SEWER SYSTEM MANAGEMENT PLAN

July

2019

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INTRODUCTION

In 2004, the San Francisco Regional Water Quality Control Board indicated its intent to implement new regulations to uniformly monitor sanitary sewer overflows. Also envisioned at the time was some type of collection system planning document which all agencies would be required to produce and abide by. The Bay Area Clean Water Agencies (BACWA), with a broad base of collection system management experience, elected to work collectively with the Regional Water Board to develop an approach which would meet the goals of reducing and preventing sewer system overflows while retaining a common-sense approach to the practicalities of managing collection systems. City of Livermore staff actively participated in the BACWA Collection System Committee that worked with the Regional Water Board on developing core details of the plan. The City of Livermore prepared its first Sewer System Management Plan in compliance with requirements outlined by the RWQCB in its July 2005 Sewer System Management Plan Development Guide.

The State Water Resources Control Board (SWRCB or State Water Board) subsequently issued statewide waste discharge requirements for sanitary sewer systems which included requirements for the development of a Sewer System Management Plan (SSMP). The State Water Board requirements are outlined in Order No. 2006-0003-DWQ, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS-WDR) dated May 2, 2006. Order No. WQ-2008-0002-EXEC, dated February 20, 2008, was adopted to address notification deficiencies discovered early during implementation of the SSS-WDR. Following more than six years of SSS-WDR implementation, the State Water Board directed its staff to review and prepare an amended Monitoring and Reporting Program. City of Livermore staff participated on the BACWA Collection System Committee that worked with the State Water Board during the review process. The revised MRP, Order 2013-0058-EXEC, went into effect on September 9, 2013.

This SSMP includes information on each element required by the State Water Board, and is organized to follow the State Water Board's outline. The SSMP requirements are included verbatim from the SSS-WDR at the beginning of each element. City staff is aware of the upcoming proposed reissuance of Statewide Waste Discharge Requirements and is currently working with State Water Board staff to update current Provisions.

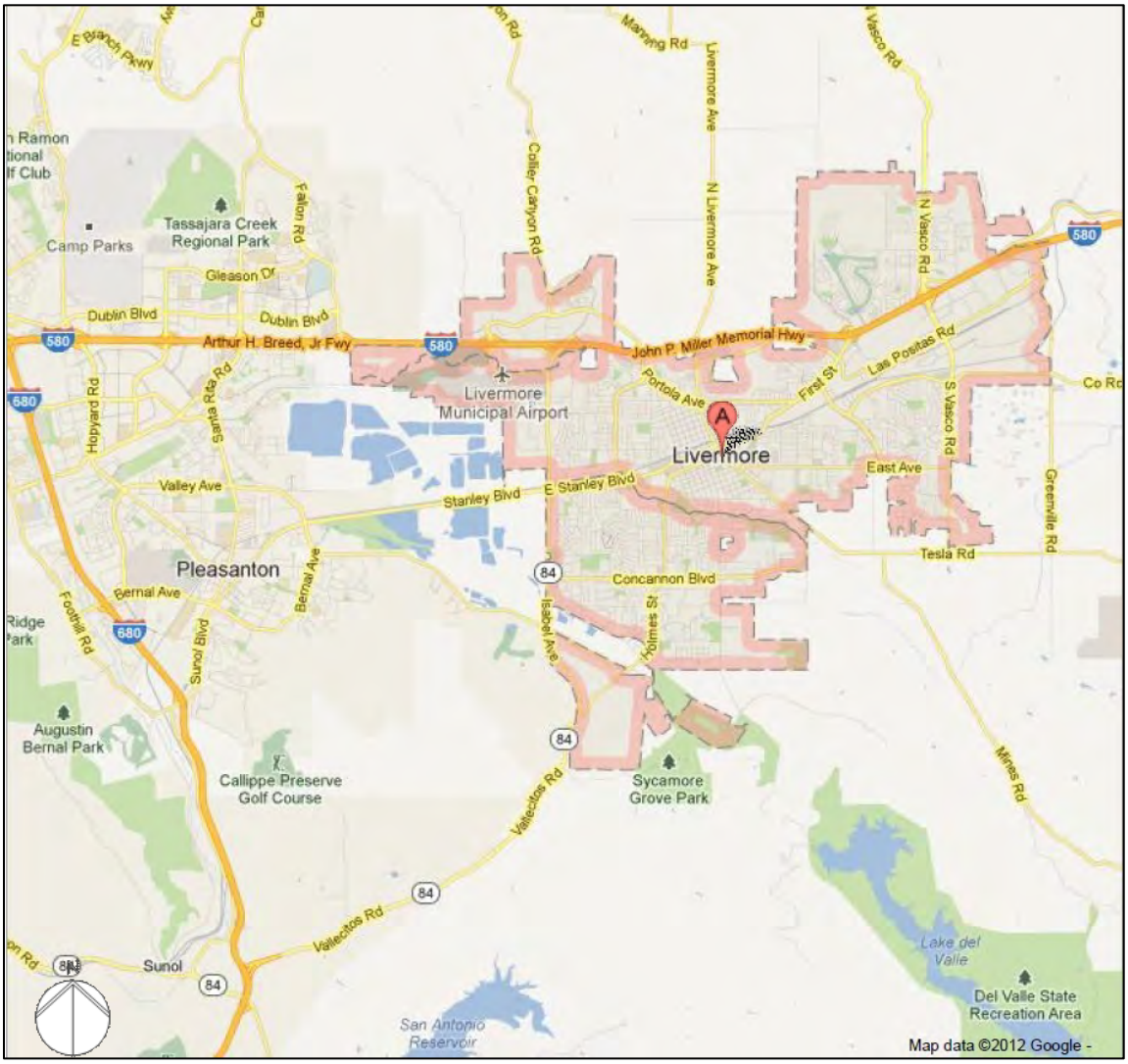
The San Francisco Bay Regional Water Quality Control Board issued Waste Discharge Requirements to the City of Livermore for the Livermore Water Reclamation Plant (Order No. R2-2017-0018 NPDES No. CA 0038008). Provision VI.C.4.c states that the Discharger's collection system is part of the facility that is subject to the NPDES permit. It further states that implementation of State Water Board Order No. 2006-0003 DWQ

requirements will satisfy NPDES permit requirements. Information in this SSMP demonstrates the City's implementation of the State Water Board Order.

SYSTEM OVERVIEW

All of the sewage generated in the City of Livermore is collected for treatment at the Livermore Water Reclamation Plant operated and maintained by the City's Water Resources Division. The treated wastewater that is not recycled is sent through the Livermore Amador Valley Water Management Agency (LAVWMA) pipeline for disposal in the San Francisco Bay. Division staff also maintains the storm water conveyance and sanitary sewer collection systems. The Division administers a number of mandated regulatory requirements, including industrial pretreatment, pollution prevention and storm water programs. Figure 1 highlights the City's wastewater service area. The City of Livermore has four lift stations with pump horsepower ratings ranging from 8 horsepower (HP) to 44 HP. All lift stations have redundant pumps, and two have onsite backup power generators. In the event of redundant pump failure, hoses, pumps and pump-around bypass solutions have been pre-planned and tested in training exercises.

FIGURE 1 CITY OF LIVERMORE WASTEWATER SERVICE AREA MAP



ASSETS OWNED AND MANAGED

The following provides a snapshot of the current state of the collection system assets. It documents what assets are owned and managed, how old they are, what condition they are in, and their estimated replacement cost.

The collection system is categorized into the following asset types: pipes, force mains, laterals, cleanouts, and manholes. Assets not owned by the City or no longer in service are excluded. The collection system pipe inventory is summarized in Table 1.

WRD owns and manages 304 miles of collection pipe. While there are multiple pipe materials and lining types, the two dominant pipe materials are vitrified clay pipe (VCP) and polyvinyl chloride (PVC) pipe, which represent 93% of the collection system. About 1% of the system length is of an unknown material type; these pipes are in a separate

category (no material was assumed) and as the pipe material is verified in the field, records will be updated.

TABLE 1 COLLECTION SYSTEM PIPE INVENTORY

Pipe Material	Segments	Length (ft)	Length (mi)	Portion of Total Length
ABS	11	1,663	0.31	<1%
AC	35	12,132	2.30	1%
CIPP	1	84	0.02	<1%
DI	52	8,572	1.68	1%
Unknown	21	4,402	0.83	<1%
HDPE	16	2,523	0.48	<1%
PVC	3,532	646,424	122.43	40%
RCP	111	37,753	7.15	2%
RPM	65	14,149	2.68	1%
TRUSS	114	29,089	5.51	2%
VCP	3,476	849,383	160.87	53%
Grand Total	7,434	1,606,174	304.20	100%

Table 2 breaks down the collection system pipe inventory further by pipe size. The dominant pipe size is 8 inches, representing 75% of the total length of the pipe. This is followed by the pipe sizes of 10, 6, and 12 inches. These four sizes represent 90% of the collection system. Only about 5% of the total pipe length (roughly 14 miles) is 24 inches or greater in size.

TABLE 2 COLLECTION SYSTEM PIPE INVENTORY BY PIPE SIZE

	Pipe Material											Length	
Diameter (in)	ABS	AC	CIPP	DI	UNKNOWN	HDPE	PVC	RCP	RPM	TRUSS	VCP	(ft)	(miles)
4	-	-	84	180	-	-	953	-	-	-	189	1,406	0.27
6	-	-	-	154	-	949	6,246	-	-	2,652	51,122	61,123	11.58
8	1,409	1,014	-	4,510	2,935	-	545,647	-	12,701	26,315	612,927	1,207,458	228.69
10		11,118	-	1,356	-	443	43,130	-	-	-	49,663	105,710	20.02
12	-	-	-	1,350	1,467	-	16,373	-	1,448	-	53,800	74,438	14.10
14	-	-	-	-	-	-	3,828	-	-	-	-	3,828	0.73
15	-	-	-	-	-	-	6,141	-	-	-	17,152	23,293	4.41
18	-	-	-	1,022	-	1,131	7,222	87	-	121	33,452	43,035	8.15
21	-	-	-	-	-	-	1,384	-	-	-	10,775	12,159	2.30
24	-	-	-	-	-	-	9,130	966	-	-	11,875	21,971	4.16
27	-	-	-	-	-	-	2,908	736	-	-	5,202	8,846	1.68
30	-	-	-	-	-	-	69	12,972	-	-	745	13,786	2.61
33	-	-	-	-	-	-	-	5,330	-	-	1,712	7,042	1.33
36	-	-	-	-	-	-	105	6,757	-	-	431	7,293	1.38
39	-	-	-	-	-	-	3,286	214	-	-	336	3,836	0.73
42	-	-	-	-	-	-	-	7,846	-	-	-	7,846	1.49
48	254	-	-	-	-	-	-	2,224	-	-	-	2,478	0.47
60	-	-	-	-	-	-	-	621	-	-	-	621	0.12
Total (ft)	1,663	12,132	84	8,572	4,402	2,523	646,422	37,753	14,149	29,088	849,381	1,606,169	
Total (miles)	0.31	2.30	0.02	1.62	0.83	0.48	122.43	7.15	2.68	5.51	160.87		304.20

The City's collection system assets are not just limited to pipes. Also included are manholes, cleanouts, laterals, and force mains. Table 3 presents these additional asset types with respect to count and, where applicable, length.

TABLE 3 COLLECTION SYSTEM PIPE INVENTORY

Asset Type	Segment Count	Length (ft)	Length (mi)
Forced Main	42	15,084	2.86
Pipe	7,391	1,591,090	301.34
Cleanout	419		
Manhole	6,822		
Lateral	2,723	136,150	25.79

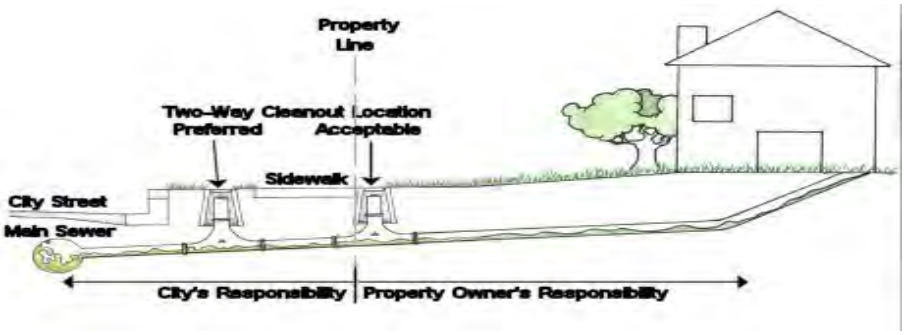
According to records, the City owns and maintains 6,822 manholes, 2,723 cleanouts, and about 26 miles of laterals and 2.8 miles of force mains. It is estimated that the current lateral inventory shown in Table 3 represents 70% of the true length; moving forward, further work by staff will account for the rest of the lateral information.

Figures 2A and 2B are diagrams delineating the City and the property owner's responsibilities for the sanitary sewer service lateral. If there is a problem in the sewer system that appears to be originating from outside the private property, the City's Water Resources Division will dispatch staff to check the sewer main in the area.

Customers are responsible for all lateral maintenance, repair, or replacement on private property.

FIGURE 2A: DIAGRAM DELINEATING CITY AND PROPERTY OWNER RESPONSIBILITY

FIGURE 2B: DIAGRAM DELINEATING CITY AND PROPERTY OWNER RESPONSIBILITY (PARK STRIP)



Since July 1, 2000, the City has had a sewer lateral maintenance program in place for residents of single family homes. For homes with an approved curbside two-way lateral cleanout:

- If the problem is determined to be in the sewer lateral within the public right-of-way, the City will clean the lateral at no charge to the resident.
- If the problem is determined to be between the home and the two-way cleanout, it is the customer's responsibility to correct the problem.

The City encourages residents to install a curbside two-way lateral cleanout because if a home's sewer lateral does not have a two-way cleanout, clearing a stoppage will require additional plumbing work that is the homeowner’s responsibility. A curbside two-way lateral cleanout allows the City and plumbers to maintain the sewer lines. A cost-effective

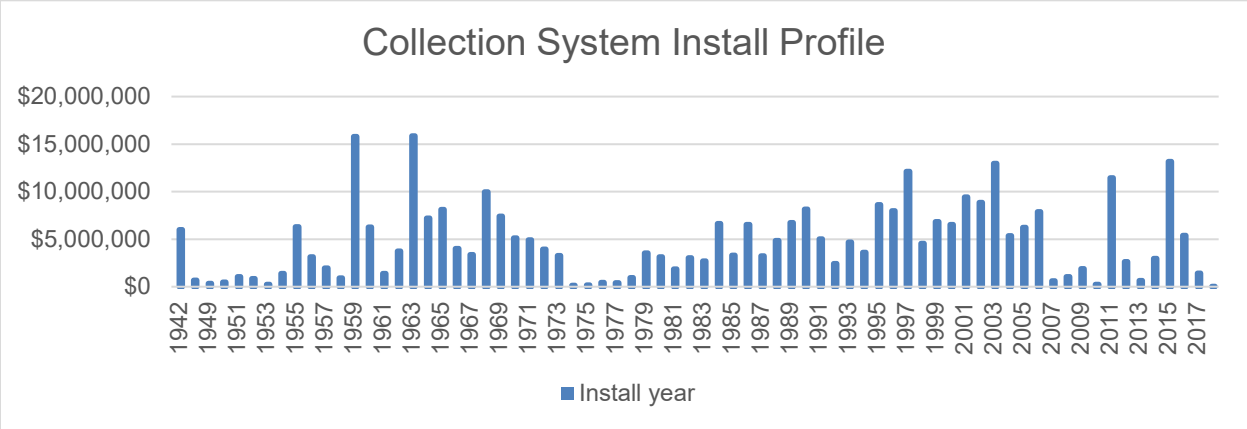
time to install a cleanout is when a plumber is already repairing or replacing a deteriorated or root-damaged lateral. Before replacing a sewer lateral or installing a two-way cleanout, the plumber is required to first obtain a permit from the City's Permit Center. The permit is required to ensure the sewer lines and cleanouts are properly installed.

ASSET INSTALLATION PROFILE

The historical asset installation profile provides insight into when large portions of assets were installed. The installation trends generally coincide with events in history (e.g., economic recessions, heightened government spending, and development of communities). The historical asset installation profile for WRD collection system is presented in Figure 3. The dollar value represented in the figure is expressed in 2017 estimated replacement costs. It does not represent the actual capital investment that took place in any given year. The figure illustrates the amount of investment (asset installation) per year, represented in 2017 dollars, dating back to the earliest asset installation.

As shown in Figure 3, construction of WRD’s collection system was initiated in the early 1940s. There was some growth in the late-1950s, followed by a large development in the mid-1960s to early-1970s. During the late-1970s, very little development took place. It wasn’t until the early-1980s that the collection system construction resumed and steadily grew until the mid-2000s. In recent years, development has picked up and this pattern aligns with the growth of the City of Livermore.

FIGURE 3 COLLECTION SYSTEM INSTALLATION PROFILE



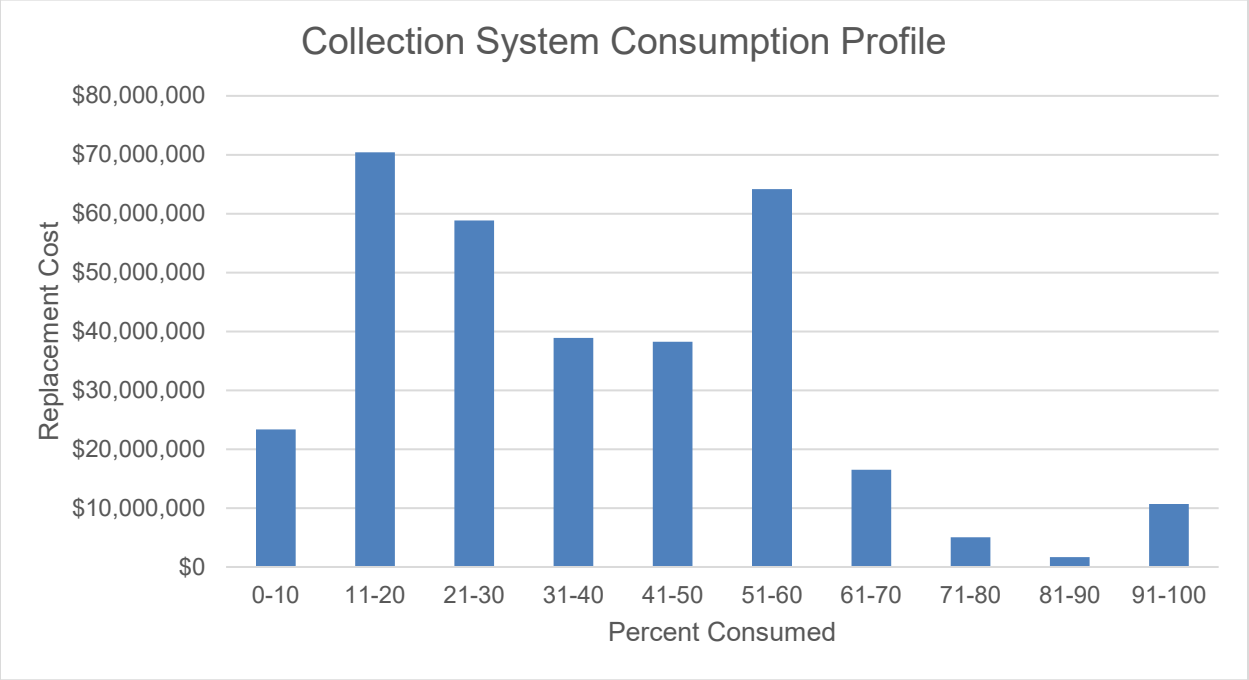
ASSET CONSUMPTION PROFILE

Unlike the installation profile which focuses on the past, the consumption profile focuses on an assessment of the current state of the assets. The consumption profile provides an overview of how much of each asset's life is used up. The profile provides an indication of the amount of assets reaching the end of their expected life and when they will require replacement.

The consumption profile is calculated using each asset's age, condition, and expected life. For example, an asset identified as 0% consumed indicates a new asset, whereas, an asset identified as 100% consumed indicates the asset has reached the end of its useful life. Assets with shorter expected lives will be consumed more quickly than assets with long expected lives.

WRD's collection system consumption profile is presented in Figure 4 below. The dollar value represented in the figure is expressed in 2017 estimated replacement costs. In general, most of the assets are within the 10 to 60 percent consumed range. The heavy concentration of assets in the 5 to 50 percent consumed range indicates that most pipes and manholes are in good condition. However, the analysis shows about $11 million worth of pipes needing replacement. Further investigation of the pipes identified as 100% consumed is warranted.

FIGURE 4 COLLECTION SYSTEM ASSET CONSUMPTION PROFILE



ELEMENT 1 – GOALS

SWRCB Requirements:

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

The goals for the City of Livermore's Sewer System Management Plan are as follows:

- To continue to professionally manage, operate and maintain all parts of the wastewater collection system and prevent overflows;
- To comply with all regulatory requirements;
- To provide adequate capacity to convey peak flows;
- To minimize the frequency and potential of Sanitary Sewer Overflows (SSOs);
- To mitigate the impact of SSOs;
- To provide training on a regular basis so that staff is able to safely and proficiently manage, operate and maintain all parts of the sanitary sewer system;
- To provide effective means to communicate with customers; and
- To achieve the Collection System Section's annual goals outlined in Element 9.

ELEMENT 2 – ORGANIZATION

SWRCB Requirements:

The Sewer System Management Plan (SSMP) must identify:

(a) The name of the responsible or authorized representative as described in Section J of this Order.

(b) The names and telephone numbers for management, administrative, and maintenance positions responsible for implementing specific measures in the SSMP program. The SSMP must identify lines of authority through an organization chart or similar document with a narrative explanation; and

(c) The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Board and other agencies if applicable (such as County Health Officer, County Environmental Health Agency, Regional Water Board, and/or State Office of Emergency Services (OES)).

Figure 2.1 shows the organizational chart for the City of Livermore Water Resources Division. The positions involved in operating, maintaining, inspecting, or providing funding support for the sanitary sewer system are highlighted.

The City's Water Resources Division Manager has overall responsibility for the Water Resources Division, including the sanitary sewer system. The Water Resources Division Manager is the backup Legally Responsible Official for SSO reporting.

The Water Resources Technical Programs Manager provides support to the Division in areas of permits and regulations, compliance with the SSO requirements, as well as oversees the Division's safety program.

The Public Works Supervisor–Collection Systems has primary responsibility for the sanitary sewer system, compliance with the SSO requirements, and the implementation, management and update of the SSMP. The Public Works Supervisor-Collection Systems is the Legally Responsible Official for SSO reporting.

The Collection System Coordinator is the lead worker responsible for managing operations and maintenance of the sanitary sewer system, including SSO response and training of field crews.

The Wastewater Collections System Worker I and II in the Collection System Section performs preventive maintenance activities and closed-circuit television (CCTV)

inspections of the sanitary sewer system, and mobilize and respond to notifications of stoppages and SSOs.

The Public Works Supervisor – Environmental Compliance administers the City's Fats, Oils and Grease (FOG), industrial waste, pre-treatment and storm water programs.

The Source Control Coordinator and Source Control Inspectors provide assistance to the Collection System Section for large SSOs and those SSOs that reach storm drains or waters of the State. Source Control Section staff implements the FOG, industrial waste, pre-treatment and storm water programs.

The Water Resources Asset Management Specialist provides technical support with the management of asset information, GIS, and computer maintenance management systems (CMMS).

The City's Engineering Division, part of the Community Development Department, manages and administers the Capital Improvement Program (CIP), and provides engineering support to ensure that new and rehabilitated assets meet City standards.

The City Attorney is responsible for ensuring that the City has sufficient legal authority to properly manage and maintain the sanitary sewer system.

See Table 2.1 for the list of City positions responsible for each element of the SSMP.

See Table 2.2 for the list of Legal Responsible Officials and Data Submitters.

FIGURE 2.1 ORGANIZATIONAL CHART

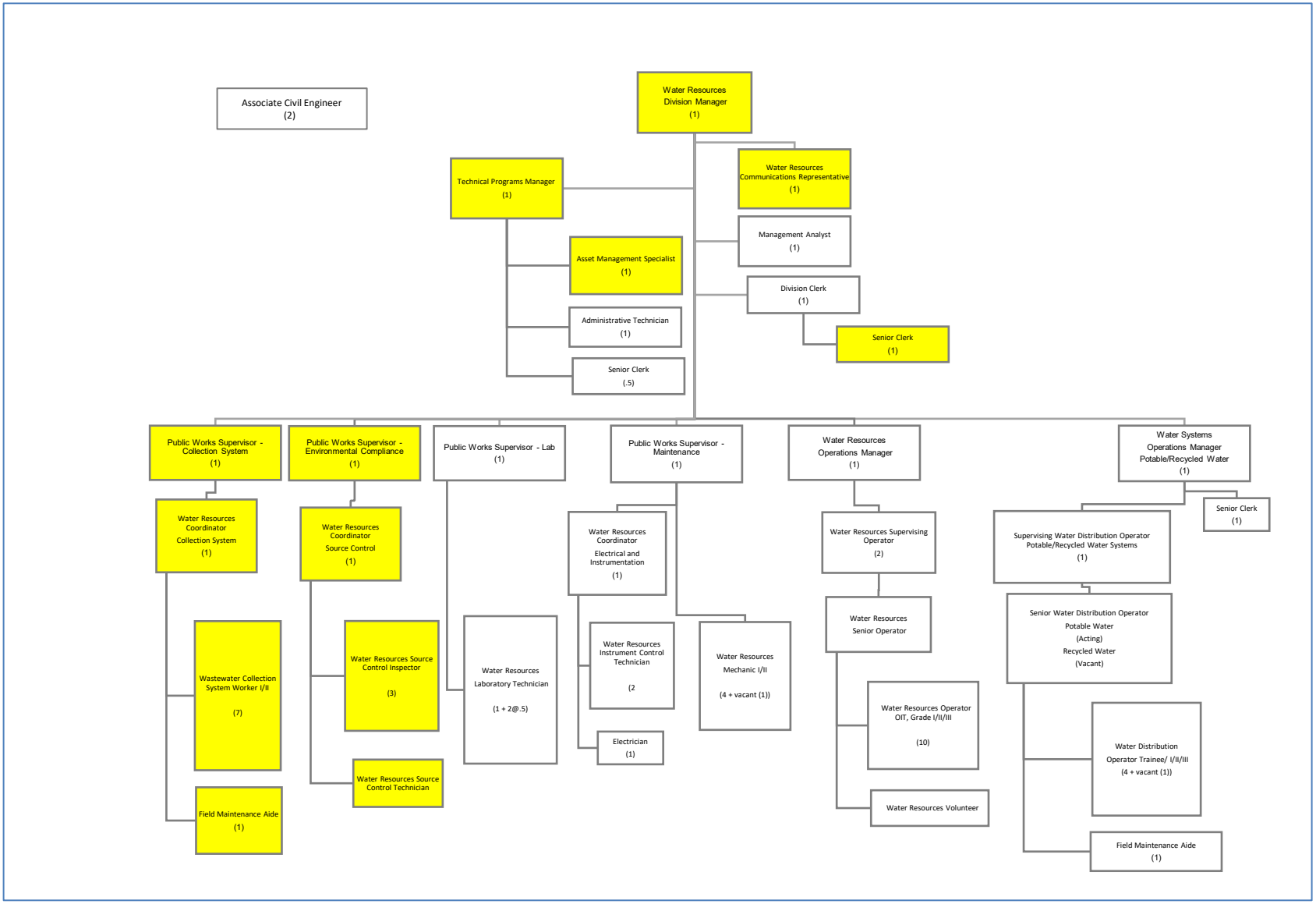


TABLE 2.1 CITY STAFF RESPONSIBLE FOR SSMP

SSMP Element	Responsible Position	
1- Goals	WR Division Manager	925-960-8168
2- Organization	WR Division Manager	925-960-8168
3- Legal Authority	City Attorney	925-960-4157
4- O&M Program	Public Works Supervisor – Collections	925-960-8127
5- Design & Performance Provisions	City Engineering	925-960-4500
6- Overflow Emergency Response Program	Public Works Supervisor – Collections	925-960-8127
7- FOG Control Program	Public Works Supervisor – Environmental Compliance	925-960-8126
8- System Evaluation & Capacity Assurance Plan	City Engineering	925-960-4500
9- Monitoring, Measurement, and Program Modifications	Public Works Supervisor – Collections	925-960-8127
10-SSMP Program Audits	Public Works Supervisor -- Collections	925-960-8127
11-Communication	Water Resources Communications Representative	925-960-8144

TABLE 2.2 LEGALLY RESPONSIBLE OFFICIALS AND DATA SUBMITTER

Legally Responsible Officials
Public Works Supervisor - Collection System
Water Resources (WR) Division Manager
Data Submitters
Public Works Supervisor Environmental Compliance
Wastewater Coordinator Collections
Wastewater Coordinator Source Control

ELEMENT 3 – LEGAL AUTHORITY

SWRCB Requirements:

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

(a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.);

(b) Require that sewers and connections be properly designed and constructed;

(c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;

(d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages, and

(e) Enforce any violation of its sewer ordinances.

The City of Livermore has the authority to enact ordinances and other legally binding procedures to regulate wastewater collection and discharges so as to protect public health and the environment. Table 3.1 summarizes the relevant legal authority provided by the Livermore Municipal Code (LMC). The Livermore Municipal Code is available online at www.codepublishing.com/CA/Livermore.html. The Standard Specifications and Details are available online at www.cityoflivermore.net/citygov/cd/eng/specs.asp.

TABLE 3.1 RELEVANT LEGAL AUTHORITY

(a) Prevent illicit discharges into its sanitary sewer system (examples may include I/I, stormwater, chemical dumping, unauthorized debris and cut roots, etc.)	LMC 13.32.060 LMC 13.32.350
(b) Require that sewers and connections be properly designed and constructed	LMC 13.28.090 LMC 13.28.100 LMC 15.12 Standard Specifications and Details
(c) Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency	LMC 13.28.060 LMC 13.32.350
(d) Limit the discharge of fats, oils, and grease and other debris that may cause blockages	LMC 13.32.060 LMC 13.32.350
(e) Enforce any violation of its sewer ordinances	LMC 13.32.400 LMC 13.32.410 LMC 13.32.420 LMC 13.32.430

ELEMENT 4 – OPERATION AND MAINTENANCE PROGRAM

SWRCB Requirements:

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

(a) Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities;

(b) Describe routine preventive operation and maintenance activities by staff and contractors, including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventative Maintenance (PM) program should have a system to document scheduled and conducted activities, such as work orders;

(c) Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;

(d) Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and

(e) Provide equipment and replacement part inventories, including identification of critical replacement parts.

The City of Livermore's Collection System Operations and Maintenance Program assures that the operating condition and reliability of the City's collection system is maintained. A seven-person Collection System crew operates and maintains the 304 miles of pipeline, four sewer lift stations and approximately 1.5 miles of 8-, 10-, and 12-inch force mains. The equipment the Collection System staff use includes the following:

- Vac-Con combination sewer cleaning truck;
- Jet-Eye hydro truck;
- CCTV van with IBAK Panoramo camera equipment;
- Confined space entry and spill response trailer;

- Three mechanical lateral rodders;
- Three lateral cameras;
- Pole camera;
- Numerous hand tools and absorbents;
- Backhoe;
- Dump truck; and
- Accompanying tools for emergency repairs.

Two contractors are retained to perform more complex emergency repairs to the system. Most of the maintenance activities are based out of the Livermore Water Reclamation Plant (LWRP) site. The City's Corporation Yard is also available to Collection System staff as a support location for fuel, washing of equipment, and fleet repairs.

The four sewage lift stations are equipped with redundant pumping capability and each have a written SSO Emergency Response Plan. Repairs to the lift stations are made by the Water Resources Division Maintenance Section. All maintenance and work order records are maintained in WRD's CMMS database.

COLLECTION SYSTEM MAPS

Sanitary Sewer System and Storm Sewer System Maps are available to the Collection System staff through several means. Copies are kept in all Collection System vehicles with extra copies stored in the Collection System Section office. GIS maps of the Sanitary and Storm Sewer Systems are also available via the City's Intranet and portable tablet computers. These system maps are typically updated on a monthly basis; the Collection System staff submits corrections to the City's Engineering Department when changes are identified. The Collection System Section is constantly working with the City's GIS staff to provide updated maps, in PDF format, of all utilities on portable tablet computers.

PRIORITIZED PREVENTATIVE MAINTENANCE

The Collection System staff focuses on proactive maintenance of the sanitary and storm sewer systems. The proactive approach to deficiencies is addressed through the Collection System Section's daily closed-circuit television video (CCTV) inspections which are immediately assessed whenever a problem is found. For every system failure, e.g. overflow, main plug, slow flow or odor complaint, a thorough video inspection and review is performed. In every case, once the problem is determined, it is either repaired, placed on a CIP list or the problem is removed from the pipeline.

Pipelines are routinely flushed and vacuumed in conjunction with CCTV inspections. One combination truck and one Jet-Eye hydro truck are used to flush and vacuum debris from pipelines up to and including 36-inches diameter in size. The Collection System staff cleans

the entire collection system every three years. Selective cleaning is performed every 18 months on mainlines that have been identified as needing increased cleaning frequency. Longer periods of time can elapse between cleaning of newer pipelines, thereby allowing more aggressive cleaning to be focused on areas with visible or higher incidences of problems. The need to clean larger lines is determined by the amount of debris found in the basins draining into the trunk lines. The Collection System is divided into 9 big basins, and 78 sub-basins with cleaning of the system starting at the farthest sub-basin, working systematically toward the Livermore Water Reclamation Plant. The 9 big basins and 78 sub-basins are shown in Figures 4.1 and 4.2. These 78 sub-basins are currently on a scheduled preventive maintenance cycle.

Routine inspections of the city's four lift stations are performed weekly by Collection System staff. Problems, defects or damage are noted on work orders and delivered to the Water Resources Division Maintenance Section to perform the repairs.

Sanitary sewer main lines and lateral sewer pipeline cleaning is performed a majority of all workdays. Several mainlines have been identified as "hot spots" which require more frequent cleaning depending on the condition of the sewers. These scheduled hot spot locations are cleaned on a monthly to annual basis. Most hot-spots are problematic due to sags, insufficient fall, undersized pipe size or grease accumulation. Hot-spots due to physical problems are listed in annual capital projects for replacement by the City's Engineering Division. Cleaning and televising of the line are documented on work orders and kept in digital files. Video records are made of breaks or significant root intrusion, and breaks are scheduled for repair and roots are treated by a qualified chemical applicator. Newer pipelines, once televised for baseline structural and operational scores, are not cleaned on the same intervals as the older pipelines throughout the system. More targeted cleaning is scheduled as the CCTV crew identifies mainlines with increased operational scores. The Collection System Section has set goals of achieving one mile of hydro-cleaning and 3,000' of CCTV footage per day. A map of currently recognized hot-spots is shown in Figure 4.3. Hotspots are evaluated annually and are adjusted as needed.

When recurring deficiencies or problem areas are noticed, they are documented and discussed with the city's Engineering staff for inclusion in annual capital improvement projects (CIP).

FIGURE 4.1 NINE BIG BASINS

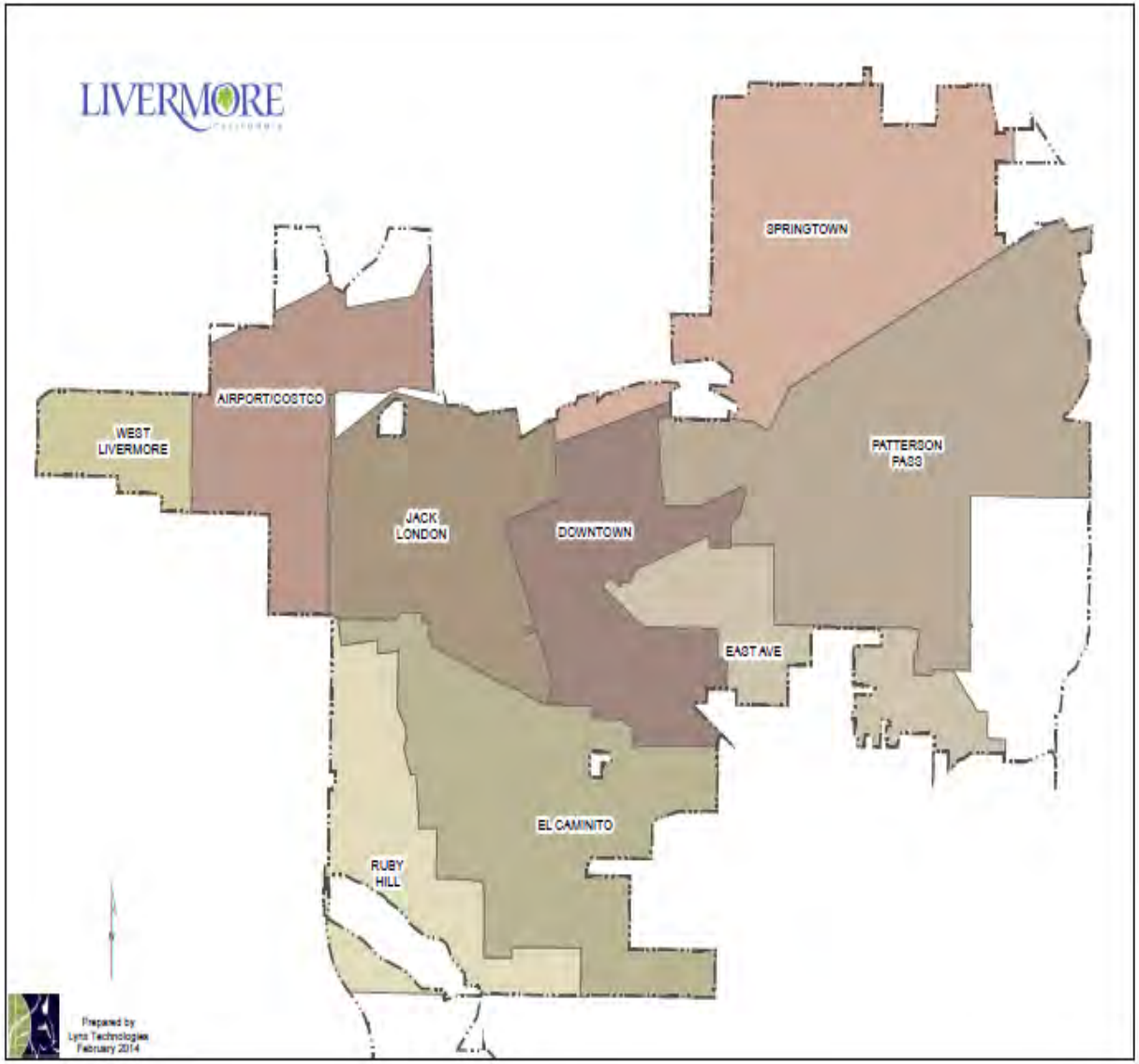


FIGURE 4.2 78 SUB-BASINS

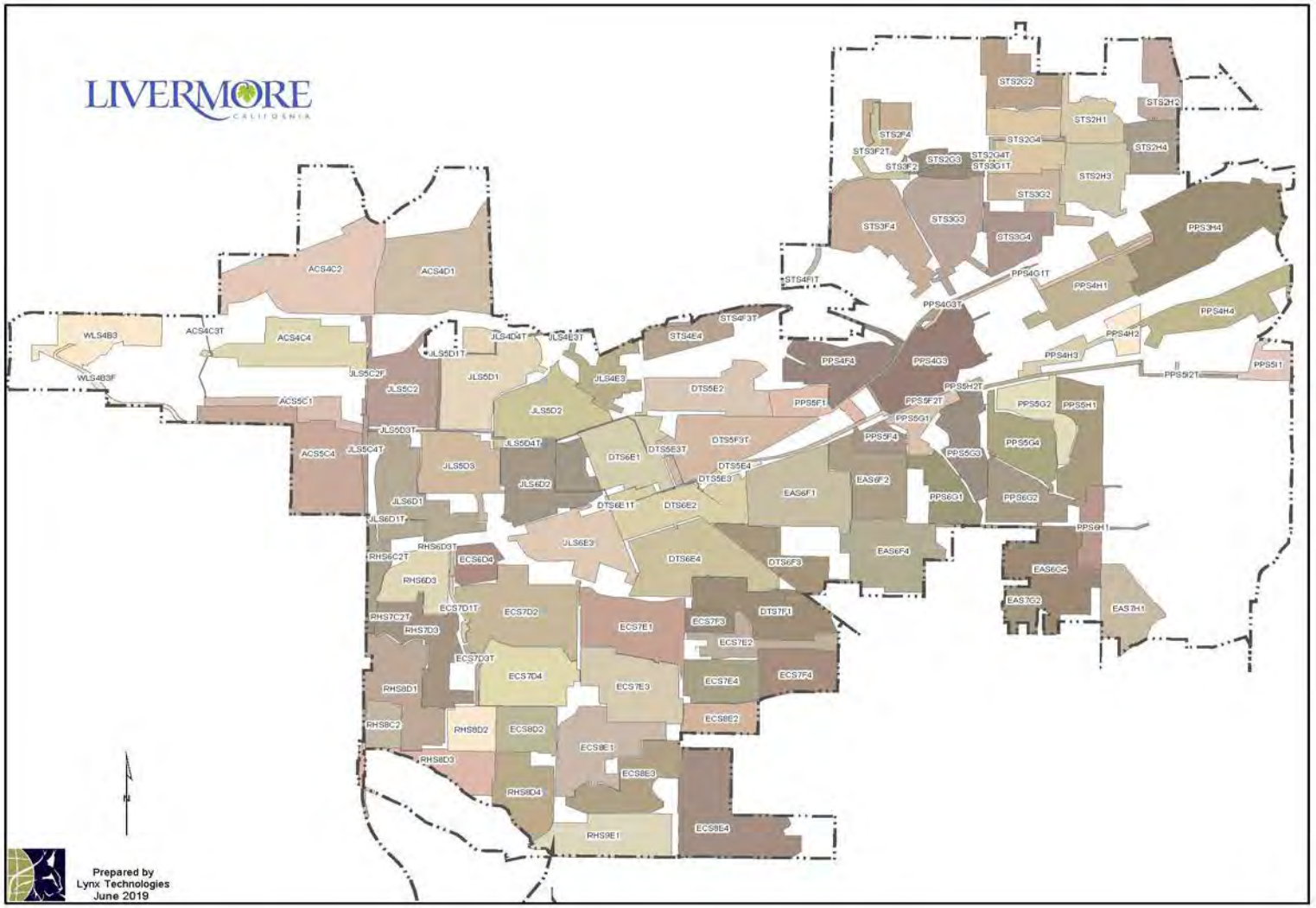
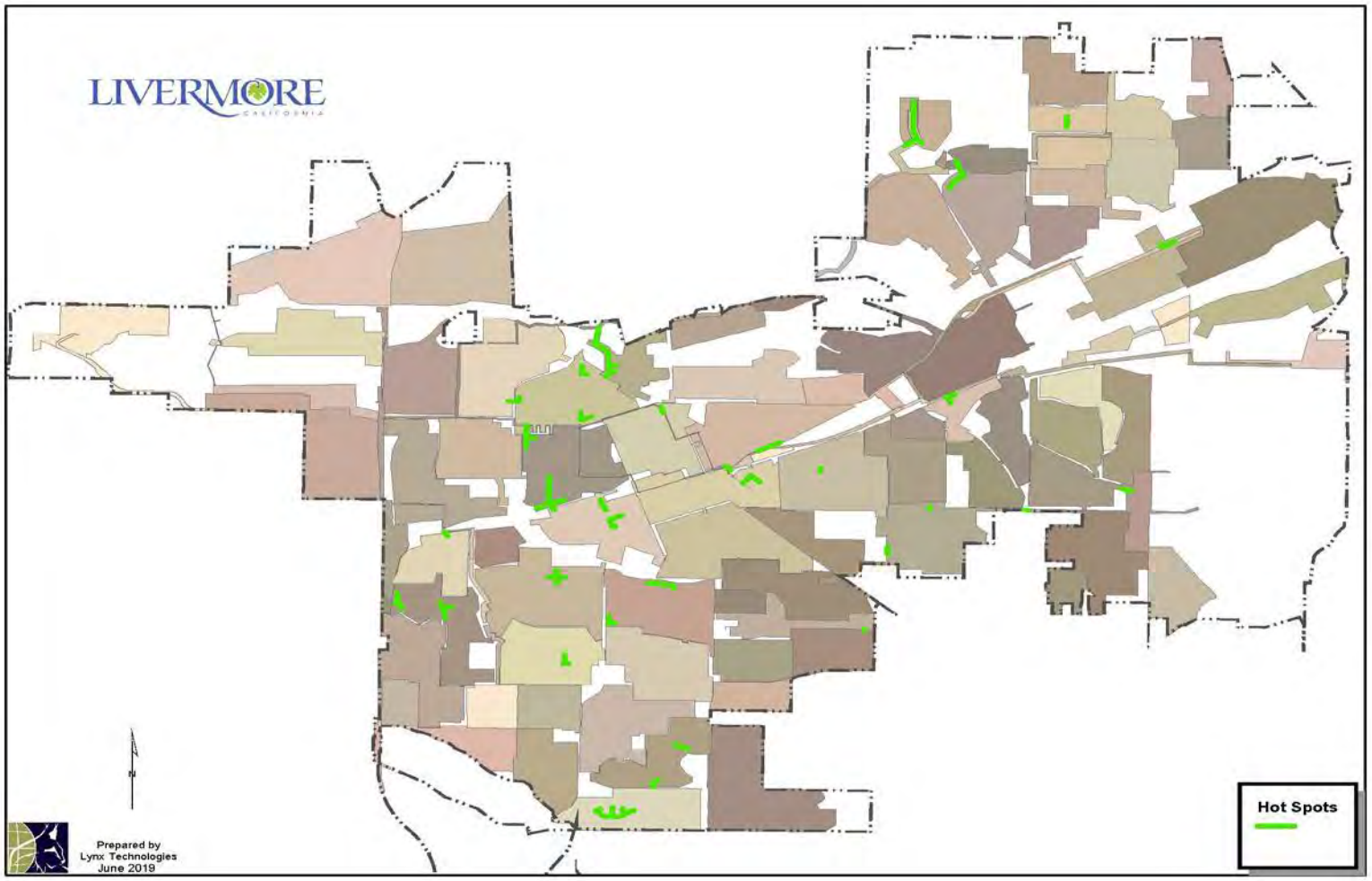


FIGURE 4.3 HOT SPOTS



SCHEDULED INSPECTIONS AND CONDITION ASSESSMENT

Routine sewer line inspection, cleaning and maintenance is scheduled five days a week. As a service, the Collection System crews will mechanically rod laterals if the owner of the property has a City-approved one-way or two-way cleanout installed at or near the property line. Laterals are placed on six month-, 1 or 2 year, and 5 year rotations for preventive rodding based on frequency of root growth or problems. If the root intrusion is excessive or is severely damaging the pipe, the lateral is replaced from the approved one-way or two-way cleanout to the main line.

The City of Livermore Water Resources Division currently operates four sewage lift stations. Lift stations are inspected weekly and undergo semi-annual and annual maintenance processes. Every six months, the pumps are checked for voltage, and the motors are inspected and cleaned. Annually, the pumps are checked for voltage, the motors inspected and cleaned, and the sump is inspected and cleaned. SSO emergency response plan and by-pass plans have been developed for each lift station in case of station failures.

Condition ratings based on actual field condition assessment data is obtained through CCTV inspections using the National Association of Sewer Service Companies (NASSCO)'s standardized rating, identification, and classification system for faults, problems and defects known as the Pipeline Assessment and Certification Program, or PACP. Both operational and structural scores are determined on a scheduled basis. Also, condition assessment and inspections are done for manholes using NASSCO's Manhole Assessment and Certification Program (MACP) standards. Where the actual condition data is not available, the condition rating of a pipe is estimated using the following data: age of pipe, pipe material, work history, and other available data including staff knowledge. All information can be found in the Collection System Asset Management Plan.

CONTINGENCY EQUIPMENT AND REPLACEMENT INVENTORIES

Complaint resolution and investigation are initiated by the Water Resources Division's Administrative staff based on customer calls. Complaint forms are filled out and the calls are referred to Collection System staff or on-call staff (outside normal business hours) via cell phone or two-way radio. Resolution of call-outs is either completed by the original responder or scheduled by the responder for further action. The Wastewater Systems Coordinator or Supervisor prioritizes the corrective action by urgency. A maximum one-hour response time to all calls for service is a goal of the Water Resources Division and is monitored annually by management.

As shown in Table 4.1, the City uses various types of equipment to operate and maintain its 304 miles of wastewater collection system pipelines. To prevent downtime, tools and equipment are serviced by qualified mechanics by the Fleet Services section. In addition, the Fleet Services section is responsible for maintenance of heavy equipment and

responding to regular or after-hour emergency repairs. Replacement parts costing less than $5,000 can be purchased immediately by Public Works Supervisors. More expensive equipment such as pumps, trailers, or trucks is purchased through a procurement process.

TABLE 4-1 COLLECTION SYSTEM EQUIPMENT

Description	Number	Comments
Hydro Cleaning Truck	2	Vac – Con *currently building new unit(Vactor)
Hydro Cleaning Truck with CCTV	1	Pipe Hunter Jet Eye
Service Vehicles	2	
Utility Vehicle	1	F-350 w/ utility boxes and crane
Work Trucks	2	
Dump Truck 5 yard	1	
Backhoe	1	
Bobcat	1	
Skip Loader	1	
CCTV Truck	1	IBAK
Lateral Monitors and Camera	3	Rigid
Rodder Units	3	Located on Standby Vehicles
Emergency Spill Response and Confined Space Trailer	1	
Emergency Hose Bypass Trailer	1	
6” Pumps	1	
Spill Control absorbents and Dams	8	Located on all trucks
Gas Detectors	8	
Saw Cutter Trailer	1	
Generators	2	
Light with Stands	2	

TRAINING

The City of Livermore Water Resources Division’s Collection System Section annually completes a comprehensive training schedule. Specific training for Collection System staff addresses the skills necessary to perform proper operations and maintenance, timely and effective response to overflow emergencies, quality customer service, and incorporates recognized safety practices.

Regularly scheduled crew safety meetings are held every 10 working days. In addition, all of the current Collection System staff is California Water Environment Association (CWEA) Collection System Maintenance Certificate holders. Staff is required to train at least 12 hours per two-year period in the Collection System Maintenance discipline in order to maintain the

certification. The Collection System Section budget allows employees to travel to up to three conferences per year for additional Collection System-specific training. Employees also attend training about new technologies and best practices offered by local sections of the CWEA. The ever evolving training for the Collection System staff also includes training on new regulations.

ELEMENT 5 – DESIGN AND PERFORMANCE PROVISIONS

SWRCB Requirements:

(a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and

(b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

STANDARDS FOR INSTALLATION, REHABILITATION AND REPAIR

The City of Livermore maintains up-to-date sewer system "Standard Specifications and Standard Details". These standards are available from the City's Engineering Division, and on the City's website (http://www.cityoflivermore.net/citygov/cdd/eng/specs.htm). The Standard Specifications and Standard Details were last updated in May 2016. Together, the Standard Specifications and Details provide a list of acceptable materials, construction methods, required separation distances between sewer lines and other underground utilities, and testing procedures for the major components of the sewer collection system.

All four of the City's sewage lift stations have been installed within the past 17 years. The City has developed specifications for preferred components to ensure interoperability with existing facilities for items such as pumps, flush valves, check valves, force main valves, pressure and flow transducers, programmable logic controllers, level gauges, motor control centers, security equipment, etc.

INSPECTION AND TESTING OF NEW AND REHABILITATED FACILITIES

The City also has specific standards for inspection and testing of all types of construction, installation, rehabilitation and repair activities. The Standard Specifications contain specific leakage testing requirements for new construction. The specifications developed for the sewage lift stations contain step-by-step instructions for start-up testing of new pumps and all electrical and instrumentation components. Rehabilitation projects also utilize these inspection specifications in addition to specialized inspection procedures such as testing and inspecting lining systems used to rehabilitate sewers.

ELEMENT 6 – OVERFLOW EMERGENCY RESPONSE PLAN

SWRCB Requirements:

Each Enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:(a) Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;

(b) A program to ensure an appropriate response to all overflows;

(c) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, Regional Water Boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State in accordance with the MRP. All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification;

(d) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;

(e) Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and

(f) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters of the United States and to minimize or correct any adverse impact on the environment resulting from the

SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge

PURPOSE

The purpose of the City of Livermore's Overflow Emergency Response Plan (OERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The OERP provides guidelines for City personnel to follow in responding to, cleaning up, and reporting SSOs that may occur within the City's service area. The OERP satisfies the State Water Board's Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

POLICY

The City's employees are required to report all wastewater overflows found, and to take the appropriate action to secure the wastewater overflow area; properly report to the appropriate regulatory agencies; relieve the cause of the overflow; and ensure that the

affected area is cleaned as soon as possible to minimize health hazards to the public and protect the environment. The City's goal is to respond to sewer system overflows (SSOs) as soon as possible following notification. The City will follow reporting procedures in regards to sewer spills as set forth by the San Francisco Regional Water Quality Control Board (*SFRWQCB)* and the California State Water Resources Control Board (*SWRCB)*.

DEFINITIONS AS USED IN THIS OERP

CALIFORNIA INTEGRATED WATER QUALITY SYSTEM (CIWQS): Refers to the State Water Resources Control Board online electronic reporting system that is used to report SSOs, certify completion of the SSMP, and provide information on the sanitary sewer system.

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

LEGALLY RESPONSIBLE OFFICIAL (LRO): Refers to an individual who has the authority to certify reports and other actions that are submitted through CIWQS.

MAINLINE SEWER: Refers to City wastewater collection system piping that is not a private lateral connection to a user.

MAINTENANCE HOLE OR MANHOLE: Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

NOTIFICATION OF AN SSO: Refers to the time at which the City becomes aware of an SSO event through observation or notification by the public or other source.

NUISANCE: California Water Code section 13050, subdivision (m), defines nuisance as anything that meets all of the following requirements:

a. Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property.

b. Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.

c. Occurs during, or as a result of, the treatment or disposal of wastes.

PREVENTATIVE MAINTENANCE: Refers to maintenance activities intended to prevent failures of the wastewater collection system facilities (e.g. cleaning, CCTV, inspection).

PRIVATE LATERAL SEWAGE DISCHARGES: Sewage discharges caused by blockages or other problems within a privately owned lateral.

SANITARY SEWER OVERFLOW (SSO): Any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. SSOs include:

(i) Overflows or releases of untreated or partially treated wastewater that reach waters of the United States;

(ii) Overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and

(iii) Wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

SSOs that include multiple appearance points resulting from a single cause will be considered one SSO for documentation and reporting purposes in CIWQS.

NOTE: Wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned are not SSOs.

SSO Categories:

Category 1: Discharge of untreated or partially treated wastewater of any volume resulting from a sanitary sewer system failure or flow condition that either:

- Reaches surface water and/or drainage channel tributary to a surface water; or
- Reached a Municipal Separate Storm Sewer System (MS4) and was not fully captured and returned to the sanitary sewer system or otherwise captured and disposed of properly.

Category 2: Discharge of untreated or partially treated wastewater greater than or equal to 1,000 gallons resulting from a sanitary sewer system failure or flow condition that either:

- Does not reach surface water, a drainage channel, or an MS4, or
- The entire SSO discharged to the storm drain system was fully recovered and disposed of properly.

Category 3: All other discharges of untreated or partially treated wastewater resulting from a sanitary sewer system failure or flow condition.

SANITARY SEWER SYSTEM: Any publicly-owned system of pipes, pump stations, sewer lines, or other conveyances, upstream of a wastewater treatment plant headworks used to collect and convey wastewater to the publicly owned treatment facility. Temporary storage and conveyance facilities (such as vaults, temporary piping, construction trenches, wet wells, impoundments, tanks, etc.) are considered to be part of the sanitary sewer system, and discharges into these temporary storage facilities are not considered to be SSOs.

SENSITIVE AREA: Refers to areas where an SSO could result in a fish kill or pose an imminent or substantial danger to human health (e.g. parks, aquatic habitats, etc.)

SEWER SERVICE LATERAL: Refers to the piping that conveys sewage from the building to the City's wastewater collection system.

UNTREATED OR PARTIALLY TREATED WASTEWATER: Any volume of waste discharged from the sanitary sewer system upstream of the wastewater treatment plant headworks.

WATERS OF THE STATE: Waters of the State (or waters of the United States) means any surface water, including saline waters, within the boundaries of California. In case of a sewage spill, storm drains are considered to be waters of the State unless the sewage is completely contained and returned to the wastewater collection system and that portion of the storm drain is cleaned.

GOALS

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

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent sanitary sewer overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO;

- Meet the regulatory reporting requirements;
- Evaluate the causes of failure related to certain SSOs; and
- Revise response procedures resulting from the debrief and failure analysis of SSOs as appropriate.

SSO DETECTION AND NOTIFICATION

The processes that are employed to notify the City of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by City staff or other public employees during the normal course of their work.

The City operates four wastewater lift stations. In the event of any pump failure, the high level sensor activates the SCADA alarm system and the City is contacted. To prevent overflow, wastewater from the wet well can either be pumped into a vacuum truck for disposal to a nearby sanitary sewer manhole, or bypassed around the station into the sanitary sewer system.

PUBLIC OBSERVATION

Public observation is the most common way that the City is notified of blockages and overflows. Contact numbers and information for reporting sewage overflows and backups are in the phone book and on the City's website: www.cityoflivermore.net. The City's telephone number for reporting sewer problems during normal work hours is (925) 960-8100. The after-hours number is (925) 960-8160.

Normal Work Hours

When a report of a sewage overflow or backup is made during normal work hours, WRD Administrative staff takes the call and forwards it to the Collection System Supervisor or designee who dispatches an available Collections Crew.

After Hours

After hours, the Standby Employee will be dispatched to respond to the service call.

When calls are received, either during normal work hours or after hours, the individual receiving the call will collect the following information:

- Time and date of call
- Specific location of potential problem
- Nature of call

- In case of SSO, estimated start time of overflow
- Caller's name and telephone number
- Caller's observation (e.g., odor, duration, location on property, known impacts, indication if surface water impacted, appearance at cleanout or manhole)
- Other relevant information

Figure 6.1 shows an overview the procedure when receiving a report of sewage overflow or backup report.

CITY STAFF OBSERVATION

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

CONTRACTOR OBSERVATION

The following procedures are to be followed in the event that a contractor causes or witnesses a Sanitary Sewer Overflow. If the contractor causes or witnesses an SSO they should:

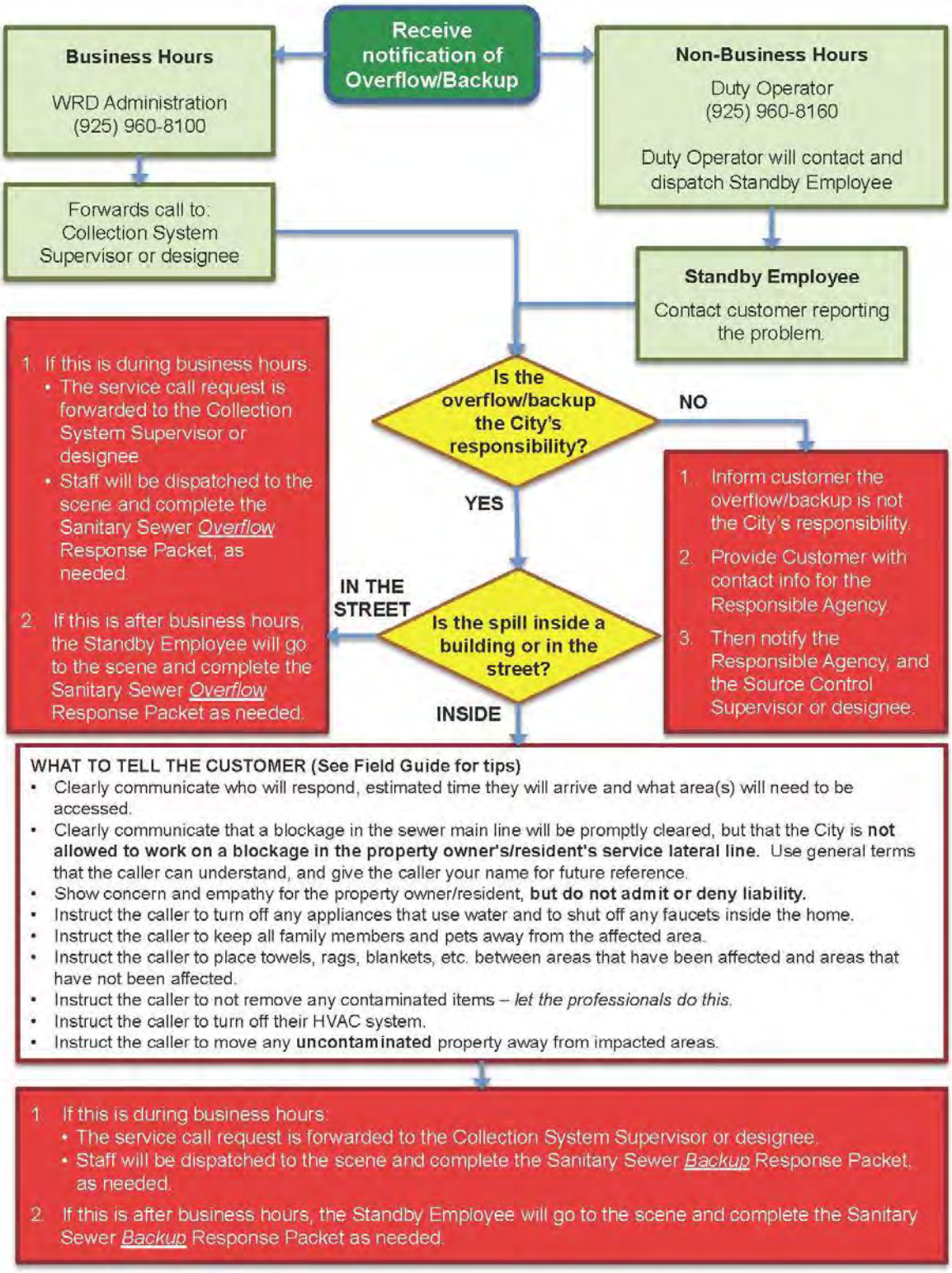
1. Immediately notify the City Water Resources Division Business Hours: (925) 960-8100

   After Hours: (925) 960-8160

2. Protect storm drains
3. Protect the public.
4. Provide Information to the City Collections Crew such as start time, appearance point, suspected cause, weather conditions, etc.
5. Direct ALL media and public relations requests to the Water Resources Division Manager.

The OERP contains a Contractor Orientation flowchart and flyer to educate and inform contractors and their employees about the procedures to follow in the event of an SSO.

FIGURE 6.1 RECEIVING A SEWAGE OVERFLOW OR BACKUP REPORT PROCEDURE



SSO Response Procedures

The City will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge. Figure 6.2 is an overview of the response activities.

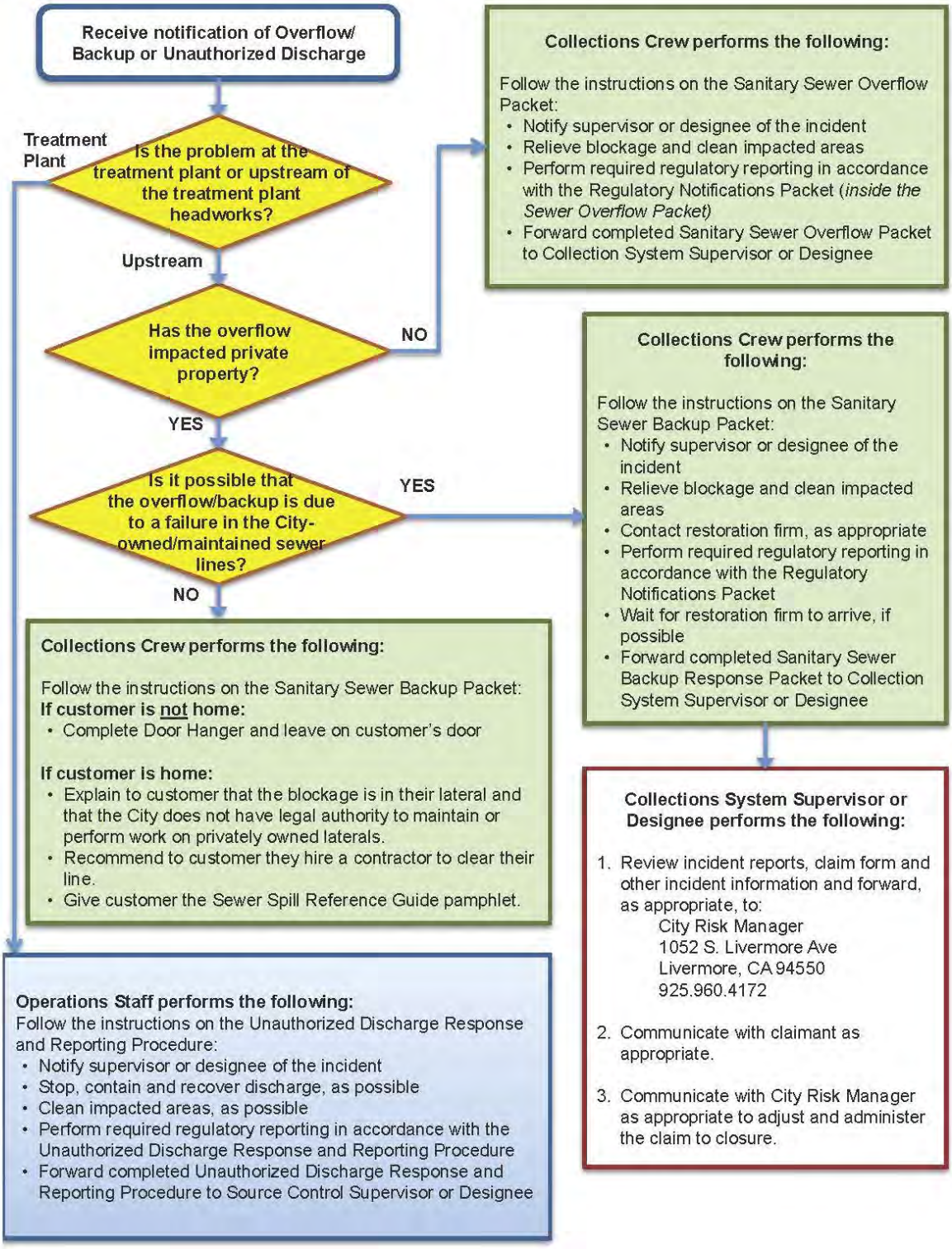
First Responder Priorities

- The first responder's priorities are:
- To follow safe work practices.
- To respond promptly with the appropriate and necessary equipment.
- To contain the spill wherever feasible.
- To restore the flow as soon as practicable.
- To minimize public access to and/or contact with the spilled sewage.
- To promptly notify the Collection System Supervisor or designee in event of major SSO.
- To return the spilled sewage to the sewer system.
- To restore the area to its original condition (or as close as possible).
- To photograph and document affected and unaffected areas from a spill.

Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work. There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job. This includes use of gas monitoring detectors for air quality in manholes and traffic controls at the site.

FIGURE 6.2 OVERVIEW OF SSO/BACKUP RESPONSE



Initial Response

The first responder must respond to the reporting party/problem site and visually check for potential sewer stoppages or overflows. The first responder will:

- Note arrival time at the site of the overflow/backup.
- Verify the existence of a public sewer system spill or backup.
- Determine if the overflow or blockage is from a public or private sewer.
- Identify and assess the affected area and extent of spill.
- Contact caller if time permits.
- If the spill is large or in a sensitive area, document conditions upon arrival with photographs. 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 (i.e., spills that are easily contained) – proceed with clearing the blockage.
    - Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures.
    - Moderate or large spills where containment is anticipated to be difficult – proceed with clearing the blockage; however, whenever deemed necessary, call for additional assistance and implement containment measures.
- Take steps to contain the SSO. Detailed procedures are in Appendix B of the Sanitary Sewer Backup Procedures, and Appendix C of the Sanitary Sewer Overflow Packet.

Initiate Spill Containment Measures

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

- Determine the immediate destination of the overflowing sewage.
- Plug storm drains using 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 drainage facilities.
- Contain/direct the spilled sewage using dike/dam or sandbags.

- Pump around the blockage/pipe failure.

Detailed procedures are in Appendix C of the Sanitary Sewer Overflow Packet.

Restore Flow

Using the appropriate cleaning equipment, set up downstream of the blockage and hydro-clean upstream from a clear manhole. Attempt to remove the blockage from the system and observe the flows to ensure that the blockage does not reoccur downstream. If the blockage cannot be cleared within a reasonable time from arrival, or sewer requires construction repairs to restore flow, then initiate containment and/or bypass pumping. If assistance is required, immediately contact other employees, contractors, and equipment suppliers. Detailed procedures are Appendix C of the Sanitary Sewer Overflow Packet.

Equipment

This section provides a list of specialized equipment that is required to support this Overflow Emergency Response Plan. Standard Operating Procedures (SOPs) have been developed for all equipment requiring specialized knowledge that may be deployed as part of an emergency SSO response. The SOPs are located either with the equipment or WRD's intranet.

- *Closed Circuit Television (CCTV) Inspection Unit* – A CCTV Inspection Unit is used to determine the cause of all SSOs from gravity sewers.
- *Camera* -- A digital or disposable camera is used to record the conditions upon arrival, during clean up, and upon departure.
- *Emergency Response Trucks* -- A utility body pickup truck, or open bed is used to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – This equipment is used to bypass pump, divert, or power equipment to mitigate an SSO.
- *Combination Sewer Cleaning Trucks* -- Combination high velocity sewer cleaning trucks with vacuum tanks are used to clear blockages in gravity sewers, vacuum spilled sewage, and wash down the impacted area following the SSO event.
- *Air plugs, sandbags and plastic mats*
- *SSO Sampling Kits*
- *Spill Response Trailer* – Trailer is used to store additional spill response materials

to mitigate and clean impacted area during larger SSO events.

- *By-pass Hose Trailer*—This is a specialized trailer built specifically to store by-pass hoses, discharge/suction hose, gaskets, and trash pump in the event of larger SSOs in need of by-pass pumping.
- *Portable Lights*

RECOVERY AND CLEANUP

The recovery and cleanup phase begins immediately after the flow has been restored and the spilled sewage has been contained to the extent possible. The SSO recovery and cleanup procedures are as follows:

ESTIMATE THE VOLUME OF SPILLED SEWAGE

Use the methods outlined in Appendix B of the Sanitary Sewer Backup Packet, Appendix C of the Sanitary Sewer Overflow Packet, and/or the SMART Field Guide to estimate the volume of the spilled sewage. Wherever possible, document the estimate using photos and/or video of the SSO site before and during the recovery operation.

RECOVERY OF SPILLED SEWAGE

Vacuum up and/or pump the spilled sewage and rinse water, and discharge it back into the sanitary sewer system.

CLEAN-UP AND DISINFECTION

Implement clean up and disinfection procedures to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and will be modified as required for wet weather conditions. In the event that an overflow occurs at night, the location will be inspected first thing the following day. The field crew will look for any signs of sewage solids and sewage-related materials that may warrant additional cleanup activities. Where cleanup is beyond the capabilities of City staff, a cleanup contractor will be used.

Private Property

City crews are responsible for the cleanup when the property damage is minor in nature and is outside of private building dwellings, such as in front, side and backyards, easements, etc. In all other cases, affected property owners may call a water damage restoration contractor to complete the cleanup and restoration. If the overflow into property is the definite result of City system failure, the property owner may call out a water damage restoration contractor to complete the cleanup and restoration. In both cases, City claim forms will be issued if requested by the property owners.

Hard Surface Areas

Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water and/or deozyme or similar non-toxic biodegradable surface disinfectant until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Take reasonable steps to contain and vacuum up the wash water. Allow area to dry. Repeat the process if additional cleaning is required.

Landscaped and Unimproved Natural Vegetation

Collect all signs of sewage solids and sewage-related material either by protected hand or with the use of rakes and brooms. Wash down the affected area with clean water until the water runs clear. The flushing volume will be approximately three times the estimated volume of the spill. Either contain or vacuum up the wash water so that none is released. Allow the area to dry. Repeat the process if additional cleaning is required.

Natural Waterways

The Department of Fish and Wildlife will be notified by CalOES for SSOs greater than or equal to 1,000 gallons.

Wet Weather Modifications

Omit flushing and sampling during heavy storm events (i.e., sheet of rainwater across paved surfaces) with heavy runoff where flushing is not required and sampling would not provide meaningful results.

PUBLIC NOTIFICATION

Signs will be posted and barricades put in place to keep vehicles and pedestrians away from contact with spilled sewage. County Environmental Health instructions and directions regarding placement and language of public warnings will be followed. Additionally, the Collection System Supervisor or designee will use his/her best judgment regarding supplemental sign placement in order to protect the public and local environment. Signs will not be removed until directed by County Environmental Health, Collection System Supervisor, or designee. Photographs of sign placement will be taken.

Creeks, streams and beaches that have been contaminated as a result of an SSO will be posted at visible access locations until the risk of contamination has subsided to acceptable background bacteria levels. The warning signs, once posted, will be checked at least every day to ensure that they are still in place. Photographs of sign placement will be taken.

When contact with the local media is deemed necessary, the Water Resources Division

Manager or designee will provide the media with all relevant information.

WATER QUALITY

WATERS OF THE STATE

The following Waters of the State are in the City of Livermore's service area:

- Arroyo de Las Positas
- Arroyo Del Valle
- Arroyo Mocho
- Arroyo Seco

In the event that these waters are impacted by a sanitary sewer overflow, the equipment identified in Table 4.1 is available for response based on the specific SSO conditions. The City has also identified the following vendors that are available to respond:

- ServiceMaster Restoration: (800) 480-8439
- Restoration Management: (800) 400-5058

WATER QUALITY SAMPLING AND TESTING

Water quality sampling and testing will be performed as appropriate to determine the extent and impact of the SSO when spilled sewage enters a water body. The water quality sampling procedures will be implemented within 48 hours and include the following:

- The first responders will collect samples within 48 hours after the discovery and mitigation of the SSO event.
- The water quality samples will be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks). The water quality samples will be collected near the point of entry of the spilled sewage.
- The samples will then be brought to the Water Resources Division Lab.

WATER QUALITY MONITORING PLAN

The City Water Quality Monitoring Plan will be implemented immediately upon discovery of any Category 1 SSO of 50,000 gallons or more in order to assess impacts from SSOs to surface waters. The SSO Water Quality Monitoring Program will:

1. Contain protocols for water quality monitoring.

2. Account for spill travel time in the surface water and scenarios where monitoring may not be possible (e.g. safety, access restrictions, etc.)
3. Require water quality analyses for ammonia and bacterial indicators to be performed by an accredited or certified laboratory.
4. Require monitoring instruments and devices used to implement the SSO Water Quality Monitoring Program to be properly maintained and calibrated, including any records to document maintenance and calibration, as necessary, to ensure their continued accuracy.
5. Within 48 hours of the City becoming aware of the SSO, require water quality sampling for ammonia and fecal coliform.
6. Observe proper chain of custody procedures.

SSO Technical Report

The City will submit an SSO Technical Report to the CIWQS Online SSO Database within 45 calendar days of the SSO end date for any SSO in which 50,000 gallons or greater are spilled to surface waters. The Collection System Supervisor will supervise the preparation of this report and will certify this report. This report, which does not preclude the Water Boards from requiring more detailed analyses if requested, shall include at a minimum, the following:

Causes and Circumstances of the SSO:

- Complete and detailed explanation of how and when the SSO was discovered.
- Diagram showing the SSO failure point, appearance point(s), and final destination(s).
- Detailed description of the methodology employed and available data used to calculate the volume of the SSO and, if applicable, the SSO volume recovered.
- Detailed description of the cause(s) of the SSO.
- Copies of original field crew records used to document the SSO.
- Historical maintenance records for the failure location.

City's Response to SSO:

- Chronological narrative description of all actions taken by the City to terminate the spill.

- Explanation of how the SSMP Overflow Emergency Response Plan was implemented to respond to and mitigate the SSO.
- Final corrective action(s) completed and/or planned to be completed, including a schedule for actions not yet completed.

WATER QUALITY MONITORING:

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

SEWER BACKUP INTO/ONTO PRIVATE PROPERTY CLAIMS HANDLING POLICY

It is the policy of the City that a claims form will be offered to anyone wishing to file a claim. The following procedures will be observed for all sewer overflows/backups into/onto private property:

- City staff will offer a City claim form irrespective of fault whenever a property owner requests a claim form. The claim may later be rejected if subsequent investigations into the cause of the loss indicate the City was not at fault.
- It is the responsibility of the Collections Crew to gather information regarding the incident and notify the Collections System Supervisor or designee.
- It is the responsibility of the City Risk Manager to review all claims and to oversee the adjustment and administration of the claim to closure.

NOTIFICATION, REPORTING, MONITORING AND RECORDKEEPING REQUIREMENTS

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS GWDRs), the City of Livermore maintains records for each sanitary sewer overflow. Records include:

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

Regulator required notifications are outlined in Table 6.1.

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

Complaint Records

The City maintains records of all complaints received whether or not they result in sanitary sewer overflows. These complaint records include:

- Date, time, and method of notification
- Date and time the complainant or informant first noticed the SSO
- Narrative description describing the complaint
- A statement from the complainant or informant, if they know, of whether or not the potential SSO may have reached waters of the state
- Name, address, and contact telephone number of the complainant or informant reporting the potential SSO (if not reported anonymously)
- Follow-up return contact information for each complaint received (if not reported anonymously)
- Final resolution of the complaint
- Service request form used to document all feasible and remedial actions taken.

TABLE 6.1 REGULATOR REQUIRED NOTIFICATIONS

ELEMENT	REQUIREMENT	METHOD
NOTIFICATION	Within two hours of becoming aware of any Category 1 SSO greater than or equal to 1,000 gallons discharged to surface water or spilled in a location where it probably will be discharged to surface water, the City will notify the California Office of Emergency Services (CalOES) and obtain a notification control number.	Call Cal OES at: **(800) 852-7550**
REPORTING	• Category 1 SSO: The City will submit draft report within three business days of becoming aware of the SSO and certify within 15 calendar days of SSO end date. • Category 2 SSO: The City will submit draft report within 3 business days of becoming aware of the SSO and certify within 15 calendar days of the SSO end date. • Category 3 SSO: The City will submit certified report within 30 calendar days of the end of month in which SSO the occurred. • SSO Technical Report: The City will submit within 45 calendar days after the end date of any Category 1 SSO in which 50,000 gallons or greater are spilled to surface waters. • "No Spill" Certification: The City will certify that no SSOs occurred within 30 calendar days of the end of the month or, if reporting quarterly, the quarter in which no SSOs occurred. • Collection System Questionnaire: The City will update and certify every 12 months	Enter data into the CIWQS Online SSO Database[1] (http://ciwqs.waterboards.ca.gov/) certified by the Legally Responsible Official(s)[2]. All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report. Certified SSO reports may be updated by amending the report or adding an attachment to the SSO report within 120 calendar days after the SSO end date. After 120 days, the State SSO Program Manager must be contacted to request to amend an SSO report along with a justification for why the additional information was not available prior to the end of the 120 days.
WATER QUALITY MONITORING	The City will conduct water quality sampling within 48 hours after initial SSO notification for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.	Water quality results will be uploaded into CIWQS for Category 1 SSOs in which 50,000 gallons or greater are spilled to surface waters.
RECORD KEEPING	The City will maintain the following records: • SSO event records. • Records documenting Sanitary Sewer Management Plan (SSMP) implementation and changes/updates to the SSMP. • Records to document Water Quality Monitoring for SSOs of 50,000 gallons or greater spilled to surface waters. • Collection system telemetry records if relied upon to document and/or estimate SSO Volume.	Self-maintained records shall be available during inspections or upon request.

[1] In the event that the CIWQS online SSO database is not available, the Collection System Supervisor will notify SWRCB by phone and will fax or e-mail all required information to the RWQCB office at (510) 622-2460 in accordance with the time schedules identified above. In such an event, the City will submit the appropriate reports using the CIWQS online SSO database when the database becomes available. A copy of all documents that certify the submittal in fulfillment of this section shall be retained in the SSO file.

[2] The City always has at least one LRO. Any change in the LRO(s) including deactivation or a change to contact information, will be submitted to the SWRCB within 30 days of the change by calling (866) 792-4977 or emailing help@ciwqs.waterboards.ca.gov.

The City Complaint Record procedure is as follows:

1. WRD Administration takes the complaint call.
2. WRD Administration initiates a Service Request and forwards the call to the Service Response person.
3. The Service Response person investigates and confirms if it is an SSO. If it is an SSO, the Service Response person begins the SSO file and immediately calls the Collection System Supervisor.
4. The Collection System Supervisor dispatches additional crew and resources if needed.
5. The Collections Crew completes work and enters information onto Work Order
6. The Collection System Supervisor reviews and closes Work Order in CMMS
7. If this was an SSO, the Collection System Supervisor or Data Submitter enters the SSO into the CIWQS online SSO database.
8. Collection System Supervisor is responsible for certifying all records submitted to CIWQS online SSO database.

Complaint Records will be maintained for a minimum of five years whether or not they resulted in an SSO.

POST SSO EVENT DEBRIEFING

Every SSO event is an opportunity to evaluate the City response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, climate, and other parameters.

As soon as possible after Category 1, Category 2 and Category 3 SSO events, all of the participants, from the person who received the call to the last person to leave the site, will meet to review the procedures used and to discuss what worked and where improvements could be made in preventing or responding to and mitigating future SSO events. The results of the debriefing will be documented and tracked to ensure the action items are completed as scheduled.

FAILURE ANALYSIS INVESTIGATION

The objective of the failure analysis investigation is to determine the “root cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur or for other SSOs to occur.

The investigation will include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation will include:

- Reviewing and completing the Sanitary Sewer Overflow Report (in Appendix C) and any other documents related to the incident
- Reviewing the incident timeline and other documentation regarding the incident
- Reviewing communications with the reporting party and witness
- Reviewing volume estimate, volume recovered estimate, volume estimation assumptions and associated drawings
- Reviewing available photographs
- Interviewing staff that responded to the spill
- Reviewing past maintenance records
- Reviewing past CCTV records,
- Conducting a CCTV inspection to determine the condition of all line segments immediately following the SSO and reviewing the video and logs,
- Reviewing any Fats, Oils, and Grease (FOG) related information or results
- Posting SSO debrief records
- Conducting interviews with the public at the SSO location

The product of the failure analysis investigation will be the determination of the root cause and the identification and scheduling of the corrective actions. The Collection System Failure Analysis Form (in Appendix B and in Appendix C) will be used to document the investigation.

SSO Response Training

This section provides information on the training that is required to support this Overflow Emergency Response Plan.

Initial and Annual Refresher Training

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

Affected employees will receive annual training on the following topics by knowledgeable trainers:

- The City's Overflow Emergency Response Plan and Sanitary Sewer Management Plan
- Sanitary Sewer Overflow Volume Estimation Techniques
- Researching and documenting Sanitary Sewer Overflow Start Times
- Impacted Surface Waters: Response Procedures
- State Water Resources Control Board Employee Knowledge Expectations
- Employee Core Competency Evaluations on Sanitary Sewer Operations
- Water Quality Sampling Plan

The City will verify that annual safety training requirements are current for each employee, and that employees are competent in the performance of all core competencies. This will be verified through electronic testing, interviews and observations. The City will address, through additional training/instruction, any identified gaps in required core competencies.

Through SWRCB Employee Knowledge Expectations training the employee will be able to answer the following:

1. Please briefly describe your name and job title.
2. Please describe for us approximately when you started in this field and how long you have worked for your agency.
3. Please expand on your current position duties and role in responding in the field to any SSO complaints.
4. Please describe your SOPs used to respond/mitigate SSOs when they occur.
5. Describe any training your agency provides or sends you to for conducting spill volume estimates.
6. We are interested in learning more about how your historical SSO response activities have worked in the field. We understand from discussions with management earlier that you use the OERP from the SSMP. Please elaborate on how you implement and utilize the procedures in the plan.
7. Historically, before any recent changes, can you please walk us through how you

would typically receive and respond to any SSO complaints in the field?

8. Can you tell us who is responsible for estimating SSO volumes discharged? If it is you, please describe how you go about estimating the SSO volume that you record on the work order/service request forms?

9. What other information do you collect or record other than what is written on the work order form?

10. Describe if and when you ever talk with people that call in SSOs (either onsite or via telephone) to further check out when the SSO might have occurred based on what they or others know? If you do this, can you tell us where this information is recorded?

11. We understand you may be instructed to take pictures of some sewer spills/backups into structures. Other than these SSOs, when else would you typically take any pictures of an SSO?

12. Please walk us through anything else you'd like to add to help us better understand how your field crews respond and mitigate SSO complaints.

SSO Response Drills

Periodic training drills or field exercises will be held to ensure that employees are up to date on these procedures, equipment is in working order, and the required materials are readily available. The training drills will 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 will be recorded and action items will be tracked to ensure completion.

SSO Training Record Keeping

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

Contractors Working On City Sewer Facilities

All construction contractors working on City sewer facilities will be required to develop a project- specific OERP, provide project personnel with training regarding the content of the contractor's OERP and their role in the event of an SSO, and follow that OERP in the event that they cause or observe an SSO. Emergency response procedures shall be discussed at project pre-construction meetings, regular project meetings and after

any contractor involved incidents.

All service contractors will be required to observe contractor procedures. Appendix E of the City's OERP includes Contractor Orientation information.

AUTHORITY

- Health & Safety Code Sections 5410-5416
- CA Water Code Section 13271
- Fish & Wildlife Code Sections 5650-5656
- State Water Resources Control Board Order No. 2006-0003-DWQ
- State Water Resources Control Board Order 2013-009-DWQ effective September 9, 2013

REFERENCES

- Sanitary Sewer Overflow and Backup Response Field Guide, 2013, DKF Solutions Group, LLC
- City of Livermore Overflow Emergency Response Plan
    - Appendix A: Regulatory Notifications Packet
    - Appendix B: Sanitary Sewer Backup Packet
    - Appendix C: Sanitary Sewer Overflow Packet
    - Appendix D: Field Sampling Kit
    - Appendix E: Contractor Orientation

ELEMENT 7 – FOG CONTROL PROGRAM

SWRCB Requirements:

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

(a) An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;

(b) A plan and schedule for the disposal of FOG generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of FOG generated within a sanitary sewer system service area;

(c) The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;

(d) Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;

(e) Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance;

(f) An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and

(g) Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.

Fats, oils and grease (FOG) are a concern because they cause blockages that may result in discharges of untreated wastewater, i.e., sanitary sewer overflows. This section provides an overview of the City of Livermore's program to control FOG.

The Source Control Section of the City's Water Resources Division developed the FOG Program in August 2006. Source Control then trained Collection System staff on proper field inspection techniques of grease traps (grease interceptors) in December 2006.

Beginning in February 2007, Source Control staff met with each Food Service Establishment with a grease trap to discuss FOG Program requirements; issue each a binder that includes cleaning frequency log sheets for recordkeeping; a copy of the Livermore Municipal Code sections that pertain to the establishment; a list of grease hauling and tallow rendering companies; and best management practices. Since then, Collection System staff has been inspecting the grease traps/grease interceptors and the cleaning log sheets annually, working with Source Control staff to promote and ensure proper disposal of FOG.

Legal authority to prohibit discharges to the sanitary sewer system, and identify measures to prevent sanitary sewer overflows and blockages caused by FOG, is provided by Livermore Municipal Code Section 13.32.060 General Discharge Prohibitions. Authority to inspect grease producing facilities and enforcement authority is provided by Livermore Municipal Code Sections 13.32.320 and 13.32.430, respectively.

Section 13.32.330 E1 of the Livermore Municipal Code requires all facilities where food is prepared or served shall comply with the following:

"New and Existing Food Service Establishments. All new food service establishments are required to install, operate, and maintain an approved type and adequately sized grease interceptor with a minimum capacity of 750 gallons necessary to maintain compliance with the objectives of this chapter. Any existing food service establishment that does not have an approved grease interceptor with a minimum capacity of 750 gallons with planned modifications that include a building permit evaluation of $50,000 or greater will be required to install a grease interceptor pursuant to the requirements of this chapter. Additionally, upon notification by the water resources division manager, any and all food service establishments found to have grease blockages, having a history of causing grease blockages, or causing accelerated line maintenance resulting from its wastewater discharges shall be required to install a grease interceptor pursuant to the requirements of this chapter.

Grease interceptor sizing and installation shall conform to the current edition of the California Plumbing Code. Grease interceptors shall be constructed in accordance with a design approved by the water resources division manager and shall have a minimum of two compartments with fittings designed for grease retention. Grease interceptors shall be installed at a location where it shall be easily accessible for inspection, cleaning, and removal of intercepted grease. All such grease interceptors shall be serviced and emptied of accumulated waste content as required in order to maintain minimum design capability. Use of biological or chemical additives for grease remediation or as a supplement to grease interceptor or grease trap maintenance is prohibited. Sanitary wastes from water closets, urinals, garbage disposals, and high temperature dishwashers are not allowed to be connected to sewer lines intended for grease interceptor service.

Grease interceptors required under this chapter shall be installed unless the water resources division manager deems that the installation of a grease interceptor would not be feasible and authorizes the installation of an indoor grease trap or other alternative pretreatment technology. Alternative pretreatment technology includes, but is not limited to, devices that are used to trap, separate and hold grease from wastewater and prevent it from being discharged into the sanitary sewer collection system. All alternative pretreatment technology must be appropriately sized and approved by the water resources division manager. The food service establishment bears the burden of demonstrating that the installation of a grease interceptor is not feasible. If a food service establishment believes the installation of a grease interceptor is infeasible, because of documented engineering or other constraints, the request for alternate pretreatment technology shall contain the following information: location of sewer main and any easements in relation to available exterior space outside the building; existing building and site plumbing line plan that uses common plumbing for all services at that site; proposed drawings, specifications, and plans for alternative pretreatment technology.

Food service establishments equipped with an oil and grease interceptor or approved alternative are required to maintain such devices as frequently as necessary to:

a. Provide for a minimum hydraulic retention time in accordance with the California Plumbing Code;

b. Remove any accumulated grease cap and sludge pocket as required. Grease interceptors shall be kept free of inorganic solid materials such as grit, rocks, gravel, sand, eating utensils, cigarettes, shells, towels, rags, etc., which could settle into this pocket and thereby reduce the effective volume of the device.

Food service establishments may request a variance from the specified interceptor maintenance frequency by submitting documentation demonstrating that the device shall maintain proper function under an alternative maintenance schedule. Variance requests are subject to the approval of the water resources division manager.

The food service establishment shall maintain a written record of all inspection, maintenance, pumping and hauling activities. The food service establishment shall also keep copies of these records for the preceding two years and shall make these records available for on-site inspection during all operating hours."

ELEMENT 8 – SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

SWRCB Requirements

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

(a) **Evaluation**: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;

(b) **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and

(c) **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

(d) **Schedule:** The Enrollee shall develop a schedule of completion dates for all portions of the capital improvement program developed in (a)-(c) above. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements as described in Section D. 14.

The 2017 Sewer Master Plan identified projects to address existing hydraulic capacity problems in the sewer system and provide additional hydraulic capacity to serve future development. The following projects were identified:

- One major sewer upsizing project to support near-term improvements.
- Three smaller sewer upsizing projects to support near-term improvements.
- Four pump station condition assessment projects to support near-term improvements.

- Implement a flow monitoring project to support near-term improvements.
- Five major sewer upsizing projects to support buildout improvements.
- One smaller sewer upsizing project to support buildout improvements.
- One pump station upsize project

The City maintains a Capital Improvement Plan (CIP) that incorporates the findings in the Sewer Master Plan and the Asset Management Plan. The hydraulic model is used to identify capacity projects in the sewer system; video inspections and output from the Asset Management Plan are used to identify rehabilitation projects. In general, the City budgets $600,000 to replace the most deteriorated pipes each year. This amount is consistent with the findings in the 2012 Asset Management Plan for the Collection System. The City updates its CIP every two years. The CIP contains most of the near-term improvement projects identified in the Sewer Master Plan and also identifies rehabilitation projects over a four-year horizon.

Upcoming projects in the current CIP are listed in the Table 8.1 below.

TABLE 8.1 PROJECTS IN CURRENT CIP

Anticipated Construction	Project Number	Description
FY 2021-22	2014-14	Springtown trunkline replacement as part of future high school construction.
FY 2021-22	2020-03	Upsizing and replacing existing sewer pipe along South S Street and Holmes Street to reduce the potential for sewer overflows.
FY 2022-23	2020-26	Improve the existing lift stations to meet the operational requirements for efficiencies and capacities, and reduce maintenance costs.
FY 2022-23	2022-03	Annual sanitary sewer replacement and repair projects at various locations throughout the City.

ELEMENT 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

SWRCB Requirements

The Enrollee shall:

(a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;

(b) Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;

(c) Assess the success of the preventative maintenance program;

(d) Update program elements, as appropriate, based on monitoring or performance evaluations; and

(e) Identify and illustrate SSO trends, including: frequency, location, and volume.

The City of Livermore meets the requirements of Section D, 13 (xi) Monitoring, Measurement, and Program Modifications of the State Water Resources Control Board Order No. 2006-0003 DWQ. In summary:

(1) The City monitors the implementation of the SSMP, and measures the effectiveness of elements of the SSMP by developing and tracking Key Performance Indicators on a monthly or annual basis.
(2) By tracking Key Performance Indicators, the City is able to assess the success of the preventive or predictive maintenance program.
(3) The City has assigned the Public Works Supervisor – Collections as the staff person responsible for reviewing the SSMP annually in order to update program elements as needed.
(4) The City tracks locations and volumes of all SSO's

In order to monitor the implementation and measure the effectiveness of the SSMP, the City tracks several Key Performance Indicators, including:

- Total number of SSOs
- Location of all SSOs over the past 5 years (60 months)
- SSO Rate – SSO's per 100 miles of sanitary sewer
- Miles of gravity mainlines cleaned – monthly/annually
- Miles of gravity mainlines CCTV inspected – monthly/annually
- Service Response Calls – annually
- Lower lateral inspections – monthly/annually

- Most worked on assets

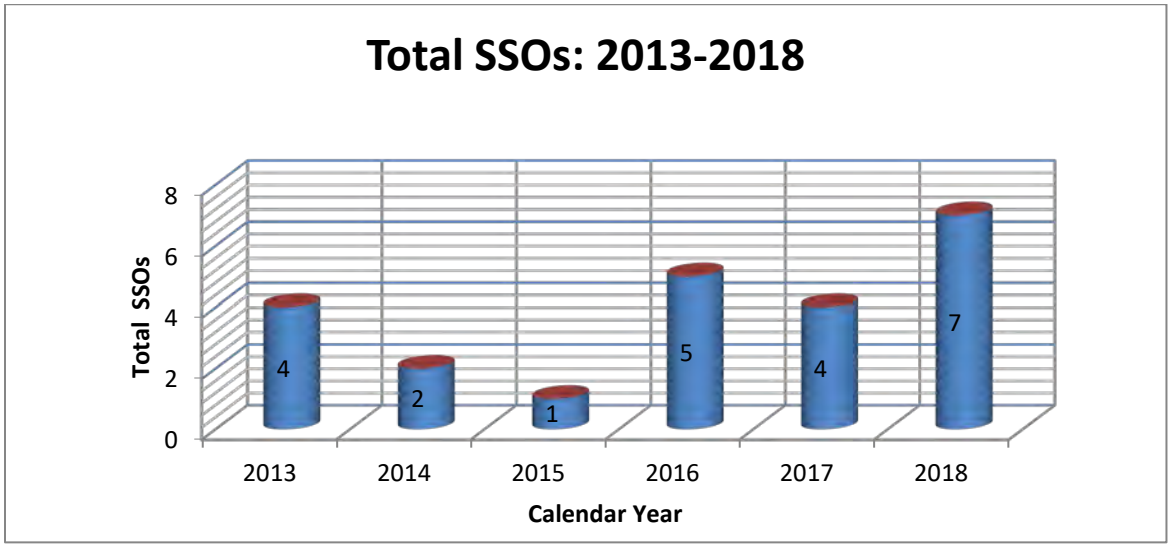
In addition to tracking the Key Performance Indicators listed above, the Public Works Supervisor – Collections reviews all sections of the SSMP annually for effectiveness and timeliness. The Collection System staff is consulted during the review to assist in identifying potential areas for improvement.

A comprehensive SSMP update will occur every five years, as required by the SWRCB. City staff will seek the approval of the City Council for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or procedural changes has been delegated to the Public Works Director.

The City tracks the locations and causes of all SSOs, service response calls, and maintenance activities within the sanitary sewer system. The City documents all maintenance activity information, including historical data and relevant facts, using a Computer Maintenance Management System (CMMS).

The City's total number of SSO's in calendar years 2013-2018, is shown on Table 9.1.

TABLE 9.1 TOTAL SSOS: 2013-2018



The City's SSMP will be modified to include operational changes that affect the SSMP elements. Successes and needed improvements of the SSMP will be reviewed as part of the SSMP annual audit using information from the performance indicators and Collection System staff input.

ELEMENT 10 – SSMP PROGRAM AUDITS

SWRCB Requirements:

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

City of Livermore staff will conduct an internal audit of the SSMP at least once every two years. The audit will result in a report of the findings, including the identification of any deficiencies in the SSMP and proposed steps to correct them. The two-year frequency is the maximum allowed by the regulation; however this frequency is appropriate to the size of the City's collection system and the historical number of overflows, and should be sufficient to identify any necessary improvements to the SSMP. The City will further assess the need to update its SSMP more frequently based on the performance of its sanitary sewer system using information from the key performance indicators and input from Collection System staff. All elements of the SSMP will be reviewed using an audit checklist. The audit checklist includes comments regarding recently completed program updates and any recommendations for future actions, changes, or adjustments to an element.

The City will update its SSMP at least every five years. The first update was completed in July 2014. A recent audit was performed in 2017 and all actions, changes, and adjustments were noted on an audit checklist.

ELEMENT 11 – COMMUNICATION PROGRAM

SWRCB Requirements

The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented. The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

The City communicates with the public, as appropriate, on the development, implementation, and performance of the SSMP through the City's website and newsletter. Information on the sewer system and a link to the SSMP is available on the City's website at www.cityoflivermore.net. A link to the SSMP is also available on the California Integrated Water Quality System (CIWQS) website at www.waterboards.ca.gov/ciwqs/ Various sewer-related information is also disseminated to the public via Twitter at http://www.twitter.com/LivermorePW.

The City will provide the public with the opportunity to offer input at a public meeting of the City Council to review and certify the SSMP.

IN THE CITY COUNCIL OF THE CITY OF LIVERMORE, CALIFORNIA

A RESOLUTION CERTIFYING THE SEWER SYSTEM MANAGEMENT PLAN

On May 2, 2006, the State of California Water Resources Control Board adopted Order Number 2006-003 requiring all public agencies owning and/or operating sanitary sewer systems to develop and implement a Sewer System Management Plan, and to thereafter update and recertify the plan every 5 years. That order also requires the Sewer System Management Plan contain eleven specific provisions.

Water Resources Division staff has updated the City's Sewer System Management Plan to address each of the provisions required by State of California Water Resources Control Board Order 2006-003.

NOW, THEREFORE BE IT RESOLVED that the City Council of the City of Livermore certifies that the City of Livermore Sewer System Management Plan prepared by Water Resources Division staff has been updated to meet the requirements and provisions of State of California Water Resources Control Board Order Number 2006-003.

On motion of Council Member _____, seconded by Council Member _____, the foregoing resolution was passed and adopted on September 9, 2019, by the following vote:

AYES: COUNCIL MEMBERS:
NOES: COUNCIL MEMBERS:
ABSENT: COUNCIL MEMBERS:
ABSTAIN: COUNCIL MEMBERS:

ATTEST:

_____
Sarah Bunting
City Clerk

APPROVED AS TO FORM:

_____
Jason Alcala
City Attorney

RESOLUTION NO. _____