

# Appendix F

SSMP Audit

This page intentionally blank

**Sewer System Management Plan  
2018-2019 Audit Report**  
Adapted from format developed by BACWA

<b>Name of agency</b>	<i>Las Gallinas Valley Sanitary District</i>
<b>Date of audit</b>	<i>April 24, 2020 [Pre-audit conference April 6, 2020]</i>
<b>Name of auditors</b>	<i>Ray Goebel, P.E. (EOA, Inc.) Greg Pease (LGVSD Collection System &amp; Safety Manager)</i>
<b>System Overview</b>	
<b>LF of gravity sewer mains</b>	<i>554,400 LF (105 miles)</i>
<b>LF of District force mains</b>	<i>35,500 LF (6.72 miles)**</i>
<b>Total LF of all District sewer lines</b>	<i>589,000 LF (111.7 miles**)</i>
<b>Number of pump stations</b>	<i>28</i>
<b>LF of private sewer mains, excl. laterals</b>	<i>37,000 LF (7 miles)*</i>
<b>LF of private sewer laterals</b>	<i>Est. 528,000 LF (100 miles)*</i>
<b>Population served</b>	<i>~32,000</i>
<b>Current average monthly single family residential sewer rate</b>	<i>\$77.25</i>

\* Source: SSMP Capacity Assessment, Nute Engr., September 2008  
\*\* Value corrected on 3/11/11

This audit includes information regarding the status of the District’s SSMP and its implementation for calendar years 2018 and 2019. Some information from early 2020 is included. Annual SSO statistics through calendar year 2019 are presented in Table 1, with selected statistics also shown graphically in Figure 1. Comments are indicated in italics. Where applicable, action items are indicated in italics and underline. The order of headings below is based on Statewide Order 2006-003-DWQ, which in some cases differ from the order in the District’s SSMP.

**I. GOALS**

1. Are the goals stated in the SSMP still appropriate and accurate? (YES) / NO  
(check one)
2. If you answered NO to question 1, describe content and schedule for updates, or provide additional comments for YES response.

**II. ORGANIZATION**

REFERENCE MATERIAL

- **Organization chart**
- **Phone list**

3. Is the SSMP up-to-date with agency organization and staffing contact information? (YES) / NO

4. If you answered NO to question 3, describe content and schedule for updates, or provide additional comments for YES response.

*The org chart will be updated as part of the May 2020 update. A current version is also maintained on the District's web site. District administration maintains a current contact list for all employees, and emergency contact information for SSOs can be quickly accessed from the web site's home page on. The District's Contingency Plan also has a listing of emergency contact numbers. The District added two Skilled Maintenance Worker positions to its staff in 2019. One position has been filled; recruiting for the second is ongoing. The workers are supervised by the Collection System/Safety Manager and provide services to both the Treatment Plant and Collection Systems.*

### III. LEGAL AUTHORITY

#### REFERENCE MATERIAL

- **Ordinances**
- **Enforcement actions**

5. Does the SSMP contain up-to-date information about your agency's legal authority? (YES) NO
6. Does your agency have sufficient legal authority to control sewer use and maintenance? (YES) NO
7. If you answered NO to questions 11 and/or 12, describe content and schedule for necessary changes, or provide additional comments for YES response.

*In 2010, the District completed the compilation and consolidation of its (then) 149 ordinances into a new Ordinance Code. The August 2011 SSMP update added a column that cross-references the specific Ordinance Code sections to SSMP Table 5-1, Documentation of Legal Authority. The October 2013 SSMP update added information on Ordinance #153 (Ord. Code Title 2, Chapter 5) adopted in March 2012. This ordinance created the District's Sewer Lateral Assistance Program. The May 2020 update will add information on Sewer Lateral Ordinance #180 (Ord. Code, Title 2, Chapter 9), adopted in November 2019. The Ordinance is also available on the District web site.*

*Sub-headings in Table 5-1 of the SSMP conform to the BACWA/Region 2 SSMP Guidance Document. Although all of the legal authority items required by Statewide Order 2006-003-DWQ are included in the Table, the table could be re-arranged and subheadings revised so as to conform more closely to the Statewide Order.*

### IV. OPERATIONS AND MAINTENANCE PROGRAM

#### a. COLLECTION SYSTEM MAPS

#### REFERENCE MATERIAL

- **Summary of information included in mapping system**

8. Does the SSMP contain up-to-date information about your agency's maps? **YES**/ NO

9. Are your agency's collection system maps complete, up-to-date, and sufficiently detailed? **YES**/ NO

10. If you answered NO to questions 14 and/or 15, describe content and schedule for necessary changes, or provide additional comments for YES response.

*In 2011, the District completed development of a GIS database/mapping system for the collection system. In 2012, work was completed on reconciling data in this system with the older CAD-based map system database and the District's OASIS computerized maintenance management system (CMMS), which was used to track all maintenance activities. The District has now uses a new, more powerful Asset Management System (Cityworks AMS), which is linked to the GIS system. The GIS system is now the basis for collection system maps carried in District vehicles, and all routine revisions to system maps are made via the GIS system. The CAD-based maps are still used to generate CIP project drawings, and affected line segments for those projects must be checked against the GIS system maps and updated if necessary. Maps are now available to field crews in electronic form, using tablet computers.*

**b. RESOURCES AND BUDGET**

REFERENCE MATERIAL

- **Current Capital Improvement Plan (CIP)**
- **Current operating budget**

11. Does the SSMP contain up-to-date information about your agency's resources and budget? **YES**/ NO

12. Are your agency's resources and budget sufficient to support effective sewer system management? **YES**/ NO

13. Do your agency's planning efforts support long-term goals? **YES**/ NO

14. If you answered NO to questions 17, 18, and/or 19, describe content and schedule for necessary changes, or provide additional comments for YES response.

*Information on current and future years' budgets are posted on the District web site at <http://www.lgvsd.org/document-library/finance-and-budget/>. SSMP Table 8-1 has the original Engineer's estimates for the proposed capacity-related projects. Table 8.2 shows the status of various projects as of the end of 2019. Certain projects on that listing have been re-prioritized or delayed for various reasons, but funding generally carries over until the project is implemented. In 2019, the District embarked upon a three-year Integrated Master Plan, which will create road map for a new multi-year CIP Program. As part of that process, the District may re-evaluate and/or re-prioritize some of the projects listed in Table 8.1 based on new information or evolving strategies.*

**c. PREVENTIVE OPERATION AND MAINTENANCE**

REFERENCE MATERIAL

- **Cleaning schedules**
- **List or map of hotspots**
- **PMs**
- **Incidence Reports**

15. Does the SSMP contain up-to-date information about your agency's preventive maintenance activities? **YES / NO**

16. Considering the information in Tables 1 – 3, are your agency's preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages? **YES / NO**

If you answered NO to questions 22 and/or 23, describe content and schedule for necessary improvements or provide additional comments for YES.

*The District attributes its relatively low rate and volume of SSOs to an aggressive sewer main CCTV inspection and cleaning program. Referring to Table 1 of this audit, the District has maintained these activities at a high rate over many years. Priorities may shift somewhat from year to year (e.g. emphasis on cleaning vs CCTV inspections), but generally meet or exceed performance goals established in SSMP Section 4.7.*

*The decline in ROOT CT activity evident in Table 1 is the result of using new hydraulic methods (i.e. high pressure cleaning) for root cutting and removal. Root CT is still used for mains greater than 10-inches, but such lines comprise a relatively small fraction of the overall system. Similarly, use of the small IRO "push cameras" for CCTV has declined because most of this function can now be achieved using the robotic camera.*

*In 2019 the District purchased a new vacuum flusher (VacCon) truck. In 2020, it will take delivery on an additional flusher truck with equipment specifically designed to facilitate cleaning in easements, which sometimes have steep terrain and which are logistically more difficult. (The unique challenges of cleaning sewer lines in easements was a featured a topic of discussion in a BACWA Collection committee meeting).*

*The following is information on recent and current CIP Projects related to infrastructure maintenance:*

- *The \$2.4 million 2016 Main Rehabilitation Project, completed in 2017, replaced 6,870 ft of 8" – 24" mains, ~1800 ft of associated lower laterals, plus 49 manholes. The project included improvements to the Freitas Siphon outlet, a location of historic SSOs.*
- *The \$1.3 million 2018 Sewer Improvements Project, completed in 2019, included rehabilitation of 2,626 LF of sewer mains, 19 manholes and rod holes, and replacement of approximately 24 lower laterals.*
- *The 2020 Sewer Improvements Project, currently in design, will focus on the*

force main (FM) system. The project will include 1) repair or replacement of air relief valves (ARVs,) identified as a key vulnerability of that system, 2) improved mapping of all FMs, and 3) replacement of signage and other system components as needed.

**d. SCHEDULED INSPECTIONS AND CONDITION ASSESSMENT**

REFERENCE MATERIAL

- **Inspection reports**
- **Infiltration and Inflow (I/I) monitoring studies and reports**
- **Pipe and manhole condition data**

17. Does the SSMP contain up-to-date information about your agency’s inspections and condition assessment? YES / NO

18. Are your agency’s scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies? YES / NO

19. If you answered NO to questions 24 and/or 25, describe content and schedule for necessary changes, or provide additional comments for YES.

*Information from inspections is retained in hard copy reports, and was historically also maintained in the OASIS CMMS and the “Areas of Concern” spreadsheet maintained by the Collections Manager. That information is in the process of being integrated into Cityworks, using a map-based graphical interface (Collection System Problem Spot Map), an example of which included in Appendix E. Although the “Areas of Concern” spreadsheet is being phased out, an example is still included in the SSMP Appendix E.*

*CCTV inspections (ITV) were scaled back in 2018-19 as the District focused on accelerated cleaning to fully populate the Cityworks AMS with cleaning data and frequencies. CCTV inspections resumed at more-or-less historic levels starting in late 2019.*

*Root CT and IRO footages were not tracked in 2018-29, as the footages were small, as tes equipment being replaced by other methods.*

*Smoke testing will resume in summer of 2020 with an expected 50,000-100,000 LF of lines to be tested. The focus will be on low lying areas of the District that are know sources of inflow during storm events based on pump station flow data.*

*In addition to the maintenance footages listed in Table 1, in 2019 the District contacted with Miksis Services Inc to perform cleaning, CCTV inspections, and assessment of five main line undercrossings of highway US101. The inspections revealed several structural deficiencies, some of which were addressed through “spot repairs”. Others will require capital projects (i.e., installation of CIPP-type liner) to fully address. A relining of the Marinwood line undercrossing was completed in 2019.*

**Table 1. Annual Preventive Maintenance Activities Summary**

Maintenance activities (lineal ft/yr)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
ITV (Camera truck)	180,115	132,539	84,343	62,396	195,816	152,299	84,326	70,046	169,111	143,501	94,911	2,816	34,840
CJET (Flushing with camera truck)	199,854	221,987	230,971	274,221	210,158	232,761	242,223	203,364	219,583	249,475	179,853	200,609	136,952
CJET2 or CLEAN (Flushing with flusher truck)	142,942	114,539	97,508	97,665	90,820	94,603	104,553	113,909	107,986	122,345	89,952	202,500	228,494
ROOTCT (Rodding)	56,170	73,884	78,080	68,103	72,718	70,283	67,311	60,607	68,231	76,703	72,728	27,683	*
IRO (TVing with push camera)	52,842	54,281	47,225	33,459	27,039	11,994	7,194	4,723	8,298	5,632	7,545	2,456	*
SMOKE (Smoke testing)	85,019	0*	80,305	65,757	0	0	15,990	21,941	12,607	50,000	0	0	0
IAG (Above-ground inspection)								209	3,665	5,375	5,268	864	

\* Footages in 2019 were low and not tracked in Cityworks as this equipment is being phased out in favor of other methods.

**e. CONTINGENCY EQUIPMENT AND REPLACEMENT INVENTORIES**

REFERENCE MATERIAL

- **Funds spent on equipment and materials**
- **Equipment and parts inventory**

20. Does the SSMP contain up-to-date information about equipment and replacement inventories?  YES /  NO

21. Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?  YES /  NO

22. If you answered NO to questions 27 and/or 28, describe content and schedule for necessary arrangements, or provide additional comments for YES response.

*A detailed inventory of emergency equipment is maintained in the District's NPDES Contingency Plan, which is updated annually.*

**f. TRAINING**

REFERENCE MATERIAL

- **Employee training records**

23. Does the SSMP contain up-to-date information about your agency's training expectations and programs?  YES /  NO

24. Do managers believe that their staff is sufficiently trained?  YES /  NO

25. Are staff satisfied with the training opportunities and support offered to them?  YES /  NO

26. If you answered NO to questions 30, 31, and/or 32, describe content and schedule for necessary improvements, or provide additional comments for YES response

*In 2013, the District achieved the goal of cross-training between the Camera Crew and the Maintenance Crew described in earlier audits. The current goal is to continue the process by switching crews at least annually.*

*The District encourages field crew staff to acquire and advance CWEA certification levels. Crew certification information is provided in the SSMP.*

**g. OUTREACH TO PLUMBERS AND BUILDING CONTRACTORS**

REFERENCE MATERIAL

- **Fliers/mailings**
- **Mailing lists**

27. Does the SSMP contain up-to-date information about your agency's outreach to plumbers and building contractors?  YES /  NO

28. Has your agency conducted or participated in any outreach activities to plumbers and building contractors?

**YES** / **NO**

29. If you answered NO to questions 34 and/or 35, describe content and schedule for future activities, or provide additional comments for YES response.

*The District continues to email local plumbers and sewer contractors every year, and issue permits for work performed by plumbers and contractors that could impact District facilities. The number of permits issued over time is shown in Figure 4. The permit process includes inspection by District staff. The mailing list is kept current by adding any plumber or contractor to whom a permit is issued. The number of permits issued peaked in 2015, likely reflecting the impact of the multi-year drought, as tree roots more aggressively invaded sewer lines in search of water. Another factor in year-to-year variability is the City of San Rafael’s street paving schedule. The City has a 5-year moratorium on “trench cuts” following street resurfacing. During that time, the City does not permit trench cuts to be patched, but instead requires curb-to-curb resurfacing for 20-feet on either side of the trench cut. This adds significantly to lateral replacement costs and discourages such replacement during the moratorium period. The City sends a notification letter to residences in advance of resurfacing, which may result in an increase in lateral replacements before, and a decline in replacements during the moratorium period.*



**Figure 1. Number of Permits Issued to Plumbers for Work that Could Impact District Facilities**

## V. DESIGN AND CONSTRUCTION STANDARDS

### REFERENCE MATERIAL

- **Design and construction standards**
- **Ordinances**

30. Does the SSMP contain up-to-date information about your agency’s design and construction standards? YES / NO

31. Are design and construction standards, as well as standards for inspection and testing of new and rehabilitated facilities sufficiently comprehensive and up-to-date? YES / NO

32. If you answered NO to questions 38 and/or 39, describe content and schedule for necessary revisions, or provide additional comments for YES response.

*Construction standards for sewer mains were developed jointly with other Marin Co. collection system agencies and adopted in 2000. The use of uniform County-wide constructions standards has certain advantages, but places constraints on the ease such standards can be revised. Nevertheless, recognizing the need to adopt newer, more effective technologies to control I&I, the District has in recent years incorporated improved designs for pipe-to-manhole connections, manhole cover ring seals, and certain other details into the design of its sewer rehabilitation projects.*

*The District recently teamed with the City of San Rafael to update the standards for sewer laterals. The resulting “Uniform LGVSD-SRSD Standard Specifications for Lateral Sewers” was adopted by the District Board on August 1, 2019. The new standards will be included in Appendix B of the SSMP, which will be widened to include both FOG lateral-related ordinances and other documents*

*The District has a condensed version of its construction standards for distribution to plumbers and contractors who work on private sewer laterals. The standards are also available on the District web site.*

## **VI. OVERFLOW EMERGENCY RESPONSE PLAN**

### REFERENCE MATERIAL

- **Data submitted to CIWQS**
- **Incident Report data**

33. Does the SSMP contain an up-to-date version of your agency’s Overflow Emergency Response Plan? YES / NO

34. Considering the information in Table 1, is the Overflow Emergency Response Plan effective in handling SSOs? YES / NO

35. If you answered NO to questions 5 and/or 6, describe content and schedule for necessary revisions and implementation, or provide additional comments for YES response.

*All emergency response is performed by District staff. The October 2013 SSMP Update included updated information on monitoring, reporting and sampling requirements*

resulting from Order 2013-0058-EXEC (revised MRP). It also included a Monitoring Plan for spills exceeding 50,000 gallons and a revised “SOP for Water Quality Sampling” in Section 3.3 for which minor revisions were made as part of the 2020 update.

In Table 1, the categories for “Number of SSO (by cause) were expanded to include more (but not all) of the “Spill Cause” choices in CIWQS.

See section VIII for a discussion of trends indicated in Table 2 and Figures 2-4.

In January 2015, individual SSO Emergency Response Plans were finalized for 26 of the District’s Pump Stations. Each Plan contains the following sections:

<i>Pump Station Technical Information</i>	<i>Hazards and Cautions</i>
<i>Pump Station Network</i>	<i>Overflow Decision Tree</i>
<i>Overflow Decision Tree Guide</i>	<i>Spill Notification Procedures</i>
<i>Spill Containment</i>	<i>Pump Station Power Map</i>
<i>Pump Station Control System</i>	<i>Lockout/Tagout Procedures</i>
<i>Generator Operation</i>	<i>Contact Information</i>
<i>System Map Pages</i>	

The March 2019 Category 1 SSO warrants review as part of this audit process. The SSO occurred on a frontage road on the west side of US101 immediately before the highway undercrossing, during a very heavy storm that caused high rates of I&I into the system. The event was further attributed to multiple factors, including:

- *An inherently poor communication link between the Treatment Plant control room and the Mulligan Pump Station (located approximately 1 mile downstream from the SSO appearance point), which may have prevented timely information on pump status not being available to Operators.*
- *Absence of backup pumping capacity at Mulligan PS under at the highest flow conditions.*
- *The area where the SSO occurred is a low point on the Mulligan system, making it vulnerable to surcharging of the Mulligan line, which occurred during the event.*

Short and long-term measures to minimize risk of future SSOs at this location include the following:

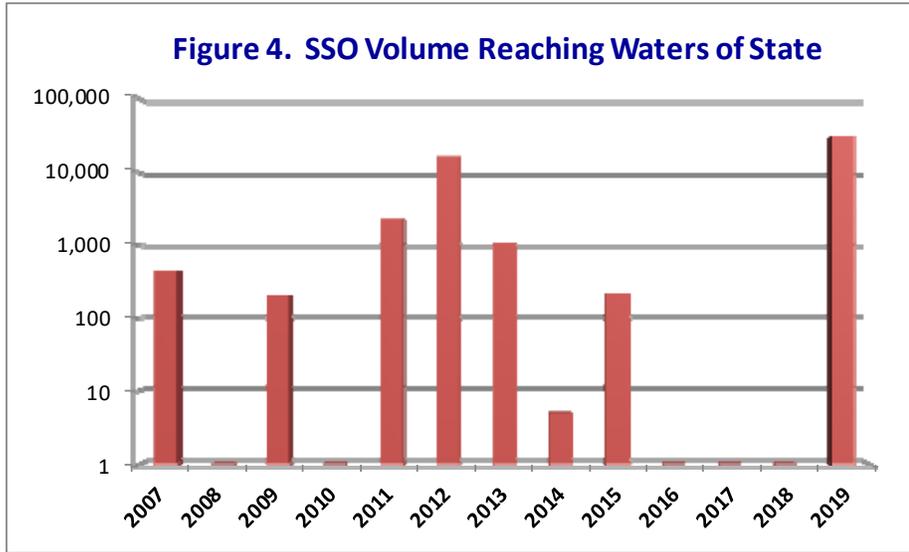
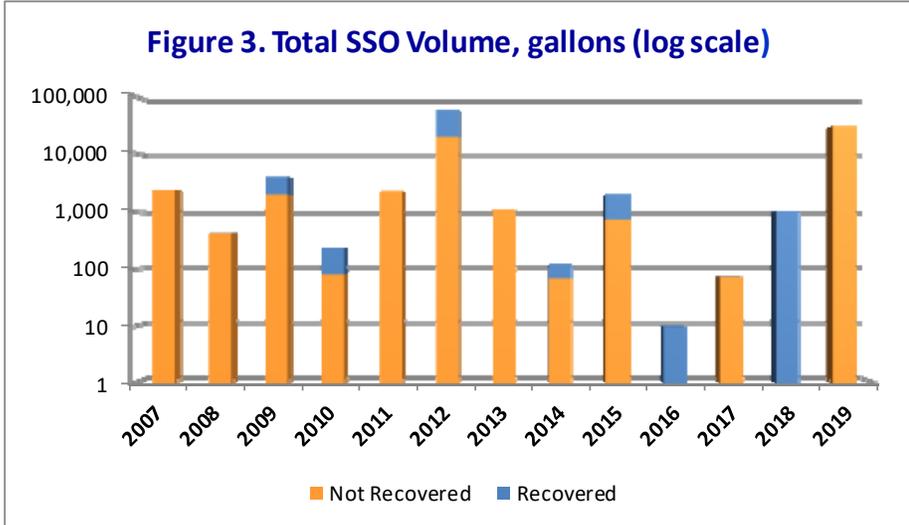
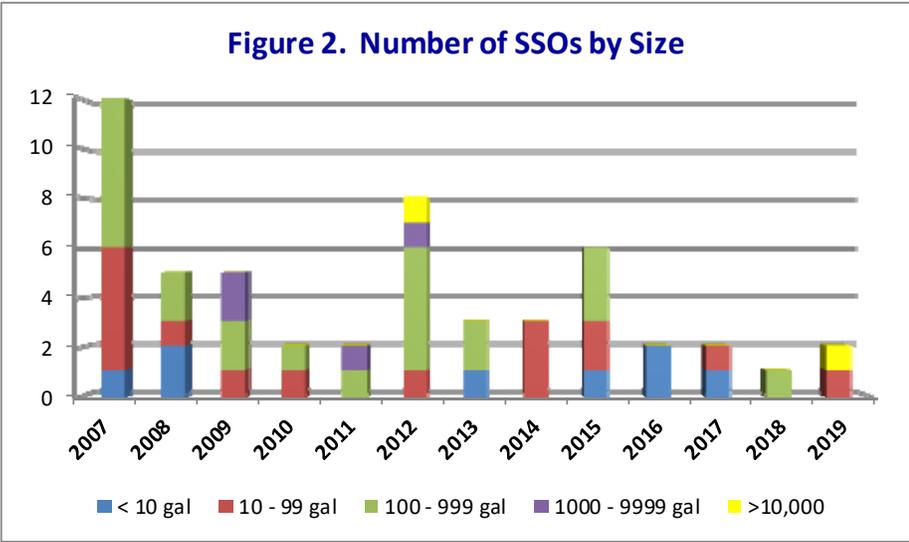
- *An 8-inch “relief” line was installed to a nearby manhole which leads to a different sewershed (Rafael Meadows), removing flow from the Mulligan sewershed under surcharge conditions.*
- *Manual checking of Mulligan Pump Station status will be a standard measure during high flow conditions.*
- *Capacity limitations at the pump station and/or a line segment leading to it will be addressed through a future CIP Project.*
- *Ongoing District efforts to reduce I&I, including the recently adopted Sewer Lateral Ordinance.*
- *The District plans to purchase several “Smart Covers” for manholes, which monitor and transmit surcharging conditions in a manhole. One of these would be installed on the Mulligan line.*

**Table 2. Annual SSO Statistics**

Indicator	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of SSOs (total)	12	5	5	2	2	8	3	3	6	2	2	1	2
Wet season SSOs*	7	2	1	2	1	5	1	2	3	2	1	0	1
Dry season SSOs*	5	3	4	0	1	3	2	1	3	0	1	1	1
Number of SSOs (by volume range)													
< 10 gal	1	2	0	0	0	0	1	0	1	2	1	0	0
10 – 99 gal	5	1	1	1	0	1	0	3	2	0	1	0	1
100 – 999 gal	6	2	2	1	1	5	2	0	3	0	0	1	0
1000 – 9999 gal	0	0	2	0	1	1	0	0	0	0	0	0	0
≥10,000 gal	0	0	0	0	0	1	0	0	0	0	0	0	1
Total SSO Volume, gal (A)	2337	409	3955	225	2220	56190	1073	114	1964	9	69	975	29080
Vol. reaching waters of the State,gal (B)	435	0	200	0	2220	16100	1035	5	210	0	0	0	0
Vol. not contained but not reaching waters of the State, gal (A-B-C)	1,899	400	1713	75	0	2352	38	59	485	0	69	0	0
Vol. recovered, gal (C)	3	9	2042	150	0	37738	0	50	1269	9	0	975	80
Net vol. (total minus recovered, gal) (A-C)	2334	400	1913	75	2220	18452	1073	64	695	0	69	0	29000
Number of SSOs per 100 mile of sewer/year	10.7	4.5	4.5	1.8	1.8	7.2	2.7	2.7	5.4	1.8	1.8	0.9	1.8
Volume of SSOs per 100 mile of sewer/year	2092	366	3541	201	1987	50304	961	102	1758	8.1	62	873	26034
Total Volume conveyed to the plant (mgal)	944	1067	1036	1158	968	1027	849	916	773	990	1130	882	1157
Total volume SSO / Total volume conveyed, gallons / million gallons	2.35	0.383	3.82	0.19	2.29	54.7	1.26	0.124	1.64	0.009	0.061	1.11	25.1
Number of SSO (by cause)													
Blockages:													
Roots	6	2	1	1	1	2	3	3	2	2	1		
Grease	2			1					3				1
Debris	3	1	1			3							
Debris from Laterals												1	
Debris – Rags (added 2014)									1				

Indicator	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Debris - Construction													
Other (added 2014)													
Multiple causes													
Infrastructure failure,	<b>1</b>	<b>1</b>	<b>3</b>			<b>1</b>					<b>1</b>		
Inflow & Infiltration					<b>1</b>	<b>2</b>							<b>1</b>
Electrical Power Failure		<b>1</b>											
Flow Capacity Deficiency													
Natural Disaster													
Bypass													
Cause Unknown													
Avg. Emergency Response Times, minutes													
Business Hours													
Notification to arrival on site	<b>19.3</b>	<b>5.5</b>	<b>11.8</b>	<b>17</b>	<b>5</b>	<b>8.7</b>	<b>2.5</b>	<b>12.5</b>	<b>16.5</b>	<b>19</b>	<b>8</b>	<b>7</b>	<b>6</b>
Notification to complete clearance	<b>35.7</b>	<b>13</b>	<b>50.4</b>	<b>30</b>	<b>47</b>	<b>51.3</b>	<b>17.5</b>	<b>30</b>	<b>20.5</b>	<b>28</b>	<b>8</b>	<b>8</b>	<b>N/A</b>
Non-business hours													
Notification to arrival on site	<b>28.7</b>	<b>30</b>	<b>N/A</b>	<b>30</b>	<b>45</b>	<b>14</b>	<b>25</b>	<b>60</b>	<b>27</b>	<b>45</b>	<b>46</b>	<b>N/A</b>	<b>0</b>
Notification to complete clearance	<b>202</b>	<b>35</b>	<b>N/A</b>	<b>60</b>	<b>70</b>	<b>25</b>	<b>40</b>	<b>70.5</b>	<b>39</b>	<b>59</b>	<b>66</b>	<b>N/A</b>	<b>274</b>
Number of locations with multiple SSOs	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* Wet season defined as Nov-April, dry season May-Oct. Season does not necessarily reflect conditions at the time of the SSO. For example, in 2007 all but one wet season SSOs occurred during dry conditions.



## VII. FATS, OILS, AND GREASE (FOG) CONTROL PLAN

### REFERENCE MATERIAL

- List or map of FOG sources in service area
- List or map of hotspots
- Cleaning schedules
- Restaurant inspection reports or summaries
- Data submitted to CIWQS
- Service call data

**Table 3. FOG Control Statistics**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Number of SSOs caused by FOG</b>	2	0	0	0	1	0	0	0	3*	0	0	0	1
<b>Number of FOG inspections completed</b>	-	68	24	28	25	63	59	71	82	20	30	28	66

\*Multiple causes- FOG and debris

36. Does the SSMP contain up-to-date information about your agency's FOG control program?

YES / NO

37. Considering the information in Table 2, is the current FOG program effective in documenting and controlling FOG sources?

YES / NO

38. If you answered NO to questions 8 and/or 9, describe content and schedule for necessary changes, or provide additional comments for YES response.

*The SSMP has an example printout from the FOG database used to track FSE inspections and compliance with Program requirements. FOG Program activities are described in the Annual Pollution Prevention Reports.*

*2015 saw an increase in FOG-related SSOs. One site was a newly constructed kitchen at a private facility (Guide Dogs for the Blind) that the Program was unaware of (i.e. had not been permitted or inspected). That facility was added to the FOG "hot spot" list and will be periodically inspected.*

*A second SSO in 2015 occurred as a result of multiple causes, i.e., FOG and debris (mop head). The District does not believe the 2015 increase in FOG-related SSOs reflects a systemic problem, and will continue to conduct cleanings and FOG inspections in accordance with the FOG Program plan.*

*No FOG-related SSOs occurred in 2016, 2017, or 2018. For the 2019 SSO, a grease log found on the site may have been pushed from an upstream lateral. The FOG "hot-spot" list needs to be checked to ensure that all facility names are current.*

## VIII. CAPACITY MANAGEMENT

### REFERENCE MATERIAL

- Capacity assessment reports
- CIP
- SSO data

**Table 4. SSOs Caused by Hydraulic Limitations**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Number of SSOs caused by capacity limitations</b>	0	0	0	0	0	0	0	0	0	0	0	0	0*

\*One of the 2019 SSOs was correctly identified as being caused by Excessive I&I, which also can be viewed as a capacity limitation. See discussion following question 35 above.

39. Does the SSMP contain up-to-date information about your agency's capacity assessment? **YES** / NO

40. Has your agency completed a capacity assessment and identified and addressed any hydraulic deficiencies in the system? **YES** / NO

41. If you answered NO to questions 41 and/or 42, describe content and schedule for necessary activities, or provide additional comments for YES response.

*As indicated in Table 5, the District has very few capacity-related SSOs. Potential hydraulic capacity limitations for a 20-year design storm and a plan for addressing these limitations have been identified in the Capacity Assessment Report and addressed in a CIP schedule. In 2009, the District Board approved a sewer rate increase to provide funding for the Treatment Plant and Collection System CIPs, including the first \$5 million of capacity related CIPs. The 2015 rate increase continued funding for these projects. A number of the capacity-related line segments have already been addressed. The most important remaining capacity-related segment (a main line siphon that was the cause of two SSOs in 2012) is tied to the Duckett Pump Station/Terra Linda project, which has undergone several design iterations and is still not complete because of multiple complicating factors. [Two additional projects address problems associated with the siphon. The Terra Linda-Northgate Relief Sewer project, completed in 2015, reduces flows through the siphon. The Freitas Siphon Outlet Improvements project improved flow conditions on the downstream side of the siphon.] Because of competing needs for other collection system and treatment plant capital improvement projects, the District has had to re-prioritize some of the capacity projects. The Integrated Master Plan effort currently in progress will develop a road map for a new multi-year CIP Program for all District facilities.*

**IX. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS**

42. Does the SSMP contain up-to-date information about your agency's data collection and organization? **YES** / NO

43. Is your agency's data collection and organization sufficient to evaluate the effectiveness of your SSMP? **YES** / NO

44. If you answered NO to questions 44 and/or 45, describe content and schedule for necessary improvements, or provide additional comments for YES response.

*The District believes that the current performance indicators (Table 2, Figures 2-4) and tracking of preventative maintenance activities (Table 2) are sufficient to evaluate effectiveness of the SSMP in minimizing SSOs. The number of SSOs has been relatively low as a result of an aggressive O&M program, although some year-to-year variability is inevitable, and any single SSO can significantly impact certain metrics and trends.*

**X. SSMP AUDITS**

45. Will the SSMP Audit be conducted a minimum of every two years and included in the SSMP?

**YES** / NO

*The audits are conducted every two years in March or April. A copy of this audit will be included in Appendix F of the SSMP.*

**XI. COMMUNICATION PROGRAM**

REFERENCE MATERIAL

- **Mailings and mailing lists**
- **Website**
- **Other communication records such as newspaper ads, site postings, or other outreach**
- **Customer feedback**

46. Does the SSMP contain up-to-date information about your agency’s public outreach activities?

**YES** / NO

47. Does the SSMP contain up-to-date information about your agency’s communications with satellite and tributary agencies?

**YES** / NO

48. Has your agency effectively communicated with the public and other agencies about the SSMP, and addressed feedback?

**YES** / NO

49. If you answered NO to questions 47, 48, and/or 49, describe content and schedule for necessary improvements, or provide additional comments for YES response.

*As part of the communication program, the entire SSMP is posted on the District’s web site ([www.lgvsd.org](http://www.lgvsd.org)), with an invitation for customers to provide feedback. Public outreach activities are described in the SSMP and the District’s Annual Pollution Prevention Program reports. The District also conducts public workshops to solicit public input for proposed changes to sewer rates or the rate structures. The District produces a quarterly newsletter (The Heron) which is mailed to customers in its service area. Both the newsletter and the web site feature outreach information relevant to the SSMP (e.g. proper disposal of wipes and FOG).*

**XII. APPROVAL AND CERTIFICATION**

50. Has the SSMP been updated and recertified in accordance with the requirements of the Statewide Order?

**YES** / NO

*The SSMP was revised in October 2013 and recertified by the District Board in January 2014. Minor updates were made to the document in June 2016 following the 2014-2015 audit. Additional minor changes/updates were made following the 2016-2017 audit. In both cases, because changes were not considered significant, the SSMP was not recertified. Although the May 2020 updates could again be deemed relatively minor, the May 2020 SSMP will be presented to the District Board for recertification.*