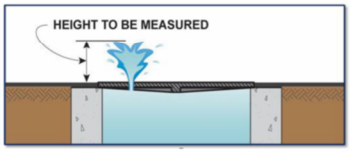


Figure 2: Spill Height Measurement on Manhole

3. Calculate Spill Volume Using Flow Rate Table 2 and the Spill Duration
4. Compute Spill Volume Using the following formula:

Table 2: Estimated Spill Flow Rate Exiting Manhole Pick Hole

Height of Spout Above Manhole Frame, H (inches)	Spill Flow Rate, Q (gpm)	Height of Spout Above Manhole Frame, H (inches)	Spill Flow Rate, Q (gpm)
1/8	1.0	5 1/8	6.2
1/4	1.4	5 1/4	6.3
3/8	1.7	5 3/8	6.3
1/2	1.9	5 1/2	6.4
5/8	2.2	5 5/8	6.5
3/4	2.4	5 3/4	6.6
7/8	2.6	5 7/8	6.6
1	2.7	6	6.7
1 1/8	2.9	6 1/8	6.8
1 1/4	3.1	6 1/4	6.8
1 3/8	3.2	6 3/8	6.9
1 1/2	3.4	6 1/2	7.0
1 5/8	3.5	6 5/8	7.0
1 3/4	3.6	6 3/4	7.1
1 7/8	3.7	6 7/8	7.2
2	3.9	7	7.2
2 1/8	4.0	7 1/8	7.3
2 1/4	4.1	7 1/4	7.4
2 3/8	4.2	7 3/8	7.4
2 1/2	4.3	7 1/2	7.5
2 5/8	4.4	7 5/8	7.6
2 3/4	4.5	7 3/4	7.6
2 7/8	4.6	7 7/8	7.7
3	4.7	8	7.7
3 1/8	4.8	8 1/8	7.8
3 1/4	4.9	8 1/4	7.9
3 3/8	5.0	8 3/8	7.9
3 1/2	5.1	8 1/2	8.0
3 5/8	5.2	8 5/8	8.0
3 3/4	5.3	8 3/4	8.1
3 7/8	5.4	8 7/8	8.1
4	5.5	9	8.2
4 1/8	5.6	9 1/8	8.3
4 1/4	5.6	9 1/4	8.3
4 3/8	5.7	9 3/8	8.4
4 1/2	5.8	9 1/2	8.4
4 5/8	5.9	9 5/8	8.5
4 3/4	6.0	9 3/4	8.5
4 7/8	6.0	9 7/8	8.6
5	6.1	10	8.7

Spill Volume $_{\text{mh pick hole}}$ (gal) = Flow Rate $_{\text{mh pick hole}}$ (gpm) x Spill Duration (min)

Figure 8: Manhole Spill Rate Estimation - Manhole Pick-hole Method

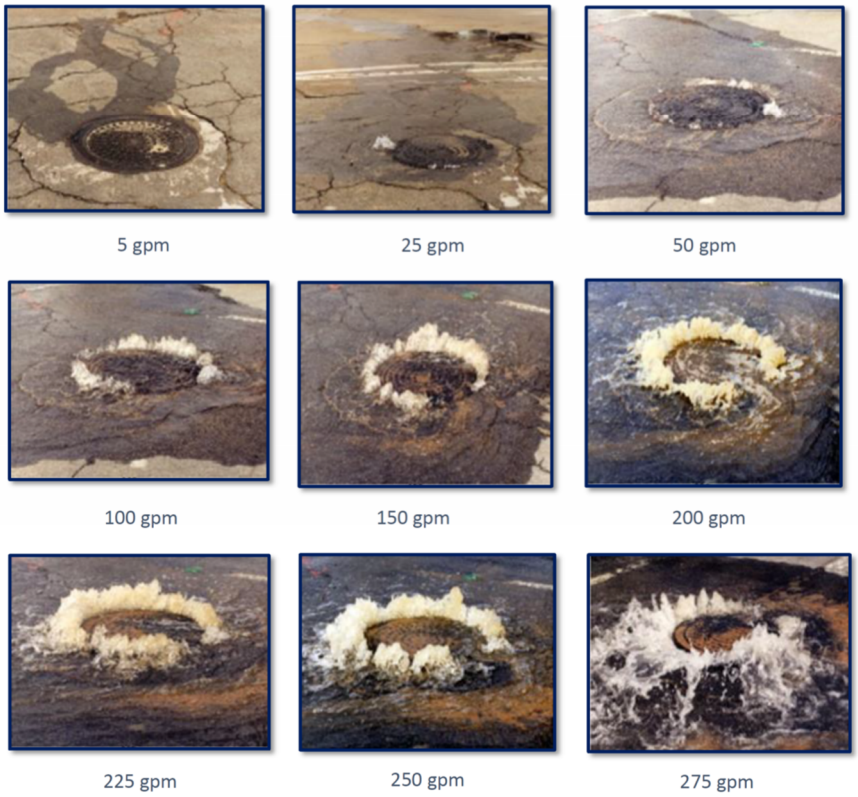
MANHOLE SPILL FLOW RATE ESTIMATION: MANHOLE COVERED METHOD

Total Estimated Volume: Gallons

Detail Calculations:

Estimate Spill Flow Using Pictures: Pictures presented below show varying flow rates of sewage spilling from a manhole. Estimate the spill rate by comparing the current manhole spill with the below pictures.

Estimating Sewer Flow Rates from Spilling Sewer Manholes[1]



[1] Sourced from City of San Diego Metropolitan Wastewater Department "Reference Sheet for Estimating Sewer Spills from Spilling Sewer Manholes" (April 1999).

Figure 9: Manhole Spill Rate Estimation - Manhole Covered Method

Spill Start Time

The start time is sometimes difficult to establish. Below are suggestions for determining spill start times:

- Nearby Witnesses: Witnesses can be used to establish a start time. Contact and interview the reporting party, nearby residents, business owners or any witnesses that may have observed the incident. Inquire as to their observations. Spills that occur in public right of way are usually observed 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 normally dry creek bed) can be used to estimate the start time.

- Accounting for Flow Variations: It is important to remember that spills may not be continuous. 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). Spills that occur due to peak flows in excess of capacity will occur only during and for a short period after heavy rainfall.
- Spill Volume/Flow Rate: Start time can be calculated using estimated flow rate and estimated spill volume. The District personnel 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 2 calculation above). The start time then is calculated by using both the estimated flow rate and the estimated spill volume.

Spill Stop Time

The stop time is usually much easier to establish. The stop time is determined when field crews confirm that the Spill 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.

Example: Spill Start Time = 14:00

Spill End Time = 17:00

Spill Duration = 3 Hours

Flow Rate = 3.3 gallons per minute

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

F. Estimating Recovery Volume of Spilled Sewage

The following method can be used, depending on the circumstances, for estimating recovered sewage volume:

1. Two Truck Sewage Recovery Method: The sewage recovery and cleanup process involves using domestic water to clean the affected area or storm pipelines. However, if water is introduced during cleanup, the collected liquid in the tank will not accurately reflect the actual sewage spill volume.
   This method utilizes two trucks: a hydro truck to supply domestic water for cleaning and a pump truck to collect wastewater. The total recovered volume consists of both cleanup water and sewage, which can be used to estimate the sewage spill volume. By subtracting the amount of cleanup water introduced from the total collected volume, the actual sewage spill amount can be determined.

- Water Quality Monitoring

  In accordance with subsection D.7(v) of the SSS WDRs, a water quality monitoring program to assess impacts from Spills to surface waters in which 50,000 gallons or greater are spilled into surface water shall include the following:

  1) Protocols for water quality monitoring shall include, at minimum, visual inspection, determination of volume of total spills and estimated volume entering the surface water, and/or spill travel time in the surface water where monitoring may not be possible due to safety concerns, access restrictions, etc.
  2) Within 48 hours, water quality sampling for, at a minimum, the following constituents:
     a) Ammonia
     b) Appropriate bacterial indicators per the applicable Basin Plan water quality objectives, which may include total and fecal coliform, enterococcus and E-coli.
  3) Water quality analysis shall be performed by an accredited or certified laboratory and instruments/devices used to implement the Spill Water Quality Monitoring Program shall be properly maintained and calibrated, as necessary, to ensure their continued accuracy.

- Water Quality Sampling and Testing

  Water quality sampling and testing is required when 50,000 gallons or greater are spilled to surface water to determine the extent and impact of the Spill. Water quality samples will be taken whenever adverse impacts to surface waters (i.e. fish kill) is visually observed, the sampling can be safely obtained from the impacted water body, and the act of sampling does not prevent the District from completing the necessary Spill response actions.

- Conduct water quality sampling within 48 hours after the initial Spill notification for Category 1 Spills in which 50,000 gallons or greater are spilled to surface waters. Water quality results are required to be uploaded into CIWQS in which 50,000 gallons or greater are spilled to surface waters.
- The following steps should be taken to collect water quality samples:
  1) Samples should be collected from upstream of the spill, from the spill area, and downstream of the spill if accessible.
     2) Samples should be collected near the point of entry of the spilled sewage and 100 feet upstream and downstream of the spill area, if the spill is along the shore of stationary water bodies.
     3) Label the samples with date, time, location, and sampler's initials
     4) Keep the bacteriological samples under ice (cold packs) until transferred to the laboratory's process refrigerator (use a cooler).
  - The City of San Jose Environmental Services Department laboratory will analyze the sample to determine the nature and extent of impact from the discharge. An additional sample will be taken to determine if posting of warning signs should

be discontinued. The basic analyses should include pH, temperature, total coliform, fecal coliform, biochemical oxygen demand (BOD), dissolved oxygen, and ammonia nitrogen.

In addition to the above, effective August 28, 2013, the District will take water quality sampling and testing whenever it is estimated that a Spill of fifty (50) gallons or more enters surface waters. The District will collect and test samples from three (3) locations: the point of discharge, upstream of the point of discharge, and downstream of the point of discharge. Constituents tested for shall include ammonia, fecal coliform, E-coli, total coliform, dissolved oxygen, and BOD.

G. Clean Up

The recovery and clean up phase begin when the flow has been restored, and the spilled sewage has been contained to the extent possible. Clean up procedures should be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with a Spill event. The procedures described are for dry weather conditions. The contractor under the direction of the District Inspector shall follow the following guidelines:

- 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 domestic water until the water runs clear. They should take all reasonable steps to contain and vacuum up the wastewater which should be returned to the sanitary sewer system.
  - Clean all areas that were contaminated from the overflow using domestic water.
  - Document the volume of water that was employed to wash down and clean the spill area.
  - Allow the area to dry and repeat as necessary.
- Landscaped and Unimproved Natural Vegetation
  - Collect all signs of sewage solids and sewage related material either by hand or with the use of rakes and brooms.
  - Wash down the affected area. The flushing volume should be approximately three times the estimated volume of the sewer spill.
  - Either contain or vacuum up the wash water so that none is released.
  - Allow the area to dry and repeat as necessary.
- Natural Waterways
  - The California Department of Fish and Wildlife (CDFW) should be notified in the event a Spill impacts any creeks or natural waterways. CDFW will provide the professional guidance needed to effectively clean up spills that occur in these sensitive environments. Contact CDFW at:
    (707) 718-6217 Lt. Kyle Hiatt Kyle.hiatt@wildlife.ca.gov
    If there is no immediate response, follow up with Cal EMA and request CDFW call back.

    - Clean up should proceed quickly to minimize negative impact. Take photos after cleaning up.
- Wet Weather Modifications
    - Omit flushing and sampling during storm events wherein flushing and sampling may be impractical and unsafe as well as providing meaningless results.
- Follow-Up Activities
    - If sewage has reached the storm drain system, the pump truck should be used to vacuum/lift out the catch basin, and any other portion of the storm drain that may contain sewage. The District Inspectors may require the contractor to use a pump truck and a vactor truck with the pump truck at a downstream storm drain manhole. The hydro truck, filled with domestic water, would be at the upstream storm drain manhole or inlet where fresh domestic water is introduced.
    - In the event that an overflow occurs at night, the location should be re-inspected first thing the following day. The inspector should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

Private Lateral Spill Response

If a sanitary sewer overflow occurs due to a blockage or defect within the privately owned sewer lateral connected to the enrollee's sanitary sewer system, it is categorized as a Private Lateral Sewer Discharge (PLSD). Upon arriving on site, the District representative shall contact the property owner and notify them that the spill must be cleaned up. The District's sub-contractors can provide lateral cleaning services but the homeowner is responsible for the invoice. The homeowner has the right to refuse our services and hire their own plumbing service.

If the homeowner is not present, the District shall clean up spill and bill the homeowner for the cleaning. The District representative remains on site throughout the cleanup of the spill. The enrollee is encouraged to provide notification to Cal-OES per section C (External Spill Reporting Procedures) above when a PLSD greater than or equal to 1,000 gallons has or may result in a discharge to surface water.

For any PLSD greater than or equal to 1,000 gallons regardless of the spill destination, the enrollee is encouraged to file a spill report as required by Health and Safety Code section 5410 et. Eq and Water Code section 13271 or notify the responsible party that notification and reporting should be completed as specified above and required by State law.

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

- Request the resident to cease activities that are causing continuation of the sewer spill (e.g., flushing toilets, washing laundry, etc.)
- Request the resident to call a plumber to correct the problem with their lateral and stand by until the plumber arrives.
- Contain any spilled sewage that has entered the public right of way and return it to the sanitary sewer system.

Root Cause Analysis (Failure Analysis Investigation)

The objective of the spill root cause investigation is to determine the "primary cause" of the spill and to identify corrective actions needed that will reduce or eliminate future potential for the spill to recur. Every spill event is an opportunity to evaluate the response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, and other parameters. The investigation should include:

- Reviewing and completing the Spill Report.
- Reviewing past maintenance records.
- Reviewing available photographs.
- Viewing a CCTV inspection video to determine the condition of the line segment immediately following the Spill and reviewing the inspection reports and logs.
- Reviewing input from the District personnel who responded to the spill.

A. Post Spill Event Debrief

All relevant participants meet weekly to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future spill events. The results of the debriefing should be recorded and tracked to ensure the action items are completed.

Spill Notification, Monitoring, & Reporting Investigation

A. Public Notification

The District maintains a website at the following link: https://burbanksanitary.org/ to inform the public about its activities. Typical information available on the website includes general information about the District's regulations, ordinances, and codes; permit forms; details about the District's collection system; and updates on construction projects. The website also serves as a tool to communicate important announcements and provide timely updates to the public.

Door Hangers: Door hangers and letters are distributes to sanitary sewer customers in areas that will be impacted by the District's construction projects. Homeowners are normally provided with an opportunity to coordinate replacement of their private service lateral when the District is replacing the corresponding public section of the lateral.

Direct Mail: the District regularly uses letters to notify its residents of important construction projects, meetings and other community considerations.

Post "Raw Sewage Spill" signs and place barricade/cones with caution tape to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed by the Santa Clara County Health Department.

Creeks and streams that have been contaminated by a Spill will have signs posted at visible access locations until the risk of contamination has subsided to acceptable levels.

Warning signs, once posted, will be inspected every day to ensure that they are still in place.

Major spills may warrant broader public notice. The District Manager-Engineer will authorize contact with local media when significant areas may have been contaminated by sewage.

B. Spill Documentation and Reporting

Reporting and documentation requirements vary based on the type of Spill. See Spill categories that are described in the Definitions section of this plan.

Internal Spill Reporting Procedures

Internal Reporting Category 1 or 2 Spills

1. The first responder will, immediately following the spill event, notify the Authorized Representative.
2. The first responder will fill out the Spill Report Form and make the report available to the Authorized Representative. The Authorized Representative will meet with the District inspector at the site of the Spill event to assess the situation and to document the conditions with photos immediately after the Spill event.
3. In the event of a Category 1 or 2 Spill or an overflow in a sensitive area, the Authorized Representative will notify the District Manager-Engineer accordingly.

Internal Reporting Category 3 or 4 Spills

1. The first responder will notify the Authorized Representative immediately after confirming the Spill event.
2. The first responder will fill out the Spill Report Form and make the report available to the Authorized Representative.

1. Draft Spill Report for Category 1 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 1 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at least, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;

7. Description, photographs, and GPS coordinates of the system location where the spill originated;
    - If a single spill 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 spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);
    - Estimated spill volume fully recovered from the drainage conveyance system;
    - Estimated spill volume remaining within the drainage conveyance system;
11. Description and photographs of all discharge point(s) into the surface water;
12. Estimated spill volume that discharged to surface waters; and
13. Estimated total spill volume recovered

2. *Draft Spill Report for Category 2 Spills*

Within three (3) business days of the Enrollee's knowledge of a Category 2 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator's arrival time;
5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;
   If a single spill 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 spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);
    - Estimated spill volume fully recovered from the drainage conveyance system;
    - Estimated spill volume remaining within the drainage conveyance system;

- Estimated spill volume discharged to a groundwater infiltration basin or facility, if applicable; and
- Estimated total spill volume recovered.

3. *Draft Spill Report for Category 3 Spills*

The Enrollee shall report and certify all Category 3 spills to the online CIWQS Sanitary Sewer System Database within 30 calendar days after the end of the month in which the spills occurred. (For example, all Category 3 spills occurring in the month of February shall be reported and certified by March 31st). After the Legally Responsible Official certifies the spills, the online CIWQS Sanitary Sewer System Database will issue a spill event identification number for each spill.

The monthly reporting of all Category 3 spills must include the following items for each spill:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Description, photographs, and GPS coordinates where the spill originated:
   - If a single spill 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 spill appearance point explanation field;
7. Estimated total spill volume exiting the system;
8. Description and photographs of the extent of the spill and spill boundaries;
9. Did the spill reach a drainage conveyance system? If Yes:
   - Description of the drainage conveyance system transporting the spill;
   - Photographs of the drainage conveyance system entry locations(s);
   - Estimated spill volume fully recovered from the drainage conveyance system; and
   - Estimated spill volume discharged to a groundwater infiltration basis or facility, if applicable.
10. Estimated total spill volume recovered;
11. Description of the spill event destination(s), including GPS coordinates, if available, that represent the full spread and reaches of the spill;
12. Spill end date and time;
13. Description of how the spill volume estimations were calculated, including, at minimum:
    - The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and

- The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;

14. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
15. System failure location (for example, main sewer, sewer lateral, etc.);
16. Description of the pipe/infrastructure material, and estimated age of the pipe/infrastructure material, at the failure location;
17. Description of the impact of the spill;
18. Whether or not the spill was associated with a storm event;
19. Description of spill response activities including description of immediate spill containment and cleanup efforts;
20. Description of spill corrective actions, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of the major milestones for those steps; including, at minimum:
    - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable, and
    - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences at the same spill event location, including:
        - Adjusted schedule/method of preventive maintenance,
        - Planned rehabilitation or replacement of sanitary sewer asset,
        - Inspected, repaired asset(s), or replaced defective asset(s),
        - Capital improvements,
        - Documentation verifying immediately implemented system modifications and operating/maintenance modifications,
        - Description of spill response activities,
        - Spill response completion date, and
        - Ongoing investigation efforts, and expected completion date of investigation to determine the full cause of spill;
21. Detailed narrative of investigation and investigation findings of cause of spill.

4. Draft Spill Report for Category 4 Spills

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

C. External Spill Notification and Reporting Procedures

The California Integrated Water Quality System (CIWQS) electronic reporting system will be used for reporting Spill information to the SWRCB when required. If there are no Spills during the calendar month, the Legally Responsible Officer will certify a no-spill report. The LRO will add a "to do task item" on his/her calendar as a reminder to submit timely No Spill Certification.

If CIWQS is unavailable, the Authorized Representative will forward all required information to the Region 2 Water Quality Control Board (RWQCB) office in accordance with the time schedules identified above. In such an event, the District will submit the appropriate reports using CIWQS as soon as practical.

External Notification Category 1 or 2 Spills

1. Within two hours of becoming aware of any Category 1 Spill greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, notify the California Office of Emergency Services (Cal OES, (800) 852-7550) and obtain a notification control number. The District will also notify the Santa Clara County Department of Environmental Health of the Category 1 Spill event within this time period.
   The District shall provide updates to Cal OES regarding substantial changes to estimated volume of untreated or partially treated sewage discharged and any known change to impact.
2. Within three business days of being notified of the Category 1 or 2 spill event, the LRO or Authorized Representative will submit the draft Spill report using CIWQS.
3. Within 15 calendar days of the Spill end date, the LRO will certify the final report using CIWQS after it is reviewed for accuracy by the First Responder and Authorized Representative. The LRO will update the certified report as new or changed information becomes available. The updates can be submitted at any time and must be certified.

External Reporting Category 3 Spills

Within 30 calendar days of the end of the month in which the Spill occurred, the Authorized Representative will certify the electronic report in CIWQS. The report will include the information to meet the WDR requirements.

External Reporting Private Lateral Sewage Discharges

The LRO may report private lateral Spill using CIWQS and specify that the sewage discharge occurred and was caused by a private lateral and identify the responsible party, if known.

D. Internal Spill Documentation

Category 1 and 2 Spills

The following steps are taken to document both Categories 1 and 2 Spills for internal documentation:

- The first responder will complete the Sanitary Sewer Overflow Report Form and provide copies to the Authorized Representative.
- The Authorized Representative will prepare a file for each individual Spill. The file should include the following information:
  - Initial service call information
  - Sanitary Sewer Overflow Report form
  - Copies of the CIWQS report forms

- Volume estimates
- Weekly Spill meetings

E. External Spill Record Keeping Requirements

The WDR requires that individual Spill records be maintained by the District for a minimum of 5 years from the date of the Spill. This period may be extended when requested by the Regional Water Board Executive Officer. All records shall be made available for review upon the State or Regional Water Board staff's request. Records shall be retained for all Spills, 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 District;
- Spill calls;
- Steps that have been and will be taken to prevent the Spill from recurring and a schedule to implement those steps;
- A list and description of complaints from customers or others are entered into the District's MS Excel record keeping file.
- Maintenance records from the past five years related to responses and investigations of system issues concerning spills are documented and saved in MS Excel.
- Work orders documenting completed tasks for responses and investigations of system problems, including spills, are entered, organized, and stored in an Excel spreadsheet.

If the Spill 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 measurement;
- The date(s) analyses were performed;
- The individual(s) who performed the analyses;
- The analytical technique or method used; and
- The result of such analyses.

F. Other Reporting/Spill Record Keeping Requirements

- Spill Technical Report shall be submitted within 45 calendar days after the end date of any Category 1 Spill in which 50,000 gallons or greater are spilled to surface waters.
- "No Spill" certification shall be completed within 30 calendar days of the end of the month.
- The Annual Report shall be updated and certified every 12 months.

G. Summary of Notification, Monitoring and Reporting Requirements

This section provides a summary of notification, monitoring and reporting requirements, by spill category, and for Enrollee-owned and/or operated laterals as required in Attachment E1 of this General Order, for quick reference purposes only. Shown on Table 6, Table 7, Table 8,

and Table 9 are summaries of the notification, monitoring and reporting requirements for Category 1, 2, 3, and 4 spills respectively.

Table 6: Spill Category 1: Spills to Surface Waters

Spill Requirement	Due
Notification	**Within two (2) hours** of the Enrollee's knowledge of a Category 1 spill of 1,000 gallons or greater, discharging or threatening to discharge to surface waters: Notify the California Office of Emergency Services and obtain a notification control number.
Monitoring	• Conduct spill-specific monitoring; • Conduct water quality sampling of the receiving water within **18 hours** of initial knowledge of spill of 50,000 gallons or greater to surface waters.
Reporting	• Submit Draft Spill Report **within three (3) business days** of the Enrollee's knowledge of the spill; • Submit Certified Spill Report **within 15 calendar days** of the spill end date; • Submit Technical Report **within 45 calendar days** after the spill end date for a Category 1 spill in which **50,000 gallons or greater** discharged to surface waters; and • Submit Amended Spill Report **within 90 calendar days** after the spill end date.

Table 7: Spill Category 2: Spills of 1,000 Gallons or Greater That Do No Discharge to Surface Waters

Spill Requirements	Due
Notification	**Within two (2) hours** of the Enrollee's knowledge of a Category 2 spill of 1,000 gallons or greater, discharging or threatening to discharge to waters of the State: Notify California Office of Emergency Services and obtain a notification control number.
Monitoring	Conduct spill-specific monitoring.
Reporting	• Submit Draft Spill Report **within three (3) business days** of the Enrollee's knowledge of the spill; • Submit Certified Spill Report **within 15 calendar days** of the spill end date; and • Submit Amended Spill Report **within 90 calendar days** after the spill end date.

Table 8: Spill Category 3: Spills of Equal or Greater than 50 Gallons and Less than 1,000 Gallons

Spill Requirements	Due
Notification	Not Applicable
Monitoring	Conduct spill-specific monitoring.
Reporting	• Submit monthly Certified Spill Report to the online CIWQS Sanitary Sewer System Database within **30 calendars days** after the end of the month in which the spills occur; and • Submit Amended Spill Reports **within 90 calendar days** after the Certified Spill Report due date.

Table 9: Spill Category 4: Spills Less Than 50 Gallons That Do Not Discharge to Surface Waters

Spill Requirements	Due
Notification	Not Applicable
Monitoring	Conduct spill-specific monitoring.
Reporting	• If, during any calendar month, Category 4 spills occur, certify monthly, the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database, within 30 days after the end of the calendar month in which the spills occurred. • Upload and certify a report, in an acceptable digital format, of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur.

Resources

A. District Staff

B. Subcontractors

C. County of Santa Clara - Storm Drain Staff

- Roads & Airports Department
  Construction Operations
  101 Skyport Drive, San Jose, CA 95110
- Tran Ho
  408-573-2467 (w)
  408-690-8873 (c)
  tran.ho@rda.sccgov.org
- Ron Neal
  408-494-1304
  Ron.Neal@rda.sccgov.org
- George Yamaichi
  408-690-9670
  George.yamaichi@rda.sccgov.org
- Consumer and Environmental Protection Agency
  Watershed Protection Division
  1553 Berger Drive Building 1
  San Jose, CA 95112-2716
  (408) 918 4609 www.scccleanwater.org
  Santa Clara County, Department of Watershed Protection
  watershed@cep.sccgov.org

D. Equipment

The District maintains or can access specialized equipment that is required to support this Overflow Emergency Response Plan (OERP) including:

- Closed Circuit Television (CCTV) Inspection Unit
  - CCTV Inspection Unit is required to determine the primary cause for all Spills from gravity sewers.
- Camera
  - A digital, disposable, or cell phone camera is required to record the conditions upon arrival, during clean up, and upon departure.
- Portable Generators, Portable Pumps, Piping, and Hoses
  - Portable generators, pumps, piping, and hoses are needed to pump the flow around failed sewers mains.

Spill Response Training

A. Initial and Annual Refresher Training
All the District personnel who may have a role in responding to, reporting, and/or mitigating a sewer system overflow will receive training before they are placed in a position where they may have to respond. Current employees will receive annual refresher training or as needed on this plan and the procedures to be followed.

B. Spill 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 drill should cover scenarios typically observed during sewer related emergencies (e.g., mainline blockage, mainline failure, and lateral blockage). The results and the observations during the drills should be recorded and action items should be tracked to ensure completion.

C. Spill Training Record Keeping
To ensure spill response personnel are well-prepared for emergency situations, the District provides Spill and Backup Response Training. New employees participate in a shadowing program where they accompany experienced staff members when responding to backup calls during work hours. Additionally, all personnel receive copies of Standard Operating Procedures (SOPs) for operations and maintenance tasks to ensure adherence to best practices.

D. DKF Spill Response Training
Spill response training for Spill Response Personnel, Data Submitters, and LROs is listed under Element 4.3.

ELEMENT 7 – SEWER PIPE BLOCKAGE CONTROL PROGRAM

Requirements

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

BLOCKAGE CONTROL PROGRAM

- *Provide a description of the pipe blockage control program that addresses the system's most common blockage-causing defects, such as roots, grease, wipes, etc.*

SOURCE CONTROL

- *Legal Authority - The legal authority prohibits discharges to the system and identifies measures to prevent spills and blockages. Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease ordinance.*
- *Design and Construction Standards - Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements.*
- *Evaluating and Permitting Grease Removal Devices*
- *Inspection, Monitoring and Enforcement*
- *Kitchen Best Management Practices*

PEVENTIVE MAINTENANCE

- *Provide a description of the root control and FOG control programs*
- *Description of Higher-frequency inspections and maintenance of known problem areas, including areas with tree root problems;*
- *An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and*
- *Preventive maintenance (including cleaning, root grinding, and fats, oils, and grease control) and source control measures. Describe maintenance of known problem areas including areas with tree root problems*
- *A plan and schedule for the disposal of pipe-blocking substances generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional*

facilities needed to adequately dispose of substances generated within a sanitary sewer system service area.

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

EDUCATION AND PUBLIC OUTREACH

- *An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe blocking substances*

Compliance

Pipe Blockage Control Program

The District implemented a FOG program in October 2017, and the Blockage Control program was developed in the spring of 2025 and implemented in July 2025.

Source Control

Legal Authority

1. California Government Code

   Available at https://leginfo.legislature.ca.gov/faces/codes.xhtml
2. Burbank Sanitary District Operation Code

   Available on the District website: https://burbanksanitary.org/operation-code/

The Burbank Sanitary District Operation Code was adopted in 2019, and as amended, hereinafter "Code," which establishes the District's legal authority to regulate domestic, commercial and industrial discharges to the sanitary sewer system. The sections included here describe the District's ability to regulate the discharge of substances that can cause or contribute to blockages of the sanitary sewer system. A full copy of the District Code is available at the District Office and on its website.

Evaluating and Permitting

The District staff determine the sizing requirements for all Grease Removal Devices (GRDs). The District has requested the city Building Departments to include the District in the review of plans for facilities with food service equipment. The plans are reviewed and a permit form with requirements are sent to the restaurant representative, and the requirement for grease removal devices (GRD) is determined. The District will not approve tenant improvement plans without reviewing comments and requirements. The District developed procedures for plan check as part of the FOG & Trash Enclosure Policy and Guidelines document which was adopted in Ordinance 120.

Design and Construction Standards

The plan review process involves evaluating the fixtures that are required to connect to the GRD, sizing the GRD based on the fixtures, requiring the applicant to update their plans to reflect the required GRD, as well as any applicable review and inspection fees. This permit form also states the minimum acceptable cleaning frequency for the type of GRD that is required, the on-site maintenance of a schedule and instructions for cleaning, and cleaning records and receipts.

The size and type of pretreatment device required is determined based upon the facility's potential for discharging grease in the wastewater. The sizing is based number of meals per peak hour, waste flow rate condition, the number of plumbing fixtures and sizes, and the facilities hours of operation. Size requirements range from a small grease trap beneath the pot sink to a large in-ground grease interceptor.

Approved grease trap sizes are 40, 50, 70, and 100 pounds. Grease interceptors must be a minimum of 500 gallons. The District does not permit the use of Power-Operated Grease Removal Devices, Chemicals, Enzymes or Bacteria.

Inspection, Monitoring and Enforcement

The District staff inspect all restaurants and other food facilities on an annual basis. Their initial inspection includes determining if the restaurant generates grease, if there is a GRD in place, and reviewing the cleaning records/manifests for the GRD, as well as practices used to clean floor mats, vent hoods, and outside areas.

Enforcement actions are taken against any restaurant that does not clean their GRD at the minimum set frequency (monthly for grease traps and quarterly for grease interceptors) or keep three years of cleaning records. Facilities generating grease are reinspected periodically (every one to three years), depending on the number of areas of concern observed during the inspection. Follow-up inspections are scheduled 15 days after the first inspection to make sure the action that caused them to fail the initial inspection has been corrected. If their GCD is found to have heavy grease, more than 25% build up, a follow up inspection is scheduled within one week to ensure the device has been cleaned.

Best Management Practices (BMP) are distributed to restaurant operators during the inspections, as appropriate, including kitchen practices to minimize the discharge of grease into the sewer system, maintenance tips for grease traps and interceptors, and record keeping requirements. If a facility is not in compliance with the above requirements, the District staff send Notice of Violation correspondence to the restaurant representatives. In the event that there is no action taken on these Notice of Violations, the violation is escalated to a fine.

Preventive Maintenance

The District performs annual cleaning of all mainline segments and conducts video inspections of District's mainlines every five years. These inspections help evaluate the structural integrity of the pipes and identify nearby restaurants that may be major contributors to improper FOG disposal. The information collected is provided to FOG program personnel for further follow up for enforcement actions when warranted. District Inspectors respond to reports from staff or other sources that a grease

blockage or unusual build-up of grease has taken place in the sanitary sewer mainlines. Referrals for Watershed Protection investigations are commonly based on the following reasons:

- Excessive grease build-up
- Odor complaints
- Request for service
- Blockages due to grease
- Excessive grease evident during preventive maintenance
- Reduced flow
- Video inspection identifies excessive grease
- Litigation

The service area upstream of the grease build-up is evaluated for potential sources, and inspections of those sources are performed. The presence and size of GRD are looked at, and GRD cleaning and maintenance records are reviewed. Enforcement action is taken against establishments determined to be causing grease blockages in the sanitary sewer, and additional requirements for cleaning or installation of GRD can be imposed.

The District works closely with the County of Santa Clara Environmental Health Department and Environmental Programs Specialist in the implementation of the Fats, Oils, and Grease (FOG) reduction program by educating food establishments on Best Management Practices.

Table 10 summarizes the total length of mainlines cleaned (in feet) and the number of laterals (in count) cleaned over the past three years as part of the mainline and lateral maintenance program.

Table 10: Length of Mainlines and Number of Laterals Cleaned in the Last 3 Years

Maintenance Year	Length of Mainlines (Feet)	Number of Laterals (Count)
2023	30,145	157
2024	30,145	171
2025	30,145	174

Table 11 provides the number of FOG (Fats, Oils, and Grease) inspections completed over the past three years as part of the FOG inspection program. BSD has a total of 6 facilities that require FOG inspections.

Table 11: Number of FOG Inspections completed in the Last 3 Years

Year	Number of FOG Inspections Completed (Count)
2023	6
2024	6
2025	6

Education and Public Outreach

A number of outreach pieces are available to distribute information about FOG issues both in future Annual Reports and on an as needed basis. Grease Management Best Management Practices fact sheets: Grease Trap Maintenance, Grease Interceptor Maintenance, Maintenance Documentation, Power-Operated Grease Removal Devices, Chemicals, Enzymes and Bacteria, Vapor/Ventilation Hood Cleaning, and a poster – Managing Fats, Oils, & Grease, ("It's Easier Than You Think") are available to inspectors and plan check staff to distribute to restaurant owners and operators.

Outreach to all facilities in the District has been conducted to ensure that the business owner clearly understand the District's requirement for the need of compliance of all FSE with Burbank Sanitary District FOG Ordinance in BSD service areas.

Wipes are a significant cause of blockages in the sewer system. Locations where there are a significant number of wipes and a history of blockages are eligible for targeted outreach using door hangers and other materials. Outreach has been created in languages other than English to better reach the diverse customers in the District's service area and make our regulation more useful and easier to understand.

ELEMENT 8 – SYSTEM EVALUATION & CAPACITY ASSURANCE PLAN

Requirements

"The Plan must include procedures and activities for

- *Routine evaluation and assessment of system conditions,*
- *Capacity assessment and design criteria.*
- *Prioritization of corrective actions.*
- *Capital improvement plan."*

8.1 System Evaluation & Condition Assessment

Requirements

The Plan must include procedures to:

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

Compliance

The District performs continuous CCTV inspection of the sewer system and televises the entire system every five years. The condition assessment program is described below:

Sewer Main Condition Assessment

The District has implemented a sewer main condition assessment program which consists of CCTV inspection of the District mainlines within the District boundary. The inspection is used to forecast the overall condition of the sanitary sewer system and to identify the level of effort and budget required to maintain and improve the sanitary sewer system. The goal of this program is to CCTV all sewer mains each year. CCTV provides information about the condition of the pipes so they can be properly maintained, repaired, and/or replaced.

Pipeline Assessment and Certification Program (PACP)

The National Association of Sewer Service Companies (NASSCO), along with the assistance of the Water Research Centre (WRC), has developed a national certification program to establish a viable solution to standardize the identification, categorization, evaluation, and prioritization of sanitary sewer or storm sewer infrastructure through CCTV investigations. CCTV inspections were completed using the Pipeline Assessment and Certification Program (PACP). PACP Version 7.0.4 was used in the assessment of the pipes. The NASSCP PACP rating and pipe defect examples are shown on Figure 10.

The PACP defect descriptions are organized into the following general categories:

- Structural Defect Coding: This group includes the type of defects where the pipe is considered to be damaged ranging from a minor case defect to a more severe case, depicted as pipe failure. The Structural Defect Coding group includes defects described as: cracks, fractures, broken pipe, holes, deformities, collapsed pipes, joint defects, surface damage defects, weld failures, point repair codes, brickwork defects, and lining failures.
- Operation and (O&M) Coding: This group includes the various codes that involve the spectrum of defects that may impede the operation and maintenance of the sewer piping system. The Operation and Maintenance Coding group includes defects comprised of roots, infiltration, deposits and encrustations, obstacles/obstructions, and vermin.
- Construction Features Coding: This group includes the various codes associated with the typical construction of the sewer piping system. The Construction Features Coding group includes taps, intruding seal material, pipe alignment codes, and access points.
- Miscellaneous Features Coding: This group includes observation codes such as water levels (detection of sags), pipe material changes, and dye testing notes.

Condition ratings are allocated through visual inspection of the pipe using PACP defect types. Assigning a rating to each inspected pipe gives a measure of the level of physical deterioration with respect to the "as new" condition. There is a separate quick score for Structural and O&M defects that is used to rate the overall condition of the pipe.

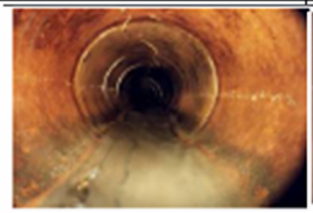
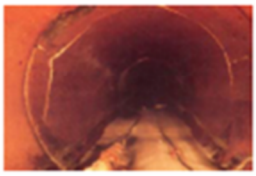
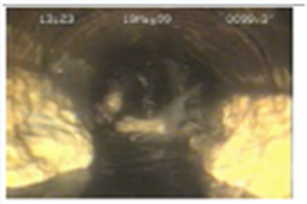
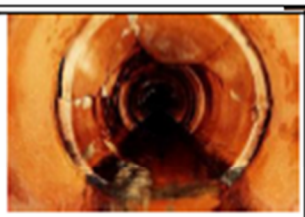
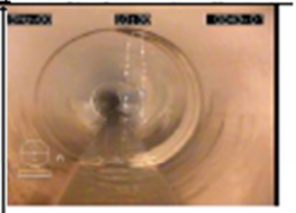
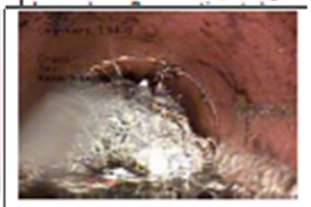
PACP Rating	PACP Defect Importance	Likelihood of Failure	Structural Defect Rating Example	O&M Defect Rating Example
1 - Excellent	Minor Defects	Failure unlikely in the foreseeable future		
2 - Good	Defects that have not begun to deteriorate	Pipe unlikely to fail for at least 20 years	 Longitudinal Cracking	 Fine Roots
3 - Fair	Moderate defects that will continue to deteriorate	Pipe may fail in 10 to 20 years	 Multiple Fractures	 Deposits = 15% (rating based
4 - Poor	Severe Defects	Pipe will probably fail in 5 to 10 years	 Broken Pipe	 nfiltration – Runner (rating
5 - Immediate Attention	Defects requires immediate action	Pipe has failed or will likely fail within the next 5 years	 Collapsed Pipe	 Root Ball (> 50% of capacity)

Figure 10: NASSCO's PACP Rating and Associated Pipe Defect Examples

Each defect can be scored with a defect grade ranging from 1 to 5, where a grade 5 has the greatest potential for pipe failure, as described in Figure 16. The 1 to 5 grades are based on the defect types that are recorded directly by the CCTV inspector during the CCTV inspection process. The PACP Rating on a scale of 1 to 5. The table summarizes the condition of a sewer length, generally from manhole to manhole. Example photos shown in the table are from the Water Research Center (WRC) Rehabilitation Manual.

The assigned grades for each pipe segments are managed in MS Access, Granite-Net, and also in the GIS so that inspection information and gradings are readily available to both engineering and

maintenance staff. This condition information is used for making informed decisions on the amount and type of maintenance that may be required.

GraniteNet

GraniteNet is used for managing the condition of sewer mains. It assesses pipe conditions, and generate condition assessments or grades. It records the details of the inspection data, assess based on the CCTV footage and PACP codes. The overall pipe grade is computed in Granite Net.

These condition grades are assigned to each sewer asset. These grades can reflect the severity of wear, cracking, corrosion, or other damage to the pipe segments. Pipes with a higher grade (indicating poor condition) can be prioritized for rehabilitation. All the CCTV data is then exported into MS Access Database.

MS Excel

MS Excel stores historical data on the maintenance and repairs that have been performed on pipe segments. This includes details like past rehabilitation efforts, pipe replacements, and repairs. By reviewing this historical information, you can identify pipes that have frequent issues or have already undergone multiple repairs, signaling they might be due for full rehabilitation or replacement.

ArcGIS

ArcGIS geolocates assets and is used to generate maps showing asset location, size, material, age, and condition. This allows for easy visualization of pipe networks, making it easier to prioritize rehabilitation efforts based on geographic areas, critical infrastructure, or high-risk zones, which are closer to surface water bodies. The data from GIS, GraniteNet, and MS Access are used to identify the pipes with significant defects.

Lower Lateral Condition Assessment

The District has implemented a Lower Lateral Condition Assessment Program designed to maintain and improve the reliability of its sewer infrastructure. This program focuses on conducting CCTV inspections of District-maintained lower laterals that either have a history of service issues or have undergone inspections related to property line cleanout installations within the District's boundaries. The findings from these inspections are used to evaluate the condition of the laterals and prioritize them for replacement or rehabilitation based on the National Association of Sewer Service Companies (NASSCO) Lateral Assessment and Certification Program (LACP) ratings.

Lower laterals identified as needing attention through the CCTV inspection process are ranked and addressed systematically. This ensures that resources are allocated to areas with the greatest need, whether due to structural defects, capacity concerns, or other issues that could compromise system performance.

To further support the program, the District employs a targeted cleaning schedule for its laterals, with cleaning frequency based on individual service histories and the presence of cleanouts. Approximately 174 of the District's 1001 laterals are equipped with serviceable cleanouts, making them eligible for preventive maintenance. The cleaning intervals are determined by factors such as:

- The presence of structural defects or cracks,
- Previous sanitary sewer overflows (SSOs),
- The severity of root intrusion, and
- Other condition indicators identified through inspection.

All cleaning activities are meticulously documented, with results recorded in MS Excel. The spreadsheet serves as a simple tool for staff to track maintenance efforts, evaluate the performance of individual laterals, and determine the appropriate level of repair or rehabilitation.

Through this basic program, the District ensures its sewer laterals are maintained proactively, reducing the risk of blockages, overflows, and costly emergency repairs. By leveraging advanced inspection techniques, condition rating systems, and management tools, the District continues to prioritize the health and longevity of its sewer infrastructure while providing reliable service to the community.

Table 12 summarizes the length of mainlines and the number of laterals inspected in 2023, 2024 and 2025 as part of BSD's mainline and lateral CCTV inspection program. The District owns approximately 30,145 feet of mainlines and has implemented a proactive inspection schedule to ensure that all sewer mainlines are inspected via CCTV at least once every five years. This equates to approximately 20% of the system, or about 6,029 feet out of 30,145 feet, inspected annually.

The District owns approximately 1,001 laterals. Unlike mainlines, all laterals are not inspected annually due to the lack of installed cleanouts, and inspections are primarily conducted for laterals where cleanouts have been installed or when severe maintenance or structural issues are identified. In 2023, 157 laterals were inspected; in 2024, 171 were inspected; and in 2025, 174 were inspected. The District is currently implementing a Capital Improvement Program (CIP), which involves the installation of cleanouts in areas where they are required or were identified during mainline inspections. These targeted inspections help the District prioritize repairs, minimize the risk of spill events, and ensure system reliability.

Table 12: Length of Mainlines and Laterals Inspected By Year

Year Inspected	Length of Mainlines (Feet)	Percentage of Mainlines Inspected Per Year	Number of Laterals (Count)	Percentage of Laterals Inspected Per Year
2023	6029 out of 30,145	20%	157	15.6%
2024	6029 out of 30,145	20%	171	17 %
2025	6029 out of 30,145	20%	174	17.3%

Manhole Condition Assessment

The District owns and maintains 73 sanitary sewer manholes, which are located at pipe junctions, intersections, and locations where pipe diameters change. These manholes are essential components of

the sewer system, as they provide access for routine cleaning, inspection, and maintenance activities. The most recent comprehensive inspection of the District's sanitary sewer manholes was completed in 2019.

The District has implemented a manhole condition assessment program that includes visual inspections conducted during scheduled preventive maintenance of sewer mains. Inspection data are documented in Microsoft Excel, and observed defects are recorded in accordance with Level 1 NASSCO Manhole Assessment and Certification Program (MACP) standards. Based on inspection results, manholes are prioritized for rehabilitation or replacement using their MACP condition ratings. This program supports proactive maintenance, helps extend asset life, and ensures continued system reliability.

CMMS Software: Arc-GIS, GraniteNet and MS Excel

The District utilizes ArcGIS, GraniteNet, and Microsoft Excel as key tools to manage mapping, sewer asset data, and inspection records. ArcGIS is used to maintain and update system maps and spatial data for sewer assets. GraniteNet is used to track, manage, and document sewer inspection and maintenance activities. Microsoft Excel is used for data analysis, reporting, and record-keeping related to inspections and asset management.

8.2 Capacity Assessment & Design Criteria

Requirements

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

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

The capacity assessment must consider:

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

Compliance

To comply with this requirement, an agency can consider the following:

- *Identify plan to identify and abate major sources that contribute to the peak flows associated with sewer spills. This may include inflow and infiltration (I&I) repairs and removal of illicit connections and discharges (e.g., storm drain connected to the system).*

To comply with this requirement, an agency should:

- *Look at the changes that have occurred and evaluate the collection system assuming the trends will continue. Consider how these potential issues will impact your collection system. This includes evaluating areas experiencing increased erosive forces and potential mitigation strategies.*
- *Evaluate available technologies and strategies including redundancy with pumping, backup power generation, storage and other equipment deemed appropriate by the agency.*
- *Establish a timeline for completion of asset analysis.*
    - *Some endeavors may be challenging and costly. Timelines need to be established to address issues before they become problems.*
    - *A funding program will have to be formulated/developed and implemented.*

Hydraulic Modeling and Capacity Assurance Plan

A hydraulic model is a valuable tool for evaluating the hydraulic capacity of large and complex sewer systems. The District's sewer system, however, is relatively small in size and serves a limited service area. The system consists of approximately 6.65 miles of sewer pipeline serving customers within a defined neighborhood of unincorporated Santa Clara County.

Due to the limited size of the service area and the fact that the minimum pipe diameters used throughout the District's sewer system provide capacity well in excess of anticipated wastewater flows, the development of a hydraulic model or formal capacity assurance plan is not considered necessary at this time.

The District maintains system capacity through regular sewer cleaning and routine closed-circuit television (CCTV) inspections. Any significant structural or maintenance-related deficiencies identified during inspections are addressed in a timely manner, which minimizes the potential for temporary capacity constraints and helps ensure reliable system performance.

8.3 Prioritization of Corrective Actions

Requirements

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

Compliance

Structural Defects Overview

Structural defects are defects where the pipe is damaged or defective. Some examples of structural defects are fractures in the pipe wall, offsets at pipe joints, deformations in the shape of the pipe, or damage to the surface of the pipe wall. The District tracks both Structural and O&M defects when performing inspections but only structural defects require rehabilitation.

The PACP Condition Rating System assigns grades to defects, which is useful for ranking pipe segments based on the severity of their existing defects and condition. The Pipe Rating System has three ways to express the conditions of pipe segments: Quick Rating, Overall Pipe Rating, and Pipe Rating Index. For the District's condition assessment, a variation of the Overall Pipe Rating was used.

- The counts for defect 4s and 5s were summed and ranked by segment.
- An additional ranking was done by ordering them with the highest number of Defect 5s.
- From those with the highest number of 5 defects, they were then ranked by the most 4 defects, and so on down the defect rating list.

This process allows the District to check which segments have the highest number of critical defects. To further facilitate the analysis of the entire District system, the District watercourses were also ranked based on number of defects as well as defects per 1,000 feet of pipe.

Sewer Main Prioritization

As stated earlier in this report, the goal of this Five-Year Capital Improvement Plan is to improve the resilience of the system by repairing severe defects of the District's existing sanitary sewer infrastructure located near watercourses, reduce infiltration and inflow in the system, and to complete the required capacity improvements that are required by the City of San Jose to handle wet weather flows. To achieve this goal, the following objectives served as the driving criteria for developing projects and prioritizing the needed improvements:

1. Minimize the risk of sewer system overflows that have the potential to discharge to watercourses.
2. Minimize the impacts of sewer system failures so that the fewest number of people or businesses are impacted if a failure occurs.
3. To fix the pipes with several PACP 4 or 5 structural defect ratings.

Prioritization for rehabilitation is based on the severity of pipe and by the watercourses where the pipes with heavy defects are located. In 2022, the District successfully finished the CIP program that repaired the defective mainline sewer in the District. The project focused on rehabilitating aging sewer infrastructure.

The CIP was implemented in two phases. Phase 1 prioritized the rehabilitation of sewer mains located within the Burbank street right-of-way, as these serve the majority of the District's customers. Phase 2 addressed sewer pipelines located within existing sewer easements. Rehabilitation methods were selected based on the condition of infrastructure in each project area, ensuring targeted and effective improvements across the District.

8.4 Capital Improvement Plan

Requirements

The capital improvement plan must include the following items:

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

Compliance

Guidance 8.4.1: To comply with this requirement, an agency can consider the following:

- *Develop and implement a system capital improvement plan to address all the above requirements.*

Capital Improvement Program for Sewer Mains

The District inspects all sewer segments via CCTV every five years (i.e., 20% of lines annually) for both periodic condition assessment and for follow-up on Spill events. Defect information is entered into the District's GraniteNet program. Perceived Structural defects are addressed by maintenance, emergency repair, or possible planned capital improvement activities. In 2016, the District applied for funding through the Clean Water State Revolving Fund (CWSRF) to support a District-wide Capital Improvement Project (CIP). The loan was approved on April 29, 2021, providing funding for both construction and associated soft costs, including engineering, administration, and construction support. The project focused on rehabilitating aging sewer infrastructure and was completed prior to August 2022. The CIP was implemented in two phases. Phase 1 prioritized the rehabilitation of sewer mains located within Burbank street right-of-way, as these serve the majority of the District's customers. Phase 2 addressed sewer pipelines located within existing sewer easements. Rehabilitation methods were selected based on the condition of infrastructure in each project area, ensuring targeted and effective improvements across the District. Figure 11 shows District Map Showing CIPP-Lined and Unlined Sewer Pipelines.

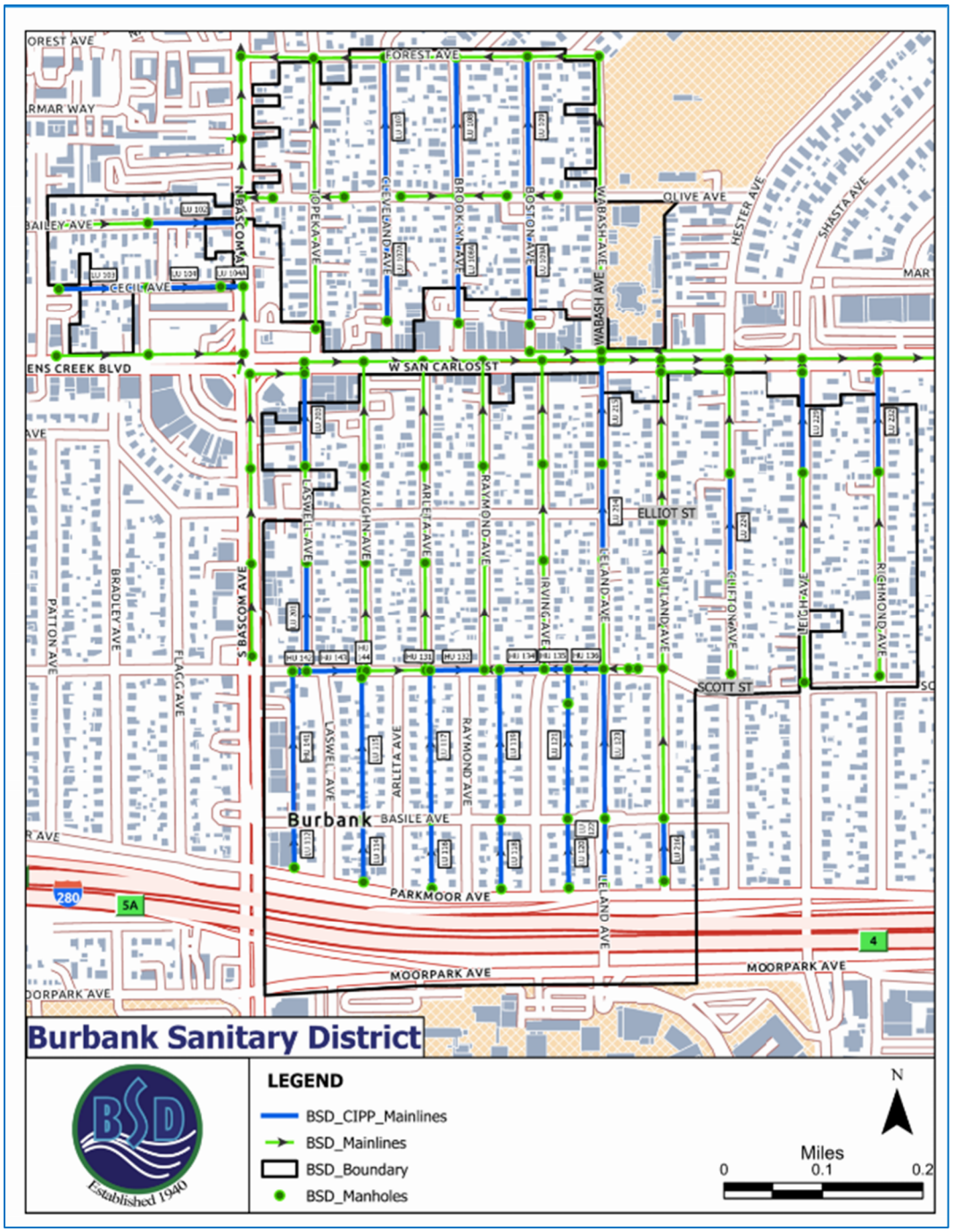


Figure 11: District Map Showing CIPP-Lined and Unlined Sewer Pipelines

Sanitary Sewer Capital Improvements for Lower Laterals

The Lower Lateral Rehabilitation Project is a multi-phase program intended to inspect, assess, and rehabilitate lower sewer laterals to address structural deficiencies and improve system performance. The

project is divided into Phases 1, 2, and 3, with sub-phases covering design, inspection, and construction activities over multiple fiscal years.

The District developed three phase project plan called Lower Lateral Rehabilitation Project (SDRP) plan to fix the laterals based on the CCTV inspection data.

Phase 1

The Design of Phase 1A Lower Lateral Rehabilitation project began in September 2025 and was completed in November 2025.

Construction of Phase 1A of the Lower Lateral rehabilitation project started in December 2025 and was completed in January 2026.

As part of Phase 1B of the project, inspection of the lower laterals will be done to evaluate for any structural issues. Lateral inspection (CCTV) data will be used to develop Capital Improvement Plan (CIP) that focused on to fix the pipes that has Lower Lateral Repairs during from 2026 through 2027. Phase 1B of the Lower Lateral rehabilitation project began in February 2026 and will be completed in May 2026.

During Phase 1C of the project, laterals with major structural defects will be fixed. Construction of Phase 1C of the Lower Lateral rehabilitation project will begin in August 2026 and will be completed in December 2026.

Phase 2

Phase 2A work includes cleaning and CCTV of laterals with Cleanout Access. There are 176 locations with cleanouts. CCTV Inspection and Design of Phase 2A of the Lower Lateral rehabilitation project will begin in May 2026 and will be completed in August 2027. Phase 2B work includes fixing the laterals with major structural defects. Construction of Phase 2B of the Lower Lateral rehabilitation project will begin in September 2027 and end in January 2028.

Phase 3

Phase 3 of the project will include condition assessment of approximately 815 sewer laterals that currently lack cleanouts. Phase 3 is anticipated to begin during Fiscal Years 2028–2029.

Prior to initiating Phase 3, the District will conduct outreach and education efforts to inform homeowners of the need to install cleanouts on private property. In accordance with District ordinance, installation of cleanouts is the responsibility of the homeowner. Outreach materials will explain the purpose of cleanouts, inspection requirements, and their role in maintaining and repairing lower lateral segments.

As part of this outreach, the District will also explore assistance options for economically challenged homeowners, including cost-sharing programs or reduced-cost installation options, to help improve participation and ensure equitable access to the program. Installation of cleanouts will enable the District to inspect and, where necessary, repair lower laterals as part of Phase 3 activities.

As a result of these improvements, the District's system will have achieved a significant increase in the system resiliency which is a key attribute and performance measure of the California Integrated Water Quality System (CIWQS).

Measures to Reduce the Risk of Spills

Sewer System Repairs

The primary method being used by the District to reduce the risk of spills is to repair and replace the sewer system in areas of the highest priority based upon the condition assessment data.

ELEMENT 9 – MONITORING, MEASUREMENT, & PROGRAM MODIFICATIONS

Requirements

The enrollee shall:

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

Maintain Relevant Information that can be Used to Establish and Prioritize Appropriate Sewer System Management Plan (SSMP) Activities

The information that will be used to prioritize SSMP activities will be the SSMP Gap Closure Schedule which is shown in Figure 12. The key gaps and the fiscal years when the gaps will be closed are shown on the schedule along with the milestone dates for future SSMP Audits and SSMP submittal dates for the next SSMP period. The SSMP activities will focus on closing the major gaps of the SSMP.

Monitor the Implementation and, Where Appropriate, Measure the Effectiveness of each Element of the SSMP

The information provided in Table 11 will be utilized to assess the effectiveness of the SSMP and to measure progress in reducing Spills. The effectiveness shall be discussed during regularly scheduled field inspectors and safety training meetings. These meetings include field inspectors, administrative and engineering staff.

Assess the Success of the Preventative Maintenance Program

The information provided in Table 13, Figure 13 and Figure 14 will be utilized to assess the effectiveness of the SSMP and to measure progress in reducing Spills. The effectiveness shall be discussed during regularly scheduled field inspectors and safety training meetings. These meetings include field inspectors, administrative and engineering staff.

	BSD SSMP Gap Closure Schedule							
				Fiscal Year				
	Consider System Size							
	Overall Goal to Reduce Risk of Spills	**25-26**	**26-27**	**27-28**	**28-29**	**29-30**	**30-31**	**31-32**
	Audit Schedule	**11/2/2025**			**11/2/2028**			**11/2/2031**
	SSMP Schedule	**5/2/2026**						**5/2/2032**
Element	**Key Gap**							
	Prepare Schedule for Filling Gaps	X						
3	Update Operations Code		X					
4	Implement Basic CMMS (MS Excel)		X	X				
4	Training		X					
	Basic CMMS (MS Excel)		X	X				
	Spill Emergency Response Plan	X						
	Contractor			X				
4	Equipment Inventory and Critical Spare Parts			X				
7	Sewer Blockage Control Program	X						
8	Prioritize Condition Assessment Based on Risk			X	X			
8	Prioritization of Pipe Repairs			X				
8	Prepare Capital Improvement Plan		X	X	X			
8	Lower Lateral CIP -Design and Construction							
	Phase 1	X	X					
	Phase 2		X	X	X			
	Phase 3			X	X	X		
11	Communications Plan		X					
	Residents and Businesses		X					
	Tributary Areas (City of San Jose JUA)			X				
	Roads and Airports		X					
	Emergency Communications	X						

Figure 12: SSMP Gap Closure Schedule

Table 13: . Spill Log for the Last 10 Years

Cause of Spill	Number		Percent of Total	
Blockage:	**Laterals**	**Mains**	**Laterals**	**Mains**
Roots	2		100%	
Grease				
Debris				
Debris from Laterals				
Vandalism				
Animal Carcass				
Construction Debris				
Multiple Causes Infrastructure Failure				
Inflow & Infiltration				
Electrical Power Failure				
Flow Capacity Deficiency				
Natural Disaster				
Bypass				
Cause Unknown				
Total	**2**		**100%**	**100%**

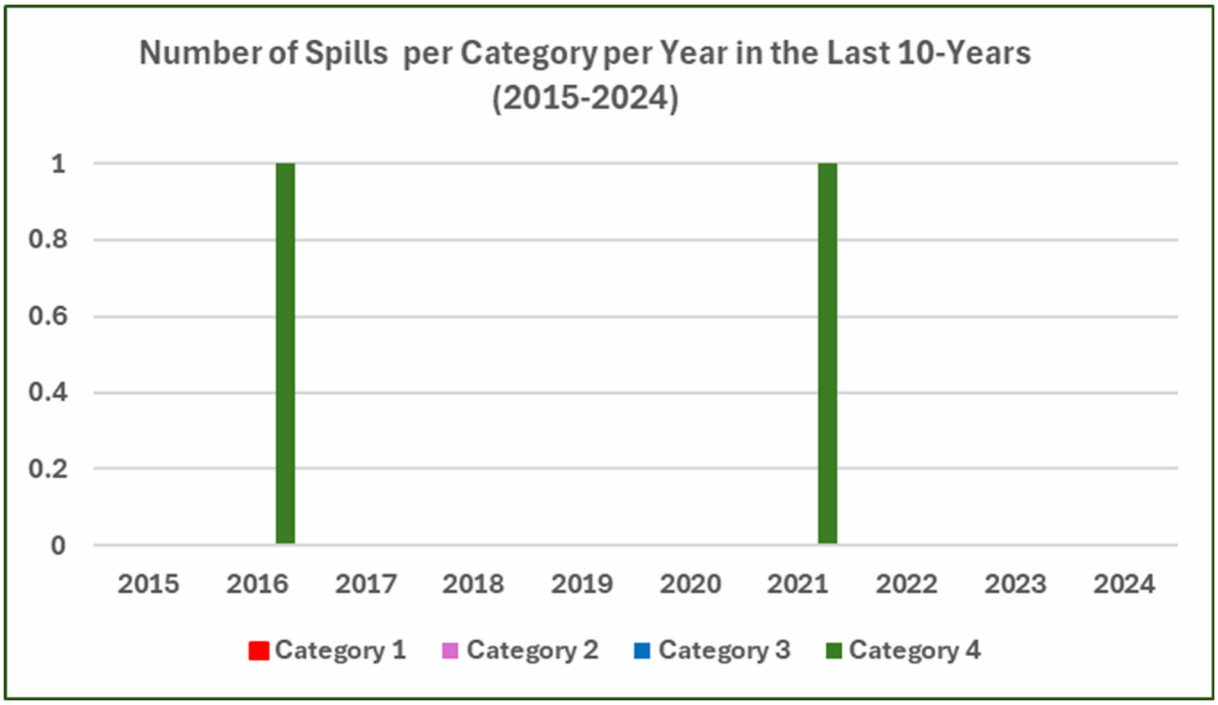


Figure 13: Number of Spills per Category per Year in the Last 10 Years

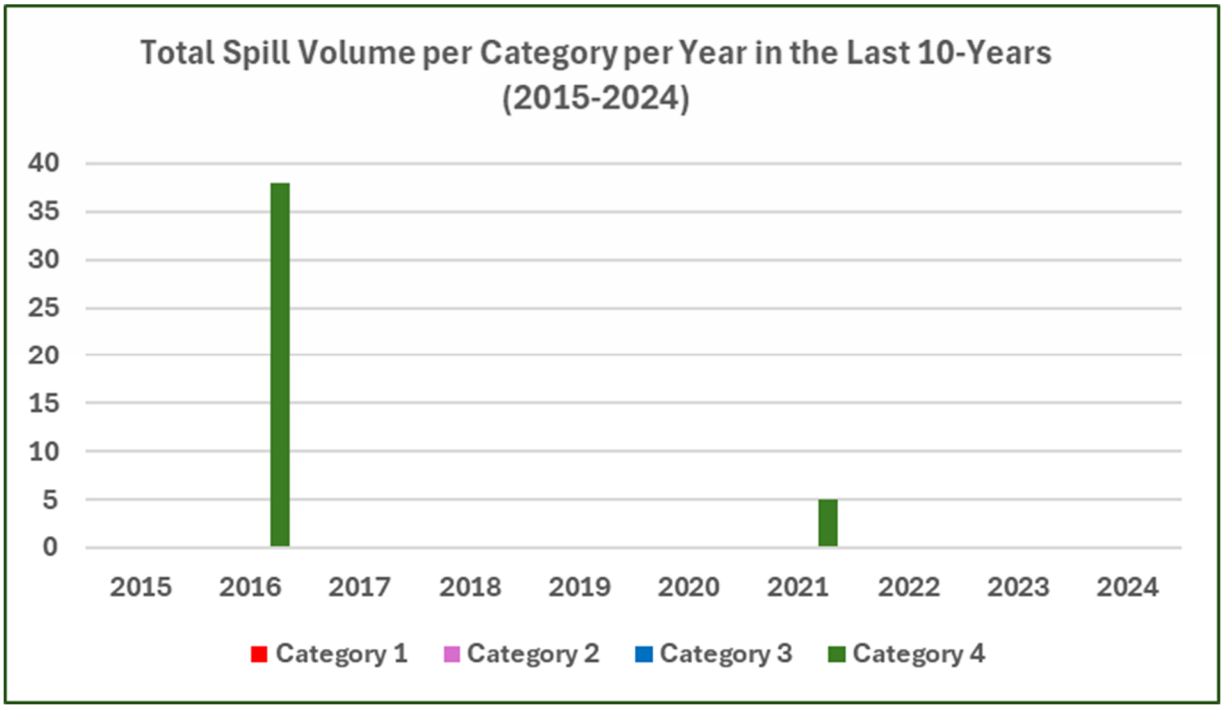


Figure 14: Total Spill Volume per Category per Year in the Last 10 Years

Update Program Elements, as Appropriate, Based on Monitoring or Performance Evaluations

The District will determine the need to update its SSMP more frequently based on the results of the three-year audit as required by the SSS-WDR and the performance of its sanitary sewer system. The process to complete the update will be identified in the event that the District determines that an update is warranted. The update will be completed within one year following the 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 District Manager-Engineer.

The SSMP shall be reviewed quarterly by the Authorized Representative to ensure all the provisions are implemented. The SSMP and its elements shall be updated in accordance with current regulatory guidelines and as a result of monitoring recommendations by the District staff. Performance evaluations are on-going because daily operations of the District include all the elements of the SSMP program. The District shall revise and update its CIP program each year to include upgrades to its infrastructure in compliance with SSMP requirements. Allocation of funds for such upgrades shall be identified in the CIP program and annual budget submitted to the District's Board of Directors for approval.

Identify and Illustrate Spill Trends, Including: Frequency, Location, and Volume

Spill reports shall be entered into the MS Excel to analyze Spill trends. The excel can create reports as to location, volume, cause, and frequency of Spill events. These annual reports shall be reviewed by the District staff to determine appropriate maintenance/repair/upgrades to the sewer system, if necessary.

The performance criteria that are monitored include:

- Total number of spills;
- Number of spills for each cause (roots, grease, debris, pipe failure, capacity, and others);
- Portion of sewage contained compared to total volume spilled;
- Volume of spilled sewage discharged to surface water; and
- Miles of sanitary sewer lines cleaned

ELEMENT 10 – SSMP AUDITS

Requirements

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

- *Specifications 5.4 (Sewer System Management Plan Audits") "The Enrollee shall conduct an internal audit of its Sewer System Management Plan, and implementation of its Plan, at a minimum frequency of once every three years. The audit must be conducted for the period after the end of the Enrollee's last required audit period. Within six months after the end of the required 3-year audit period, the Legally Responsible Official shall submit an audit report into the online CIWQS Sanitary Sewer System Database per the requirements in section 3.10 (Sewer System Management Plan Audit Reporting Requirements) of Attachment E1 of this General Order. Audit reports submitted to the CIWQS Sanitary Sewer System Database will be viewable only to Water Boards staff.*

The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. The Enrollee's sewer system operators must be involved in completing the audit. At minimum, the audit must:

- *Evaluate the implementation and effectiveness of the Enrollee's Sewer System Management Plan in preventing spills.*
- *Evaluate the Enrollee's compliance with this General Order.*
- *Identify Sewer System Management Plan deficiencies in addressing ongoing spills and discharges to waters of the State; and*
- *Identify necessary modifications to the Sewer System Management Plan to correct deficiencies.*
- *The Enrollee shall submit a complete audit report that includes:*
  - Audit findings and recommended corrective actions.
  - A statement that sewer system operators' input on the audit findings has been *considered; and*
  - A proposed schedule for the Enrollee to address the identified deficiencies."

As part of the Sewer System Management Plan (SSMP), the District will conduct internal audits appropriate to the size of the District's system and the number of spills. At a minimum, these audits must occur every three 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, including identification of any deficiencies in the SSMP and steps to correct them.

SSMP Audit

The Water Board requires that the Sewer System Management Plan be evaluated for compliance, implementation and effectiveness while addressing system resilience. To properly manage the Sewer System Management Plan, these concepts must be considered when developing each element.

Compliance

Compliance is the act of meeting regulations. This is the starting point for the development of the Sewer System Management Plan, as all the requirements in the individual elements must be incorporated and addressed. As agencies begin to develop their new Sewer System Management Plan, there will be cases where new procedures, work plans, and ordinances will need to be developed or updated to meet the requirements. Compliance is the most fundamental aspect in the development of the Sewer System Management Plan.

Implementation

Implementation is the actions or steps taken to accomplish tasks, goals, and objectives. There needs to be a plan and schedule to carry out these actions. To implement a plan, a goal, level of effort, resources, and timeline need to be determined.

Effectiveness

Effectiveness is the degree to which something is successful in producing a desired result. There must be a procedure or method to measure effectiveness so the degree to which something is effective can be determined. A requirement of an internal audit (Element 10) is to measure the effectiveness of each Sewer System Management Plan element.

When developing a Sewer System Management Plan, an agency must describe how their plan will address each element. This is the agency's declaration or statement of what they will do to comply with each element When this plan is carried out, and implemented as described, and, if the desired results are realized, then the plan is effective. If safeguards are put in place to prevent or mitigate failures, omissions, and oversights, then there is a level of resilience built-in to the Plan.

District Audit

The SSMP Audit completed in November 2025 evaluated the District's status based on a series of questions aligned with WDR guidance. Each question is categorized as 'C' for Compliance, 'I' for Implementation, or 'E' for Effectiveness. Identified gaps in the SSMP are outlined in the "SSMP Gap Closure Schedule," located at the end of Element 9, Figure 23. This schedule details the key gaps, the fiscal years in which they will be addressed, and milestone dates for upcoming SSMP audits and submittals for the next reporting cycle.

ELEMENT 11 – COMMUNICATION PROGRAM

Requirements

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

The public for spills and discharges resulting in closures of public areas, or that enter a source of drinking water

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.

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

Communication with and Outreach to Residential, Commercial, and Industrial Customers and the General Public

Burbank Sanitary District's communications program involves mailing, emailing, and posting on the District's website SSMP components and other related information for input by the public as well as dissemination of important SSMP requirements.

The District also conducts extensive public outreach and education to residents and businesses related to sanitary sewer overflows, preventing grease blockages and Best Management Practices for the handling of grease waste. Links to such information are located on the District's website where the public and the District customers are encouraged to view. Additional links such as the Association of Bay Area Governments' (ABAG) "Sewer Smart," the Santa Clara Valley Water District's "Best Management Practices" for storm water discharges, and the District's Standard Design Details are available for residential and commercial customers.

District Website

To enhance communication with the District's residential, commercial, and Industrial customers and to comply with the State Water Resources Control Board's Waste Discharge Requirements (WDR) for sanitary sewer systems, the District completed a comprehensive website enhancement initiative in FY 2022 – 2023 to improve transparency, public access to information, and regulatory alignment. Website improvements included updating the homepage to clearly define the District's services, removing outdated content, and incorporating an event page to inform the public of major ongoing sewer system activities.

The Website also features links to Key District documents including the Sewer System Management Plan (SSMP), Operations Code, ordinances, adopted budgets, and District design standards. Documents are presented with accessible summaries and made available for download, particularly for use by contractors and stakeholders.

Future website improvements will include to feature static GIS maps to display system infrastructure such as boundaries, mains, laterals, and manholes. Educational and outreach efforts will be expanded through updated content, blog posts detailing maintenance schedules, and the inclusion of public resources on proper sewer use, FOG (fats, oils, and grease) disposal, and underground utility awareness.

- The District will also provide a clearly defined sewer permit application process, along with visual tools to guide applicants.
- Maintenance and inspection data, including CCTV activities, cleaning frequency, contractor activity, and historical metrics on spills will be made publicly available to demonstrate program performance and resource allocation.
- To further support compliance and operational transparency, the site will summarize active repair projects, display audit findings, and offer access to standard operating procedures and WDR compliance data.
- Online reporting tools will be implemented to allow residents and staff to submit spill reports and maintenance requests.

These enhancements will be supported by website usage analytics and a full redesign focused on mobile responsiveness and ADA accessibility, ensuring the site meets the communication and documentation standards outlined in the WDR Monitoring and Reporting Program.

In areas where sewer overflows are attributed to FOG, the District inspectors canvass the vicinity with notifications to residents and businesses to reinforce the message to avoid pouring these items down sewer drains.

Communication with Other Local Sanitary Sewer Agencies

The District is a tributary agency to the City of San Jose and City Santa Clara Regional Wastewater Facility. Other tributary agencies include the City of Milpitas, West Valley Sanitation District, County Sanitation District No. 2-3, and Cupertino Sanitary District. The District communicates with the City of San Jose and solicits input regarding the SSMP requirements with an emphasis on design and construction practices and devices that prevent sewer overflows or backflows into residential or commercial uses. The District will communicate with the above agencies to note the identified areas at risk in the event of spills and working to develop strategies for joint response, when practical, to contain and prevent spills from reaching fishable creeks or receiving waters to the Bay.

Wastewater collection agencies share the same watershed basins with storm water collection agencies or cities and the Santa Clara Valley Water District. Since all are subject to State WDR and/or NPDES permitting, it is imperative that open communication be maintained which acknowledges a partnership of stakeholders with the common interest of keeping the South Bay, creeks and their tributaries free of pollutants.

The District will communicate with the above agencies to note the identified areas at risk in the event of spills and work with them to develop strategies for joint response, when practical, to contain and prevent spills from reaching fishable creeks or receiving waters to the Bay.

Communication with Other Local Watershed Stakeholders

The California Water/Wastewater Agency Response Network (Cal-WARN) was established with a mission to support and promote statewide emergency preparedness and mutual assistance for member public and private water and wastewater utilities, has been active for approximately 12 years. The organization is divided into six regions within the state. The District is within Coastal OES Region II. Of the tributary agencies to San Jose-Santa Clara WPCP only the City of Milpitas and Santa Clara are currently members of Cal-WARN. Within Santa Clara County the City of Sunnyvale, California Water Service Company, San Jose Water Company, San Jose Municipal Water System and Santa Clara Valley Water District are also members. Membership in this organization of all the tributary agencies and others having common watershed interests would be a first step toward accomplishing the stated objectives described above and is encouraged. Additional information for Cal-WARN can be found on its website www.calwarn.org.

Emergency Communications

Shown on Table 14Table 2 are the agencies the District will communicate with during emergencies.

Table 14: Emergency Communications

Contact Name	Telephone
BSD	(408) 255-2137
County Communications	(408) 299-2507
Wastewater Treatment Plant	(408) 945-5300
Fire Department	911
Police / Sheriff	911
California Emergency Management Agency	1-(800) 852-7550
Regional Water Quality Control Board (Region 2) (Mon - Fri 8-5)	(510) 622-2369
Department of Fish and Game	(650) 688-6340
Santa Clara Valley Water District	(408) 265-2600 1-(800) 510-5151 -- 24-Hour Creek Emergency
County of Santa Clara Hazardous Materials Compliance Division	(408) 299-6930
Environmental Health Officer	(408) 918-3400
Able Underground Construction (Rodding, Hydroflush, Vactor, Pump Truck)	(408) 377-9990
Roto-Rooter (Rodding, Hydroflush, Mainliner)	(408) 727-9850
AB/JDD	(408) 251-1820
Flowing Water	(925) 270-3195
Restoration Management Company (Remediation Contractor)	1-(800) 400-5058