



February 28, 2011

Bruce H. Wolfe, Executive Officer
California Regional Water Quality Control Board, San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, CA 94623

**Subject: Annual Report of Sanitary Sewer System Overflows and
Annual Sanitary Sewer Management Plan Audit for
Calendar Year 2010**

Dear Mr. Wolfe:

The West Valley Sanitation District hereby submits its Annual Report of Sanitary Sewer System Overflows (SSOs) and our Annual Sanitary Sewer Management Plan (SSMP) Audit for calendar year 2010. The SSMP Audit reflects the first significant revision to our original SSMP adopted by our Board in August 2009. The SSMP Audit is included as part of this Report as Attachment 1.

This Report is divided between sewer mains and sewer laterals, to distinguish between SSOs emanating from a sewer main or lateral, respectively. In addition to discussing SSO events which occurred in 2010, historical data starting from 2005 is also presented. As the data in this report indicates, there still is a general downward trend of SSOs in both categories since calendar year 2005, although 2010 sewer lateral SSO events and volumes both show unexplainable increases. To better indicate this trending and to "dampen" large variations in data, the graphs now include 3-year running average of the SSO volumes.

As an indicator of the District's performance, the commonly used SSO event to 100 mile of sewer main ratio for the District's 2010 data is 12 events/4.12 hundred miles, or 2.89. Also it should be noted that our miles of sewer main to collection maintenance staff ratio is one of the highest at about 55 miles per maintenance staff person. Both of these criteria are considered to be indicative of a very high performing collection system. Should you or your staff have any questions or comments, please contact me at (408)378-2407 or by e-mail at eoyama@westvalleysan.org.

District Background

The District owns and maintains a gravity sewer wastewater collection system serving the populations of the City of Campbell, City of Monte Sereno, Town of Los Gatos, portions of the City of Saratoga and intervening unincorporated portions of the County of Santa Clara. In total there are approximately 44,000 connections serving a population of approximately 107,000 people. The wastewater system is comprised of approximately 412 miles of sewer main and 200 miles of sewer lateral located within the public right-of-way (lower lateral). In 2010 the system transported an average flow of approximately 9.76 million gallons of wastewater per day or 3.56 billion gallons of wastewater to the San Jose/Santa Clara Wastewater Water Pollution Control Plant for treatment and disposal.

**Number, Size, and Trend
Sewer Main SSOs**

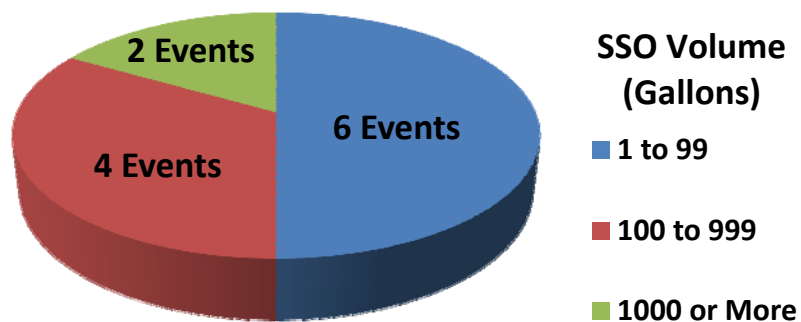
The total number of Sewer Main SSOs experienced during 2010 was 12, three of which were Category 1 events. Over 83 % of the SSOs were less than 500 gallons and most of these were in the 50 to 100 gallon range. The Sewer Main SSOs experienced during 2010 are distributed into one of three volume ranges. These are summarized in Table 1 and illustrated in Figure 1.

Table 1. Number of Sewer Main SSOs

Size of SSO (gallons)	Number	Percent of Total
Greater than or equal to 1,000	2	16.7 %
From 100 to 999	4	33.3 %
From 1 to 99	6	50.0%
Total	12	100 %

Figure 1. Sewer Main SSO Volume Distribution

2010 SSO Volume Distribution



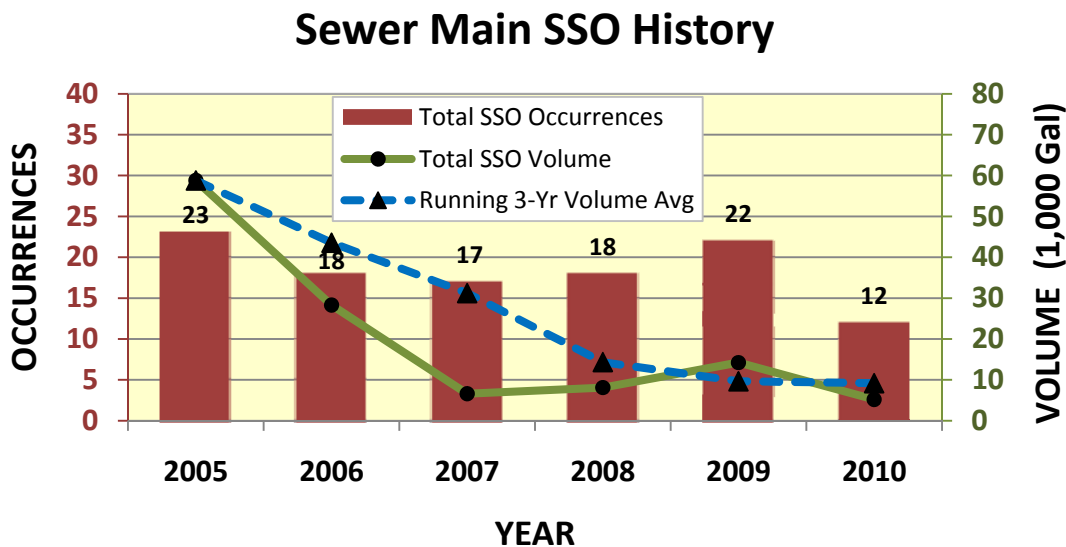
The total volume of Sewer Main SSOs is estimated to be 5,182 gallons of which 1,925 gallons was considered unrecoverable from a storm drain, drainage channel, or waterway. The volume of these spills contained and returned to the system, as well as the volume not recoverable, is shown in Table 2. The largest event was a 2,500 gallon SSO and is suspected of being caused by a combination of high inflow and infiltration and a deficiency in the system's hydraulic capacity. This event occurred on January 20 at Manhole 6-28-081 located in Quito Road and accounts for approximately 48% of the total volume of Sewer Main SSO that occurred during the year.

Table 2. Volume of Sewer Main SSOs

	Volume (gallons)	Percent of Total
Total volume contained and returned to sewer system for treatment	760	14.7 %
Total volume reaching a drainage channel, surface water, or storm drain but not recovered	1,925	37.1 %
Total volume not recovered and not reaching a drainage channel, surface water, or storm drain (everything else)	2,497	48.2 %
Total	5,182	100 %

The history of Sewer Main SSOs from 2005 to 2010 is illustrated in Figure 2. With regard to both volume and number of SSO occurrences, the 2010 numbers are lower than in previous years. For this year's report a Running 3-year Volume Average trend line was introduced to show the general downward trend that has been occurring and to dampen any large variations that may occur.

Figure 2. Sewer Main SSO Occurrence and Volume History



Cause of Sewer Main SSOs

The predominant cause of SSOs experienced during 2010 was root intrusion as illustrated in Table 3. The two largest SSOs of 2,500 and 1,200 gallons were caused by a hydraulic deficiency (high inflow and infiltration) in the system and grease/soap blockage, respectively.

Table 3. Causes of Sewer Main SSOs

Cause of SSO	Number	Percent of Total
Blockage:		
Roots	6	50.0 %
Grease/Soap	3	25.0 %
Debris (paper/rags)	1	8.3 %
Other	0	0 %
Subtotal Blockages	10	83.3 %
Other Causes:		
Hydraulic Deficiency	1	8.3 %
Other (Landslide)	1	8.3 %
Subtotal Other Causes	2	16.7 %
TOTAL	12	100 %

Location of Sewer Main SSOs

Ten of the twelve (83.3%) Sewer Main SSOs occurred in the Town of Los Gatos. This is somewhat expected as the sewer system within the Town of Los Gatos is generally older than that of the other cities served. There were no locations where a Sewer Main SSO occurred more than once during the reporting period.

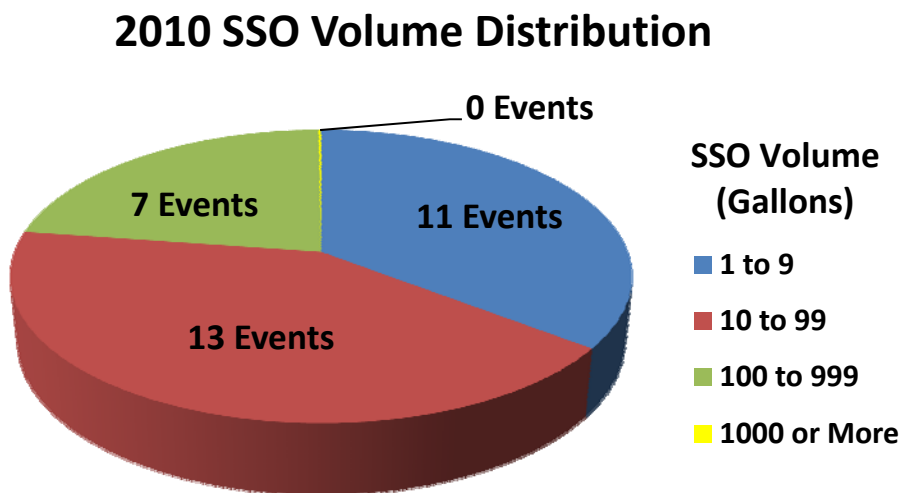
Number, Size, and Trend Sewer Lateral SSOs

The total number of Sewer Lateral SSOs during 2010 was 31, one of which was a Category 1 event. The slight increase in the number and volume of Lateral SSOs were unanticipated and unexplainable. The Lateral SSOs experienced during 2010 are distributed into one of four volume ranges. These are summarized in Table 4 and illustrated in Figure 3. There were 7 private SSOs that are not included among the 31 presented in this report. Note that over 77% of the Lateral SSO events were less than 100 gallons and nearly 50% of these were less than 10 gallons. All seven SSOs reported in the 100 to 999 gallon category were all between 100 and 250 gallons.

Table 4. Number and Size of Lateral SSOs

Size of SSO (gallons)	Number	Percent of Total
Greater than or equal to 1,000	0	0
From 100 to 999	7	22.6 %
From 10 to 99	13	41.9 %
From 1 to 9	11	35.5 %
Total	31	100 %

Figure 3. Sewer Lateral SSO Event Distribution By Volume



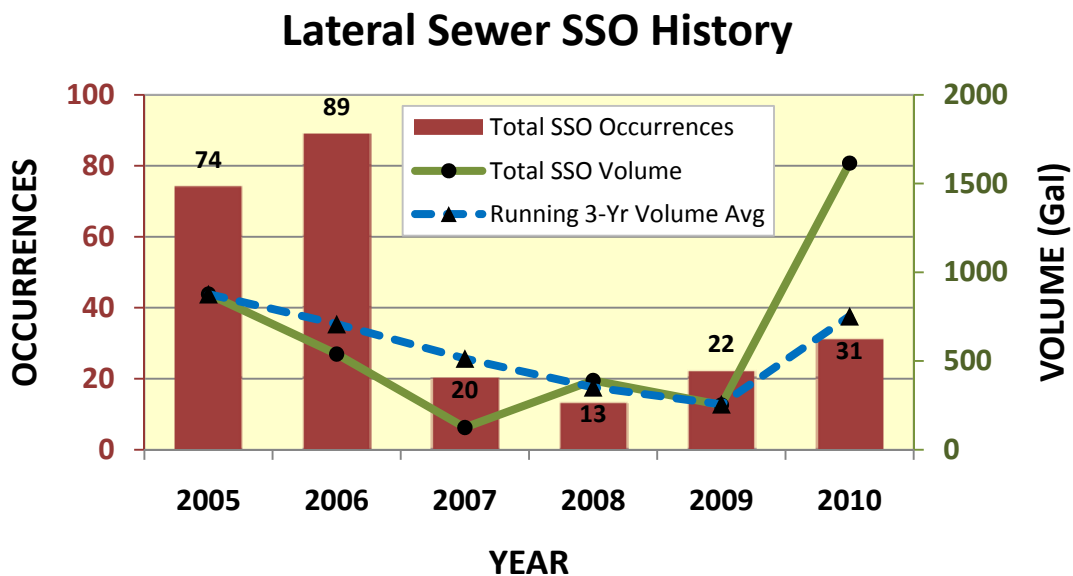
The total volume of Lateral SSOs was estimated to be 1,615 gallons, and only 25 gallons was considered unrecoverable from a storm drain, drainage channel, or waterway. The volume of these spills contained and returned to the system, as well as the volume not recoverable, is shown in Table 5. It is suspected that the larger lateral SSOs (100 to 250 gallon range) were spills that were reported a number of hours after the spill actually began as it would take a day or so to generate this kind of volume from a single family residence.

Table 5. Volume of Lateral SSOs

	Volume (gallons)	Percent of Total
Total volume contained and returned to sewer system for treatment	1,368	84.7 %
Total volume reaching a drainage channel, surface water, or storm drain but not recovered	25	1.6 %
Total volume not recovered but not reaching a drainage channel, surface water, or storm drain (everything else)	222	13.7 %
Total	1,615	100%

The history of Lateral Sewer SSOs from 2005 to 2010 is illustrated in Figure 4. Both volume and number of SSO occurrences in 2010 have increased as compared to the last few years, especially in terms of volume. There is no verifiable reason for this increase in volume except to speculate that the calls for service were made long after the spill event may have started, resulting in larger SSO volumes. As with the Sewer Main SSOs, a Running 3-year Volume Average trend line was introduced for the Lateral SSO data to show the general downward trend since 2005.

Figure 4. Sewer Lateral SSO Occurrence and Volume History



Cause of Lateral SSOs

Accounting for nearly 65% of the Sewer Lateral SSOs during 2010, the predominant cause was root intrusion. Other contributors were debris (paper rags) and maintenance operations (toilet burping), amounting to 16% and 13%, respectively. The distribution of Lateral SSOs by cause is shown in Table 6.

Table 6. Causes of Sewer Lateral SSOs

Cause of SSO	Number	Percent of Total
Blockage:		
Roots	20	64.5 %
Grease/Soap	2	6.5 %
Debris (paper & rags)	5	16.1 %
Subtotal for Blockages	27	87.1 %
Other Causes:		
Structural Deficiency	0	0 %
Maintenance Operation	4	12.9 %
Subtotal for Other Causes	4	12.9 %
TOTAL	31	100 %

Location of Sewer Lateral SSOs

Fifteen of the thirty one (48%) Lateral Sewer SSOs occurred in the Town of Los Gatos, followed by Cambell and Saratoga, with eight and five SSOs, respectively.

As previously mentioned the sewer system in the Town of Los Gatos is generally older than that of the other cities and has a greater concentration of trees within its town limits. There were no location where a Lateral SSO occurred more than once during the reporting period.

Sewer System Management Plan (SSMP)

The District has made a number of significant revisions to the previous SSMP and will be requesting the District Board to adopt the current version in March 2011. The Annual SSMP Audit for 2010 is provided as Attachment 1 to this Report and will discuss the revisions made.

Certification

I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,



Edward H. Oyama, P.E.
Director of Engineering and Operations
West Valley Sanitation District