

City of San Jose

Sewer System Management Plan

August 2010

Document Version Control

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

SSMP Copy Number: _____

This copy assigned to _____ Telephone No. _____

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Introduction		
1. Goals	August 2008	August 2010
2. Organization	August 2008	August 2010
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4. O&M Program	August 2008	August 2010
5. Design and Performance Provisions	August 2008	August 2010
6. Overflow Emergency Response Plan	August 2008	August 2010
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9. Monitoring, Measurement, and Program Modifications	August 2008	August 2010
10. SSMP Program Audit	August 2008	August 2010
11. Communications Plan	August 2008	August 2010

INTRODUCTION

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

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

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

BACKGROUND INFORMATION

San Jose, California, is located in Santa Clara County and is the largest city in the Bay Area. It is approximately 50 miles south of San Francisco and 390 north of Los Angeles.

San Jose at a glance (from the City of San Jose's website):

- Incorporated area: 178 Square Miles
- Climate: Temperatures vary from an average of 50 degrees Fahrenheit in January to an average of 70 degrees Fahrenheit in July. San José boasts an average of more than 300 sunny days per year, and has a mean annual rainfall of 14.4 inches.

The City provides sewer services for the residents and businesses. The City owns and operates the sewer collection system consisting of approximately 2,259 miles of sanitary sewer mains (which vary in size from 6 inches to 90 inches in diameter), 45,000 manholes and 15 pump stations. The collected wastewater is conveyed to the City's Water Pollution Control Plant (WPCP) by major interceptor pipelines located in the northern part of San Jose.

Required Elements of an SSMP

In summary, the required elements of an SSMP include:

- Collection System Management Goals
- Organization of Personnel, including the Chain of Command and
- Communications
- Overflow Emergency Response Plan
- Fats, Oils and Grease Control Plan
- Legal authority for permitting flows in the system, inflow/infiltration control as

well as enforcement of proper design, installation, testing standards and inspection requirements for new and rehabilitated sewers

- Measures and activities to maintain the wastewater collection system
- Design and Construction Standards
- Capacity Management
- Monitoring, Measurement and Program Modifications
- Periodic SSMP Audits, periodic SSMP Audits, and implementation of program
- Improvements
- Communications Program

Definitions, Acronyms, and Abbreviations

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

California Emergency Management Agency (Cal EMA) - Refers to the agency responsible for overseeing and coordinating emergency preparedness, response, recovery and homeland security activities within the state. The agency was created in 2008, superseding both the Office of Emergency Services (OES) and Office of Homeland Security (OHS).

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.

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

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

City - Refers to the City of San Jose.

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

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

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

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

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

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

Fiscal Year (FY)

Force Main - Refers to a pressure sewer used to convey wastewater from a pump station to the point of discharge.

Gallons per Acre per Day (GPAD)

Gallons per Day (gpd)

Gallons per Minute (gpm)

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

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

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

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

Lateral - See sewer service lateral.

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

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

Millions of Gallons per Day (MGD)

Monitoring, Measurement, and Program Modifications (MMPM)

National Pollution Discharge Elimination System (NPDES)

Not Applicable (NA)

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

Office of Emergency Services (OES) - See California Emergency Management Agency (Cal EMA).

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

Operations and Maintenance (O&M)

Overflow Emergency Response Plan (OERP)

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

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

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

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

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

Regional Water Quality Control Board (RWQCB) - Refers to the North Coast Regional Water Quality Control Board – Region 1.

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

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

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

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

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

Sewer Lateral (Lower Lateral) – Refers to the portion of the pipe between the house or building on private property and the sewer main, including the connection to the sewer

main. The property owner is responsible to repair any failure or damage in the sewer lateral, including the connection to the sewer main; unless it is determined that another party caused the failure or damage.

Sewer System – See sanitary sewer system.

Sewer System Management Plan (SSMP)

Santa Clara County Public Health Department (County Health)

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

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

Surface Waters - See waters of the State.

System Evaluation and Capacity Assurance Plan (SECAP)

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

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

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

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

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

ELEMENT 1: GOALS

The purpose of the SSMP is to provide guidance to the City in the operation, maintenance and rehabilitation of the sewer assets of the City of San Jose.

The objective of the SSMP is to enable the City to achieve its goals:

- Reduce and prevent both dry weather and wet weather sewer overflows.
- Mitigate the impact of sewer overflows that do occur.
- Properly manage, operate and maintain all parts of the wastewater collection system.
- Provide adequate capacity to convey peak flows that are associated with the design storm event.

ELEMENT 2: ORGANIZATION

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

The following are the Directors of the departments and the senior staff in charge of putting together this SSMP.

DOT: Hans Larsen, Acting Director (408) 535-3835
Sam Koosha, Senior Civil Engineer (408) 794-1950
Philip Lee, Associate Engineer in charge of reporting SSOs (408) 794-1948
Bill Avila, Sewer Maintenance Superintendent (408) 343-3105

DPW: David Sykes, Acting Director (408) 535-8444
Michael O'Connell, Division Manager (408) 975-7333
Thuy Nguyen, Senior Civil Engineer (408) 975-7388
Shelley Guo, Associate Engineer (408) 793-4132

ESD: John Stufflebean, Director (408) 535-8560
Steven Osborn, Program Manager (408) 793-5352
Stephen Lowes, Sanitary Engineer (408) 793-4396

Chain of Communication for Reporting SSOs

- DOT dispatch, (408) 794-1900, receives call of SSO from public
- Sewer maintenance crew dispatched to mitigate SSO
- SSO report (form) completed (including GPS coordinates)
- SSO form forwarded to Philip Lee (408) 794-1948
- Philip Lee inputs SSO into statewide SSO database via Internet

Authorized Representative

The city's Authorized Representative in all sanitary sewer system matters is Philip Lee, DOT Associate Engineer. Mr. Lee is authorized to submit verbal, electronic, and written spill reports to the RWQCB, SWRCB, County Health, and Cal EMA. Mr. Lee, as the City's designated Legally Responsible Official (LRO), is authorized to certify electronic spill reports submitted to the SWRCB.

Responsibility for SSMP Implementation

Mr. Lee is responsible for developing, implementing, and maintaining all elements of the City's SSMP.

ELEMENT 3: LEGAL AUTHORITY

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

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

Applicable ordinances pertinent to sanitary sewer include Chapter 15.12 Sewers, Chapter 15.14 Sewer Use Regulations, Chapter 15.16 Sewer Connection and Storm Drainage, and Chapter 15.17 Sanitary Sewer Extension Program of the San Jose Municipal Code (SJMC) Ordinance 27626 (adopted 12-13-05).

ELEMENT 4: OPERATIONS AND MAINTENANCE PROGRAM (MEASURES & ACTIVITIES)

Collection System Maps

The entire City of San Jose sanitary sewer collection system is available in published mapbook format or can be assessed through the DPW's intranet site at <https://cpms.sanjoseca.gov/emap/>.

Information on the maps includes the following: pump stations; pipe size; segment number; pipe length; slope of pipe; and manhole locations.

City encourages reporting of discrepancies. Online Discrepancy Report can be found at <https://cpms.sanjoseca.gov/emap> and select "Create a Data Discrepancy Report" (located below the Intersection Finder" box), and can be emailed to PW.GIS@sanjoseca.gov or printed out and provided to the GIS Section. A marked-up copy of the map showing the discrepancy locations and an explanation regarding the discrepancy and/or reason for correction should be included in the report.

The sanitary sewer database is being updated continually. The ideal plan to update the map is every three months. The GIS Section staff then creates the updated version in color to be published in the City's Internet/Intranet sites, and in black and white to be published in hard copies. The original copy of the black and white hardcopy maps goes to Department of Transportation for mass duplication.

The collection system map includes the following: scale; north arrow; date of the last version; service area boundaries; property lines; other landmarks; manhole and other access points; street names; flow monitors; force mains; pump stations; lined sewers, main, trunk, and interceptor sewers; easement lines and dimensions; pipe ids, pipe material, pipe diameter and pipe length; record/plan ids; and slope.

In addition to manholes, pipes, and pump stations, the GIS sewer database also include force mains, private mains, lined pipes and info, mains other than City owned, crossover, cap, gage station, structures such as weirs and junctions, laterals and breaks.

Each facility type has its own symbols. Sanitary laterals are not included in the published maps due to visibility issue. The identification (ID) of a sanitary feature is automatically created when a new feature is entered into the database, and each ID is unique.

City also has a storm sewer base map. The map may be updated at least once a year if funding is available. The standard features in the storm sewer map are pipe, manhole, pump station, inlet, lateral, outfall, cap, break, and overhead drain. These features are represented with various symbols.

Preventive Operation and Maintenance

Information Management Systems

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

Geographical Information System

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

Computerized Sewer Management System

The City implemented a first generation SMS in 1988 and is currently utilizing Hansen Software for its existing SMS. The primary functions of the City's SMS are:

- Maintain service request and maintenance history information for each individual collection system asset.
- Produce and regularly update the maintenance schedule based on feedback information from the cleaning operations.
- Generate reports that support data analysis and decision-making.
- Provide documentation for use in regulatory compliance reporting.
- Indicate line segments or structures that may be candidates for replacement or rehabilitation under the capital improvement program.

High Priority Cleaning List

Structural Condition: The priority cleaning list revolves around the condition of the sanitary collection system. Cycles are determined by conditions and frequency of stoppages. Locations are removed from the hit list when repairs are completed and stoppages have been eliminated.

Root Control: Established neighborhoods with a history of root problems are maintained with power rodding, high pressure cleaning, or root control chemicals.

Grease Conditions: Sewers with a history of repeated calls for grease stoppages are maintained at a frequency that is intended to prevent repeat stoppages or SSO's.

High Priority Cleaning Cycles (Hot Spot Cleaning Schedules) were provided during the EPA Inspection of June 2010 and can be viewed in the EPA Inspection Form/Questionnaire provided during the inspection.

Prioritized Preventive Maintenance

The City proactively cleans its 8” and under sewers every three years. System-wide cleaning is scheduled by sewer zones. All Standard Operating Procedures for sewer cleaning is available in the sewer cleaning trucks. All completed sewer cleaning is recorded in the Hanson SMS.

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

DOT has also been working more closely with DPW to address neighborhood sewer issues. One of the outputs for this SSMP will be to implement monthly meetings with DPW to initiate ongoing dialogue between the departments to mitigate problems DOT is experiencing in the field.

Rehabilitation and Replacement Plan

Gravity Main Inspection

Describe Pipe Inspection Methods:

Miles of Pipe Inspected in the Last 10 Years and Planned Inspection Next 10 Years				
Date Range	Inspection Method	Miles of Pipe with repeats	Useable Condition Assessment	
			Miles of Pipe (without repeats)	% of System
2000 to present	CCTV	528	364	16%
2000 to present	Other	10	10	<1%
Present to 2020	CCTV		570	25%
Present to 2020	Other	tbd	tbd	tbd

Describe Planned Pipe Inspection: The condition assessment program consists of the pilot phase where a randomly selected sample of approximately 2.5 percent of the City’s gravity sewer is being CCTV inspected in the first half of 2010. The result will be reviewed and analyzed using a risk based approach. The outcome will be used to forecast the overall condition of the sanitary sewer system in the City and to identify the level of effort and budget required to maintain and improve the sanitary sewer system.

Another CCTV inspection with focus on pipelines that were built prior to 1950 will be advertised for bid in June 2010. The result of this inspection will be used to determine the condition of this asset class.

Additional CCTV inspection will be programmed once the result of the condition assessment pilot program becomes available.

All inspection will be done in accordance with the NASSCO PACP standards. Data will be analyzed and stored in InfoNet and a networked computer server system.

Anticipated capital improvements and maintenance needs

Pipe Rehabilitation and Replacement Methods Used:

Miles of Pipe Rehabilitated or Replaced: Last 10 Years and Planned Next 10 Years		
Date Range	Miles of Pipe	% of System (System miles: 2259)
2000 to present	60	3%
Present to 2020	70	3%

Program Priorities and Objectives

The majority of funds in the Sanitary Sewer System CIP are used to construct sewer improvement projects. Construction projects in the Proposed CIP meet one of two goals: (a) enhance sewer capacity to meet economic development; or (b) rehabilitate existing sewers, with higher priority given to those with extensive, severe deterioration. A project that will enhance capacity and rehabilitate existing sewers is considered a rehabilitation project for the purpose of the City’s budget process. Priority is given to larger lines within each category. Portions of the San Jose Sanitary Sewer Master Plan (North, South, and Central) were completed in 2004 and were used to help identify high priority capacity and rehabilitation projects in this Proposed CIP.

- a. Capacity Improvement projects are selected by utilizing a computerized sewer flow model (which utilizes the San José 2020 General Plan to project sewage flows in the system), City maintenance records, and flow monitoring. These allow sewer capacity constraints to be identified. Expenditures for capacity-enhancement projects total \$87.1 million, or roughly 68% of construction projects in this CIP.

- b. Rehabilitation projects are selected based on hydrogen sulfide studies that analyze pipe corrosion, condition assessment studies, maintenance records and reports, and actual pipe failures due to pipe corrosion or other physical deficiencies. The actual condition of candidate projects is verified by internal videotape inspections, which are then evaluated to establish project priorities. Expenditures for rehabilitation projects total \$39.0 million over the next five years, or roughly, 31% of construction projects in this CIP.

List Major Planned Improvements:

Large capacity improvement projects proposed for 2010-2011 include:

- Fourth Major Interceptor Phase VI, from Old Bayshore Highway to Commercial Street will construct a new interceptor or upsize the current sewer. Project design is scheduled to be completed in 2011-2012. The 2011-2015 Proposed CIP recommends \$18.8 million to fund this project.

Lamplighter Relief Pump Station and Force Main (\$1.4 million in 2010-2011; \$18.9 million over the 5-year CIP);_30” Old Bayshore Supplement (\$4.0 million in 2010-2011, \$4.5 million over the 5-year CIP);_Almaden Expressway Sanitary Sewer (\$3.2 million in 2010-2011; \$3.6 million over the 5-year CIP).

Large neighborhood rehabilitation projects proposed for 2010-2011 include: Spreckles Sanitary Sewer Force Main Supplement (\$3.9 million in 2010-2011; \$4.2 million over the 5-year CIP); Almaden Road Supplement Sewer Rehabilitation (North) (\$1.3 million in 2010-2011); Mackey Avenue Sanitary Sewer Rehabilitation (\$1.3 million in 2010-2011, \$1.4 million over the 5-year CIP)

Inflow and Infiltration (I&I) Reduction Program

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

Training

The City uses a combination of in-house classes, on-the-job training, conferences and seminars, and other training opportunities to train its sanitary sewer system staff. All personnel is provided a copy of the Code of Standard Practices (COSP) and trained on each piece of equipment assigned to that section.

EQUIPMENT

List Major Equipment Owned by the Utility:

Equipment	Number	Number in Service
Combination Trucks (hydroflush and vactor)	16	16
Hydroflusher	2	2
Mechanical Rodder	3	3
CCTV Truck	2	2

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Utility Truck	18	18
Portable Pumps	11	11
Portable Generator	7 *	7
Dump Trucks	4	4
Backhoes	4	4

* Portable Generators available and maintained at General Services Yard.

This section provides a summary of the equipment used for the maintenance of the wastewater collection system. Furthermore, DOT works closely with the Department of General Services to ensure that each piece of equipment is functioning properly and safely. Replacement of equipment and spare parts for emergencies are addressed as budgets will allow.

ELEMENT 5: DESIGN AND PERFORMANCE PROVISIONS

Design Guidelines

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

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

The Guidelines do not include the design standards for pump station or force main, and pump station and force main designs. These types of facilities are typically designed by outside engineering consultants.

Sanitary Sewer Design Procedures

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

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

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

Sewer Level of Service Policy

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

Other Design Standards Used

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

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

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

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

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

City’s Standard Specifications and Details for Construction

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

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

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

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

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

http://www.sanjoseca.gov/publicworks/details_specs/index.asp

These documents can also be purchased in book form from the Public Works staff at City Hall.

Standards for Inspection and Testing for New and Rehabilitated Facilities

City's Standard Specifications and Details

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

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

Along with Standard Specifications, the Standard Details provides the "Sewer and Drainage Structures" Section for sewer facility construction.

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

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

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

Greenbook and ASTM Standards

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

Inspection Guidelines

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

- Before construction: plan check, pre-job, material submittals
- Clearing and grubbing checklist
- Sewers: sanitary sewer project procedures and sewer inspection checklists
- Roadway, subgrade and base
- Concrete
- Utilities and electrical
- Paving
- After construction: punch list, final inspection and record drawings
- Contract change orders – forms and procedures
- Reporting and documentation

The Guidelines also provides checklists for sewer construction in these categories:

- General and preliminary dealing with permits, safety, traffic control, etc.
- Trenching
- Pipe laying
- Trench backfill and jetting (or compaction)
- Manholes and structures
- Miscellaneous and testing

Construction Management

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

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

The inspector will mark any changes to the design plans in his/her working plans. At the acceptance of a project, the inspector will provide the marked working plans to the

engineer for the making of the “record-drawings” by updating all changes from the original plan drawings.

ELEMENT 6: OVERFLOW EMERGENCY RESPONSE PLAN

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Introduction: The purpose of this Overflow Emergency Response Plan is to provide Standard Operating Procedures (SOP) for an orderly and effective response to Sanitary Sewer Overflows (SSOs). This plan provides course of actions for SSO detection, response, containment, volume estimation, recovery, clean up, analysis, documentation and reporting.

I. SSO Detection

A. Public Observation

Public observation is the most common way that the City is notified of blockages and spills. Contact information for reporting sewer spills and backups are in the phone book and on the City's website: www.sanjoseca.gov. During all hours the public is instructed to call DOT Dispatch at (408) 277-4373.

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

The person who took the call verbally communicates it to the collection system field crew.

After Regular Work Hours

San Jose Fire Dispatch (SJ20) staff receives the call and obtains the name and phone number of the caller and address of the SSO. The DOT staff person who is contacted by the Fire Dispatch will determine the appropriate response measures based on information provided by the caller.

B. Receipt of Pump Station Alarm

Pump Station alarms are considered high priority events that warrant a prompt response.

C. 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 staffs who, in turn, respond to emergency situations. Work orders are issued to correct non-emergency conditions.

II. SSO Response and Procedures

A. Safety

The first responder is responsible for following safety procedures at all times. Special safety precautions must be observed when performing sewer work to protect public health, environment and property from sewage spill events and to restore area back to normal as soon as possible.

There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards particular to sewer work. In such cases,

it is appropriate to take the time to identify hazards, discuss safety issues, consider the order of work, and check safety equipment before starting the job.

II. SSO Response and Procedures (continued)

B. Initial Response

All sanitary sewer system calls require a response to the reported location of the event in an attempt to minimize or eliminate an overflow. The first responder must respond to the site of the reported problem immediately, and visually check for potential sewer stoppages or overflows.

Response Time - It is the goal of the City to respond to an SSO within 30 minutes of the first call during regular business hours (Monday –Friday 7:00am-3:30pm), and within 60 minutes after hours and during weekends and holidays.

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

- Identify and clearly assess the affected area and extent of spill and note arrival time at spill site.
- Establish perimeters and control zones with traffic cones, barricades, vehicles, or terrain.
- Document conditions upon arrival with photographs.
- Promptly notify the Sewer Superintendent in the event of a major SSO or when the spill appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed, and request additional resources (e.g. people, equipment, etc.).
- Contain and control the sewage discharged to the maximum extent possible.
- Make every effort to prevent the discharge of sewage into waterways.
- Restore the flow as soon as practicable and contact the caller for additional information. Depending on the situation, utilize the combination sewer cleaning truck and/or spill response vehicle.
- Return the spilled sewage to the sewer system.
- Restore the area to its original condition (or as close as possible).

Note: Containment is a higher priority than restoring flow, but this depends on the circumstances.

- If the problem is in a private sewer lateral and the flow has entered the public right-of-way, then the first responder should:
 - Request the resident to cease activities that are causing continuation of the sewer spill (e.g. flushing toilets, washing laundry).
 - Request the resident to call a plumber to correct the problem with their lateral and stand by until the plumber arrives.

- Contain any spilled sewage that has entered the public right-of-way and return it to the sanitary sewer system.

II. SSO Response and Procedures (Continued)

• C. Containment

- 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 – 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, call for additional assistance after 15 minutes without clearing the blockage and implement containment measures.

The first responder should also 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/pump station.

D. Restore Flow

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

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

E. SSO Volume Estimation

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

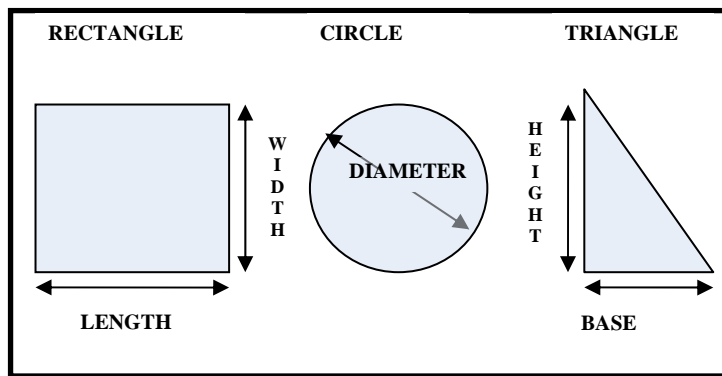
1. Eyeball Estimate - The volume of small spills can be estimated using an “eyeball estimate”. To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a

barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to approximately 100 gallons.

II. SSO Response and Procedures (Continued)

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

Common Shapes and Dimensions



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

Step 2 Measure or pace off the dimensions.

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

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

Step 5 Calculate the area in square feet using the following formulas:

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

Circle: Area = diameter (feet) x diameter (feet) x 0.785

Triangle: Area = base (feet) x height (feet) x 0.5

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

Step 7 Multiply the volume in cubic feet by 7.5 to convert it to gallons

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

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

Flow Rate: The flowrate is the average flow that left the sewer system during the time of the spill. The San Diego Manhole Flowrate Chart is used to estimate the manhole overflow rate. Photographs showing the actual

II. SSO Response and Procedures (Continued)

measurement should be taken in documenting the basis for the flowrate estimate.

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

- **Nearby Witnesses:** Witnesses can be used to establish start time. Contact and interview the reporting party, nearby residents, business owners or any witnesses that may have observed the incident. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported promptly. Spills that occur out of the public view can go on longer. Sometimes observations like odors or sounds (e.g. water running in a normally dry creek bed) can be used to estimate the start time.
- **Site Conditions:** Conditions at the spill site change over time. Initially there will be limited deposits of toilet paper and other sewage solids. After a few days to a week, the sewage solids form a light-colored residue. After a few weeks to a month, the sewage solids turn dark. The quantity of toilet paper and other materials of sewage origin increase over time. These observations can be used to estimate the start time in the absence of other information. Taking photographs to document the observations can be helpful if questions arise later in the process.
- **Accounting for Flow Variation:** It is important to remember that spills may not be continuous. Blockages are not usually complete (some flow continues). In this case the spill would occur during the peak flow periods (typically 10:00 to 12:00 and 13:00 to 16:00 each day). Spills that occur due to peak flows in excess of capacity will occur only during, and for a short period after, heavy rainfall.
- **Spill Volume/Flowrate:** Start time can be calculated using estimated flowrate and estimated spill volume. Crewmembers will use the San Diego Manhole Flowrate Chart to estimate the flow rate and to estimate the spill volume using approved

methodology (please see method 2 calculation above). The start time then is calculated by using both the estimated flow rate and the estimated spill volume.

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

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

For example:

Spill start time = 11:00

II. SSO Response and Procedures (Continued)

Spill end time = 14:00

Spill duration = 3 hours

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

F. Estimating of Recovery Volume of Spilled Sewage

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

1. **Two Truck Sewage Recovery Method:** The sewage recovery and clean-up effort often requires fresh water usage to clean the affected area or storm pipe lines. The collected liquid in the tank would not represent the actual spill sewage volume if water is introduced for clean up. By using this method crewmembers will use two Vactor trucks, one with an empty tank at a downstream collection manhole and one with filled fresh water at an upstream manhole where the fresh water is introduced. The total recovered volume will include water and sewage; by knowing how much water is introduced the actual sewage spill is calculated. The total amount of collected truck tanks less water used would provide the actual sewage spilled/recovered.
2. **Pipe Volume Calculation:** Using this method, before vacuuming the sewage from storm pipeline into a tank, crewmembers will block the storm pipeline down stream, video the storm main and measure the level of liquid standing in the pipe. By knowing the pipe size, level of liquid in the pipe and the length, spill sewage volume is calculated.
3. **Vacuum Truck Log Record:** The DOT staff will keep log records in every Vactor truck. The log sheet will include the SSO address, truck number, the date, SSO address, and the volume of water and debris collected for

each truck. The information is used to corroborate the actual volume recovered from an SSO event.

G. Clean Up

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

- Hard Surface Areas

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

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

II. SSO Response and Procedures (Continued)

Disinfect all areas that were contaminated from the overflow using the disinfectant solution of household bleach diluted 10:1 with water. Apply minimal amounts of the disinfectant solution using a hand sprayer. Document the volume and application method of disinfectant that was employed.

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 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 should 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 Game should be notified in the event an SSO impacts any creeks or natural waterways. Fish and Game will provide the professional guidance needed to effectively clean up spills that occur in these sensitive environments.

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

Wet Weather Modifications

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

Follow-Up Activities

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

In the event that an overflow occurs at night, the location should be re-inspected first thing the following day. The operator should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

H. Public Notification

Post “Raw Sewage” signs and place barricades with caution tape to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed by the Sewer Superintendent.

Creeks and streams 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 levels.

The warning signs, once posted, will be checked every day to ensure that they are still in place.

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

I. Water Quality Sampling and Testing

Water quality sampling and testing is required by the GWDR (General Waste Discharge Regulations) whenever spilled sewage enters a surface water to determine the extent and impact of the SSO. Water quality samples will be taken whenever 1,000 gallons or more enters surface waters.

- The first responder should notify the Environmental Services Department (ESD) to collect samples. Samples should be collected as soon as possible after the discovery of the SSO event.
- The following steps should be taken to collect water quality samples:
 - a) Samples should be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks).
 - b) Samples should be collected near the point of entry of the spilled sewage and every 100 feet along the shore of stationary water bodies.

- ESD's laboratory will analyze the samples to determine the nature and extent of impact from the discharge. Additional samples will be taken to determine if posting of warning signs should be discontinued. The basic analyses should include total coliform, fecal coliform, biochemical oxygen demand (BOD), dissolved oxygen, and ammonia nitrogen.

III. Weekly SSO Meetings (Failure Analysis Investigation)

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

All relevant participants, from maintenance personnel, sewer superintendent, and engineering staff meet weekly to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. The results of the debriefing should be recorded and tracked to ensure the action items are completed.

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

The investigation would include the following:

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

IV. SSO Documentation and Reporting

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

A. SSO Categories

The SWRCB (State Water Resources Control Board) has established guidelines for classifying and reporting SSOs.

There are two categories of SSOs as defined by the SWRCB¹:

- Category 1 - All discharges of sewage resulting from a failure in the City's sanitary sewer system that:
 - Have a volume of 1,000 gallons or more; or
 - Result in a discharge to a drainage channel and/or surface water; or
 - Discharge to a storm drain that was not fully captured and returned to the sanitary sewer system.
- Category 2 - All other discharges of sewage resulting from a failure in the City's sanitary sewer system are considered to be in this category. Sewage discharges that are caused by blockages or other problems within a privately owned lateral are also considered under Category 2.

B. Internal SSO Reporting Procedures

Internal Reporting Category 1 SSOs

The first responder will immediately following the SSO event notifies the Sewer Superintendent who will notify the DOT Director or his / her designee.

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

IV. SSO Documentation and Reporting (.Continued)

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

Internal Reporting Category 2 SSOs

The first responder will fill out the SSO Report Form and make the report available to the Sewer Superintendent.

C. External SSO Reporting Procedures²

The California Integrated Water Quality System (CIWQS) electronic reporting system will be used for reporting SSO information to the SWRCB when required. If there are no SSOs during the calendar month, the Sewer

¹ State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

² State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

Superintendent or his/her designee will submit an electronic report that the City did not have any SSOs, within 30 calendar days after the end of each calendar month. The Legally Responsible Official (LRO) or his /her designee will certify the report.

In the event that CIWQS is not available, the Sewer Superintendent or his/her designee will forward all required information to the Region 2 Water Quality Control Board (RWQCB) office in accordance with the time schedules identified above. In such event, the City will submit the appropriate reports using CIWQS as soon as practical.

External Reporting Category 1 SSOs

- Within two hours of being notified of the spill event, the Sewer Superintendent or his/her designee will notify:
 - Cal EMA (and obtain spill number for use in other reports),
 - Santa Clara Public Health Department, and
 - RWQCB.
- Within 24 hours of being notified of the spill event, the Sewer Superintendent or his/her designee will certify to the Region 2 RWQCB that Cal EMA and County Health were notified of the SSO event.
- Within 3 business days of being notified of the spill event, the LRO or his/her designee will certify the initial report using CIWQS.
- Within 15 calendar days of the conclusion of SSO response and remediation, the LRO or his/her designee will certify the final report using CIWQS. The LRO or his /her designee will update the certified report as new or changed information becomes available. The updates can be submitted at any time and must be certified.
- In order to clarify the multiple levels of notification certification and reporting requirements for Category 2, a summary table is attached at the end of SOP.

IV. SSO Documentation and Reporting (Continued)

External Reporting Category 2 SSOs

Within 30 calendar days after the end of the calendar month in which the SSO occurs, the Sewer Superintende

nt or his/her designee will submit an electronic report using CIWQS. The LRO or his/her designee will certify the report. The report will include the information to meet the GWDR requirements.

Private Lateral Sewage Discharges - The LRO or his/her designee may report private lateral SSOs using CIWQS and specifying that the sewage discharge

occurred and was caused by a private lateral and identifying the responsible party (other than the City), if known.

D. Internal SSO Documentation

Category 1 and 2 SSOs

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

- The first responder will complete the Sanitary Sewer Overflow Report Form and provide copies to the Sewer Superintendent.
- The Sewer Superintendent will prepare a file for each individual SSO. The file should include the following information:
 - Initial service call information
 - Sanitary Sewer Overflow Report form
 - Copies of the CIWQS report forms
 - Volume estimate
 - Weekly SSO meetings (failure analysis investigation results)

E. External SSO Record Keeping Requirements³

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

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

³ State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ (as revised by Order No. WQ 2008-0002.EXEC) Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

- A list and description of complaints from customers or others from the previous five years; and
- Documentation of performance and implementation measures for the previous five years.

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

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

V. Equipment

The City maintains specialized equipment that is required to support this Overflow Emergency Response Plan (OERP), including:

- A. Closed Circuit Television (CCTV) Inspection Unit** – A CCTV Inspection Unit is required to determine the primary cause for all SSOs from gravity sewers.
- B. Camera** – A digital, disposable, or cell phone camera is required to record the conditions upon arrival, during clean up, and upon departure.
- C. GPS Unit (Global Positioning System)** – A hand held GPS unit is required to determine the coordinates of spills for use in meeting RWQCB SSO reporting requirements, unless otherwise stored in the City's GIS.
- D. Combination Sewer Cleaning Truck** – A combination high velocity sewer cleaning truck with vacuum tank is required to clear blockages in gravity sewers, and clean up the impacted area following the SSO event.
- E. Portable Generators, Portable Pumps, Piping, and Hoses** – Portable generators, pumps, piping and hoses are needed to pump around failed sewers, force mains, or pump stations.

VI. SSO Response Training

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

A. 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 or as needed on this plan and the procedures to be followed.

B. SSO Response Drills

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

C. SSO Training Record Keeping

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

D. Contractors Working on City Sewer Facilities

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

STANDARD OPERATING PROCEDURE – SEWER INTRUSION INTO A PRIVATE RESIDENCE OR BUSINESS

Policy

The Department of Transportation (DOT) and the City of San Jose will take all reasonable measures to insure the habitability of a residence or business should there be an intrusion of sanitary sewage into the building caused by a blockage of a City's sanitary main. Departmental personnel shall perform clean up operations in accordance with Departmental guidelines and procedures. In the event that additional cleaning operations or temporary living accommodations are required, the assigned City Attorney Investigator will make the authorization. If an Investigator is unavailable, the DOT Duty or on-call Supervisor can make the authorization as specified below.

I. Operating Procedure (Response) Upon notification of a sanitary sewer main blockage with an accompanying back up onto private property, the DOT or Fire Dispatcher will make the following notifications:

- If a Sewer Response Unit is on duty, it will be dispatched immediately to the event site and will take appropriate measures to remove the blockage from the City's main. The Unit Supervisor or the DOT Duty Supervisor will also be notified at the same time.
- If a Sewer Response Unit is not available, the City Dispatcher will notify the Unit Supervisor or DOT Duty Supervisor. The responsible Supervisor will make the necessary calls to assemble a clean up crew and will have the crew respond with equipment to the work site.

II. Operating Procedure (Clean up) The Sewer Response Unit will perform clean up operations consisting of, but not limited to, collection of solid waste material (if any), removal of standing fluids, extraction of fluids from carpets (in place) and flooding in the effected areas.

- Prior to responding to the work site, the clean up crew will gather the appropriate tools and equipment, along with the supply trailer containing the necessary clean up supplies.
- Once the clean up crew arrives on site, members will determine the extent of the damage and complete the DOT Sanitary Sewage Back-Up-Log.
- The clean up crew will remove any sanitary sewer debris introduced into the building, vacuum up any standing fluids on the floor, extract fluid from the carpets (if needed), mop all impacted floors with pine oil or equal and set fans in the affected area to aid in the drying of the carpets.

- Assist the resident in removing any **portable** belongings or furnishings (i.e. Towels, chairs, throw rugs, etc) and place them outdoors or as directed by the resident.
- When a line blockage causes an overflow onto private property, an information packet (City claim form and other useful info.) prepared by the City Attorney's Office should be left with the resident.
- If the City's Claims Adjuster is present and authorizes removal of furniture items or carpets/padding, the crew is to remove the items.
- If the City's Claims Adjuster is not present, crews are **not** to remove any attached /permanently installed items (i.e. carpets, drywall/sheetrock baseboards, counters, etc). If there is a question of whether an item is attached /permanently installed, it is **not** to be removed.
- When clean up is completed, the crew leader is to contact the resident or business owner to confirm that the work has been done in a satisfactory manner. The crew leader is also to explain that if the resident wishes to seek damages from the City, he/she is to contact Jim Brennan, Senior Claims Adjuster at (408) 277-2434 from 7:00am to 5:30pm.
- The following work day, the DOT Duty Supervisor in charge of sanitary sewer line cleaning for that section of the City is to dispatch a line cleaning crew to reclean that segment of sewer in which the blockage occurred, as well as investigate the nearby segments to determine if cleaning adjoining segments is required.

Special Circumstances/ Accommodations. Should the Unit Supervisor or DOT Duty Supervisor determine that the scope of the work is beyond the Sewer Response Unit's capacity, or the resident or owner feels that the clean up efforts are not sufficient and/ or temporary living accommodations are necessary, the following will apply:

- If the owner wishes to relocate to a motel, then the Unit Supervisor or Duty Supervisor should immediately contact a City Attorney Investigator.
- If a City Investigator cannot be reached, then the responsible Supervisor may authorize a one (1) night stay at a hotel of the owner's choice (not to exceed \$150.00 per night) if the Supervisor believes such accommodations are necessary.
- A City Attorney Investigator should then be contacted as soon as possible (within a 12 hour period) to address any additional services and/or accommodations.

- If the Duty Supervisor does not believe that relocation is necessary, the resident should be informed that the City will not guarantee reimbursement of expenses and a claim will have to be filed with the City Clerk's Office.
- A City Attorney Investigator will then determine if the City will honor the claim for overnight expenses.

Confidential

The following City Attorney Investigators may be contacted at the private telephone numbers listed below on weekends and/or during nonbusiness hours on weekdays (between 5:00 p.m. and 7:30 a.m.) when Department of Transportation personnel requires their assistance at a sewer back-up:

- Cinda McCann: Home (xxx) xxx-xxxx
Pager (408) xxx-xxxx
- Barry Witt: Home (xxx) xxx-xxxx
Pager (408) xxx-xxxx

Please note that these telephone numbers are not to be released to the public. These investigators will respond to such calls when available. Please try to rotate your requests between investigators whenever possible.

ELEMENT 7: FATS, OILS AND GREASE (FOG) CONTROL PROGRAM

Commercial/Industrial Grease Control Program

The ESD has the responsibility to minimize the amount of FOG that enters the sanitary and storm sewer systems from industrial and commercial sources. Watershed Protection Division manages the FOG program in ESD.

Grease Removal Device Plan Checks

Watershed Protection staff determines the requirements for grease removal devices (GRD). Building plans for new construction or remodeling of a restaurant or food service facility are reviewed and stamped off with any requirements prior to issuance of the plumbing permits. The plans are reviewed along with a questionnaire filled out by the restaurant representative, and the requirement for a GRD is determined.

The plan review process also involves a GRD certification. This certification involves the restaurant representative signing an acknowledgement of GRD requirements. The minimum acceptable cleaning frequency for the type of GRD being required, the on-site maintenance of a schedule and instructions for cleaning, and cleaning records and receipts, are some of the requirements acknowledged in the certification.

The size and type of GRD required is determined based upon the facility's potential for discharging grease in the wastewater. The size of the restaurant, the cooking and cleaning equipment installed, and the number of meals served, are some of the factors considered in order to determine the standard required GRD size. Requirements range from a small grease trap beneath the pot sink to a large in-ground grease interceptor.

Approved grease trap sizes are 40, 50, 70, and 100 pounds. Grease interceptors must be a minimum of 1000 gallons. BMPs may be discussed and distributed to restaurant representatives during the plan check, including kitchen practices to minimize the discharge of grease into the sewer system, maintenance tips for grease traps and interceptors, and record keeping requirements. Building inspectors from the Department of Planning, Building, and Code Enforcement verify the installation and connections of the GRD.

Standard Restaurant Inspections

Watershed Protection staff inspect all restaurants and other food service facilities. Their initial inspection includes determining if the restaurant generates grease, if there is a GRD in place, and reviewing the cleaning records for the GRD, as well as practices used to clean floor mats, vent hoods, and outside areas. Enforcement actions are taken against any restaurant that does not clean their GRD at the minimum set frequency (monthly for grease traps and quarterly for grease interceptors) or keep 3 years of cleaning records. Facilities generating grease are reinspected periodically (every one to three years), depending on the number of areas of concern observed during the inspection. BMPs are

distributed to restaurant operators during the inspections, as appropriate, including kitchen practices to minimize the discharge of grease into the sewer system, maintenance tips for grease traps and interceptors, and record keeping requirements.

Investigation of FOG in Sewer Mains

Watershed Protection Inspectors respond to reports from DOT or other sources that a grease blockage or unusual build-up of grease has taken place in the sanitary sewer. Referrals from DOT are sent from the Maintenance Supervisor or Senior Maintenance Worker to the Senior Environmental Inspector, commonly based on the following reasons:

1. Excessive grease build up.
2. Odor complaints.
3. Request for service.
4. Blockages due to grease.
5. Excessive grease evident during preventative maintenance.
6. Reduced flow.
7. Video Inspection identifies excessive grease.
8. Litigation

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

Participation in Regional Efforts

ESD staff participates on regional committees addressing FOG issues, including the California Water Environment Association Pretreatment, Pollution Prevention, and Stormwater Committee's Grease sub-committee, the CalFOG efforts underway to share grease related issues state-wide, and the Bay Area Clean Water Agencies' Collection Systems Committee.

Outreach

A number of outreach pieces are available to distribute information about FOG issues. Grease Management Best Management Practices (6 fact sheets – Grease Trap Maintenance, Grease Interceptor Maintenance, Maintenance Documentation, Power-Operated Grease Removal Devices, Chemicals, Enzymes and Bacteria, Vapor/Ventilation Hood Cleaning, and a poster – Managing Fats, Oils, & Grease, “It’s Easier Than You Think”) are available to inspectors and plan check staff to distribute to restaurant owners and operators.

Residential Grease Control Program

A bill insert is sent to every residential property in San Jose annually in November with information on residential practices to reduce the quantity of FOG reaching the sanitary sewer. Sewer crews distribute door hangers in areas near grease blockages as appropriate. Regional efforts result in articles in area newspapers and radio spots to promote proper disposal of FOG.

ELEMENT 8: SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

SYSTEM EVALUATION

The City completed a Sanitary Sewer Master Plan (Master Plan) in 2004 and is available upon request with the Department of Public Works.

CAPACITY ASSURANCE

Provide a list of the dates and locations of repeats capacity spills: The City has not had any capacity spills.

Provide a list of locations of known capacity bottlenecks for both dry weather and wet weather:

There are no current capacity constraints within the system that could potentially result in a capacity bottleneck spill. The City's ongoing master planning efforts using a dynamic computer model of the system allows staff to manage the system and model different future development scenarios.

To identify sewer capacity deficiencies, the City conducted a 2-phased Sewer Master Plan Project. The Phase I Sewer Master Plan for the Southern, Central and Northern Areas in the City was completed in October 2004. The Phase II Sewer Master Plan is currently being prepared for the Eastern and Western Areas along with recalibration and updating the Phase I Master Plan results. The Phase II Sewer Master Plan is anticipated to be completed in 2011.

The Phase I Master Plan project team used a systematic process to incorporate land use planning information, flow monitoring data and design criteria for estimating wastewater flows for use in a computerized hydraulic model of the trunk and interceptor system. The model depicts how the system would perform under various planning scenarios and identifies sewers that may not have sufficient capacity to convey the predicted flows. For wet weather conditions, an infrequent, conservative 10-year, 24-hour duration rainfall event was selected as design storm with the peak RDII flow coinciding with the peak diurnal base wastewater flows.

City staff is conducting follow-up studies of potential capacity improvement projects. The activities include further field verifications, record research and flow monitoring before a recommended project is incorporated into the City's Capital Improvement Program (CIP). These activities will be on-going until all of the potential projects have been studied and the need for capacity improvements has been verified.

Preliminary flow monitoring studies of the higher priority projects identified in the Phase I Sewer Master Plan Report indicated that some of these project locations don't present a capacity problem under existing conditions, some are showing capacity deficiencies,

while other requires additional study. However, the surcharging due to the capacity deficiencies was minimal (i.e. less than 8 inches) and did not have any significant risk of overflow. The table below lists the locations of potential capacity bottlenecks. Most of these locations have been included in the 5-Year CIP and the remaining will be addressed after further study.

Locations of Potential Capacity Bottlenecks for Dry and Wet Weather:

Metered Segment	Project Location	Remark
6504	Almaden Expressway SS Improvement	In 5-Yr CIP
2648	Coleman Road SS Improvement	In 5-Yr CIP
1886	Coleman Road SS Improvement	In 5-Yr CIP
14152	Myrtle Avenue SS Improvement	In 5-Yr CIP
15307	Curtner Ave SS Improvement	Future Proj.
15311	Husted-Richland SS Improvement	In 5-Yr CIP
27142	Minnesota Avenue SS Improvement	In 5-Yr CIP
27171	Minnesota Avenue SS Improvement	In 5-Yr CIP
38260	The Alameda (re-direct flow)	Future Proj.
33619	Morrill Avenue/Sierra Road SS Improv	In 5-Yr CIP
33550	Morrill Avenue/Sierra Road SS Improv	In 5-Yr CIP
33256	Cropley Avenue SS Improvement	In 5-Yr CIP
33190	Trimble Rd./Capewood Ln.	Future Proj.

Describe I&I Assessments Completed by the Utility (dates, area covered, findings, etc.):

I&I assessments were done at some of the known I/I areas, such as the Redmond Avenue area and Edenvale System. Between 1999 and 2000, approximately 100 manholes were inspected by V&A Engineers, Inc. (V&A) for the City's Dry Weather Infiltration Flow Reduction Study. In 2007, a person-entry condition assessment in the 54" Edenvale System was performed by V&A.

In March 2010, City authorized V&A to perform I&I assessment in the sewer-shed south of Camden Avenue. The flow from the sewer-shed drains to the trunk sewer system along Almaden Expressway and Camden Avenue. In April 2010, V&A conducted I&I reconnaissance in the area. Based on the result of the reconnaissance, V&A will identify neighborhoods for a smoke testing program. The smoke testing work will be performed in Summer and Fall of 2010.

The I&I assessment component may be included in the Condition Assessment Program.

Flow Meters (number, locations):

Flow Monitoring Activities Summary from 1998 to present:

CONTRACT	COST	# of Sites	Monitoring Duration	Remark
1995 ADS Consultant Contract	\$2,236,825	43	7/1/98-12/31/01	

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2003 GEOTivity Consultant Contract	\$100,000	60	4/13/03-4/13/04	1 week duration
2003 MGD Consultant Contract	>\$500,000	80	1/24/03-3/28/03	Master Plan Phase I
2005 V&A Consultant Contract	\$100,000	66	9/15/04-9/15/05	1 week duration
2006 GEOTivity Master Agreement	\$56,350	58	4/3/03-5/29/04	1 week duration
2006 ADS Master Agreement	\$1,500,000		10/17/06-12/31/2010	
Service Order #2	\$200,000			
Notice To Proceed #1		41	4/6/07-6/4/07	8 weeks
Notice to Proceed#2		3	2/1/10-5/1/10	Wet wether
Service Order#3	\$800,000			
Notice to Proceed#1		132	12/9/07-4/5/08	Wet weather
Notice to Proceed#4		12	2/1/10-5/1/10	Wet weather
Service Order#4	\$100,000	Structure B	2/3/10-4/18/10	
Service Order#5	\$325,000	61	2/3/10-4/27/10	Wet weather
2007 V&A Master Agreement	\$2,000,000		12/12/2006-12/31/2011	
Service Order#1	\$300,000			
Notice to Proceed#1		6	5/7/07-5/28/07	2 weeks
Notice to Proceed#3		13	10/26/07-11/2/07	1 week
Notice to Proceed#4		10	11/6/07-11//07	1 week
Notice to Proceed#5		13	11/14/07-11/21/07	1 week
Notice to Proceed#6		8	11/28/07-12/5/07	1 week
Notice to Proceed#7		10	2/14/08-2/22/08	1 week
Notice to Proceed#9		19	7/1/08-7/7/08	1 week
Notice to Proceed#10		7	7/18/08-7/25/08	1 week
Notice to Proceed#12		7	10/3/08-10/10/08	1 week
Notice to Proceed#13		13	12/8/08-12/15/08	1 week
Notice to Proceed#14		34	2/10/09-3/25/09	Wet weather
Service Order#3	\$500,000			
Notice to Proceed#1		22	9/25/09-10/16/09	2 weeks
Notice to Proceed#2		7	11/2/09-11/16/09	2 weeks
Notice to Proceed#3		9	11/23/09-12/2/09	2 weeks
Notice to Proceed#4		60	2/1/10-5/1/10	Wet weather

Describe Flow Model Used by the Utility:

The City does not perform flow monitoring in-house. The flow models used by consultants include ISCO 2150, SIGMA 910 or TELEDYNE-MGD ADFM Area-Velocity flow meters, and ADS Model 1502, 3600, or T-5500A and FlowShark Intrinsically Safe Model.

ELEMENT 9: MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

The performance criteria that are monitored are:

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

The Department of Environmental Services maintains information, monitors and reports the following:

- A database with all food service facilities and grease generating sites;
- Inspect all of these facilities on a one to three year frequencies depending on the issues identified on each site;
- All issues identified on each site are resolved during the inspection by using appropriate educational outreach materials and enforcement;
- Monitors all grease hot spots in the sewer lines as identified by the sewer crews and works on identifying the sources and resolving some of the reoccurring problems;
- Annually report number of facilities inspected and grease investigation conducted.

Sanitary Sewer Overflows From Utility						
Year	Mains (Miles of Mains 2252)		Laterals (Miles of Laterals NA)		Totals (Total Miles 2252)	
	#SSOs	Gross Spill Volume (gallons)	#SSOs	Gross Spill Volume (gallons)	Total SSOs	Total Gross Spill Volume (gallons)
2005	121	21,797	NA		121	21,797
2006	169	69,424	NA		169	69,424
2007	200	22,069	NA		200	22,069
2008	204	19,529	NA		204	19,529
2009	242	20,257	NA		242	20,257
2010 (thru 3-31)	57	5,919	NA		56	5,919
Total	992	158,995	NA		992	158,995

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Spill Cause

Year (as listed in Table above)	Blockage								Gravity Pipe Break		Force Main Break		Other/ Unknown		Capacity	
	Grease		Roots		Debris		Multiple									
	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
2005	39	32	5	4	8	7	0	0	6	5	0	0	63	52	0	0
2006	66	39	3	2	6	4	3	2	2	1	1	1	88	52	0	0
2007	75	38	9	5	25	13	7	4	2	1	1	1	81	40	0	0
2008	141	69	18	9	30	15	7	3	5	2	0	0	3	1	0	0
2009	159	66	21	9	34	14	10	4	12	5	0	0	6	2	0	0
2010 (thru 3-31)	40	68	3	5	12	21	0	0	2	4	0	0	0	0	0	0
Total	519	52	59	6	115	12	27	3	29	3	2	0.2	241	24	0	0

BUILDING BACKUPS (list only backups caused by problems in sewer mains)		
Calendar Year	Number of backups *	Cost of Settled Claims
2005	24	\$51,379
2006	19	\$157,168
2007	27	\$122,699
2008	20	\$187,946
2009	12	\$29,564
TOTAL	102	\$548,756

* The number of claims listed represents those that have been settled.

SSMP Updates

The City will update its SSMP at least every five years. This is the first update and will be completed by August 31, 2010.

The City will determine the need to update its SSMP more frequently based on the results of the annual audit (required by the RWCQB) and the performance of its sanitary sewer system. In the event that the City decides that an update is warranted, the process to complete the update will be identified at that time. The City will complete the update within one year following identification of the need for an update.

The authority for approval of changes such as employee names, contact information, or minor procedural changes is delegated to the Director of Transportation.

ELEMENT 10: SSMP PROGRAM AUDITS

The City will audit its SSMP annually, due in March to the Region 2 RWQCB. The audit will determine whether the SSMP meets the current requirements of the GWDR, whether the SSMP reflects the City’s current practices, and whether the City is following the SSMP.

BACWA in coordination with RWQCB is developing a template for the annual audits.

Appendix 10-A: SSMP Audit Checklist

Element 1 – Goals		Yes	No
A	Are the goals stated in the SSMP still appropriate and accurate?	X	

Element 2 -- Organization		Yes	No
A	Is the Contact Information current?	X	
B	Is Organization Chart of the SSMP current?	X	
C	Is the chain of communication for reporting and responding to SSOs accurate and up-to-date?	X	

Element 3 – Legal Authority		Yes	No
Does the SSMP document the City’s legal authority to:			
A	Prevent illicit discharges?	X	
B	Require proper design and construction of sewers and connections?	X	
C	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the City?	X	
D	Limit discharges of fats, oil and grease?	X	
E	Enforce any violation of its sewer ordinances?	X	

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Element 4 – Operations and Maintenance		Yes	No
Collection System Maps			
A	Does the SSMP reference the current process and procedures for maintaining the City’s sanitary sewer system maps?	X	
B	Are the City’s sanitary sewer system maps complete, current, and sufficiently detailed?	X	
Resources and Budget			
C	Does the City allocate sufficient funds for the effective operation, maintenance, and repair of the sewer system and is the current budget structure documented in the SSMP?	X	
Prioritized Preventive Maintenance			
D	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewer lines?	X	
E	Based upon the SSO information in CIWQS, are the City’s preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?	X	
Scheduled Inspections and Condition Assessments			
F	Is there an ongoing condition assessment program sufficient to develop a capital improvement program addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP?	X	
Contingency Equipment and Replacement Inventory			
G	Does the SSMP list the major equipment currently used in the operation and maintenance of the sanitary sewer system and document the procedures for inventory management?	X	
H	Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?	X	
Training			
I	Are the training records current?	X	
J	Does the SSMP document current training within the City?	X	
Element 5 – Design and Performance Standards		Yes	No
A	Does the SSMP contain current design and construction standards for the installation of new sanitary sewer systems, pump stations and other appurtenances and for the rehabilitation and repair of existing sanitary sewer systems?	X	
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?	X	

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Element 6 – Overflow and Emergency Response Plan		Yes	No
A	Does the City’s Overflow Emergency Response Plan establish procedures for the emergency response, notification, and reporting of sanitary sewer overflows (SSOs)?	X	
B	Are Public Works staff and contractor personnel trained on the procedures of the Overflow Emergency Response Plan?	X	
C	Is the SSO procedure current?	X	
D	Are the SSO External Reporting Requirements current?	X	
E	Is the After Hours Information current and complete?	X	
F	Is the Emergency Contact List for reporting SSOs current and complete?	X	
G	Is the Overflow Emergency Response Plan effective in handling SSOs in order to protect public health and the environment?	X	

Element 7 – Fats, Oils, and Grease (FOG) Control Program		Yes	No
A	Does the Fats, Oils, and Grease (FOG) Control Program include efforts to educate the public on the proper handling and disposal of FOG?	X	
B	Does the City’s FOG Control Program identify sections of the sanitary sewer system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?	X	
C	Are requirements for grease removal devices, best management practices (BMP), record keeping, and reporting established in the City’s FOG Control Program?	X	
D	Is the current FOG Control Program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?	X	

Element 8 – System Evaluation and Capacity Assurance Plan		Yes	No
A	Does the City’s Master Plan evaluate hydraulic deficiencies in the system, establish sufficient design criteria and recommend both short-term and long-term capacity enhancement and improvement projects?	X	
B	Does the City’s capital improvement program (CIP) establish a schedule of completion dates for both short-term and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?	X	

Element 9 – Monitoring, Measurement, and Program Modifications		Yes	No
A	Does the SSMP accurately portray the methods of tracking and reporting selected performance indicators?	X	
B	Is the City able to evaluate the effectiveness of SSMP elements based on relevant information?	X	

Element 10 – SSMP Audits		Yes	No
A	Were the results of prior SSMP Audits recorded in a written report?	X	

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Element 10 – SSMP Audits		Yes	No
B	Were the actions recommended in the SSMP Audit report(s) implemented?	X	

Element 11 – Communication Program		Yes	No
A	Does the City effectively communicate with the public and other agencies about the development and implementation of the SSMP and continue to address any feedback?	X	

ELEMENT 11: COMMUNICATION PROGRAM

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

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

Communications with and outreach to residential, industrial, and commercial customers and the general Public.

The City provided a link at the DOT public website where the public is encouraged to view and comment on SSMP sections. The DOT SSMP website provides a list of the SSMP Sections, PDF files for draft SSMP sections, and a link for customers to provide feedback and comments. The site is also referred to in all other outreach efforts.

The City of San Jose conducts extensive public outreach and education to residents and businesses related to sanitary sewer overflows, preventing grease blockages and Best Management Practices for handling of grease waste.

The City annually mails informational flyers to all residential and business property owners and tenants describing the negative impacts of discharging fats, oil, and grease into the sanitary sewer system. In areas where a sewer overflow is attributed to the build up of fats, oil, or grease in the sewer pipes, the City canvasses the vicinity with door hanger type flyers notifying the neighbors of the event and reinforcing the message to avoid pouring these items down the drain and describe the continued negative impacts that this will likely have on the sewer system. Both the annual mailer and the door hanger provide information in English, Spanish, and Vietnamese.

Communications with and outreach to land developers, consultant engineers, contractors

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

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

For the Sewer Connection Fee Study, the City will outreach to ratepayers, local neighborhood associations and the development communities and City Council discuss proposed rate changes and impacts on capital programs with such changes.

Internally, City will communicate within various departments, such as Environmental Services, Public Works, Transportation, and Building and Code Enforcement regarding the overall SSMP, program audits, emergency response plan, FOG program, and design standards.

For Capital Improvement Program, key stakeholders may be outreach to includes engineering consultants and contractors. Potential issues of interests include design standard, capital program, and consulting and contracting opportunities.

Outreach to Plumbers and Building Contractors

Plumbers and sewer contractors have access to all available City of San Jose plans, specifications and standard details. The City of San Jose participated with BACWA in developing an outreach flyer for these entities. Information was disseminated on construction standards, proper operations and maintenance activities, and effective measures for removing blockages.

Communications with Contributing “Satellite” Agencies

The City developed and implemented a communications program with its seven contributing agencies. The plan has established a collaborative approach to communicate with contributing agencies and work together during the development and implementation of, and future improvements, to the SSMP. The City plans to work with all of the contributing agencies as they develop their SSMP's and facilitate meetings to discuss common issues and provide support during the SSMP development process. Subsequent meetings will be held each quarter with representatives who are responsible for development and maintenance of the SSMP at each contributing agency. The agenda or topics for quarterly meetings with satellite agencies may include master plan, capacity issues, emergency response plans, and capital programs.