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Phil Scott  
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In reply, please refer to our

File No. 1580.1

May 4, 2018

Claudia Villacorta  
California Regional Water Quality Control Board, San Francisco Bay Region  
1515 Clay Street, Suite 1400  
Oakland, CA 94612

**Subject: Annual Report of Sanitary Sewer Overflows and SSMP Review Calendar Year 2017**

Dear Ms. Villacorta,

The purpose of this document is to report the Sanitary Sewer Overflows (SSOs) that occurred in the West Bay Sanitary District's sanitary sewer system during the period January 1, 2017 through December 31, 2017. This report is submitted pursuant to the requirements of Section D-Provisions of the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems and includes the SSO classifications from the revised MRP that went into effect September 9, 2013.

The West Bay Sanitary District provides wastewater collection and transport services to approximately 55,000 residential, commercial and industrial establishments in a 13 square mile area in southeast San Mateo County. The District maintains approximately 220 miles of sanitary sewer pipeline varying in size from 2 inch to 54 inch and 12 raw sewage Lift & Pump stations (Includes the Flow Equalization Facility). The service area includes the City of Menlo Park and portions of Redwood City, Atherton, Portola Valley, Woodside, East Palo Alto and unincorporated areas of San Mateo and Santa Clara Counties.

The District also provides Collection System Services to two other agencies since 2015; the Town of Woodside, which has approximately 4-miles of pipe, and the Town of Los Altos Hills has approximately 54 miles of pipe.

**SSO's**

The total number of SSOs for the reporting period was 5. Causation and mitigation of each SSO are noted on page 3 of this report. SSOs are summarized by size in Table 1.

**Table 1. Number of SSOs**

Size of SSO (gallons)	Number	Percent of Total
Greater than or equal to 1,000	1	20%
From 100 to 999	2	40%
From 10 to 99	1	20%
Less than 10 [can include in line above]	1	20%
[Public portion of lateral (if applicable)]	N/A	N/A
<b>Total</b>	<b>5</b>	<b>100 %</b>

\* Category Type-II SSO

The total volume released is estimated to be 47,312 gallons. The volume of spills contained and returned to the sewer system, as well as the volume reaching waters of the State are shown in Table 2.

**Table 2. Volume of SSOs**

	<i>Volume (gallons) 2016</i>	<i>Volume (gallons) 2017</i>	<i>Percent of Total 2017</i>
Total volume contained and returned to sewer system for treatment	976.5	2,081	4.4%
Total volume reaching waters of the State	0	45,220	95.6%
Total volume not contained but not reaching waters of the State (everything else)	356.25	0	0%
<b>Total</b>	<b>1333</b>	<b>47,312</b>	<b>100%</b>

The District had 3 -Category 3 type SSO's. This report does not include SSOs that occurred within the West Bay Sanitary District jurisdiction that were caused by conditions in privately-owned laterals on private property. The property owners are responsible for the condition and the operation of the sewer service laterals, up to the connection to the public sewer main.

The predominant cause of SSOs during the period of this report was roots. The distribution of SSOs by cause is shown on Table 3.

**Table 3. Cause of SSO**

<b>Cause of SSO</b>	<b>Number</b>	<b>Percent of Total</b>
Blockage:		
Roots	2	40%
Grease		
Debris		
Debris from Laterals		
Vandalism	1	20%
Animal Carcass		
Construction Debris		
Multiple Causes		
<b>Subtotal for Blockage</b>		
Infrastructure Failure		
Inflow & Infiltration		
Electrical Power Failure		
Flow Capacity Deficiency		
Natural Disaster		
Bypass		
Cause Unknown		
Other	2	40%
<b>Total</b>	<b>5</b>	<b>100%</b>

Those sections of pipeline where overflows have occurred are CCTV'd within two working days, and fully assessed within 7-days of the SSO to determine the pipeline's condition. This measure ensures that maintenance cleaning processes are effective or if alternative measures should be implemented to prevent a repeat SSO. Those sections of mainlines (where an SSO has occurred) that have been repaired with a pipe patch or point repair for the line segment, with no other deformities, shall go to an adjusted preventative maintenance schedule based on pipe diameter (Noted below). However, those sections of mainline 8" inches and less shall remain on a 12 month preventative maintenance schedule.

Pipe Size	Cleaning Schedule
<10"	12 Month Cleaning Interval
12" to 21"	36 Month Cleaning Interval
24" to 54"	60 Month Cleaning Interval

Those mainline segments of the collection system experiencing an SSO shall have an assessment completed within 7 days and, mainline segments that do not require a repair shall be placed on the High Frequency (HF) cleaning schedule. If the section of mainline that overflowed requires a minor repair by either pipe patch or open trench repair the District goal is to complete the work within 30 days or place it on a future CIP schedule.

The status of the 5 spills for 2017 are as follows; 1 – Cross-bore repair completed, 1- Point repair, 1 – Cyber vandalism, corrected and secured, 1 – Placed on High Frequency cleaning and put on future CIP list, 1 – Contractor Error – held meeting with contractor,

**Root Control**

Tree root related blockages are a significant area of concern related to future SSOs. In 2010, the District implemented a Root Foaming program to further address areas with known root blockages in three phases. Approximately 77,000 linear feet of sewer line was treated at that time (Phase-1); in 2011 the District treated another 108,706 linear feet (Phase-2) and in 2012 the District treated approximately 110,000 linear feet (Phase-3) and re-treated the Phase 1 area. In 2013, Phase 2 was retreated along with some miscellaneous pipe segments referred to as Phase 1 for a total of 105,000 linear feet in Phase 1. In 2014 the District implemented Phase-3 and treated 145,000 linear feet. This has resulted in a significant reduction of SSO's in the application areas. In 2015, the District treated 155,400 linear feet and had one root related blockage. In 2016, the District treated 104,614 linear feet and had four root related blockages. In 2017, the District treated 126,759 linear feet and had two root related blockages. The District currently "Root Foams" approximately 105,000 – 125,000 linear feet annually. With the implementation of the Root Foaming Program in 2010, the District continues to see a reduction in root related SSO's. Root Control combined with additional maintenance improvements have resulted in a 90.5% reduction in SSO's since 2010.

**FOG**

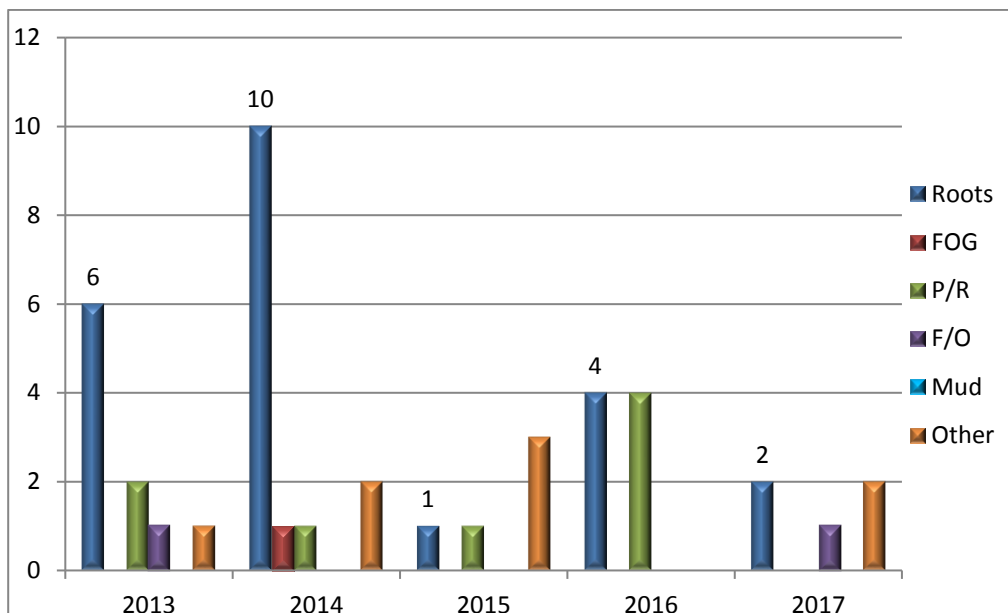
There have been no grease related blockages from food preparation (commercial) facilities in the last several years. This is due in large part to Preventive Maintenance, Source Control activities, cooperation from the San Mateo County Environmental Health Department and the City of Menlo Park's Code Enforcement Division. Also, the District did not have any residential grease-related overflows in 2017 and continues to provide outreach material to residents where grease & non-flushable wipe observations are reported and continues to provide outreach materials my mailers and on the District's website.

**Blockage by Debris Type**

The chart below lists blockages by debris type..

	Roots	FOG	P/R	F/O	Mud	Other	SSO TTL
2013	6	0	2	1	0	1	10
2014	10	1	1	0	0	2	14
2015	1	0	1	0	0	3	5
2016	4	0	4	0	0	0	8
2017	2	0	0	1	0	2	5

The graph below shows overall debris type SSO trends.



With the implementation of the Root Foaming Program in 2010 there has been a drastic reduction in the number of root related blockages.

Staff is closely reviewing and updating the Operation and Maintenance activities in the SSMP to identify Best Management Practices to revise or implement to continue a downward trend in future years.

**SMART Covers**

During fiscal year 2017/2018, the District added two more Smart Covers to its inventory for a total of 35-Smart Covers to monitor flow levels within the collection system that are located in or near Environmentally Sensitive Areas with a high degree of consequence to an SSO.

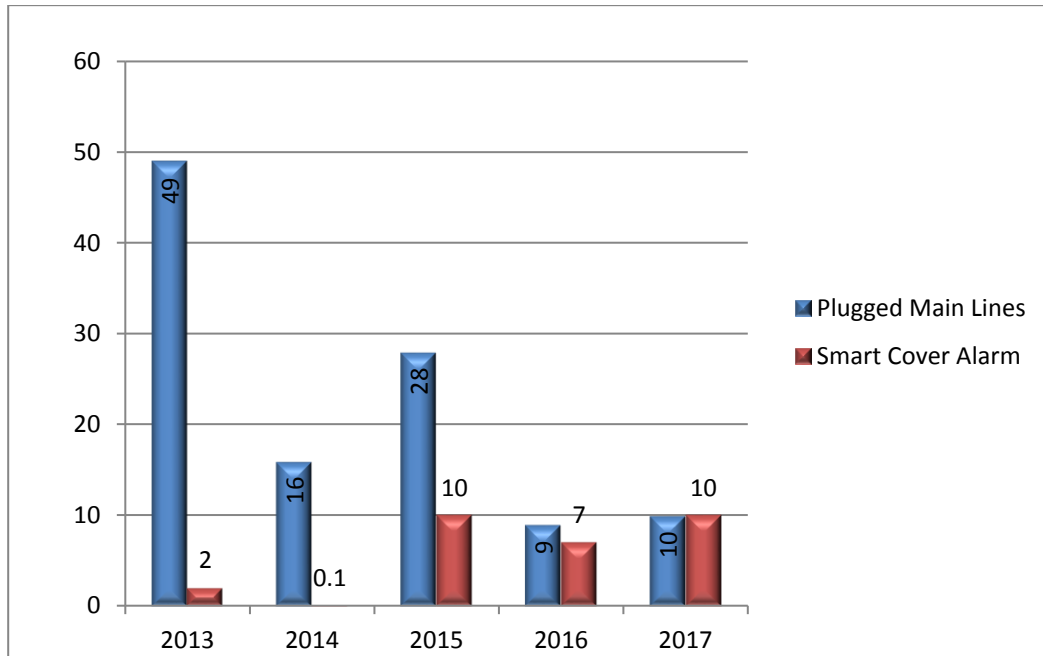
These Smart Covers have an electronics package attached to the underside of a normal manhole cover. When sewage levels rise beyond normal levels or if the manhole cover is opened, alarms are generated and are sent to WBSD personnel’s cell phones and or pagers (typically within 30 seconds). In all instances of alarm, employees were able to respond quickly and avert a potential spill. These units are located in easements and in sections of mainline which could impact Waters of the United States.

To date these devices have prevented thirty-five potential sanitary sewer overflows. Due to the dramatic decrease in the number of SSO’s over the past nine years, the implementation of a formal “Root Control Foaming” program, the continued installation of Smart Cover Monitoring equipment and the revamping of

the Maintenance Schedule programs, the District has observed less than 1-SSO in the last 7 years in the Ladera Neighborhood which typically had 5 to 10 SSO's per year.

The District plans to purchase 2 more Smart Cover units to install in other areas in fiscal 2018/2019.

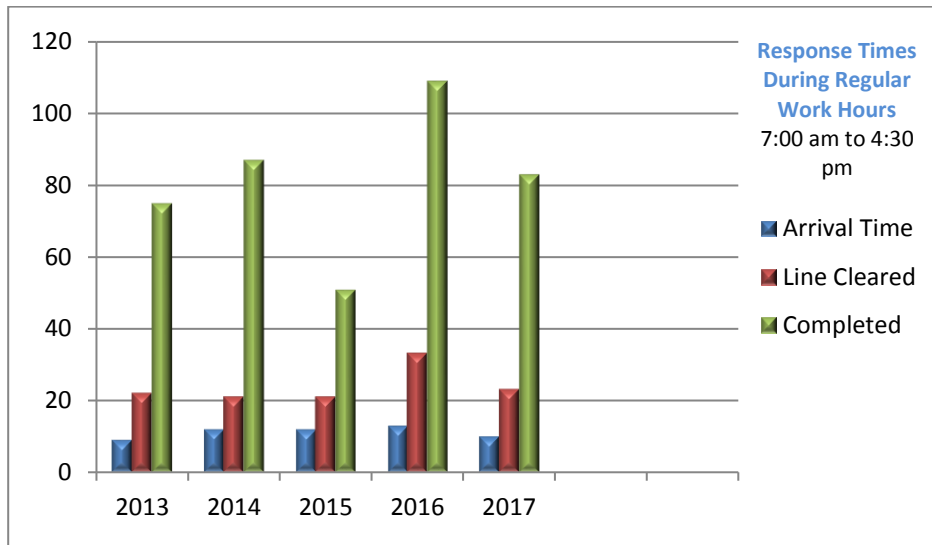
The chart below shows the number of overflows prevented with the implementation of the SMART covers vs. Staff finding manholes holding during scheduled and un-scheduled maintenance operations.



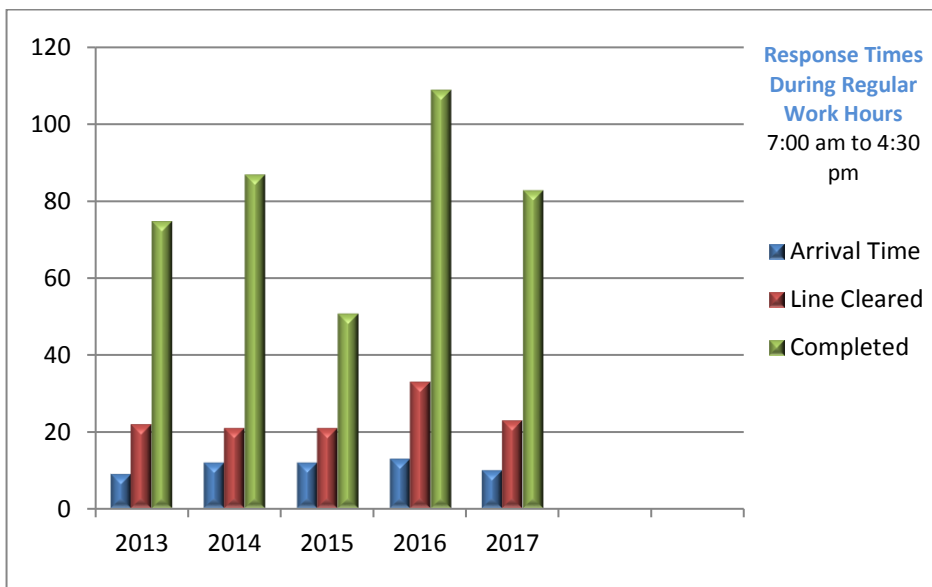
**Response Time**

The District's response time to after hour SSO's in calendar year 2010 was approximately 50 minutes, the On-call employee would get the call , drive directly to work, pick up the emergency response vehicle and drive to the site. This process did not leave enough time to call in extra resources and perform reporting in a timely manner for mitigating and reporting a Category-1 SSO. In 2011, the District Manager implemented policy for the On-call person to take the Emergency Response Vehicle home and drive directly to the site when called out. This new procedure reduced the after hour call out response time by 54% when compared with 2010 response times. The goal of the District is to be onsite within 45 minutes of being notified of an SSO (Timeframes are in minutes).

The average response times during normal work hours for 2017 were: Arrival 10-minutes, Line Cleared 23-minutes and the job completed (including clean up) within 83-minutes.



The average response times for after-hours service were: Arrival 32 minutes, line cleared 40 minutes and the job completed in 168 minutes.

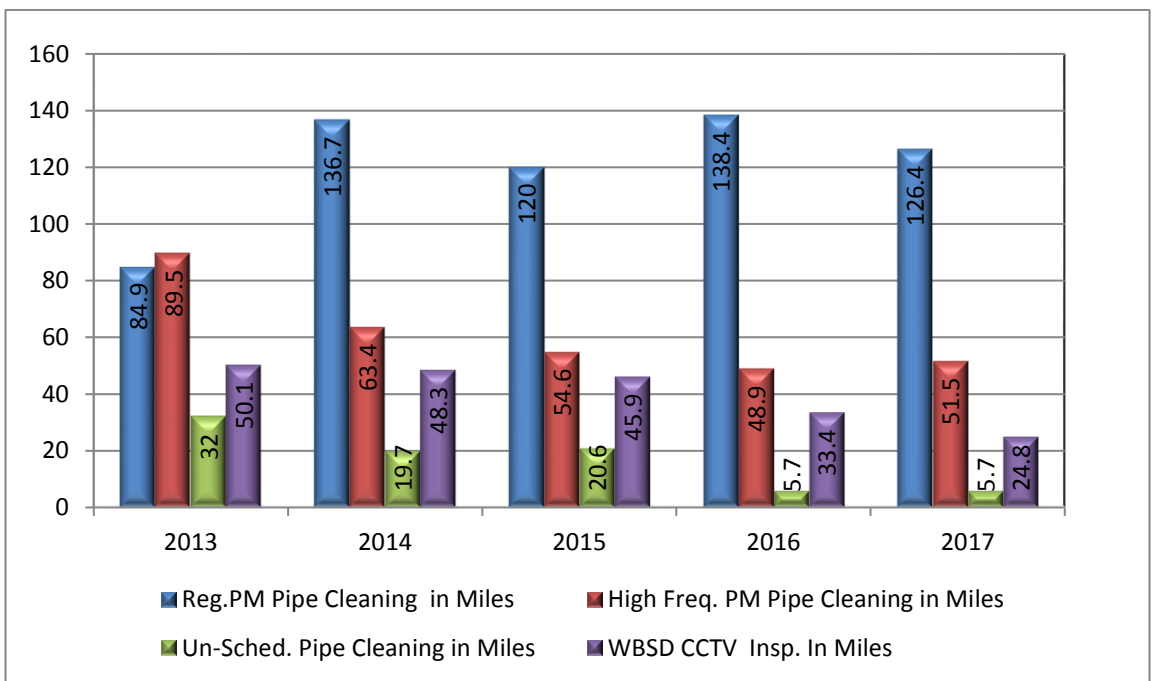


**Force Main Inspection**

The District has 12-Row Sewage Lift and Pump Stations; this includes our Flow Equalization Facility (FEF). While voluntarily compiling the data for the State Water Board’s Pre-Inspection Questionnaire (as recommended during our 5-year audit in 2012) we confirmed we needed to implement a Force Main Inspection Program. Generally two pump stations and their force mains will be inspected on an annual basis; the type of inspection may vary from station to station. In 2013 the 30” Flow Equalization Pump Station Force Main was inspected and appears in good condition In 2016 the District redirected flow from the Corte Madera Lift Station to a newly constructed “Sausal Vista Lift Station” with a new 1-mile long force main with By-Pass valving”, eliminating the Corte Madera Lift Station from inventory.

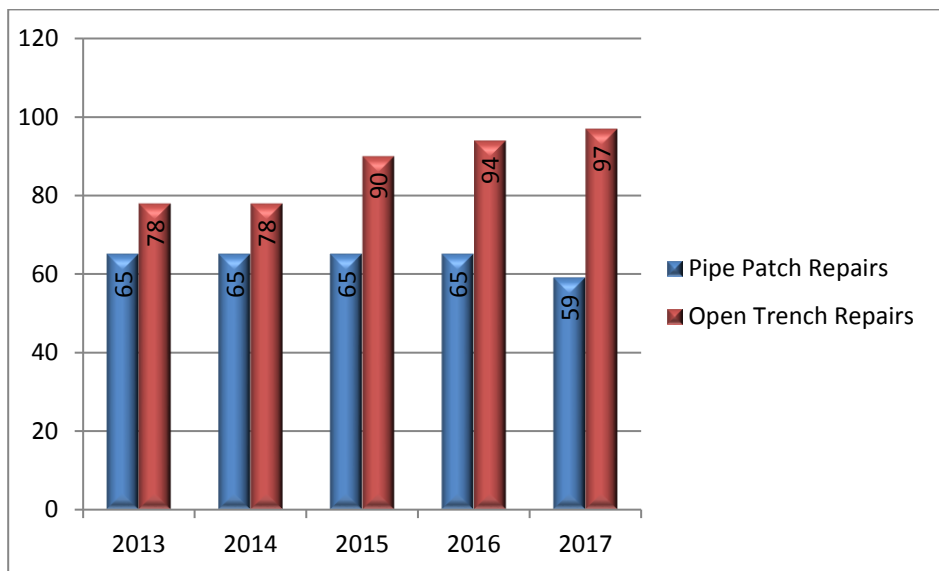
**O & M Statistics** Additional information identified in the 5-year audit was to include the Annual Operation and Maintenance Statistics performed during the year and to log the data in miles completed within the Annual SSO Report and Audit.

The Annual Operations and Maintenance (O & M) statistics are listed in separate categories, Pipe Maintenance (includes CCTV operations), Pipe Repair and Pump Station Maintenance. The chart below displays O & M PM line cleaning, High Frequency line cleaning and CCTV operations in miles of pipe. We expect that as we continue to repair and replace pipeline that the High Frequency Line Cleaning should trend downward each year.



**Pipe Patch Program**

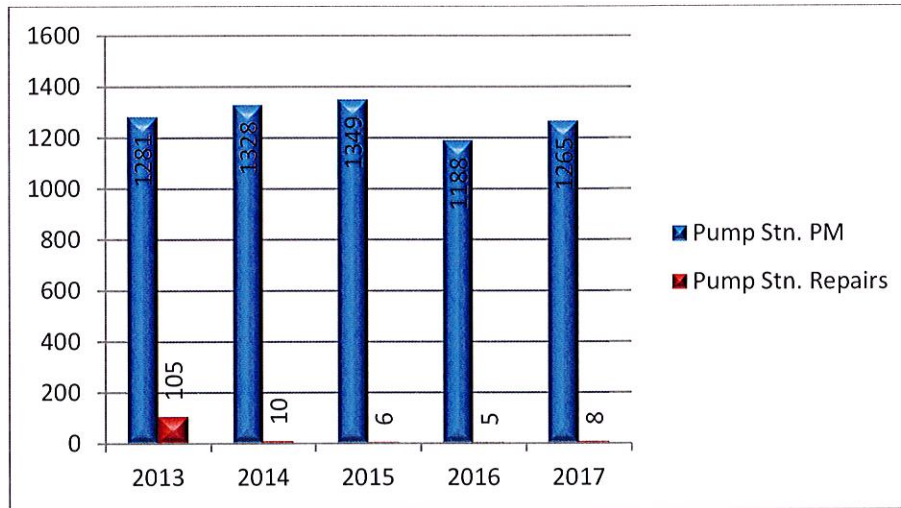
In 2011 the District implemented a non-intrusive pipeline repair program or “Pipe Patch Program” The number of rehabilitation repairs for open trench and pipe patch repairs are shown in the chart below.



### Pump Station Maintenance

With the removal of the Corte Madera Lift Station in 2016 the District maintains; 12-Row Sewage Pump & Lift Stations, 28-Septic Tank Effluent Pump stations (STEP) and -Grinder Pump Stations. The STEP and Grinder Stations are located in the District's On-Site Wastewater Disposal Zone referred to as the "Zone" located in the Portola Valley; the Zone was created in 1987 to provide residences with an alternative means to sewer their property when their existing septic system(s) failed. The RWQCB requires the District maintain these systems.

The number of PM's performed on the 12-Row Sewage pumping facilities is shown in the chart below. The goal is to have as few unplanned pump station repairs as possible and perform all maintenance by "predictive or preventative" maintenance measures.



### Annual SSMP Review

The 2017 SSMP review went through it's second 5-year audit, and had minor language changes and an updated Revision Log and date changes. The SSMP was presented to and approved by the Board of Directors on August 23rd, 2017.

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.

Very truly yours,

West Bay Sanitary District

  
Phil Scott  
District Manager  
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