

CITY OF BURLINGAME



Sewer System Management Plan

Revised June, 2015

WDID # 2SSO10099

NPDES Permit #0037788 effective May 8, 2013

Definitions, Acronyms, and Abbreviations

Association of Bay Area Governments (ABAG)

American Society for Testing and Materials (ASTM)

American Water Works Association (AWWA)

Best Management Practices (BMP)

Refers to the procedures employed in commercial kitchens to minimize the quantity of grease that is discharged to the sanitary sewer system. Examples include scraping food scraps into a garbage can and dry wiping dishes and utensils prior to washing.

Building Lateral

Refers to the piping (upper and lower lateral) that conveys sewage from the building to the City sewer system.

Calendar Year (CY)

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. The electronic reporting requirement became effective on May 2, 2007 in Region 2.

Capital Improvement Plan (CIP)

Refers to the document that identifies future capital improvements to the City's sanitary sewer system.

Cast Iron Pipe (CIP)

City

Refers to the City of Burlingame.

City Clean Out

Refers to the clean out that is typically located on the building lateral near the sidewalk (lower lateral) or at the edge of the City right-of-way. The City clean out is used to provide access for City crews to provide courtesy maintenance to the lower lateral. Not all buildings in the City have a City clean out.

Closed Circuit Television (CCTV)

Refers to the process and equipment that is used to internally inspect the condition of gravity sewers.

Computerized Maintenance Management System (CMMS)

Refers to the Lucity computerized maintenance management system that is used by the City to plan, dispatch, and record the work on its sanitary sewer system.

Control One

Refers to the Burlingame City Police dispatcher.

Corrugated Metal Pipe (CMP)

Design Storm

Means a 10-year return period rainstorm with a duration of 24 hours as measured by a properly calibrated and monitored rain gage, or such rain gages, within Burlingame or, if no such gage is available, at the San Francisco International Airport and as more precisely defined in the Consent Decree.

Dispatch

Dispatch may refer to either Control One or the City's computer automated dispatch system.

Ductile Iron Pipe (DIP)

Division of Water Quality (DWQ)

Refers to the State of California Division of Water Quality of the State Water Resources Control Board.

EHMW

Refers to the type of high-density polyethylene pipe used by the city. The acronym stands for extra high molecular weight.

Fats, Oils, and Grease (FOG) or FROG

Refers to fats, oils, and grease typically associated with food preparation and cooking activities that can cause blockages in the sanitary sewer system.

Feet per sec (fps)

First Responder

Refers to the field crew or the On Call personnel that are the City's initial response to an SSO event or other sewer system event.

Fiscal Year (FY)

Means a 12-month periods beginning July 1st and ending June 30th.

Food Service Establishment (FSE)

Refers to commercial or industrial facilities where food is handled/prepared/served that discharge to the sanitary sewer system.

Full-time Equivalent (FTE)

Refers to the equivalent of 2,080 paid labor hours per year by a regular, temporary, or contract employee.

General Waste Discharge Requirements (GWDR)

Refers to the State Water Resources Control Board Order No. 2006-0003, Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, dated May 2, 2006.

Geographical Information System (GIS)

Refers to the City's system that it uses to capture, store, analyze, and manage geospatial data associated with the City's sanitary sewer system assets.

Global Positioning System (GPS)

Refers to the handheld unit that is recommended to determine the longitude and latitude of sanitary sewer overflows for use in meeting CIWQS reporting requirements.

Gallons per Day (GPD)

Grease Removal Device (GRD)

Refers to grease traps and grease interceptors that are installed to remove FOG from the wastewater flow at food service establishments.

High Density Polyethylene (HDPE)

Mercury (HG)

Heating, Ventilation and Air Conditioning(HVAC)

Infiltration/Inflow (I/I)

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

Lateral

See building lateral.

Legally Responsible Official (LRO)

Person(s) designated by an agency to be responsible for formal reporting and certifying of all reports submitted to the CIWQS.

Lower Lateral

Described as the portion of the lateral that extends from the sewer main in the public right-of-way to the clean out at the property line/edge of the City right-of-way

Maintenance Management System (MMS)

See computerized maintenance management system.

Manhole (MH)

Refers to an engineered structure that is intended to provide access to a sanitary sewer for maintenance and inspection.

Monitoring, Measurement, and Plan Modifications (MMPM)

Monitoring and Reporting Program (MRP) effective September 9, 2013.

Municipal Separate Storm Sewer Systems (MS4)

Not Applicable (NA)

Office of Emergency Services (OES)

Refers to the California State Office of Emergency Services.

Operations and Maintenance (O&M)

Operator Interface Terminals (OIT)

Operator-in-training (OIT)

Overflow Emergency Response Plan (OERP)

Pipeline Assessment and Certification Program (PACP)

Refers to at NASSCO certification program for the evaluation and condition assessment of sewer lines and appurtenances from closed circuit televising of the lines and appurtenances.

Polyvinylchloride Pipe (PVC)

Preventative Maintenance (PM)

Refers to maintenance activities intended to prevent failures of the sanitary sewer system facilities (e.g. cleaning, CCTV, repair).

Private Lateral

See building lateral.

Property Damage Overflow

Refers to a sewer overflow or backup that damages a property owner's premises.

Public Works (PW)

Pump Station (PS)

Regional Water Quality Control Board (RWQCB)

Refers to the San Francisco Bay Regional Water Quality Control Board.

Reinforced Concrete Pipe (RCP)

Sanitary Sewer Overflows (SSOs)

Refers to the overflow or discharge of any quantity of partially treated or untreated wastewater from the sanitary sewer system at any point upstream from the wastewater treatment plant. SSOs are typically caused by blockages, pipe failure, pump station failure, or capacity limitation.

Sanitary Sewer System

Refers to the portion of the sanitary sewer facilities that are owned and operated by the City of Burlingame.

Sensitive Areas

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

Sewer System

Refers to the sanitary sewer facilities owned and operated by the City.

Sewer System Management Plan (SSMP)

Standard Dimension Ratio (SDR)

Refers to the ratio of pipe diameter to pipe wall thickness in plastic pipes.

Standard Operating Procedures (SOP)

Refers to written procedures that pertain to specific activities employed in the operation and maintenance of the sanitary sewer system.

Standard Specifications

Refers to the latest edition of Standard Specifications published by the California Department of Transportation, Caltrans.

State Water Resources Control Board (SWRCB)

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

STOPP Coordinator

Refers to the City employee who is responsible for taking water quality samples when surface waters are impacted by an SSO.

Storm Water Pollution Prevention Program (STOPPP)

Refers to the San Mateo County Program to prevent pollution of storm water.

Streets & Sewers Division (S&S)

Refers to the Streets and Sewer Division of the Public Works Department for the City.

Supervisory Control and Data Acquisition (SCADA)

Refers to the system that is employed by the City to monitor the performance of its pump stations and to notify the operating staff when there is an alarm condition that requires attention.

System Evaluation and Capacity Assurance Plan (SECAP)

Upper Lateral

Refers to that portion of the Private Lateral generally from the property line to the building owned and maintained by the private property owner.

Veolia Water North America (Veolia)

Refers to the City's contractor who operates the wastewater treatment plant and is responsible for administering the City's Pretreatment Program, which includes the FOG Source Control Program.

Vitrified Clay Pipe (VCP)

Water Body

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

Water of the State

Water of the State 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 sewer system.

Water Quality Monitoring Plan (WQMP)

Work Order (WO)

Refers to a document (paper or electronic) that is used to assign work and to record the results of the work.

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Introduction

Sewer System Management Plan

This Sewer System Management Plan (SSMP) has been prepared by the Streets and Sewer Division of the City of Burlingame Public Works Department with the assistance of Causey Consulting, Walnut Creek, CA. It is a compendium of the policies, procedures, and activities that are included in the planning, management, operation, and maintenance of the City's sanitary sewer system. This SSMP is intended to meet the requirements of the State Water Resources Control Board.

The State Water Resources Control Board (SWRCB) has issued statewide waste discharge requirements for sanitary sewer systems, which include requirements for development of an SSMP. The State Water Board requirements are outlined in the Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems (SSO WDR), Order No. 2006-0003-DWQ dated May 2, 2006, which was amended by Order No. 2013-0058-EXEC, dated September 9, 2013. In addition, the City's NPDES Permit (No. CA0037788) incorporates the requirements to comply with the SSO WDR by reference in the treatment plant permit (Order No. R2-2013-0015) to operate the Burlingame Wastewater Treatment Plant and City of Burlingame's wastewater collection system.

The structure (section numbering and nomenclature) of this SSMP follows the above referenced SSO WDR. This SSMP is organized by the SWRCB outline of eleven elements and contains quoted language taken from the SSO WDR and shown in the gray box at the beginning of each element. The SSO WDR uses the term "Enrollee" to refer to each individual municipal wastewater agency that has completed and submitted the required application for coverage under the SSO WDR (in this case, the Enrollee is the City of Burlingame). The City's waste discharger identification number (WDID) in the California Integrated Water Quality System¹ (CIWQS) is 2SSO10099.

Sanitary Sewer System Facilities

The City operates a sanitary sewer system that serves a population of approximately 29,890 in a 4.3 square mile service area. The sewer system serves 7,574 residential connections and 912 commercial, industrial and institutional customers as of June 2014. The sewer system consists of 81.4 miles of gravity sewers (approximately 2,198 line segments), 31 miles of lower laterals (approximately 8,486 laterals), 1,625 manholes, 6.1 miles of force mains, and 7 pump stations. The sewers range in size from 4 inches to 51

¹ The California Integrated Water Quality System (CIWQS), a computer system used by the State and Regional Water Quality Control Boards, tracks environmental information, manages permits and other orders, tracks inspections, and manages violations and enforcement activities. Permittees (or enrollees) of storm water or SSO WDR permit programs submit information to the system, which makes data available to the public. (<http://www.swrcb.ca.gov/ciwqs/>)

inches in diameter. The City provides service and repair of the lower lateral, described as the portion of the lateral that extends from the sewer main in the public right-of-way to the clean out at the property line/edge of the City right-of-way. The property owner is responsible for maintenance and repair of the upper lateral that extends from the clean out at the property line/edge of right-of-way to the building sewer (per Ordinance No. 1329, which was adopted July 7, 1986 and became effective August 7, 1986 and later modified by Ordinance 1623 on March 23, 2000). The City requires inspection of the upper lateral and repair of identified deficiencies when the property is sold and when additional water fixtures are added to the house.

Figure 1 contains an overview map of the City's sanitary sewer system. The composition of the sewer piping by size and material of construction is shown on **Tables 1 and 2**. The Inventory of Sewer Lines by Pipe Age is shown in **Table 3**.

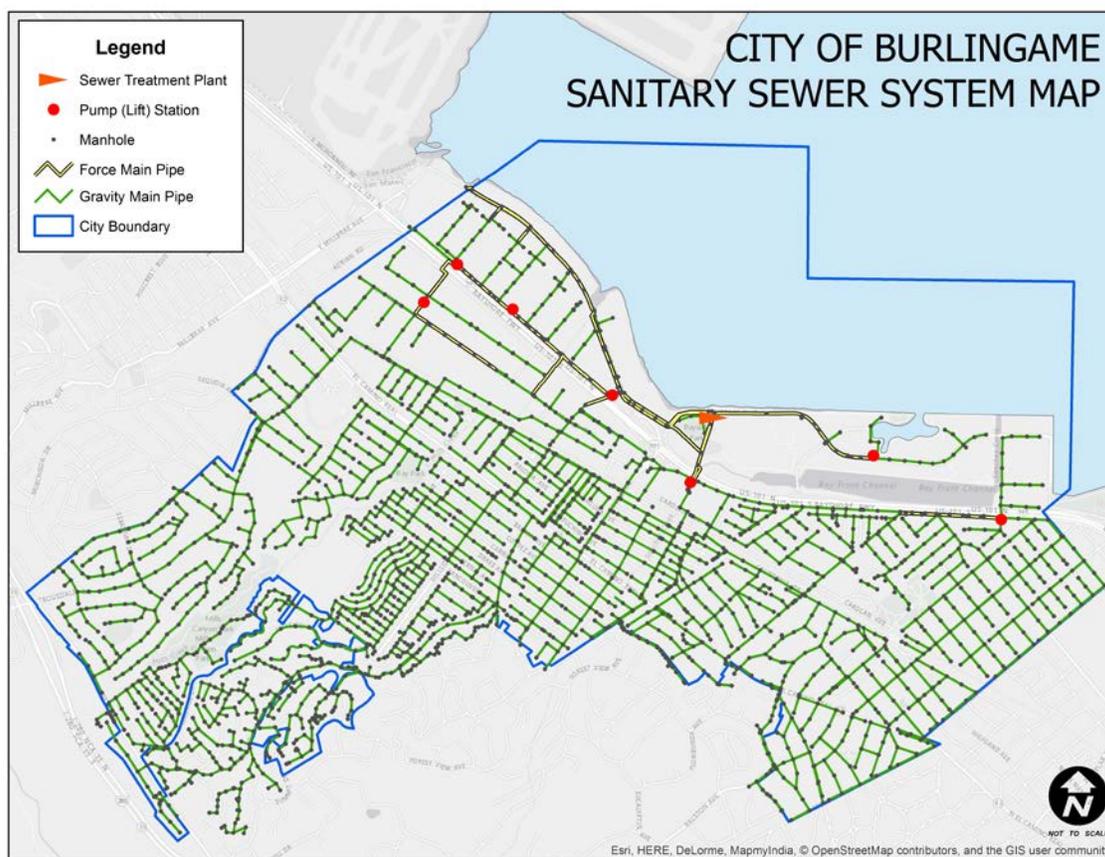


Figure 1. Sanitary Sewer System Map

Table 1. Gravity Sewer System Size Distribution

Diameter, inches	Number of Line Segments	Pipe Length, linear feet	Portion of Sewer System, %
2	1	60	0.01%
4	11	1,142	0.25%
5	2	243	0.05%
6	1,103	216,861	46.92%
6*	2	1154	0.25%
8	589	125,664	27.19%
8*	24	8,442	1.83%
9	1	345	0.07%
10	158	32,883	7.11%
10*	6	5,841	1.26%
12	74	14,136	3.06%
12*	8	1,501	0.32%
14	20	3,841	0.83%
15	31	5,679	1.23%
16	3	133	0.03%
16*	1	1,977	0.43%
18	60	12,575	2.72%
21	13	2,270	0.59%
24	38	8,493	1.84%
27	21	5,164	1.12%
30	8	1,007	0.22%
30*	4	1,743	0.38%
33*	3	7,556	1.63%
36	8	2,325	0.50%
51	3	640	0.14%
Total	2,196	462,167	100%

Source: Burlingame GIS, 2015

*Force Main

Table 2. Sewer System Materials of Construction

Material	Number of Line Segments	Pipe Length, LF	Percent of Sewer System
AC	92	26,180.27	5.66%
BR	1	12.39	0.002%
CI	18	5,679.12	1.23%
CIPP	1	303.88	0.06%
CMP	2	470.69	0.10%
CP	8	1,631.07	0.35%
CSB	3	564.52	0.12%
FRP	1	265.64	0.05%
HDPE	60	14,444.06	3.12%
OTH	3	709.96	0.15%
PP	1	145.92	0.03%
PVC	674	128,828.29	27.87%
RCP	4	1,743.44	0.37%
VCP	1330	281,187.91	60.84%
Total	2198	462,167	100%
Source: Burlingame GIS, 2014			

Table 3. Inventory of Sewer Lines by Pipe Age

Age, Years	Construction Period	Percent of System*	Miles of Main
0-15	2000 - current	8%	10
16 – 35	1980 – 1999	6%	5
36 – 55	1960 – 1979	9%	7
56 – 75	1940 – 1959	18%	16
76 - 95	1920 – 1939	6%	5
95 - 115	1900 – 1119	33%	26
>115	Before 1900	20%	18
Total, miles			87
* Source: Burlingame GIS			

Element I: SSMP Goals

SWRCB Waste Discharge Requirement:

The purpose 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 of the City of Burlingame SSMP are:

1. Properly and safely manage, operate, and maintain all portions of the wastewater collection system.
2. Provide adequate capacity to convey the peak wastewater flows to the wastewater treatment plant. Adequate capacity, for the purposes of the SSMP, is defined as the capacity to convey the peak wastewater flows that are associated with the design storm event.
3. Minimize the frequency of SSOs.
4. Mitigate the impacts that are associated with any SSO that may occur.
5. Provide training for City staff involved in wastewater collection system operations, maintenance and emergency response.
6. Meet all applicable regulatory notification and reporting requirements.

Element II: Organization

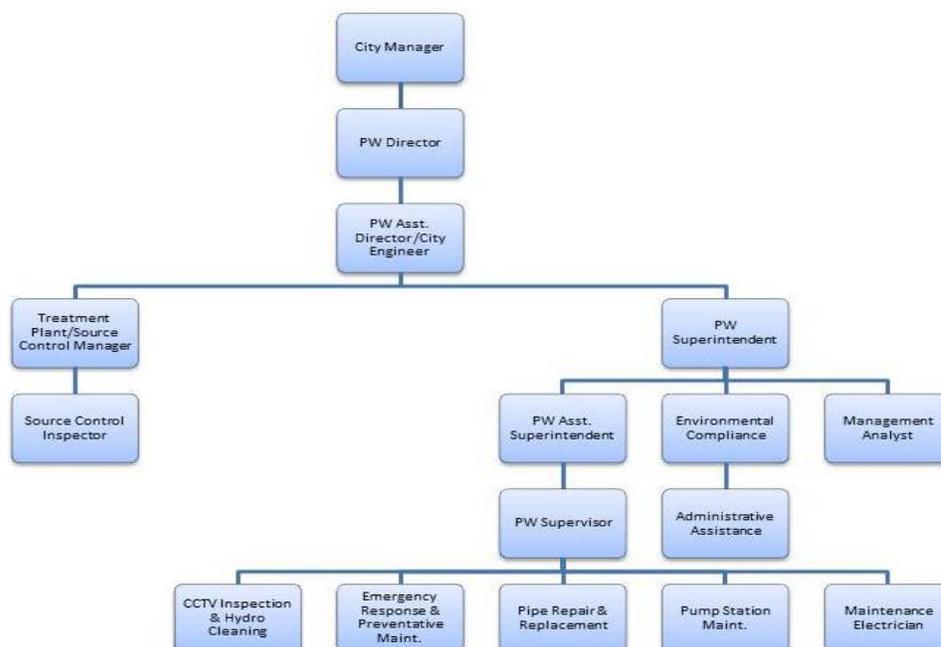
SWRCB Waste Discharge Requirement:

The Sewer System Management Plan (SSMP) must identify:

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

II-1. Organizational Structure The organization chart for the management, operation, and maintenance of the City’s wastewater collection system is shown in **Figure 2**.

Figure 2: Organization Chart



Roles for wastewater collection system staff are:

Public Works Director (Syed Murtuza) – Establishes policy; plans strategy; leads staff; allocates resources; delegates responsibility; authorizes outside contractors to perform services; and may serve as public information officer.

Assistant Public Works Director (Art Morimoto) – manages capital improvement projects; prepares policies; allocates resources; delegates responsibility; and authorizes outside contractors to perform services.

Treatment Plant /Source Control Manager (Manuel Molina) – oversees all responsibilities related to the operations and maintenance of the wastewater treatment plant.

Source Control Inspector (Eva Justimbaste) - performs technical tasks in the inspection of industrial and commercial discharges to the wastewater collection system for compliance with applicable laws and ordinances.

Public Works Superintendent (Rob Mallick) – manages the day-to-day operations and maintenance activities and provides relevant information to Enrollee management.

Public Works Assistant Superintendent (Vince Falzon) – oversees all field operations and maintenance activities.

Public Works Supervisor (Jim Brown) – supervise field operations and maintenance activities related to the wastewater collection system; investigate and report SSOs; and train field crews.

Environmental Compliance (Pam Boyle Rodriguez) - provides support to the management staff on issues related to pre-treatment.

Management Analyst (Kevin Dawdy) – provides administrative and technical support related to the Geographic Information System (GIS) and Computerized Maintenance Management System (CMMS).

Administrative Assistant (Keith Martin) – provides support to the management staff with administrative duties/tasks regarding today-to-day operations.

CCTV Leadworker (David Ibarra) – performs regular inspections of the gravity sewers and leads wastewater collection system cleaning crew.

Emergency Response and Preventive Maintenance (Tim Healy) – responds to complaints in connection with sewer problems and attempts to address the problems as required. This includes emergency response related to the sewer main and lower lateral blockage relief.

Pipe Repair and Replacement Lead (Allen Meadows) – leads a crew and performs a variety of tasks involved in the construction, maintenance, and repair of sewers, and related public works installations.

Pump Station Leadworker (John Baack) – In addition to the daily checks and preventative maintenance of the wastewater collection pump stations, this position is also responsible for the oversight and certification of Sewer Lateral Tests involved in the sale of private properties or remodel of residential and commercial properties.

Maintenance Electrician (Abe Kirschenbaum) – provides a variety of electrical maintenance and repair work related to the wastewater collection pump stations.

II-2. Legally Responsible Official

The City’s Legally Responsible Official (LRO) in all wastewater collection system matters is the Public Works Superintendent, Rob Mallick. He is authorized to submit verbal, electronic and written spill reports to the California Office of Emergency Services (OES) and to certify electronic spill reports submitted to the SWRCB.

The Assistant Street & Sewer Assistant Superintendent, Vincent Falzon, is also authorized to act as the City’s LRO in the Public Works Superintendent’s absence. He is authorized to submit verbal, electronic, and written spill reports to the SWRCB and OES. In the absence of Assistant Superintendent, the Sewer Division Supervisor, Jim Brown, is authorized to act in their behalf and is authorized to submit reports.

II-3. Responsibility for SSMP Development, Implementation, and Maintenance

The Public Works Superintendent has the utmost responsibility for developing, administering, implementing, periodically auditing, and maintaining the City’s SSMP. He delegates the responsibility for SSMP development implementation and maintenance to his staff. See Table 4 below for additional information on delegated responsibilities.

II-4. SSO Reporting Chain of Communication

The SSO Reporting Chain of Command follows the Organization Chart shown in **Figure 2**. The SSO Reporting process and responsibilities are described in detail in the Overflow Emergency Response Plan. The purpose of the City of Burlingame’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.

**Table 4
City Staff with Area of Responsibility for SSMP**

Element	Element Name	Responsible City Official & Title	Phone	Email
	Introduction	Rob Mallick, Public Works Superintendent	650-558-7670	rmallick@burlingame.org
1	Goals	Rob Mallick, Public Works Superintendent	650-558-7670	rmallick@burlingame.org
2	Organization	Rob Mallick, Public Works Superintendent	650-558-7670	rmallick@burlingame.org
3	Legal Authority	Rob Mallick, Public Works Superintendent	650-558-7670	rmallick@burlingame.org
4	Operations and Maintenance Program	Jim Brown, Public Works Sewer Supervisor	650-558-7670	jbrown@burlingame.org
5	Design and Performance Provisions	Art Morimoto, Public Works Engineering	(650) 558-7230	amorimoto@burlingame.org
6	Overflow Emergency Response Plan	Vincent Falzon, Public Works Asst. Street & Sewer Superintendent	650-558-7670	vfalzon@burlingame.org
7	Fats, Oils and Grease (FOG) Control Program	Eva Justimbaste, Source Control Inspector (Veolia contractor on behalf of the City)	(650) 342-3727	eva.justimbaste@veoliawaterma.com
8	System Evaluation and Capacity Assurance Plan	Art Morimoto, Public Works Engineering	(650) 558-7230	amorimoto@burlingame.org
9	Monitoring, Measurement and Program Modifications	Vince Falzon, Public Works Asst. Street & Sewer Superintendent	650-558-7670	vfalzon@burlingame.org
10	Program Audits	Vince Falzon, Public Works Asst. Street & Sewer Superintendent	650-558-7670	vfalzon@burlingame.org
11	Communications Program	Rob Mallick, Public Works Superintendent	650-558-7670	rmallick@burlingame.org

Element III: Legal Authority

SWRCB Waste Discharge Requirement:

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

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

III-1. Municipal Code

The *Burlingame Municipal Code* describes the City's current legal authorities. The legal authorities provided by the Municipal Code Title 15 and other Municipal Code sources that address the regulatory requirements are summarized on **Table 5**.

III-2. Agreements with Satellite Agencies

The City's wastewater treatment plant is operated under contract by private company Veolia Water. In addition to serving the City, this plant serves the Town of Hillsborough (Hillsborough) and the San Mateo County Burlingame Hills Sewer Maintenance District (Burlingame Hills). Hillsborough and Burlingame Hills are "satellite collection systems" to the City. These systems discharge directly to the Burlingame system, with each managing their own collection systems. Each system is responsible for separately meeting WDR requirements, developing and implementing SSMP's and reporting to the CIWQS system². The City has written agreements with Hillsborough and Burlingame Hills. The agreement details with respect to providing the City with the required legal authority to control infiltration and inflow (I/I) from satellite collection systems are described in the following two sections.

Town of Hillsborough

The written agreement, which became effective on October 1, 2004, specifically addresses inflow and infiltration from their 97 mile system. The agreement requires an annual evaluation of the ratio of dry weather to peak wet weather flow by both parties. The agreement establishes a process in the event inflow and infiltration become an issue.

² Hillsborough is responsible for reporting and data management under WDID# 2SSO10142, while the County of San Mateo's reports on behalf of Burlingame Hills (WDID # 2SSO10224) .

The agreement provides the City with the authority to set limits, with the approval of the Regional Water Quality Control Board, if the limits are required to meet water quality standards.

San Mateo County Burlingame Hills Sewer Maintenance District

The Burlingame Hills Sewer Maintenance District is allowed to discharge sewage into and through the City's sanitary sewer collection system infrastructure from its 6.7 mile system. Burlingame Hills observes the San Mateo County of California Code of Ordinances under Title 4 – Sanitation and Health:

- Chapter 4.24 - Sewer Connections
- Chapter 4.28 - Discharge Of Waste into Sewer System
- Chapter 4.32 - Sewer Service Charges

The City of Burlingame and the Burlingame Hills Sewer Maintenance District agreement covers the following terms.

- The District is responsible for paying a portion of the total cost for sewage treatment;
- The District is responsible for paying a portion of the total actual cost of operation and maintenance of the City's collection system (including 15% for overhead and supervision).

Burlingame Hills has completed closed circuit television (CCTV) inspections of its entire wastewater collection system. The District is now using this information from the CCTV inspections for prioritizing collection system rehabilitation projects.

Table 5. Summary of Legal Authorities in the City of Burlingame’s Municipal Code and Other Sources

Requirement	Legal Authority Reference
Prevent illicit discharges into the wastewater collection system	15.10.038 15.10.040
Limit the discharge of fats, oils, and grease and other debris that may cause blockages	15.10.038(c) 15.10.040(c) 15.10.050
Require that sewers and connections be properly designed and constructed	15.10.028 15.10.030 15.10.024
Require proper installation, testing, and inspection of new and rehabilitated sewers	15.10.030
Clearly define City responsibility and policies	City Council Resolution 53-2003
Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or maintained by the City	15.10.032
Control infiltration and inflow (I/I) from private service laterals	15.10.056 15.12.010 15.12.110
Requirements to install grease removal devices (such as traps or interceptors), design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements	15.10.066 18.12.010 18.12.070 18.12.080
Authority to inspect grease producing facilities	15.10.102
Enforce any violation of its sewer ordinances	15.10.010 15.10.021 15.10.120 15.10.124

Element IV: Operations and Maintenance Program

SWRCB Waste Discharge Requirement:

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

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

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

IV-1. Collection System Mapping

The City has a Geographical Information System (GIS) that includes the information for its wastewater collection system assets, as well as, for its storm drainage system. The field crews use hard copy maps in the field that are produced using the GIS. The Public Works department will be evaluating the use of tablet type equipment over the coming year for accessing GIS maps electronically. In addition, staff will be testing a newly developed SSO Reporting application (app) by the California Sanitation Risk Management Authority (CSRMA).

The hard copy GIS maps are updated annually. Corrections are identified and documented by the field crews, given to their division managers or directly to the Management Analyst. The Management Analyst is responsible for ensuring all corrections are made. This includes new facilities, which are incorporated into the maps during the annual updates.

Procedure for Updating Maps for the Burlingame Sewer Division

- A document/binder has been created to identify locations for each of the 27 map books.
- Management Analyst is responsible for inventorying sewer map books.
- Management Analyst will work with the Sewer Division (Assistant Superintendent or Supervisor) to track changes to map books.
- When an employee in the field notes a discrepancy on the map book, he or she will complete a Plat Sheet Discrepancy Form (Appendix IV-A) and notify their division's supervisor by the end of the shift or the next day.
- The Sewer Division will notify the Management Analyst, either verbally or written (via email), of the discrepancy within two days (for tracking purposes).
- The Management Analyst will create a work order ticket to track edits.
- The Management Analyst will resolve the work order tickets (updates) on a biweekly basis, either in-house or by sending out to the GIS Consultant.
- Once the work order tickets have been completed by either the Management Analyst or the GIS Consultant, new individual map pages will be printed.
- Management Analyst will distribute corrected map pages to the Sewer Division; these pages will be placed in all map books on a monthly basis.
- Management Analyst to update all Burlingame Sewer map pages annually in January.
- Any CIP projects completed by Engineering will be provided to the Management Analyst, who will assign accordingly.

IV.2. Preventive Operation and Maintenance

The elements of the City's sewer system O&M program include:

- Proactive, preventive, and corrective maintenance of gravity sewers;
- Ongoing CCTV inspection program to determine the condition of the gravity sewers;
- Rehabilitation and replacement of sewers that are in poor condition; and
- Periodic inspection and preventive maintenance for the pump stations.

IV-2.1. Gravity Sewers

The City proactively cleans its sewer system every three years, and it preventively cleans sewers with a history of problems in a more frequent intervals. Cleaning results of the lines are evaluated by the cleaning crew based upon the Standard Sewer Cleaning Results shown in Appendix table IV-B. Staff places line segments on these higher frequency schedules based upon past cleaning results, history of SSO events, history of cleaning results, and professional judgment. Two sewer cleaning crews perform annual preventative maintenance, as well as, respond to emergencies. Each crew consists of two team members (employees) and is supervised by the CCTV Lead Worker. The cleaning crew will clean lines before they are televised; the other cleaning crew performs routine preventative maintenance and Emergency Response. These crews operate combination cleaning units, rodder and reel machines to accomplish cleaning of lines. **Table 6** contains summary statistics for the high frequency lines. **Table 7** contains the historical line and lateral cleaning results.



Table 6: High Frequency Lines

Frequency	Number of Segments	Linear Feet	Annual Cleaning, Linear Feet
3 month Jan-May-Sep	70	14,316	42,928
3 month Feb-Jun-Oct	57	13,230	39,690
3 month Mar-Jul-Nov	48	11,360	34,080
3 month Apr-Aug-Dec	82	19,157	57,471
	TOTAL:	58,063	174,169

Table 7. Historical Line and Lateral Cleaning Results

Calendar Year	Line Cleaning Results, linear feet	Line Cleaning Results, miles	Percent of System	Lateral Cleaning, miles
2014	255,556	48.3	42.2%	169,402
2013	325,717	61.7	61.7%	121,586
2012	309,819	58.7	58.7%	150,037
2011	442,337	83.8	83.8%	227,826
2010	389,501	73.8	73.8%	84,448
2009	349,605	66.2	66.2%	170,129

The City applies FOG control agents at five locations listed in **Table 15** in Element VII. The City’s CCTV inspection and cleaning crew (Lead worker and Maintenance Workers) does periodic condition assessment and follow-up on all SSO events. This inspection work has been completed and forms the basis for the sewer rehabilitation and replacement program discussed later in this Element. Periodic, routine assessments are scheduled in the future based upon previous assessment ratings. The historical results of the City CCTV efforts are shown in **Table 8** Historical Results of Closed Circuit Television.

Table 8. Historical Results of Closed Circuit Television

Calendar Year	CCTV Performance, linear feet
2014	122,551
2013	133,195
2012	152,071
2011	173,999
2010	153,533
2009	122,702

The City has one sewer repair crew to correct problems identified by the CCTV or sewer cleaning crews. Repairs are completed in priority order based on Pipeline Assessment and Certification Program (PACP).

The wastewater collection system staff maintains a list of known structural deficiencies determined from the CCTV results conducted during pipeline assessments. This list is maintained in priority order by structural rating. High priority structural deficiencies, PACP rating 5, are repaired as soon as possible by the City's sewer repair crew or by an outside contractor on an as-needed basis.

Gravity sewer maintenance is currently scheduled and recorded using work orders generated by a computerized maintenance management system (CMMS). The City's standard operating procedure for sewer cleaning is included as Appendix IV-B.

IV-2.2. Pump Stations

The City conducts operational inspections of its pump stations. Sanitary sewer pump stations are inspected on a daily basis. The wet wells are cleaned annually. The mechanical and electrical equipment preventive maintenance is scheduled monthly. It is recommended that the City initiate annual pump station condition assessments utilizing Appendix IV-C, Lift Station Condition Assessment Checklist.

Each of the six (6) wastewater collection pump stations discharge to force mains that are identified and described in **Table 9**. Force mains alignments will inspected on an annual basis, and discharge locations will be surveyed for possible damage and corrosion from the release of hydrogen sulfide when the force mains discharge to the gravity collection system. **Table 9** and **10** below lists the pump stations and force mains in the City, respectively.

Table 9. Summary of Pump Stations

Pump Station Name	Location	No. Pumps	Pump HP	Pump Manufacturer	Design Flow, gpm	Standby Generation, KW
1740 Rollins Road	1740 Rollins Road	3	15	Fairbanks Morse	725	550
Hyatt	1301 Bayshore Rd.	2	15	Flygt	425	55
Mitten	1775 Gilbreth Rd.	2	15	Flygt	286	Portable generator connection only
Gilbreth	1628 Gilbreth Rd.	2	15	Flygt	260	60
Airport	710 Airport Blvd.	2	20	Flygt	110	60

Pump Station Name	Location	No. Pumps	Pump HP	Pump Manufacturer	Design Flow, gpm	Standby Generation, KW
399 Rollins	399 Rollins Road	2	15	Flygt	570	63

Table 10. Summary of Force Main Assets

Pump Station Name	Force Main Asset Information		
	Length	Size	Material
	Linear Feet	inches	
1740 Rollins Road	2,240	10	ACP
Hyatt	2,180	8, 12, 16	PVC
Mitten	1,986	8	PVC
Gilbreth	2,820	12	PVC
Airport	3,530	8	PVC liner
399 Rollins Road	850	30	RCP

IV-2.3. Lower Laterals

The City has developed a lower lateral preventive maintenance program adopted by the City Council on May 5, 2003 in Resolution 53-2003. The maintenance program includes cleaning and root foaming of the lower laterals. The City utilizes one staff position for the cleaning efforts with the lower laterals. Areas of the greatest concern are identified through CCTV, line cleaning, customer complaints and lateral SSOs. It is expected that this staff position will clean an average of 40,000 linear feet per year. The lateral root foaming program, up to 500 lower laterals per year, is handled each year through the City’s procurement and awarded to a contractor.



IV-2.4. Root Foaming

The City also procures a contractor to conduct annual root foaming on main lines that exhibit significant root intrusion in areas currently identified by City staff. The current effort involves a 2-year return cycle for the root foaming processes. The City has identified two separate areas where these activities are required and the service contractor handles one area each year. The City staff is responsible for conducting root cutting 3 to 4 months prior to the root foaming to assure maximum effectiveness from the foaming.

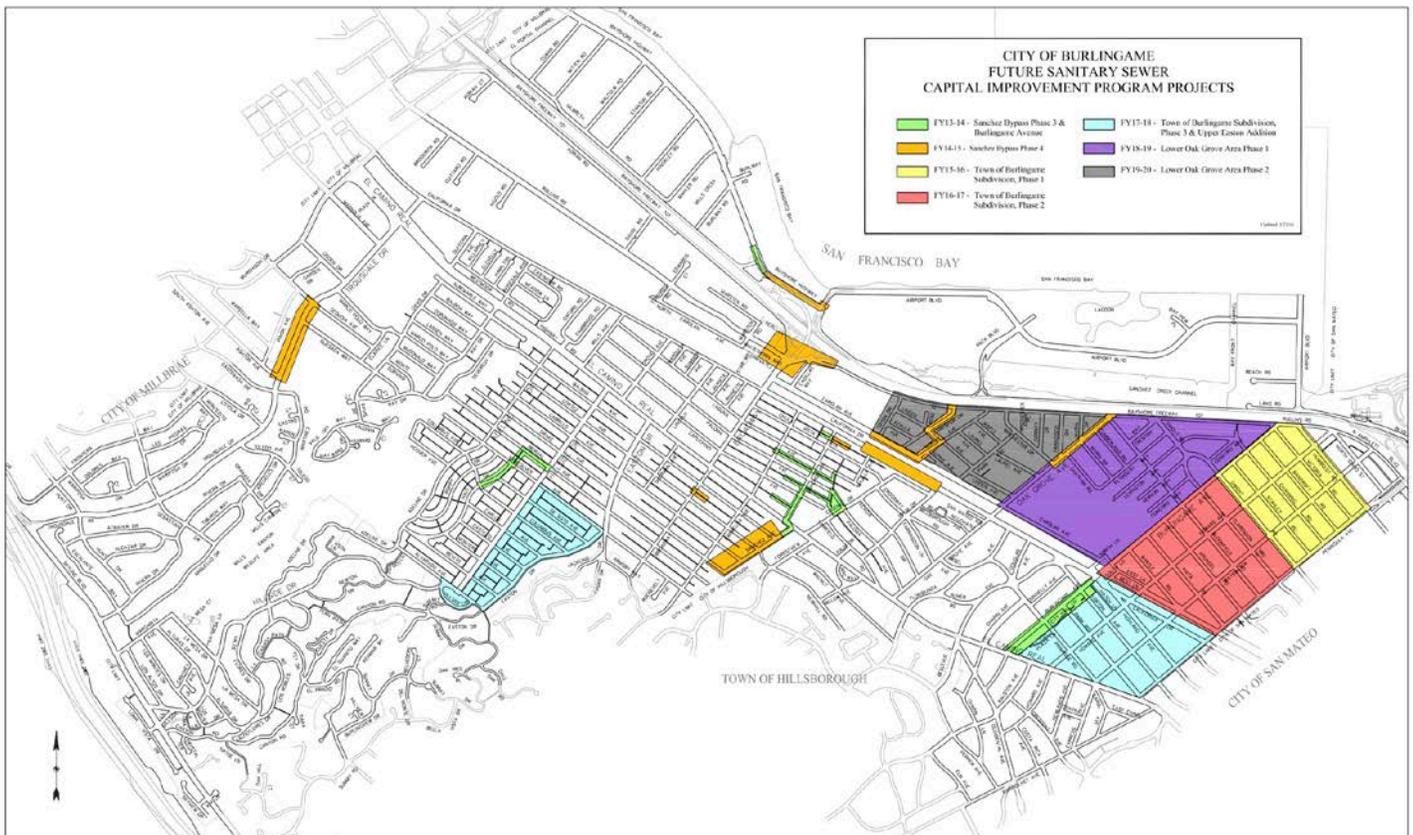
IV-2.5. Rehabilitation and Replacement Program

The City has projected work for the next five (5) years through the CCTV inspection program that evaluates the condition of all gravity sewers using the CCTV Inspection program and PACP condition assessment of each line segment. The information gathered during the condition assessment will be used to select gravity sewers for repair/rehabilitation/replacement.

The City has an annual sewer rehabilitation and replacement program to rehabilitate or replace the portions of its wastewater collection system where conditions warrant. The current budget provides \$4 million annually for this work, enough to replace approximately 4% of the system per year.

The projects that are included in the City's Capital Improvement Program are listed in Appendix IV-D and displayed on Figure 3. The funds that support the Capital Improvement Program come from the City's Sewer Fund. The sewer fund is an enterprise fund and sewer fees are established to meet projected needs.

Figure 3. Capital Improvement Program Project



IV-2.6. Training

The City uses a combination of in-house classes; on the job training; and conferences, seminars, and other training opportunities to train its wastewater collection system staff. The City requires employees to be certified in Collection System Maintenance by the California Water Environment Association. The certification process requires employees to demonstrate that they have participated in 12 hours of training every two years in order to renew their certificates.

The City also trains its employees on both the SSMP and OERP annually. This training includes field exercises in the estimation of SSO volume and SSO containment.

The City is working towards standardizing the language in all service and construction contracts related to the wastewater collection system. The awarded bidder will need to provide documentation reflecting that their employees have had training on Sanitary Sewer Overflows and Emergency Response.

IV-2.7. Equipment and Replacement Parts

The list of the major equipment that City uses in the operation and maintenance of its sewer system is included in Appendix IV-E.

The City has developed a Critical Replacement Parts List. It has also developed a Replacement Parts Inventory procedure that is included in Appendix IV-F.

IV-2.8. Operation and Maintenance Resources

The City's Public Works Department has assigned 15 budgeted full time employees (FTEs) to the operation and maintenance of the collection system facilities as of the date of this SSMP. The allocated staffing resources meet the projected workload. The City reviews these workload needs regularly to determine if changes are required to satisfy City needs and regulatory mandates. Major equipment to support the maintenance activities is listed in Appendix IV-E.

The City's Capital Improvement Program allocates approximately \$4 million annually for condition assessment and rehabilitation/replacement projects. This equates to an investment of approximately 4% of the replacement value of its collection system facilities per year. This value compares favorably to the investment being made by other local collection system agencies.

IV-2.9. Outreach to Sewer Service Contractors

The City participates in the Bay Area Clean Water Agencies (BACWA) region-wide outreach program and has posted Brochures on the City website (www.burlingame.org) to aid and educate contractors & residents.

Appendix IV-A

PLAT SHEET DISCREPANCY FORM

DATE _____ Submitted By _____

Supv Initials: _____

Utility (Circle)

Sewer Water Street Light

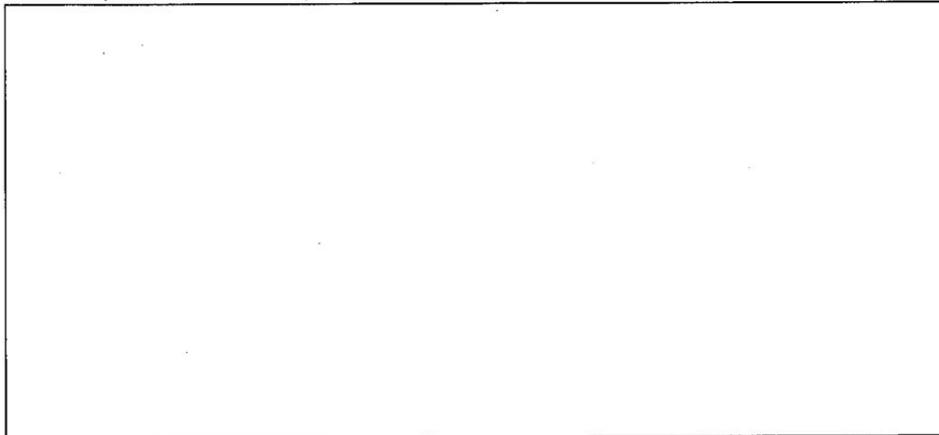
Storm Sidev Other _____

Map Page (Grid No) _____

General Address _____

Describe Problem _____

DRAWING (as needed to add detail)



Staple a copy of the Plat Sheet to this form

Office Use:

Date Rec'd:	_____
Assigned:	_____
Date Closed:	_____

PW100_5.22.14

Appendix IV-B Standard Operating Procedure for Sewer Cleaning

Purpose

The purpose of this Standard Operating Procedure is to ensure that sewer cleaning is performed in a manner that will produce a high quality work product. Quality is important because it ensures that the sanitary sewers will not experience problems prior to their next scheduled cleaning.

Goal

The goal of cleaning a gravity sewer is to restore the flow area to 95% of the original flow area of the pipe.

Required Equipment and Tools

Personal protective equipment (hardhat, steel toe boots, gloves, eye/face protection, hearing protection)

Calibrated gas detector

Proper safety cones/barricades/flagging/signs or other traffic control devices

Confined space equipment – tripod, harness, and ventilation blower

Sanitary sewer system map book including storm drainage lines

Combo (jet rodder/vacuum) truck

45 degree sewer cleaning nozzle and Warthog sewer cleaning nozzle

6 wire skid (“proofer”) in sizes that will be encountered during the day

Debris traps in the sizes that will be encountered during the day

Manhole hook or pick-axe

Measuring wheel

Disinfectant

Required Forms

Cleaning work order

Daily truck report form

Damage report form

Procedures for Sewer Cleaning Crew

Prior to Leaving the Yard

Plan the work so that it starts in the upstream portion of the area and moves downstream.

Wherever possible, plan to clean sewers from the downstream manhole.

Inspect the sewer cleaning nozzles for wear. Replace nozzles that are excessively worn.

If this is the crew's first day with this cleaning unit, inspect the first 200 feet of hose and couplings for damage or wear. Check to ensure all needed tools and equipment needed for daily tasks are on vehicles.

At the Jobsite

Wear proper personnel protective equipment (PPE).

Fill the water tank at or near the first jobsite.

Determine and confirm location of upstream and downstream manholes (use street addresses, if possible).

Look for any overhead utilities that may come into contact with the vacuum boom during the cleaning operation.

Set up proper traffic control by placing traffic signs, flags, cones and other traffic control devices.

Move the cleaning unit into the traffic control so that the hose reel is positioned over the manhole.

Open the manhole and use the gas detector to determine if it is safe to proceed with the cleaning operation.

Install the 45 degree or Warthog nozzle on the hose.

Cleaning Operation

- Insert the debris trap.
- Start the auxiliary engine.
- Lower the hose, with a guide or roller to protect the hose, into the manhole and direct it into the sewer to be cleaned.
- Start the high pressure pump and set the engine speed to provide adequate pressure for the sewer cleaning operation.
- Open the water valve and allow the hose to proceed up the sewer. The hose speed should not exceed 3 feet per minute.
- Allow the hose to proceed 25% of the length of the sewer and pull the hose back.
- Observe the nature and the quantity of debris pulled back to the manhole.
- If there is little or no debris, allow the hose to proceed to the upstream manhole.
- If there is moderate to heavy debris, clean the remaining portion of the sewer in steps not to exceed 25% of the length of the sewer.

- Open the upstream manhole and verify that the nozzle is at or past the manhole.
- The sewer has been adequately cleaned when:
- Successive passes with a cleaning nozzle do not produce any additional debris, and
- The sewer is able to pass a full size, six-wire skid (“proofer”) for its entire length.
- Determine the nature and quantity of the debris removed during the cleaning operation.
- Use the following code shown in Table IV-B: Nature and Quantity of Debris Removed during Cleaning to report the nature and quantity of debris.
- Remove the debris from the manhole using the vacuum unit.
- Rewind the hose on the reel.
- Remove the debris trap.
- Clean the mating surface and close the manhole. Ensure that the manhole is properly seated.
- Enter the results on the Work Order.
- Move the cleaning unit, break down and stow the traffic controls.
- Proceed to the next cleaning jobsite.

Table IV-B: Nature and Quantity of Debris Removed during Cleaning

Type of Debris	Clear (no debris)	Light	Moderate	Heavy
Sand, grit, rock	CLR	DL	DM	DH
Grease	CLR	GL	GM	GH
Roots	CLR	RL	RM	RH
Other (specify)	CLR	OL	OM	OH

At the End of the Day

- Inspect the equipment and tools for problems.
- Report any problems with equipment, tools, or sewers that were cleaned during the day to the Supervisor.
- Turn in all completed Cleaning Work Orders to the Supervisor at end of shift.
- Properly dispose of all debris from the cleaning operations.

Appendix IV- C: Lift Station Condition Assessment Checklist

Inspection Information	
Inspection date	
Inspection participants	
Facility name	
Facility address	
Comments	

Background Information (Prior 12 Months)	
SSOs	
Equipment failures	
Alarm history (attach copy)	
Major maintenance activities (attach list if applicable)	
Pending work orders (attach copies)	
Operating problems (attach copy of operating log)	
Comments	

Security Features	
Fence and gate	
External lighting	
Visibility from street	
Doors and locks	
Intrusion alarm(s)	
Signs with emergency contact information	
Other security features	
Comments	

Safety Features and Equipment	
Signage (confined space, automatic equipment, hearing protection, etc.)	
Fall protection	
Emergency communication	
Equipment hand guards	
Hand rails and kickboards	
Platforms and grating	
Tag out and lock out equipment	
Hearing protection	
Eye wash	
Chemical storage	
Comments	

External Appearance	
Fence	
Landscaping	
Building	
Control panels	
Other external features	
Comments	

Building/Structure	
PS building	
Control room	
Dry well	
Wet well	
Other structures	
Comments	

Instrumentation and Controls (including SCADA Facilities)	
Control panel	
Run time meters	
Flow meter	
Wet well level	
Alarms	
SCADA	
Other instrumentation and controls	
Comments	

Electrical and Switch Gear	
Power drop	
Transformers	
Transfer switches	
Emergency generator and generator connection	
Starters	
Variable frequency drives	
Electrical cabinets	
Conduit and wireways	
Other electrical	
Comments	

Motors	
Lubrication	
Insulation	
Operating current	
Vibration and alignment	
Other	
Comments	

Pumps	
Lubrication	
Vibration and alignment	
Seals	
Indicated flow and discharge pressure	
Shutoff head	
Corrosion and leakage evidence	
Drive shaft	
Other	
Comments	

Valves and Piping	
Valve operation	
Valve condition	
Pipe condition	
Pipe support	
Other	
Comments	

Element IV: Operations and Maintenance Program

Other	
Lighting	
Ventilation	
Support systems (air, water, etc.)	
Signage	
Employee facilities	
Sump pump	
Overhead crane	
Portable pump connections	
Portable pumps	
Comments	

Appendix IV-D Rehabilitation and Replacement Program

Rehabilitation and Replacement Program Budget, in \$1000

Project Title	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19
Sanchez Rehab Ph 4	4,000	0	0	0	0
Broadway Interchange Sewer	500	0	0	0	0
Town of Burlingame Ph. 1	0	4,000	0	0	0
Town of Burlingame Ph. 2	0	0	4,000	0	0
Town of Burlingame Ph. 3, Upper Easton Addition	0	0	0	4,000	0
Lower Oak Grove Area Ph 1	0	0	0	0	4,000
Totals	\$4,500	\$4,000	\$4,000	\$4,000	\$4,000

Appendix IV-E Major Sewer System Equipment Inventory

Critical Equipment Inventory

Equipment Number	Major Equipment Type	Year Purchased
83	Emergency Response Truck F-350	2015
40	Vac-Con Combination Cleaning Unit	2006
85	Vac-Con Combination Cleaning Unit	2012
7438	CCTV Inspection Van (to be replaced in 14/15)	2006
31	Champion Rodder	2001
S&S	Case Backhoe	1999
7486	Dump Truck (5 yd)	2002
7435	Crane Truck	2000
N/A	John Deere Loader – 344G	1999
N/A	Bobcat	2001

Equipment Inventory as of June 2015

Appendix IV- F Critical Sewer System Replacement Parts Inventory

Critical Sewer System Replacement Parts Inventory

Part Description	Number in Inventory	Location
Transducer	3	Locker in S&S shop
Portable Generator 175 KW	1	Corp Yard
Flygt pump 15 hp	2	S&S shop
Pump repair kits	8	S&S shop
Operator Interface Terminal (OIT)	1	S&S shop
Pumps	3 Portable Pumps	Grove Pump Station and 1740 Rollins
Hoses	Various lengths	Grove Pump Station
Plugs	Various sizes	S&S shop
Pipe and Fittings	Various sizes & Lengths	S&S shop
Fittings	Various sizes	S&S shop

Last Inventory Date: May 2015

Element V: Design and Performance Provisions

SWRCB Waste Discharge Requirement:

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

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

V-1. Design Criteria for Installation, Rehabilitation and Repair

The City's Wastewater Collection System Design Criteria are:

V-1.1. General

- a. Any situation that varies from the standard conditions will require additional or specialized design features to ensure reliability, access for maintenance, and economical operation and maintenance over the life of the asset. Design conditions that differ from these standards require approval from the City Engineer.
- b. The sewer facilities listed below will require SCADA equipment to be incorporated into the design of the facility. The City Engineer will provide specific design requirements when improvement plans are submitted for plan check.
 1. Treatment facilities
 2. Sewer pump stations
 3. Metering stations

V-1.2. Main and Trunk Sewers

- a. Minimum size shall be 8 inches.
- b. The maximum depth of flow during peak dry weather flow shall not exceed 50% of the diameter. The maximum depth of flow during peak wet weather flow shall not exceed 90% of the pipe diameter.
- c. No vertical or horizontal curves shall be permitted, unless approved by the City Engineer.
- d. The deflection between any two successive joints will not exceed 80% of the maximum deflection recommended in writing by the pipe manufacturer. The minimum pipe length used to construct short radius curves will be two feet.
- e. Sewer main locations shall be located in the center of the street or easement. A minimum 10 foot separation outside of pipe to outside of pipe from waterlines shall be maintained.
- f. Minimum cover for sewer pipe shall be 36" below the finished grade, unless otherwise approved by the City Engineer.

- g. Minimum Grade: A minimum velocity shall be 2 feet per second (fps) at peak daily dry weather flow. The minimum grade shall be:

<u>Pipe Diameter</u>	<u>Minimum Grade</u>
8"	0.50%
10" and larger	0.40%

- h. Grades exceeding 25% require approval by the City Engineer.
- i. Demands: Average daily sewer demands, in gallons per day (GPD), shall be:

<u>Connection Type</u>	<u>Gallons per Day</u>
Single Family Residential	280 GPD per unit
Multi-Family Residential	200 GPD per unit
Commercial	1,750 GPD per net acre
Industrial	2,450 GPD per net acre
School	20 GPD per student
Park and Open Space	170 GPD per net acre

- j. Peak daily flows for residential developments shall be based on a ratio of peak to average daily dry weather flow of 5.
- k. All sewer mains not located within the public right-of-way shall be provided with a minimum 10 foot wide sewer easement. In some special cases a wider easement may be required; size shall be determined by the City Engineer. Where water and sewer mains are located within the same easement, the minimum easement size shall be 20 feet wide. All easements shall be easily accessible to City's maintenance equipment.
- l. The standards for rehabilitation shall be:
1. All sewer main replacements in easement shall be constructed using trenchless construction methods. The materials shall be SDR-17 HDPE, C900 or SDR-26 fusible PVC. Creek, railroad, and freeway crossings shall be SDR-17 HDPE or C900 PVC and the sewer main shall be installed in a steel casing with appropriate corrosion protection.
 2. All sewer main replacements in streets and other paved areas shall be constructed using open cut or trenchless construction methods. Mains with less than 3.5 feet of cover shall be constructed using open trench construction methods. The materials shall be SDR-26 PVC, fusible PVC, C900 or SDR-17 HDPE.
 3. All sags deeper than 2.5 inches shall be eliminated using spot repairs prior to proceeding with the rehabilitation method.
 4. All connecting manholes, lamp holes, and clean outs shall be replaced at the time the sewer main is rehabilitated or replaced.
 5. All laterals shall be reconnected to the 6" to 12" main at a 45 degree angle except HDPE laterals may be fusion welded to the main at a 30 degree angle. Large mains (12" and up) can be connected at a straighter angle.

V-1.3. Manholes and Clean Outs

- a. Minimum drop through manholes shall be 0.20 feet.

- b. Manholes shall be required:
 - 1. At all changes of slope,
 - 2. At all changes of direction,
 - 3. At all intersections of mains, and
 - 4. At all ends of lines and beginnings of lines.
- c. All manholes shall be numbered on the plans.
- d. Manhole spacing shall be 300 feet maximum or as approved by the City Engineer.
- e. For all industrial uses, an inspection manhole shall be provided immediately behind the property line if the flow exceeds 5000 gpd.
- f. For all residential uses, a clean out shall be provided within 2 feet of the property line.
- g. Match the soffits of all gravity sewers entering a manhole.

V-1.4. Laterals

- a. Each parcel or lot shall have one and only one separate connection to public sewer main.
- b. Minimum size shall be 4 inches. 6 inch laterals shall be provided for properties with 2 or more connected units and commercial connections.
- c. Sewer laterals 8 inches and larger, shall be connected to an existing manhole or a new manhole shall be constructed.
- d. An inspection manhole shall be provided at the property line for industrial projects where the flow will exceed 5,000 gallons per day.
- e. All laterals are to be shown on improvements plans by stationing or a lateral table. On “As-Built” plans all laterals shall be shown in plan view to scale and dimensioned from the nearest sewer manhole.
- f. Location:
 - 1. Perpendicular to the sewer main.
 - 2. Standard is from the center of lot to 5 feet above downstream lot line (shown on As-Built plans).
 - 3. Services shall not be located in the driveway.
- g. An “S” shall be stamped on the curb face at the lateral location.
- h. Separation between sewer and water laterals shall be per City Standard Details.
- i. Minimum cover shall be 2 feet minimum at the property line.
 - j. Any lot with a finished pad elevation lower than the highest point of the finished street grade where the sewer main is located that serves this lot, must install a sewer back flow prevention valve on private property. The valve must be installed in a valve box for easy access and be visible from the public right-of-way. The property owner shall be responsible for the installation and maintenance of the sewer backflow prevention valve. The

backflow prevention valve shall be shown on the grading and improvement plans.

1. The backflow certification shall be completed by the developer in accordance with City standards.
2. The property owner is responsible for maintaining the backflow prevention valve in proper operating condition.

V-1.5. Pump Station

Pump Stations shall not be employed unless deemed essential by the City Engineer. Design criteria to be provided by the City Engineer.

V-1.6. City Sewer System – Authorized Materials

The authorized materials for the City Sewer System are shown on **Table 11**.

Table 11. Acceptable Pipe Materials for New Gravity Sewers

Material	Designation	Standard
Ductile Iron Pipe (DIP)	Cement mortar lined and coated, polyethylene encasement	AWWA C111
High Density Polyethylene (HDPE)	EHMW PE 3408 HDPE	ASTM D3350
Polyvinylchloride Pipe (PVC)	SDR-26 or better Fusible C900	ASTM D3033 or D3034 AWWA C900
Vitrified Clay Pipe (VCP)	Extra Strength	ASTM C700

V-1.7. Private Sewer Systems

- a. All private sewer systems serving more than one building shall be governed by and permitted through the Building Department. A manhole shall be set at the property line and at the City main if required by the City Engineer.
- b. The sewer system upstream of the manhole at the property line shall be considered private and shall be maintained in serviceable condition by the property owner or homeowners association.
- c. In the event that a private sewer system is proposed to be converted to a public system, the entire sewer system must be upgraded to meet the City standards.

- d. Acceptable pipe materials for buried main and trunk sewers 24 inches in diameter and smaller are shown in **Table 11**. Materials for other applications require the approval of the City Engineer.

V-2. Inspection and Testing Criteria

The City's Wastewater Collection System Inspection and Testing Criteria are based on the State of California Standard Specifications published by the Department of Transportation. The City's inspection and testing criteria are:

V-2.1. New and Rehabilitated Gravity Sewers

a. Inspection during Construction

All new gravity sewers will be periodically inspected during construction to ensure that the sewer is constructed using the specified materials and methods. Specific approvals will be required by the inspector prior to backfilling the trench, prior to paving, and prior to acceptance by the City. The contractor will be required to provide survey controls so that the inspector can verify line and grade (slope). Unusual conditions and special features will be recorded for future reference.

b. Leakage

All new gravity sewers will be tested to verify that they have been properly constructed. Sewers between 8 and 16 inches in diameter will be tested following Standard Specifications for Public Works Construction, Section 306-1.4.4 Air Pressure Test. Sewers larger than 16 inches will be hydrostatically tested following Standard Specifications for Public Works Construction, Section 306-1.4.5 Water Pressure Test. Gravity sewers that fail the test shall be repaired and retested until they pass.

c. Deflection

All flexible pipe will be tested for deflection following backfill and prior to paving following Standard Specifications for Public Works Construction, Section 306-1.2.12 Field Inspection for Plastic Pipe and Fittings. Gravity sewers that fail the test shall be repaired and retested until they pass. "Re-rounding" is not allowed.

d. CCTV Inspection

All new gravity sewers will be inspected using a closed circuit television to verify that the pipe is free from defects/damage, that the joints have been correctly constructed, and that the sewer is free from sags that will cause future operational problems. Gravity sewers shall be cleaned prior to inspection and shall be flushed with water so that sags can be readily identified. Defects shall be recorded following the City of Burlingame standards. Sags that exceed one inch in depth shall be repaired.

e. Warranty Inspection

All new gravity sewers will be inspected using CCTV prior to the end of the warranty period to ensure that there are no latent defects. Repairs shall be completed at Contractor’s expense.

V-2.2. New and Rehabilitated Manholes

a. Inspection during Construction

All new manholes will be periodically inspected during construction to ensure that the sewer is constructed using the specified materials and methods. Unusual conditions and special features will be recorded for future reference.

b. Leakage

All new manholes will be vacuum tested to verify that the joints, connections, and frame/cover are tight. The vacuum test will follow ASTM C1244. The test will be conducted at a 10 inch Hg vacuum. The vacuum loss shall be less than one inch Hg for the time shown in **Table 13**.

Manholes that fail the vacuum test shall be repaired using materials and methods approved by the City Engineer and retested until they pass.

c. Manhole frame and cover within the easement areas shall be hinged type such as Pamrex brand or equal.

Table 12. Minimum Manhole Vacuum Test Time in Seconds

Depth / Diameter	4 foot diameter	5 foot diameter	6 foot diameter
Depth < 15 feet	50	65	80
Depth = 15 feet or greater	70	105	130

V-2.3. New and Rehabilitated Pump Stations

a. Inspection during Construction

All new and rehabilitated pump stations will be periodically inspected during construction to ensure that they are constructed using the specified materials and methods. Unusual conditions and special features will be recorded for future reference.

b. Functional Test

All systems in new and rehabilitated pump stations will be tested to ensure they function as intended.

c. Performance Test

All new and rehabilitated pump stations will be required to pass an extended performance test to ensure that they are capable of reliably meeting the design performance for a period of at least 120 hours of continuous operation without failure or alarms. The results of these performance tests will be recorded for use as a basis for evaluating future pump station performance.

Element VI: Overflow Emergency Response Plan

SWRCB Waste Discharge Requirement:

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

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

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

Sanitary Sewer Overflow Emergency Response Plan

(ref. SWRCB Order No. 2006-0003-DWQ Element VI)

City of Burlingame Overflow Emergency Response Plan by DKF Solutions Group, LLC.

VI-1. Purpose

The purpose of the City of Burlingame'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. This OERP satisfies the SWRCB Statewide General Waste Discharge Requirements (GWDR), which require wastewater collection agencies to have an Overflow Emergency Response Plan.

VI-2. 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 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).

VI-3. 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.

Data Submitter: Person or persons designated by the agency and identified in the organizational section of the CIWQS to provide data to the State CIWQS system from sanitary sewer overflows. These persons are limited to only inserting data and do not have the authority to certify reports or data on behalf of the agency.

FROG – Fats, Roots, Oils, and Grease (frequently referred to as 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 that are 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 a 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.

VI-4. State Regulatory Requirements for Element 6, Overflow Emergency Response Plan

GWDR Requirement

The collection system agency 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 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 Monitoring and Reporting Program (MRP). All SSOs shall be reported in accordance with this MRP, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements or National Pollutant Discharge Elimination System (NPDES) permit requirements. The Sewer System Management Plan 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 untreated wastewater and prevent discharge of untreated wastewater to Waters of the United States and 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.

The Sewer System Management Plan and critical supporting documents are available to the public at www.burlingame.org

VI-5. Goals

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

- Work safely;
- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Prevent sewage system overflows or leaks from entering the storm drain system or receiving waters to the maximum extent practicable;
- 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 certain SSOs.

VI-6. SSO Detection and Notification

ref. SWRCB Order No. 2006-0003-DWQ VI(a)

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 during the normal course of their work.

The City operates six wastewater lift stations, and one lift station is operated by Veolia Water. 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.

VI-6.1.Public Observation

Public observation is the most common way that the City is notified of blockages and spills. Contact numbers and information for reporting sewer spills and backups are in the phone book and on the City's website: <http://www.burlingame.org>. The City's telephone number for reporting sewer problems is (650) 558-7670 during business hours and (650) 692-0310 after hours.

Normal Work Hours

When a report of a sewer spill or backup is made during normal work hours, Public Works Administration takes the call and forwards the request to a Sewers Supervisor or the Street & Sewer Assistant Superintendent.

After Hours

After hours service calls are answered by Police dispatch, which will notify the On-Call Employee.

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

The following (**Figure 4**) is an overview of receiving a sewage overflow or backup report:

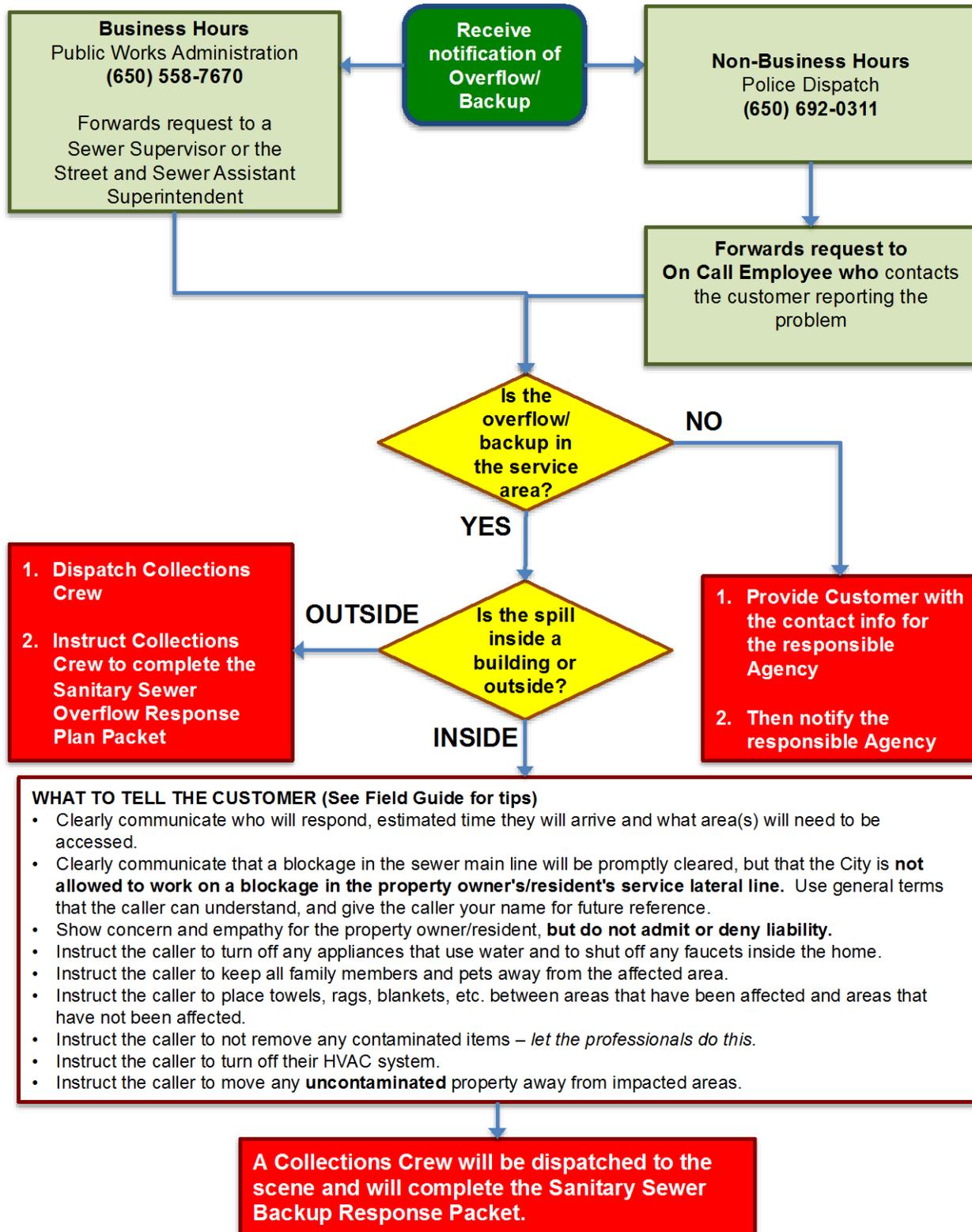


Figure 4: Overview of Receiving a Sewage Overflow or Backup Report Procedure

VI-6.2. 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.

VI-6.3. Contractor Observation

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

1. Immediately notify the City
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 Public Works Director

VI-7. SSO Response Procedures

ref. SWRCB Order No. 2006-0003-DWQ Element 6(b)

VI-7.1. Sewer Overflow/Backup Response Summary

The City will respond to SSOs as soon as feasible following notification of an overflow/backup or unauthorized discharge. The following (**Figure 5**) is an overview of the response activities.

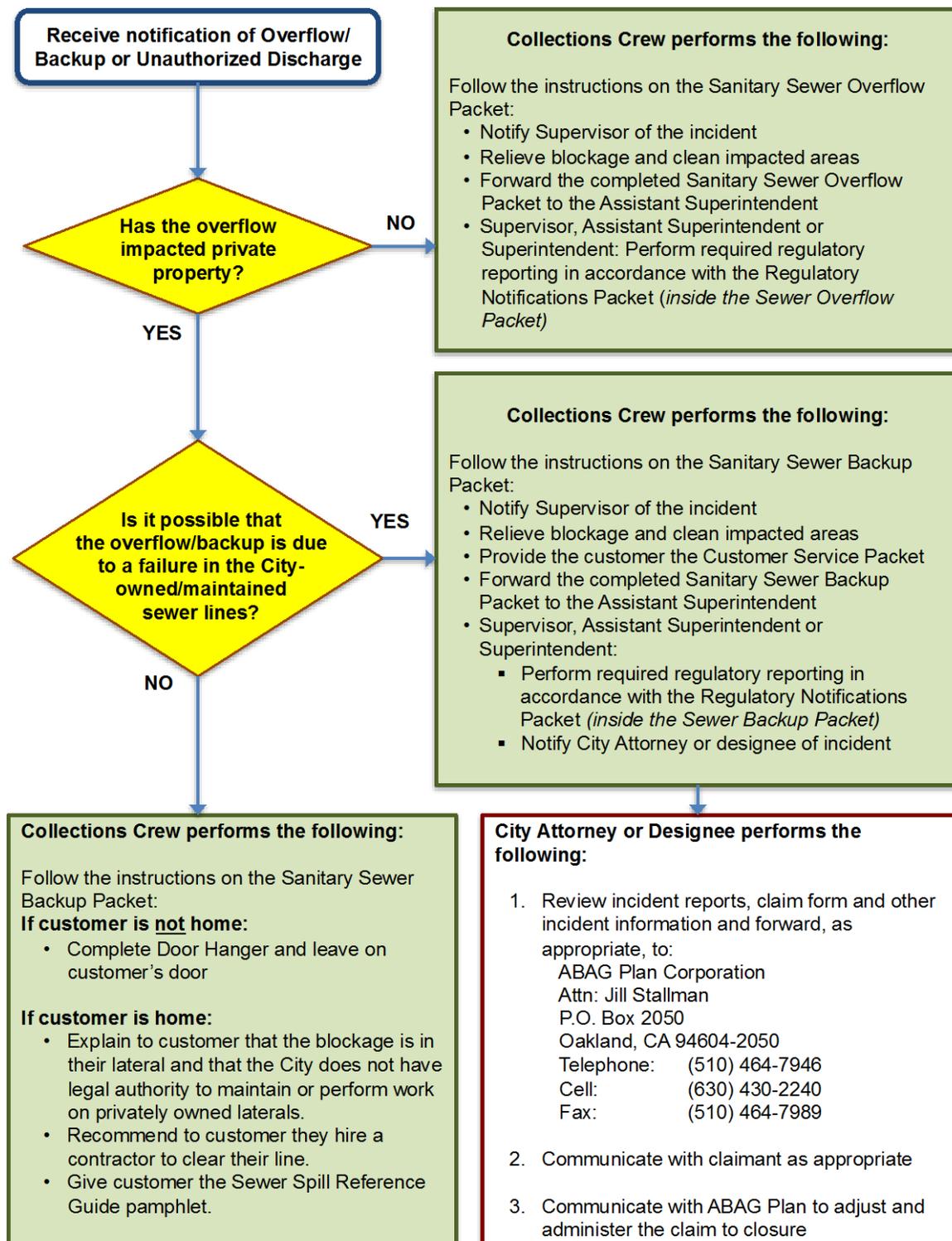


Figure 5: Overview of SSO/Backup Response

VI-7.2. 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 Street & Sewer Assistant Superintendent 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).

VI-7.3. 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.

VI-7.4. 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. For detailed procedures refer to the Sanitary Sewer Backup Procedures, and the Sanitary Sewer Overflow Packet in the DKF Solutions Overflow Emergency Response Plan.

VI-7.5. 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.

For detailed procedures refer to the Sanitary Sewer Overflow Packet in the DKF Solutions Overflow Emergency Response Plan.

VI-7.6. 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 other assistance is required, immediately contact Supervisor, Assistant Superintendent, Superintendent or Engineering.

VI-7.7. Equipment

This section provides a list of specialized equipment that is required to support this Overflow Emergency Response Plan.

- *Closed Circuit Television (CCTV) Inspection Unit* – A CCTV Inspection Unit is required to determine the root cause for all SSOs from gravity sewers.

- *Camera* -- A digital or disposable camera is required to record the conditions upon arrival, during clean up, and upon departure.
- *Emergency Response Trucks* -- A utility body pickup truck, or open bed is required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools will include containment and clean up materials.
- *Portable Generators, Portable Pumps, Piping, and Hoses* – Equipment 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 required 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*
- *Portable Lights*

Standard operating procedures (SOP's) for equipment that may be necessary in the event of a sanitary sewer overflow or backup, are available in hard copy format to staff and they are located in the safety library at Public Works Corporation yard (located on second floor in the copier room).

VI.8. Recovery and Cleanup

ref. SWRCB Order No. 2006-0003-DWQ Element 6(e)

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:

VI-8.1. Estimate the Volume of Spilled Sewage

Use the methods outlined in the Sanitary Sewer Backup Packet and the Sanitary Sewer Overflow Packet in the DKF Solutions Overflow Emergency Response Plan and/or the 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.

VI-8.2. Recovery of Spilled Sewage

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

VI-8.3.Cleanup and Disinfection

Clean up and disinfection procedures will be implemented 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. 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 can call a water damage restoration contractor to complete the cleanup and restoration. If the overflow into property is the definite cause of City system failure, the property owner can call out a water damage restoration contractor to complete the cleanup and restoration. In both cases, property owners may pick up City claim forms from the City Clerk's office at City Hall.

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 wastewater. 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,

VI-8.4. 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 Supervisor and Assistant Superintendent will use their 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, the Assistant Superintendent or designee.

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 area and warning signs, once posted, will be checked every day to ensure that they are still in place. Photographs of sign placement will be taken.

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 material that may warrant additional cleanup activities.

When contact with the local media is deemed necessary, the Public Works Director or his designee will provide the media with all relevant information.

VI.9. Water Quality

ref. SWRCB Order No. 2006-0003-DWQ Element 6(f)

VI-9.1. Waters of the State

The San Francisco Bay is in the City of Burlingame's service area. In the event that these waters are impacted by a sanitary sewer overflow, the City's Sanitary Sewer Management Plan includes a list of vendors to contact. See appendix IV-G:

Appendix IV-G

Vendor, Contractor, and Agency Contact Information

Vendor/Agency	Contact Name	Address	Phone Number(s)	Service
Veolia	William Toci	1103 Airport Blvd. Burlingame	650-342-3727	Treatment Plant
The EDCCO Group	Eric Daniel, P.E.	195 Glenn Way, Ste 100 San Carlos, CA. 94070	Tel: 650-637-2232 Fax 650-649-2328 Cell: 650-465-7998	SCADA
Telstar Instruments, Inc.	Paul Berson	1717 Solano Way#34 Concord, CA.	Tel: 925-671-2888 Cell:925-250-9346	SCADA
Edward R. Bacon Company	Harry N. How III Mark Peterson	255 Fitzgerald Ave San Martin, CA. 95046	408-846-1600	Pumps
CRESCO Xpress	Don Miramontes	1336 Rollins Road Burlingame, CA. 94010	650-347-4660	Generators
Groeniger & Company	Scott	27750 Industrial Blvd Hayward, CA. 94545	510-786-3333	Pipe, fittings and Supply
Roberts & Brune Co.	Carey Brown	939 Broadway Redwood City, CA. 94063	650-366-3833	
CRESCO Xpress	Don Miramontes	1336 Rollins Road Burlingame, CA. 94010	650-347-4660	Equipment Rental
All Industrial Electric Supply, Inc.		895 Mitten Road Burlingame, CA. 94010	Tel. (650) 777-0060	Electrical supplies
BKF	Michael Liu	255 Shoreline Drive #200 Redwood City, Ca. 94065	Tel. (650) 482-6330 Fax. (650) 482-6399	General Engineering Contractor
DW Pumps	Roger Marshall	14855 Wicks Blvd San Leandro, CA. 94577	510-633-2040 510-714-8110 (cell)	Bypass Pump Equipment
Rain for Rent	Tony de Bellis	5301 Live Oak Avenue Oakley, CA. 94561	925-679-2803	Vacuum Tanker
Rain for Rent	Tony de Bellis	5301 Live Oak Avenue Oakley, CA. 94561	925-679-2803	Bypass Pump Equipment
Edward R. Bacon Company	Harry N. How III Mark Peterson	255 Fitzgerald Ave San Martin, CA. 95046	408-846-1600	Hydro-Vactor

VI-9.2. Water Quality Sampling and Testing

Water quality sampling and testing is required for Category 1 SSOs of 50,000 gallons or greater to determine the extent and impact of the SSO. The water quality sampling procedures must be implemented within 48 hours and include the following:

- The first responders will contact the Burlingame treatment plant to collect samples as soon as possible 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 shall then be brought to the Burlingame Treatment Plant Laboratory.

VI-9.3. 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 or as required by the Regional Board 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 total and fecal coliform.
6. Observe proper chain of custody procedures.

VI-9.4. 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

Supervisor, Street & Sewer Assistant Superintendent, and Superintendent 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.

VI.10. Sewer Backup Into/Onto Private Property Claims Handling Policy

It is the policy of the City that a claims form shall 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 it is possible that the sanitary sewer backup may have resulted from an apparent blockage in the City-owned sewer lines or whenever a City

customer 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 divisions Assistant Superintendent or his/her designee.
- It is the responsibility of the City Attorney or his/her designee to review all claims and to oversee the adjustment and administration of the claim to closure.

VI.11. Notification, Reporting, Monitoring and Recordkeeping Requirements

ref. SWRCB Order No. 2006-0003-DWQ Element 6(c)

In accordance with the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS GWDRs), the City of Burlingame 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 of discharged and/or recovered volumes were calculated including all assumptions made.
- Regulator required notifications are outlined in **Table 14** on the following page.

Table 13: 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	<ul style="list-style-type: none"> • 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 	<p>Enter data into the CIWQS Online SSO Database³ (http://ciwqs.waterboards.ca.gov/) certified by the Legally Responsible Official(s)⁴.</p> <p>All information required by CIWQS will be captured in the Sanitary Sewer Overflow Report.</p> <p>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.</p>

³ In the event that the CIWQS online SSO database is not available, the Street and Sewer Assistant Superintendent or his designee 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.

⁴ 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.

ELEMENT	REQUIREMENT	METHOD
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	<p>The City will maintain the following records:</p> <ul style="list-style-type: none"> • 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.

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 cause the SSO, and descriptions of the locations of all other discharge points associated with the single SSO event.

VI-11.1. 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 or occurrence related to the call
- 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 with the original complainant
- Work service request information used to document all feasible and remedial actions taken

All complaint records related to an SSO whether or not they result in an SSO will be maintained under the City of Burlingame's records management policy. The retention schedule will follow those under the Department of Public Works

VI.12. Post SSO Event Debriefing

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

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 and Category 2 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.

VI.13. Failure Analysis Investigation

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

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 B and Appendix C in the DKF Solutions Overflow Emergency Response Plan) 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, Roots and Grease (FROG) related information or results
- Post SSO debrief records
- 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 will be used to document the investigation.

VI.14. SSO Response Training

ref. SWRCB Order No. 2006-0003-DWQ Element 6(d)

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

VI-14.1. 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 this 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.

VI-14.2. 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.

VI-14.3. 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 and will include date, time, place, content, name of trainer(s), and names and titles of attendees.

VI-14.4. Contractors Working On City Sewer Facilities

All construction contractors working on City sewer facilities will be required to develop a project-specific OERP, will provide project personnel with training regarding the content of the contractor's OERP and their role in the event of an SSO, and to 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 provided, and required to observe contractor procedures. See Contractor Orientation.

VI.15. High Priority Assets

Table 15 lists the assets that need to be monitored and inspected prior to, during, and following an extreme weather event or natural disaster:

Element VI: Overflow Emergency Response Plan

Table 14: High Priority Assets

Critical Asset	Location	Monitor and Inspection Description
399 Rollins – Sewer PS	399 Rollins Rd.	Wet well levels, flow into wet well, pump functions, SCADA communications at Corp Yard.
1740 Rollins Road – Sewer PS	1740 Rollins Rd.	Wet well levels, flow into wet well, pump functions, SCADA communications at Corp Yard.
Mitten – Sewer PS	1775 Gilbreth Rd.	Wet well levels, flow into wet well, pump functions, SCADA communications at Corp Yard..
Gilbreth – Sewer PS	1628 Gilbreth Rd.	Wet well levels, flow into wet well, pump functions, SCADA communications at Corp Yard.
Hyatt – Sewer PS	1301 Bayshore Hwy.	Wet well levels, flow into wet well, pump functions, SCADA communications at Corp Yard.
Airport – Sewer PS	710 Airport Blvd.	Wet well levels, flow into wet well, pump functions, SCADA communications at Corp Yard.
1000 Rollins Road – Sewer PS	1000 Rollins Road	Wet well levels, flow into wet well, pump functions, SCADA communications at Treatment Plant
Marsten – Storm PS	1392 Marsten Rd.	Wet well levels, flow into bay or wet well, pump & motor functions, oil reservoirs, trash racks, SCADA communications. at Corp Yard.
Adrian – Storm PS	1501 Adrian Rd.	Wet well levels, flow into bay or wet well, pump & motor functions, oil reservoirs, trash racks, SCADA communications at Corp Yard.
1740 Rollins – Storm PS	1740 Rollins Rd.	Wet well levels, flow into bay or wet well, pump & motor functions, oil reservoirs, trash racks, SCADA communications at Corp Yard..
Cowan – Storm PS	842 Cowan Rd.	Wet well levels, flow into bay or wet well, pump & motor functions, oil reservoirs, trash racks, SCADA communications at Corp Yard..
California @ Grove – Storm PS	1420 California Dr.	Wet well levels, flow into bay or wet well, pump & motor functions, oil reservoirs, trash racks, SCADA communications .at Corp Yard.
California Sewer interceptor	California Drive from Broadway to Dufferin Rd.	Water level in manholes, flow, infiltration or exfiltration, manhole condition, etc.
Sewer syphon	1405 N. Carolan Ave.- Easton creek @ N. Carolan	Water level in manhole, floating debris, flow, infiltration or exfiltration, manhole condition, etc.
Sewer syphon	1492 Rollins Road - Mills Creek @ Rollins	Water level in manhole, floating debris, flow, infiltration or exfiltration, manhole condition, etc.
Sewer syphon	1399 Rollins Road - Easton Creek @ Rollins	Water level in manhole, floating debris, flow, infiltration or exfiltration, manhole condition, etc.
Sewer syphon	Rollins & Francisco	Water level in manhole, floating debris, flow, infiltration or exfiltration, manhole condition, etc.
Sewer syphon	1008 N. Carolan Ave – between railroad tracks and street curb.	Water level in manhole, floating debris, flow, infiltration or exfiltration, manhole condition, etc.
Sewer syphon	Behind 1013/1011 Chula Vista Ave.	Water level in manhole, floating debris, flow, infiltration or exfiltration, manhole condition, etc.

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Critical Asset	Location	Monitor and Inspection Description
Sewer syphon	50 Broderick Road - Under storm culvert towards RxR tracks	Water level in manhole, floating debris, flow, infiltration or exfiltration, manhole condition, etc.

VI.16. 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

VI.17. References

Sanitary Sewer Overflow and Backup Response Field Guide, 2013, DKF Solutions Group, LLC

- Regulatory Notifications Packet
- Sanitary Sewer Backup Packet
- Sanitary Sewer Overflow Packet
- Contractor Orientation

Element VII: FOG Control Program

SWRCB Waste Discharge Requirement:

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

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

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.

VII-1. Nature and Extent of FOG Problem

The City's SSO and Spill Reduction Performance Goal require the City to identify controllable sources of SSO generating activities through the implementation of a FOG Program. The overall aim is to reduce the occurrence of FOG-related mainline SSO's in the service area over time. The City focused on food service establishments (FSEs) to effectively prevent or reduce FOG-related mainline SSOs. In 2008, the City modified its FOG Source Control Program to include public outreach targeting residential areas with FOG-related mainline SSOs. All residential FOG-related mainline SSO's are categorized and mapped. This data is utilized by City staff to assist with identifying areas or line segments of the sanitary sewer collection system prone to FOG-related stoppages. Staff establishes a prioritized or accelerated preventive cleaning, inspection and maintenance schedule for each identified area. **Table 16** lists the total number of FOG-related mainline SSOs in 2009 to 2014. The location of each FOG-related mainline SSO is illustrated by year as shown in **Figure 6**. The corresponding date and location for each mapped SSO event is also listed on **Table 16**. Both **Figure 6** and **Table 16** are reported in calendar year for 2009-2014.

Table 15: Historical FOG-Related SSOs

Calendar Year	Number
2014	3
2013	1
2012	2
2011	2
2010	3
2009	7

The City’s recent history with FOG related mainline SSO’s is shown in **Table 15**. A spatial analysis was conducted using available data on FOG-related problems. The data included SSOs, service calls, FOG control agent sites and sewers that have a preventive maintenance frequency of one month. The results of the analysis are shown in **Figure 6**. Areas with significant FOG-related activities are the “Hot Spot” areas.

The conclusion from the analysis is that the low number of FOG-related SSOs is the result of an effective commercial grease source control program combined with an effective preventive maintenance program. However, the data is very limited. Based on this analysis, the City will continue its commercial FOG Source Control Program, it will use data from its preventive maintenance program to optimize sewer-cleaning frequencies, and it will gather additional data for use in future SSMP updates.

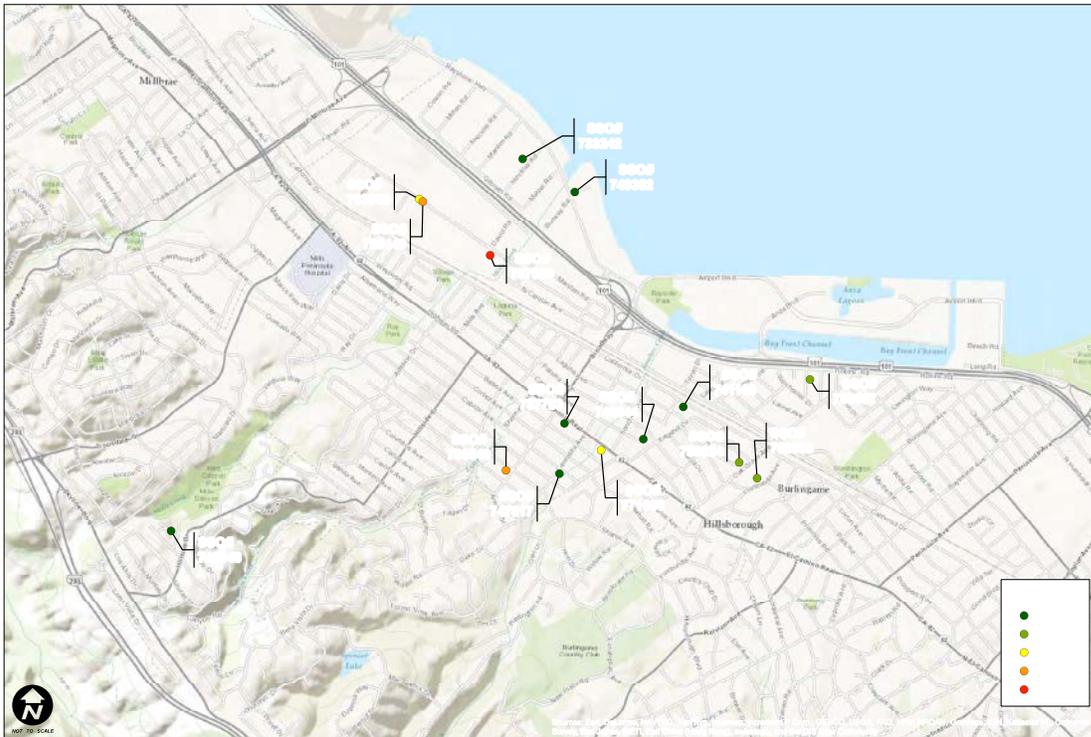
Table 16. Dates and Location of FOG- Related Main SSOs 2009-2014

2009	
1/16/2009	840 Hinckley Rd
4/20/2009	1133 El Camino Real
6/24/2009	877 California Dr
9/28/2009	914 Capuchino Ave
10/10/2009	2 La Mesa Ct
11/30/2009	1801 Carmelita Ave
12/23/2009	777 Burlway Rd
2010	
3/2/2010	708 Crossway Road

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10/11/2010	1404 Floribunda Avenue
10/21/2010	515 Corbit Avenue
2011	
3/3/2011	1670 Rollins Road
8/23/2011	1021 El Camino Real
2012	
8/31/2012	1205 Bernal
10/23/2013	1670 Rollins Road
2013	
8/14/2013	1525 Rollins Road
2014	
3/27/2014	810 Malcolm Road
9/9/2014	1253 Laguna
11/20/2014	1012 Cortez

Figure 6: Location of FOG-Related Problems, 2009-2014



In addition, the collection crew employs the use of Novozymes to augment its preventative and maintenance activity in areas identified as needing added control measure to minimize the occurrence of FOG-related problems. Novozymes is a FOG control agent that is formulated to control the accumulation of grease. **Table 17** lists the current areas where it is applied along with the quantity and frequency of application.

Table 17. FOG Control Agent Sites (as of May 2014)

Site Name	MH Numbers	Quantity Used (# of Bags)	Frequency of Use (#/week)
California Drive – Hatch Lane	E7-21007	3	2
	E6-21006	1	
1740 Rollins Road PS	B3-21035	2	2
	A3-21002	2	

Malcom-Stanley-Hinkley	A4-21030	2	2
	A4-21023	1	
	A4-21018	4	
Hyatt PS	B4-21024	2	2
	B5-21004	1	
Airport	C7-21015	4	2

VII-2. FOG Source Control Program & Inspections

The City’s FOG Source Control Program is intended to work in conjunction with the City’s preventive maintenance program to prevent FOG-related SSOs. It remains an essential component in meeting and maintaining its projected SSO reduction performance goals mandated by the Sanitary Sewer WDR

The elements of the City’s FOG Source Control Program include:

- Requirement for the installation of grease removal devices (GRDs);
- Permitting food service establishments (FSE);
- Requirement for proper operation and maintenance of GRDs
- Verification of grease handling and disposal practices
- FSE inspections
- Public Education and Outreach and
- Enforcement.

The City’s wastewater treatment plant is operated by Veolia Water North America (Veolia). Veolia is responsible for administering the City’s Pretreatment Program which includes the FOG Source Control Program. The staffing consists of one Source Control Program Manager and one Source Control Inspector. This level of staffing is considered adequate.

The legal authority to implement, monitor and enforce the elements of the FOG Program in the service area is governed under the City of Burlingame’s Sanitary Sewer Use (SUO) ordinance. The SUO provides the legal authority to prohibit FOG discharges to the sanitary sewer collection system under Generally Prohibited Wastes which states that “No person shall discharge or cause to be discharged to a public sewer any waste, including any fats, oils, or grease, that creates a stoppage, plugging, breakage, any reduction in the sewer capacity, or any other damage to sewers or sewerage facilities of the city” [15.10.038(c)]. In addition the SUO regulates FOG wastewater under Specifically Prohibited Wastes which states “Any solids or viscous substances of such size or in such quantity that they may cause flow obstruction in any part of the sewer or be detrimental to proper wastewater treatment plant operations. Such substances include but are not limited to...fats, oils, grease...” [15.10.040(c)].

FSEs subject to the FOG Program are required to install GRDs consistent with the recommended procedures for design, construction and installation based on the current adopted California Plumbing Code enforced in the Municipal Code [18.08.010]. Plan check review for grease removal device installation is coordinated with the Building Division during the building permit application process.

FSEs subject to the FOG Program are required to obtain a wastewater discharge permit, which provides the legally enforceable framework to enforce the elements of the FOG Program. The discharge permit contains specific permit conditions, which require FSEs to implement FOG Best Management Practices including:

- Proper GRD operation and maintenance
- Documentation and retention of GRD pumping/cleaning activities
- Employee training on FOG handling BMPs, proper equipment cleaning, spill response clean up and control procedures
- Prohibition on the installation and use of food waste disposal grinder
- Proper disposal of grease, oils, and meat fat
- Prohibition on the use or addition of chemical or biological agent for the maintenance of GRD

Discharge permit also provides information on facility specifics relating to local limits, inspection requirements and rights of entry, reporting requirements relating to spill or accidental discharges, records retention, confidential information, limit or permit transfer, perjury clause, fees, permit duration and renewal process. In sum discharge permits issued to FSEs under the FOG Program are similar and consistent with a discharge permit typically issued to establishments covered under the Pretreatment Program. Staff from the Office of Environmental Compliance is currently evaluating whether to adopt a streamlined permit format similar to those issued and used by neighboring agencies to enforce and comply with the FOG Program required by the Sanitary Sewer Order. Any changes made to the FSE permitting program will be reported on the next SSMP update.

The Enforcement Response Plan (ERP) guideline that was developed and approved for use to enforce the Pretreatment Program is also utilized to enforce the FOG Program. The ERP serves as a guidance document to ensure inspection staff takes consistent actions to achieve timely and effective compliance. The ERP contains procedures and progressive enforcement actions for various field violation scenarios which include verbal and written notices of violations, cleanup requirements, administrative and criminal penalties. Each level of corrective action includes a schedule to achieve timely compliance. Enforcement actions are coordinated and communicated with applicable city staff to ensure timely resolution.

Public education and outreach remains an integral element of the FOG Program. Outreach is provided to FSE staff and management during routine inspection. Regional bilingual FOG BMP pamphlets and posters are distributed to staff and management to increase their knowledge on proper management of grease waste. Other materials distributed may include grease scrapers, list of grease haulers and cooking oil recyclers, and general technical information on grease removal devices. Inspectors strive to provide

educational information to ensure FSE staff and management to ensure continued compliance with their discharge permit. Outreach targeting the general public is primarily achieved through distribution of FOG brochures and scrapers during city-sponsored events. Collection crew provides additional outreach by distributing FOG door hangers and brochure to homeowners during service calls and routine preventative maintenance activity. FOG related brochures are available on the City website.

The City is cognizant of the operation of the commercial grease haulers operating in its service area. The grease is disposed of at a commercial grease rendering facility (Darling International in San Francisco) or at a wastewater treatment plant that accepts grease (San Jose/Santa Clara or South Bayside Systems Authority).

VII-3. Response to GWDR Requirements

Requirement (a):

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

Response:

The City is currently managing its FOG-related problems with a FOG Source Control Program and a focused preventive maintenance program (sewer cleaning) and application of FOG control agents. City crews provide information on proper FOG disposal to residents that have experienced a FOG-related blockage or SSO. The infrequent blockages and SSOs that are caused by FOG from residential sources are minor. However, the City implemented an outreach program where it provides information to the residents in the form of a brochure and on the City's website, www.burlingame.org/ <http://www.burlingame.org/index.aspx?page=3349>

Requirement (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.

Response:

There are three disposal sites that are used by the commercial grease haulers working within the City's service area, as mentioned above in VII-2. Based on the City's ongoing experience with the commercial grease haulers, there is no indication that additional grease disposal sites are needed at this time. The City will address the adequacy of commercial grease disposal sites on the occasion of the next SSMP Update.

Requirement (c):

The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.

Response:

The City's Municipal Code provides the legal basis and authority (see Element III) for the City's FOG Control Program.

Requirement (d):

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

Response:

The City's FOG Control Program described above, legal authority as described in Element 3, and the City's Municipal Code currently meets these requirements.

Requirement (e):

Authority to inspect grease producing facilities, enforcement authorities, and determination of whether the collection system agency has sufficient staff to inspect and enforce the FOG ordinance.

Response:

The City's FOG Control Program described above, legal authority as described in Element 3, and the City's Municipal Code currently meet these requirements.

Requirement (f) and (g):

An identification of sewer system sections subject to FOG blockages and the 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 sewer system, for each sewer system section identified in (f) above.

Response:

The City's FOG Source Control Program and its preventive maintenance program are currently focused on the problematic grease dischargers and the FOG "Hot Spot" areas that are shown on **Figure 7**.

Element VIII: System Evaluation and Capacity Assurance Plan

SWRCB Waste Discharge Requirement:

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

- a. **Evaluation:** Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;
- b. **Design Criteria:** Where design criteria do not exist or are deficient, undertake the evaluation identified in (a) above to establish appropriate design criteria; and
- c. **Capacity Enhancement Measures:** The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

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

VIII-1. System Evaluation - Collection System Master Plan

The City completed a Sewer System Master Plan in December 1999 (Master Plan). The master planning effort included selection of a design storm, flow monitoring, hydraulic modeling, smoke testing, manhole inspection, and CCTV inspection. The design storm used in evaluating the capacity of the City's wastewater collection system facilities was a 5 year, 24 hour storm.

The Master Plan identified eleven (11) wastewater collection system facilities that needed additional capacity in order to handle the flows associated with the design storm event. Some of the capacity deficiencies have been addressed in the past CIP projects. However, the City's model is outdated and was not able to evaluate the current situation adequately.

The City completed a new Sewer System Master Plan Study in 2010 and initiated the implementation during the following years. The study included new hydraulic model

(see below) data which the City utilized to evaluate the impact of future redevelopment and projects in order to ensure there is adequate capacity.

VIII-2. Evaluation - Hydraulic Model

The City acquired a new hydraulic model of its wastewater collection system facilities during the Sewer System Master Plan. The City selected InfoWorks CS as the modeling software package due to its fully dynamic hydraulic modeling program and its ability to model complicated collection systems with multiple flows splits and in-line storage, in addition to its ability to model inflow and infiltration (I/I).

VIII-3. Design Criteria

The capacity-related design criteria, including base wastewater flow and peaking factors, are included in Element V: Design and Performance Provisions.

VIII-4. Capacity Enhancement Measures - Capital Improvement Program

The City prepares an annual list of capital improvement projects that includes projects to address known wastewater collection system capacity issues. Public Works staff (Engineering and Operations) prioritize and select the projects to be included on the annual list.

As a part of the Sewer Master Plan Study, the current CIP program was revised to include a new 10-year list of capacity-related CIP projects. Alternatives are analyzed and schedules are established during the design process. The City's Capital Improvement Program Detailed Budget is included as Appendix IV-D.

VIII-5. Schedule

The current schedule for the City's capacity enhancement projects is included in the City's Capital Improvement Program that is included as Appendix IV-D. However, this list will be revised, as necessary, based upon future condition assessments and maintenance results from the field crews.

Element IX: Monitoring, Measurement, and Program Modifications

SWRCB Waste Discharge Requirement:

The Enrollee shall:

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

IX-1. Performance Measures

The indicators that the City will use to measure the performance of its wastewater collection system and the effectiveness of its SSMP are:

- Total number of SSOs;
- Number of SSOs for each cause (roots, grease debris, pipe failure, capacity, pump station failures, and other);
- Portion of sewage recovered compared to total volume spilled; and
- Volume of spilled sewage discharged to surface water.

IX-2. Baseline Performance

The City has performance measures in place and it will evaluate its performance annually. The historical, or baseline, performance is shown separately for gravity mains/pump stations/force mains and lower laterals.

IX-2.1. Mains, Pump Stations, and Force Mains

The baseline performance for gravity mains, pump stations, and force mains is shown on **Tables 18 through 20**. The trends in the performance measures are shown on **Figures 7 through 9**. The trend is downward, less SSOs in the most recent years, and as of 2013 the City had 5 SSOs/100 miles/year, below the average for California Region 2 agencies.

Table 18: Gravity Sewer, Pump Station, and Force Main SSOs by Calendar Year

CY	Gravity Sewer SSOs	Pump Station SSOs	Force Main SSOs
2009	18	0	0
2010	12	0	0
2011	13	0	0
2012	6	0	0
2013	5	0	0
2014	11	1	1

Figure 7. Trend in Gravity Sewer, Pump Station, and Force Main SSOs

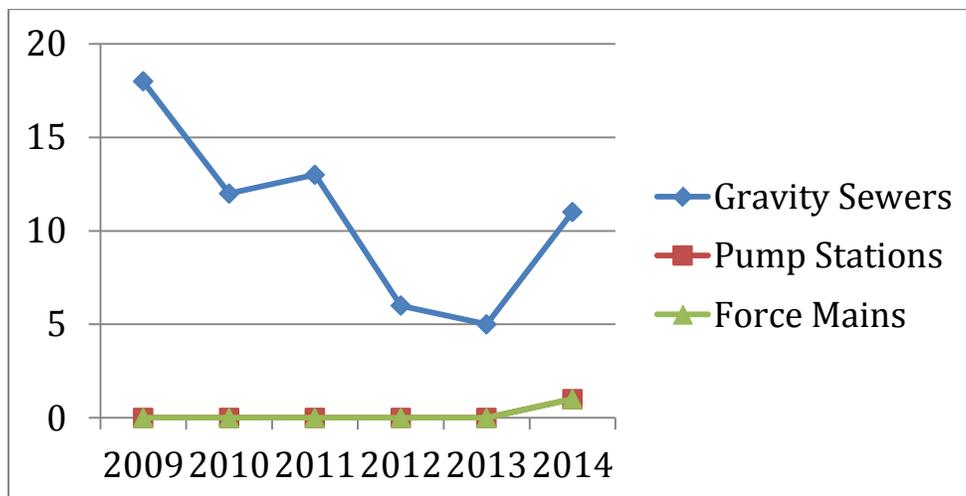


Table 19: CY Totals for SSOs by Cause

CY	Roots	Debris	Grease	Paper/Rags	Cap./Infil.	Vandl,	Pipe Failure	PS Failure	Force Main Failure	Other	Total
2009	7	4	7	0	0	0	0	0	0	0	18
2010	4	4	3	0	1	0	0	0	0	0	12
2011	2	6	2	0	2	0	0	0	0	1	13
2012	1	1	2	0	1	0	1	0	0	0	6
2013	2	0	1	2	0	0	0	0	0	0	5
2014	7	1	3	0	0	0	0	1	1	0	13

Figure 8. Trend in Gravity Sewer, Pump Station and Force Main SSOs by Cause

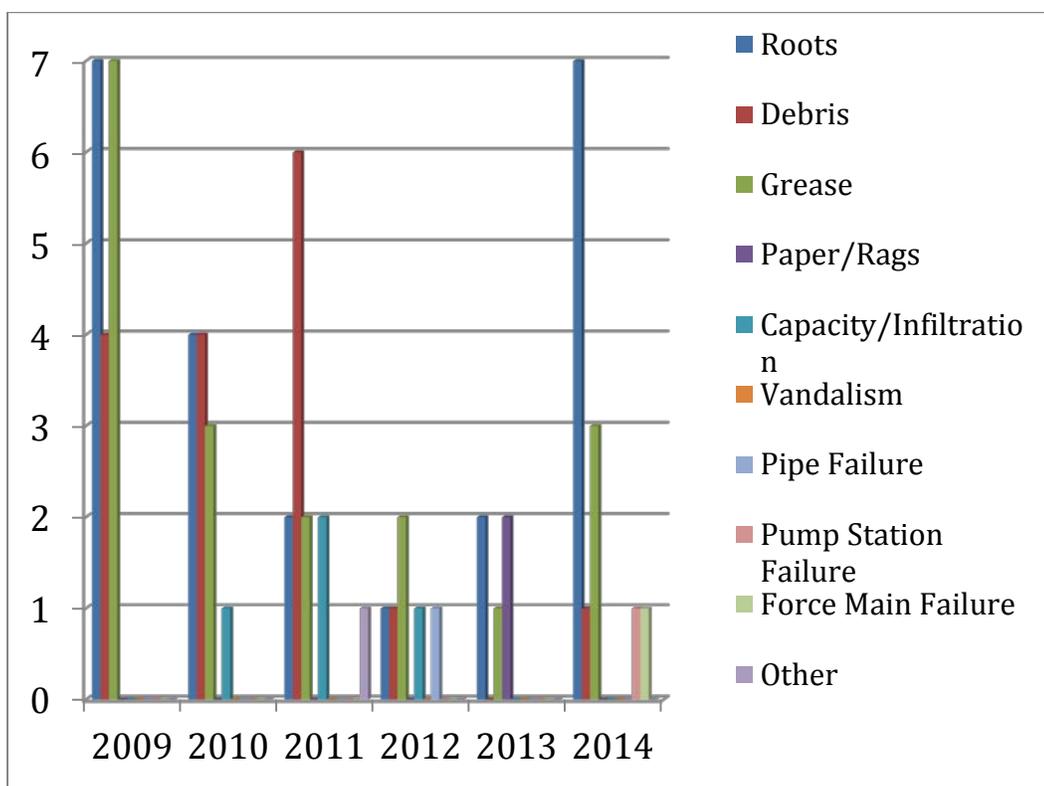
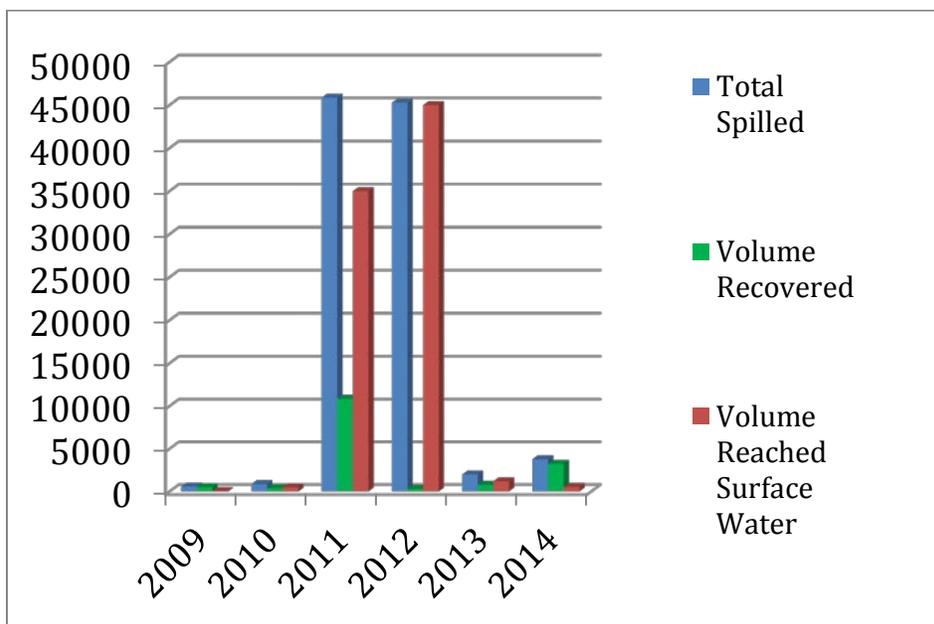


Table 20: CY Totals for Sewer Mains (Volume Spilled, Portion Contained, and Volume to Surface Waters)

CY	Total Volume Spilled, gallons	Portion Contained and Returned to Sewers, %	Total Volume Entering Surface Waters, gallons
2009	569	504 gal. – 89%	65 gal. – 11%
2010	872	497 gal. – 57%	375gal. – 63%
2011	45,862	7,862 gal. – 17%	35,000 gal. – 83%
2012	45,285	295 gal.– 7%	44,990 – 93%
2013	1,980	780 gal. – 39%	1,200 gal. – 61%
2014	3,780	3,240 gal. – 86%	540gal. – 14%

Figure 9. Trend in Volume of Sewer Main Spills, Volume Reaching Surface Waters and Volume Recovered



IX-2.2. Lower Laterals

The baseline performance is shown on **Tables 21 through 23**. The trends in the performance measures are shown on **Figures 10 through 12**.

Table 21. Lower Lateral SSOs by Calendar Year

CY	SSOs
2009	48
2010	16
2011	14
2012	13
2013	14
2014	2

Table 22. CY Totals for Lower Lateral SSOs by Cause

CY	Roots	Debris	Grease	Paper/ Rags	Pipe Failure	Vandalism	Other	Total
2009	18	26	3	0	1	0	0	48
2010	2	12	1	0	1	0	0	16
2011	2	9	0	0	2	0	1	14
2012	3	7	3	0	0	0	0	13
2013	5	0	0	7	2	0	0	14
2014	0	1	0	1	0	0	0	2

Table 23: CY Totals for Lower Laterals (Volume Spilled, Portion Contained, and Volume to Surface Waters)

CY	Total Volume Spilled, gallons	Portion Contained and Returned to Sewers, %	Total Volume Entering Surface Waters, gallons
2009	418	368 gal / 88%	50
2010	255	245 gal / 96%	10
2011	99	96 gal / 97%	3
2012	122	118 gal / 97%	4
2013	226	226 gal / 100%	0
2014	170	170 gal / 100%	0

Figure 10: Lower Lateral SSOs by Calendar Year

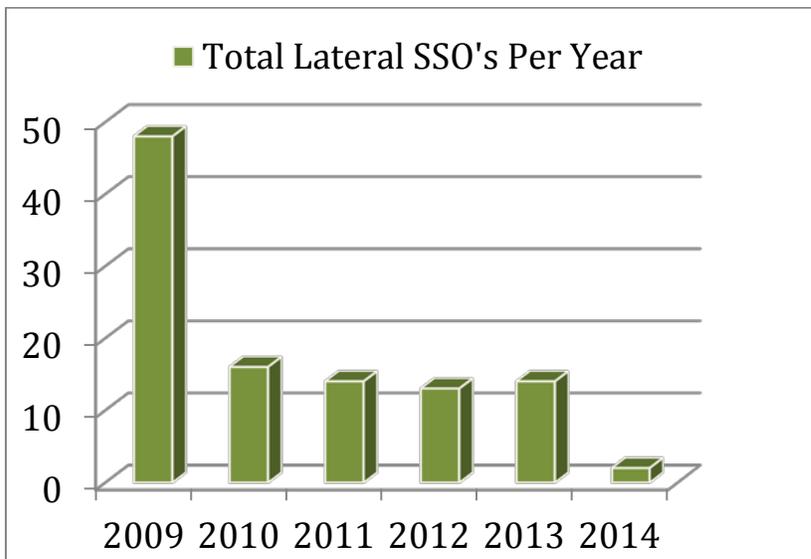


Figure 11: Trend in Lower Lateral SSOs by Cause.

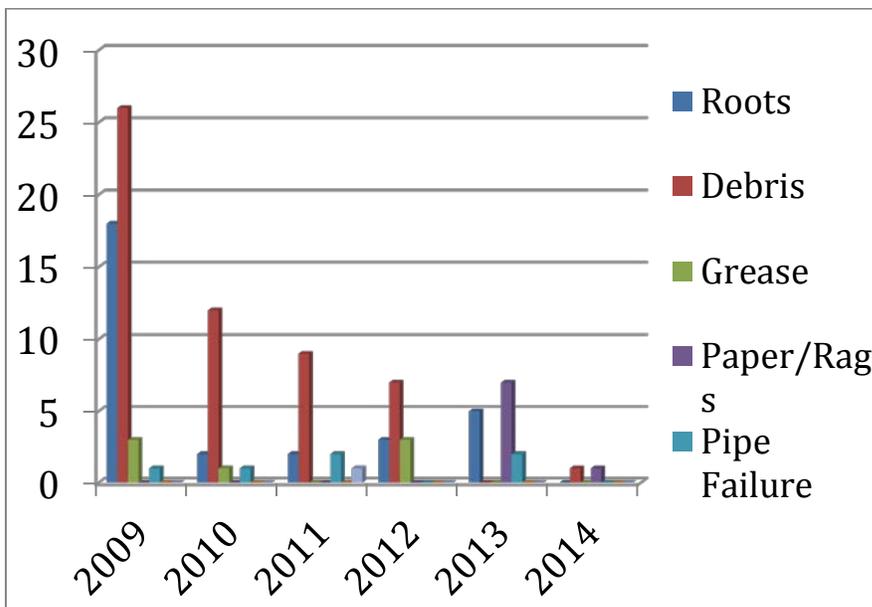
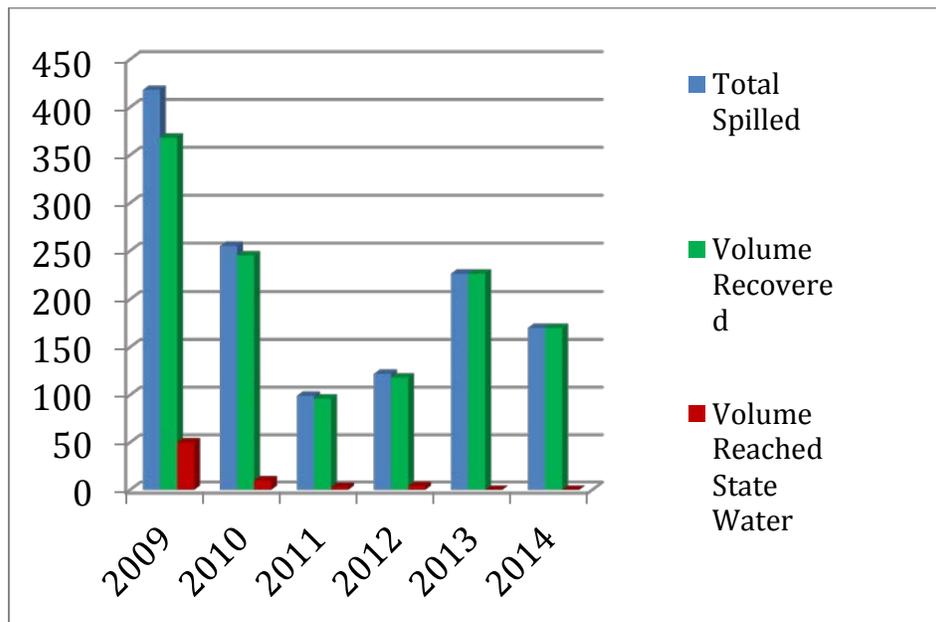


Figure 12: Trend in Volume of Lower Lateral Spills and Recovered Volume Reaching Surface Waters



IX-3. Performance Monitoring and Program Changes

The City will evaluate the performance of its wastewater collection system at least annually using the performance measures identified in Element IX. The City will update the data and analysis at the time of the evaluation and will place the annual performance report in Appendix A of the SSMP.

The City may use other performance measures in its evaluation. The City will prioritize its actions and initiate changes to this SSMP, its operations and maintenance practices, and any related programs based on the results of the evaluation. This will be done as part of the annual self-audit (see Element X).

IX-4. References

The data used in this section were taken from the references:

- Report of City of Burlingame Sanitary Sewer Overflows for the Period January 1, 2005 through December 31, 2005.
- Report of City of Burlingame Sanitary Sewer Overflows for the Period January 1, 2006 through December 31, 2006.
- Data on City of Burlingame from the State’s on-line reporting system <http://ciwqs.waterboards.ca.gov/ciwqs>

Element X: SSMP Program Audits

SWRCB Waste Discharge Requirement:

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

X-1. Audits

The City will audit its implementation and compliance with the provisions of this SSMP every two years in the future as suggested by the WDR. The first audit will be conducted in July 2016. Previous City SSMP Audits are now included in Appendix A. The audit will be conducted by a team consisting of City staff selected from the Public Works Department. The audit team may include members from other areas of the City, outside agencies, or contractors. It is also recommended that at the same time the City conduct an audit of its SSO files to assure that the files are complete, contain all required records as stated in the MRP and that the files contain no extraneous or conflicting documents that are not adequately reviewed and explanations provided.

The Sewer System Management Plan Audit Report Form (Table 25) is used to guide the audit process and includes the GWDR requirements for each SSMP element. The results of the audit, including the identification of any deficiencies and the steps taken or planned to correct them will be included in an Audit Report. Upon completion of the audit, the City will include a copy of the report in Appendix A, Sewer System Annual Reports of this SSMP. Modifications and changes to the SSMP will be identified and tracked in Appendix B, SSMP Change Log.

The audit can contain information about successes in implementing the most recent version of the SSMP, and identify revisions that may be needed for a more effective program. Information collected as part of Element IX above can be used in preparing the audit. Tables and figures or charts can be used to summarize information about these indicators. An explanation of the SSMP development, and accomplishments in improving the sewer system, should be included in the audit, including:

- How the wastewater collection agency implemented SSMP elements in the past year;
- The effectiveness of implementing SSMP elements;
- A description of the additions and improvements made to the sanitary sewer collection system in the past reporting year; and

- A description of the additions and improvements planned for the upcoming reporting year with an estimated schedule for implementation.

X-2. SSMP Updates

The City will update its SSMP at least every five years or when substantial changes are made in the SSMP. The first update will be completed by July 2018.

The City will determine the need to update its SSMP more frequently based on the results of the audit and the performance of its wastewater collection system using information from the Monitoring and Measuring Program. In the event that the City decides that an update is warranted, the process to complete the update will be identified. The City will complete the update within one year of identifying the need for the update.

Table 24: SSMP Audit Checklist

<i>The purpose of the SSMP Audit is to evaluate the effectiveness of the City of Burlingame's (City's) SSMP and to identify any needed for improvement.</i>				
Directions: Please check YES or NO for each question. If NO is answered for any question, describe the updates/changes needed and the timeline to complete those changes.				
			YES	NO
ELEMENT I- GOALS				
A.	Are the goals stated in the SSMP still appropriate and accurate?	<input type="checkbox"/>	<input type="checkbox"/>	
Discussion:				
ELEMENT II - ORGANIZATION				
A.	Is the List of City Staff Responsible for SSMP, Table 2-1 current?	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Is the Sanitary Sewer Overflow Responder List current?	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Is Figure 2-1 of the SSMP, the City Organization Chart, current?	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Are the position descriptions an accurate portrayal of staff responsibilities?	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Is Table 2-2 in the Chain of Communication for Reporting and Responding to SSOs section accurate and up-to-date?	<input type="checkbox"/>	<input type="checkbox"/>	
Discussion:				
ELEMENT III – LEGAL AUTHORITY				
Does the SSMP contain current references to the Burlingame Municipal Code documenting the City's legal authority to:				
A.	Prevent illicit discharges?	<input type="checkbox"/>	<input type="checkbox"/>	
B.	Require proper design and construction of sewers and connections	<input type="checkbox"/>	<input type="checkbox"/>	
C.	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained b the City?	<input type="checkbox"/>	<input type="checkbox"/>	
D.	Limit discharges of fats, oils and grease?	<input type="checkbox"/>	<input type="checkbox"/>	
E.	Enforce any violation of its sewer ordinances?	<input type="checkbox"/>	<input type="checkbox"/>	
F.	Were any changes or modifications made in the past year to City Sewer Ordinances, Regulations or standards?	<input type="checkbox"/>	<input type="checkbox"/>	
Discussion:				

ELEMENT IV – OPERATIONS AND MAINTENANCE			
Collection System Maps			
A.	Does the SSMP reference the current process and procedures for maintaining the City’s wastewater collection system maps?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Are the City’s waste collection system maps complete, current and sufficiently detailed?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Are storm drainage facilities identified on the collection system maps? If not, are SSO responders able to determine locations of storm drainage inlets and pipes for possible discharge to waters of the state?	<input type="checkbox"/>	<input type="checkbox"/>
Prioritized Preventive Maintenance			
C.	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewers?	<input type="checkbox"/>	<input type="checkbox"/>
D.	Based upon information in the Annual SSO Report, are the City’s preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?	<input type="checkbox"/>	<input type="checkbox"/>
Scheduled Inspections and Condition Assessments			
E.	Is there an ongoing condition assessment program sufficient to develop a capital improvement plan addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP?	<input type="checkbox"/>	<input type="checkbox"/>
Contingency Equipment and Replacement Inventory			
F.	Does the SSMP list the major equipment currently used in the operation and maintenance of the collection system and documents the procedures of inventory management?	<input type="checkbox"/>	<input type="checkbox"/>
G.	Are contingency and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?	<input type="checkbox"/>	<input type="checkbox"/>
Training			
H.	Does the SSMP document current training expectations and programs?	<input type="checkbox"/>	<input type="checkbox"/>
Outreach to Plumbers and Building Contractors			
I.	Does the SSMP document current outreach efforts to plumbers and building contractors?		

Discussion:			
ELEMENT V- DESIGN AND PERFORMANCE STADARDS			
A.	Does the SSMP reference current design and construction standards for the installation for new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			

ELEMENT VI – OVERFLOW AND EMERGENCY RESPONSE PLAN			
A.	Does the City’s Sanitary Sewer Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of SSOs?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Is City staff and contractor personnel appropriately trained on the procedures of the Sanitary Sewer Overflow Emergency Response Plan?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Considering SSO performance data, is the Sanitary Sewer Overflow Emergency Response Plan effective in handling SSOs in order to safeguard public health and the environment?	<input type="checkbox"/>	<input type="checkbox"/>
D.	Are all SSO and claims reporting forms current or do they require revisions or additions?	<input type="checkbox"/>	<input type="checkbox"/>
E.	Does all SSO event recordkeeping meet the GWDR requirements? Are all SSO event files complete and certified in the CIWQS system?	<input type="checkbox"/>	<input type="checkbox"/>
F.	Is all information in the CIWQS system current and correct? Have periodic reviews of the data been made during the year to assure compliance with GWDR? Have all Technical Report and Water Quality Sampling requirements been met and uploaded to the CIWQS data management system?	<input type="checkbox"/>	<input type="checkbox"/>

Discussion:			
ELEMENT VII – FATS, OILS AND GREASE (FOG) CONTROL PROGRAM			
A.	Does the FOG Control Program include efforts to educate the public on proper handling and disposal of FOG?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Does the FOG Control Program identify sections of the collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Are requirements for grease removal devices, best management practices (BMP), record keeping and reporting established in the City’s FOG Control Program?	<input type="checkbox"/>	<input type="checkbox"/>
D.	Does the City have sufficient legal authority to implement and enforce the FOG Control Program?	<input type="checkbox"/>	<input type="checkbox"/>
E.	Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system	<input type="checkbox"/>	<input type="checkbox"/>
F.	Was required training on SSMP and OERP completed and documented? Were field exercises with field staff on SSO volume estimation conducted and documented?	<input type="checkbox"/>	<input type="checkbox"/>
G.	Did all public improvement plans and specifications that could impact collection system operations include requirements for OERP training or were contractor OERP programs at least as stringent as the City OERP? Were regular items included in project meeting agendas to discuss emergency response procedures and communications?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			
ELEMENT VIII- SYSTEM EVALUATION AND CAPACITY ASSURANCE			
A.	Does the City of Burlingame Sanitary Sewer Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short and long term capacity enhancement and improvement projects?	<input type="checkbox"/>	<input type="checkbox"/>

B.	Does the City’s Capital Improvement Plan (CIP) establish a schedule of approximate completion dates for both short and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			

ELEMENT IX- MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS			
A.	Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Is the City able to sufficiently evaluate the effectiveness of the SSMP elements based on relevant information?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Were the consent decree performance metrics met?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			

ELEMENT X – SSMP AUDITS			
A.	Will the SSMP Audit be completed, reviewed and filed in Appendix B?	<input type="checkbox"/>	<input type="checkbox"/>
Discussion:			

ELEMENT XI – COMMUNICATION PROGRAM			
A.	Does the City effectively communicate with the public and other agencies about the implementation of the SSMP and continue to address any feedback?	<input type="checkbox"/>	<input type="checkbox"/>
B.	Did the City Council receive and review the Annual Sewer System Report? Was the annual report uploaded to the City Sewer Section website and added to Appendix C?	<input type="checkbox"/>	<input type="checkbox"/>
C.	Did City staff conduct and document meetings with satellite collection systems? Are all agreements with satellite systems current or are changes necessary to these agreements?	<input type="checkbox"/>	<input type="checkbox"/>

Discussion:		
Change Log		
A.	Is the SSMP Change Log, current and up to date?	<input type="checkbox"/>
	Discussion:	<input type="checkbox"/>
Audit Team: _____ Prepared By: _____ Reviewed By: _____ Approved for Filing on: _____		

Element XI: Communication Program

SWRCB Waste Discharge Requirement:

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

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

XI-1. Communication during SSMP Development and Implementation

The City will communicate on a regular basis with the public using various types of outreach including print media, the internet, and public hearings. The City maintains information related to the SSMP on the City website - www.burlingame.org. In addition, the City communicates on a regular basis through citywide outreach programs such as:

- Burlingame eNews
- Fog Outreach Program
- Sanitary Sewer Overflow Information for Property Owners (internet)
- Sanitary Sewer Overflow Information for Plumbers & Contractors (internet)
- City Council Meeting (Public Comments)

A link to the SSMP for public review and comment can be found on the City's website - www.burlingame.org. In addition, the completed SSMP elements are available for review at the City's Corporation Yard located at 1361 N. Carolan Avenue during normal business hours. Interested parties can contact the Public Works Front Office at (650) 558-7670 or frontdeskstaff@burlingame.org for additional information.

XI-2. Communicating Sanitary Sewer System Performance

The City will report the performance of its wastewater collection system to its City Council annually at a regularly scheduled meeting and the performance information will be included in the minutes of that public meeting. The performance information will include the performance measures listed in Element IX: Monitoring, Measurement, and Program Modifications and will be compiled annually.

XI-3. Communication with Satellite Wastewater Collection Systems

The Town of Hillsborough sanitary sewer system is a satellite to the City's wastewater collection system. The terms of the service provided to Hillsborough are specified in a contract that requires both parties to meet two times per year to review the Scope of Work. In addition, the City and Town staffs meet periodically to discuss issues of mutual concern. The City intends to continue its meetings with Hillsborough to meet the GWDR requirement for periodic communication with its satellite sanitary sewer system.

Burlingame Hills Sewer Maintenance District (District) is a satellite to the City's wastewater collection system. San Mateo County (County) is responsible for providing operation and maintenance for the District's wastewater collection system facilities. The City has begun discussions with the County regarding the current service agreement. The City will include a process for regular communication with the County and Hillsborough at least annually.

The communications with the two satellite agencies will continue Element XI and will include issues related to adequate capacity in all systems, the effects of unabated wet weather flows from the satellites and coordinated financial plans for the full and appropriate funding of all necessary improvements to complete and integrated capacity assurance program.

References

New Requirements for Preparing Sewer System Management Plans, California Regional Water Quality Control Board San Francisco Bay Region letter to Sewer System Authorities, July 7, 2005 (www.cwea.org/conferences/sso/Reg2Letter-SSMP0705.pdf).

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State Water Resources Control Board Order No. Order No. 2013-0058-EXEC, Amending Monitoring And Reporting Program For Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, September 9, 2013.

Appendix A

Sewer System Management Plan Audit Reports

Appendix B

Log of SSMP Changes

Appendix C

Sanitary Sewer Management Plan Adoption Documents