

**West Valley Sanitation District
Sewer System Management Plan (SSMP)**

2010 Annual SSMP Audit

The audit is submitted pursuant to the requirements included in the State Water Resources Control Board Order No. 2006-0003-DWQ and San Francisco Bay Regional Water Quality Control Board's Sewer System Management Plan Development Guide, July 2005. Information collected in the Annual Report of Sanitary Sewer Overflows is used in preparing this audit and therefore the two reports are intended to be submitted simultaneously.

The purpose of the Annual SSMP Audit is to evaluate the effectiveness of the West Valley Sanitation District's SSMP and to ensure that all elements within the SSMP are up to date and that they are being implemented and managed appropriately. The SSMP Audit is a critical process that promotes continuous improvement, ultimately resulting in the most effective and efficient collection system management plan possible. This process includes the examination of events, experiences, and data from the previous calendar year so that successes and challenges can be identified and correlated with strengths and weaknesses of District's SSMP. The District's SSMP Audit consists of two major components: Summary of Events and Audit Findings, and the SSMP Audit Checklist used to evaluate each SSMP element.

SUMMARY OF EVENTS AND AUDIT FINDINGS

Background and System Overview

The West Valley Sanitation District (District) was formed in 1948 as County Sanitation District No. 4 of Santa Clara County under the provisions of the California County Sanitation District Act. In 1988 the District changed its name to West Valley Sanitation District of Santa Clara County, to reflect its geographical service area. The District provides wastewater collection and disposal services to the cities of Campbell, Monte Sereno, a portion of Saratoga, the Town of Los Gatos, and the intervening unincorporated areas of the county. The District Board consists of five representatives from each of these respective member entities.

The District serves approximately 112,000 residents and its service area encompasses 28 square miles. The wastewater collection system is comprised of approximately 415 miles of sewer main and 200 miles of sewer laterals, for a total of about 615 miles of sewer lines. The District's sewer mains range in diameter from 3 to 39 inches, with nearly 90% of these lines being 8-inches in diameter or smaller. Almost all of the sewer laterals are 4-inches in diameter.

The ownership and maintenance responsibilities for sewer laterals (lower laterals) make the District unique as compared to most wastewater collection agencies. The additional

challenge of being responsible for sewer laterals not only requires additional effort and resources, but reflects on the District's reporting of Sanitary Sewer Overflows (SSOs), as a majority of spills occur at the sewer lateral. For this reason, the Annual SSO Report to the San Francisco Regional Water Quality Control Board is divided into Sewer Mains and Sewer Laterals so that the data can be comparable to those submitted by agencies that are only responsible for sewer mains.

Summary of Events

The data provided in the Annual SSO Report for calendar year 2010 continues to show a general downward trend in both Sewer Main and Sewer Lateral SSOs since 2005. Using a common benchmarking metrics of number of Sewer Main SSOs to 100 miles of sewer main, the District's ratio is 12 events/4.12 hundreds of miles, or 2.89, which is considered to be indicative of a very high performing collection system. This trending along with fairly low SSO numbers, frequencies, and volumes is an overall measure of the District's performance and SSMP effectiveness.

Since the SSMP's adoption in August 2009, the District has recently made both administrative and functional type changes to this document. The administrative type changes revolve around: organizational chart details, additional collection system information, inclusion of select mapping examples, etc. The functional type revisions include more substantive changes including: incorporation of significant studies performed (hydraulic capacity, risk assessment), Capital Improvement Program details, regulatory and SSO Response Plans, etc. The current SSMP includes these changes and will be submitted to the District Board in March 2011 for their anticipated adoption.

The two studies performed by the District regarding hydraulic capacity and risk assessment are integral to the planning and development of the short (5 year), medium (5-10 year), and long term (10-20 year) CIPs. The current SSMP contains last year's approved 5 year CIP, but an updated 5 year, and medium and long term CIPs that reflect the results of these studies will be included in the near future. Some of the key sewer system improvements and studies leading to planning future improvements are described below. In addition, large capital purchases or other events of significance are shown.

Sewer System Improvements, Studies, and Events in 2010

The most notable projects, studies, and events performed in 2010 include:

1. Fairview Plaza Project – Replaced 540 lf of terra cotta pipe, estimated to be around 90 years old, and installed 1,070 feet of new sewer lateral at a cost of approximately \$270,000. Project has been completed.
2. Overlook Road Project – As part of the District's Septic System Abandonment Program (SSAP) extended 2,710 lineal feet of sewer to serve 24 properties

currently on septic systems at a cost of approximately \$552,000. Project has been completed.

3. 2010 Sewer Repairs – A multi-year service contract that expedites the point repair of sewer main and laterals on an as needed emergency or routine basis. A total of \$200,000/year for up to four fiscal years is budgeted for this work. Project was awarded in October 2010 as is on-going.
4. Quito Basin Projects – The Quito Basin Projects consist of two separate but adjacent projects that lie next to and cross a local creek. These two projects are Quito Basin 7- Area 1, and the FY2012 Quito Basin Project. Combined, it is estimated that 36,000 feet of sewer line will be replaced over the next three years at an estimated cost of nearly \$6 million. An environmental study was performed in 2010 for these projects to satisfy CEQA requirements.
5. Risk Prioritization Study – A study was initiated in 2010 to provide a more objective approach to prioritization of the District's CIP projects. This approach is a risk-based prioritization model that was developed by RMC Water and Environment. Factors used in quantifying the risks posed by the failure of the District's system include: pipe age, condition rating, failure consequence rating, and likelihood rating. The risk-based prioritization study was completed in October 2010.
6. Closed Circuit Television Van - Purchase of a new 2011 CUES CCTV van for \$212,200 was made in August 2010 to replace the existing 1996 CCTV van. This should improve the quality of video as well as increase the productivity of lines televised. The CCTV van was delivered in January 2011.
7. Installation of Hadronex Smartcovers and Rainfall Gages – As a means to monitor flow levels in manholes and to validate the hydraulic model results, seven manholes were retrofitted with Hydronex Smartcovers and three temporary rainfall stations are established during the rainfall season. The Smartcovers send an alarm to the District when the level of flow reaches critical depths to alert maintenance staff of potential overflow conditions.

Future Sewer System Improvements, Studies, and Events

The most notable projects, studies, and events to be performed in the near future include:

1. Hoffman Lane Road - As part of the District's Septic System Abandonment Program (SSAP) this will extended 900 lineal feet of sewer to serve 20 properties currently on septic systems at a cost of approximately \$380,000. Project is expected to begin in mid-2011.

2. Quito Basin 7 - Area 1 Project - Approximately 16,000 feet of existing sewer main will be replaced. Construction is anticipated to begin in mid-2011 for this project.
3. 2010 Service Repairs – This multi-year project is expected to continue through FY2014 repairing an average of 25 damaged pipe per year.
4. FY2012 Quito Basin Project – Approximately 20,000 feet of existing sewer main will be replaced. Construction is anticipated to begin in mid to late 2012 for this project.
5. Installation of Additional Hadronex Smartcovers – To increase the coverage of Smartcover flow monitoring, additional manholes are planned to be retrofitted with Hadronex Smartcovers by 2012.
6. Medium and Long Term CIP - Development of medium (5-10year) and long term (10-20 year) CIP will be performed and incorporated into the District's SSMP in FY2012.

SSMP AUDIT CHECKLIST

Each of eleven SSMP Elements is represented in the checklist below. Either a **YES** or **NO** is provided for each question. If a **NO** is answered for any question, the updates/changes needed and the timeline to complete those changes will be described in the “*Description of Scheduled Updates/Changes to the SSMP*” section of this audit.

		YES	NO
ELEMENT 1 – MISSION, GOALS AND OBJECTIVES			
A.	Are the mission, goals, and objectives stated in the SSMP still appropriate and accurate?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ELEMENT 2 -- ORGANIZATION			
A.	Is the District’s Organizational Chart current?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Is the chain of communication for SSO response and reporting current?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.	Is the contact information for key District personnel current?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ELEMENT 3 – LEGAL AUTHORITY			
Does the SSMP contain excerpts from the current West Valley Sanitation District’s Ordinance Code documenting the District’s legal authority to:			
A.	Prevent illicit discharges?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Require proper design and construction of sewers and connections?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.	Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the District?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D.	Limit discharges of fats, oil and grease?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.	Enforce any violation of its sewer ordinances?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ELEMENT 4 – OPERATIONS AND MAINTENANCE			
Mapping			
A.	Does the SSMP reference the current process and procedures for maintaining the District’s wastewater collection system maps?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Are the District’s wastewater collection system maps complete, current, and sufficiently detailed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Resources and Budget			
C.	Does the District allocate sufficient funds for the effective operation, maintenance and repair of the wastewater collection system and is the current budget structure documented in the SSMP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

		YES	NO
Preventive Maintenance			
D.	Does the SSMP describe current preventive maintenance activities and the system for prioritizing the cleaning of sewer lines?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.	Based upon information in the Annual SSO Report, are the District's preventive maintenance activities sufficient and effective in minimizing SSOs and blockages?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Rehabilitation and Replacement			
F.	Is there an ongoing condition assessment program sufficient to develop a capital improvement plan addressing the proper management and protection of infrastructure assets? Are the current components of this program documented in the SSMP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Maintenance Equipment			
G.	Does the SSMP list the major equipment currently used in the operation and maintenance of the collection system and document the procedures of inventory management?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
H.	Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Training and Certification			
I.	Is adequate training being provided to staff to maintain a knowledgeable and safe workforce?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
J.	Are maintenance personnel properly certified by CWEA to perform their work and is this documented in the SSMP?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ELEMENT 5 – DESIGN AND CONSTRUCTION STANDARDS			
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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Does the SSMP document current procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and the rehabilitation and repair of existing sewer lines?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ELEMENT 6 – OVERFLOW EMERGENCY RESPONSE PLAN			
A.	Is the District's SSO and Backup Response Plan, that establishes procedures for emergency response, notification, and reporting, effective and current?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Has the District staff been properly trained on the procedures of the Sanitary Sewer Overflow and Backup Response Plan?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.	Based on recent experience, does the Sanitary Sewer Overflow and Backup Response Plan provide effective guidance in handling SSOs and safeguarding public health and the environment?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

		YES	NO
ELEMENT 7 – FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM			
A.	Does the Fats, Oils, and Grease (FOG) Control Program include efforts to educate the public on the proper handling and disposal of FOG?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Does the District's FOG Control Program identify sections of the collection system subject to FOG blockages, establish a cleaning schedule and address source control measures to minimize these blockages?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.	Are requirements for grease removal devices, best management practices (BMP), record keeping and reporting established in the District's FOG Control Program?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
D.	Does the District have sufficient legal authority to implement and enforce the FOG Control Program?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
E.	Is the current FOG program effective in minimizing blockages of sewer lines resulting from discharges of FOG to the system?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ELEMENT 8 –CAPACITY MANAGEMENT			
A.	Has the District evaluated the hydraulic deficiencies in the system, established sufficient design criteria and recommend both short and long term capacity enhancement and improvement projects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Does the District's Capital Improvement Program (CIP) establish a schedule of approximate completion dates for both short and long-term improvements and is the schedule reviewed and updated to reflect current budgetary capabilities and activity accomplishment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ELEMENT 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS			
A.	Are the performance parameters shown for each of the SSMP elements adequate for monitoring the effectiveness of each SSMP element?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Are the methods for measuring each of the performance parameters sufficient to properly evaluate the success of each SSMP element?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.	Does the description of the process for modifying the SSMP continue to be valid?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ELEMENT 10 – SSMP AUDITS			
A.	Will this SSMP Audit be submitted with the SSO Annual Report to the Regional Water Quality Control Board by March 15 th	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Will this SSMP Audit be made public through the District's website?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
C.	Has the SSMP Audit in its current form provide for its thorough review and continues to promote continuous improvement?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

ELEMENT 11 – COMMUNICATION PROGRAM			
A.	Is the contact person listed for communication of the SSMP current?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
B.	Does the District's website contain the most current SSMP?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
C.	Do the District's stakeholders have the most current SSMP?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
D.	Does the SSMP document current outreach efforts to plumbers and building contractors?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

RECOMMENDED UPDATES AND REVISIONS

For each NO answer shown in the SSMP Audit Checklist, a description of the planned revision and timeline for completion is provided as indicated within (parenthesis). Reference the SSMP Audit Checklist above and the District's SSMP regarding the specific element in question.

Element 8 – Capacity Management

- B. The District's current 5-year CIP is currently under review to verify that it is consistent with the recently completed Risk Prioritization Study. Additionally, a medium (5-10 year) and long term (10-20 year) CIPs will need to be developed and incorporated into the SSMP.

Element 11 – Communication Program

- B. The District's recently completed SSMP is anticipated to be adopted at the March 2011 Board Meeting. After adoption the SSMP will be placed on the District's website
- C. See B.