

Appendix F

SSMP Audit

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**Sewer System Management Plan
2010 Annual Audit Report**
Adapted from format developed by BACWA

| | |
|---|---|
| Name of agency | <i>Las Gallinas Valley Sanitary District</i> |
| Date of audit | <i>March 11, 2011</i> |
| Name of auditors | <i>Ray Goebel, P.E. (EOA, Inc.) Janice Mandler (LGVSD Collection System & Safety Manager)</i> |
| System Overview | |
| LF of gravity sewer mains | <i>554,400 LF (105 miles)</i> |
| LF of District force mains | <i>35,500 LF (6.72 miles)**</i> |
| Total LF of all District sewer lines | <i>589,900 LF (111.7 miles)**</i> |
| Number of pump stations | <i>28</i> |
| LF of private sewer mains, excl. laterals | <i>37,000 LF (7 miles)*</i> |
| LF of private sewer laterals | <i>Est. 528,000 LF (100 miles)*</i> |
| Population served | <i>~32,000</i> |
| Current average monthly single family residential sewer rate | <i>\$50.65 (\$46.92/EDU + \$3.73/property tax)</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 through the end of CY 2010. Comments are indicated in italics. Recommendations and 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.

Org Chart was recently revised with the filling of the plant manager position and addition of the new grounds maintenance position. Insert revised Org Chart as part of 2010 SSMP update.

III.OVERFLOW EMERGENCY RESPONSE PLAN

REFERENCE MATERIAL

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

Table 1. Annual SSO Statistics

| Indicator | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|--------------|--------------|-------------|-------------|-------------|
| Number of SSOs (total) | 12 | 5 | 5 | 2 | |
| Wet season SSOs* | 7 | 2 | 1 | 2 | |
| Dry season SSOs* | 5 | 3 | 4 | 0 | |
| Number of SSOs (by volume range) | | | | | |
| < 10 gal | 1 | 2 | 0 | 0 | |
| 10 – 99 gal | 5 | 1 | 1 | 1 | |
| 100 – 999 gal | 6 | 2 | 2 | 1 | |
| 1000 – 9999 gal | 0 | 0 | 2 | 0 | |
| ≥10,000 gal | 0 | 0 | 0 | 0 | |
| Total SSO Volume (gal) | 2337 | 409 | 3955 | 225 | |
| Volume reaching waters of the State (gal) | 435 | 0 | 200 | 0 | |
| Volume not contained but not reaching waters of the State (gal) | 1,899 | 400 | 1713 | 75 | |
| Volume recovered (gal) | 3 | 9 | 2042 | 150 | |
| Net volume (total minus recovered, gal) | 2334 | 400 | 1913 | 75 | |
| Number of SSOs per 100 mile of sewer per year* | 10.7 | 4.5 | 3.6 | 1.8 | |
| Volume of SSOs per 100 mile of sewer per year* | 2092 | 366 | 3541 | 201 | |
| Total Volume conveyed to the plant (million gal) | 944 | 1067 | 1036 | 1158 | |
| Total volume SSO / Total volume conveyed, gallons / million gallons | 2.35 | 0.383 | 3.81 | 0.19 | |
| Number of SSO (by cause) | | | | | |
| Blockages: | | | | | |
| Roots | 6 | 2 | 1 | 1 | |
| Grease | 2 | | | 1 | |
| Debris | 3 | 1 | 1 | | |
| Debris from Laterals | | | | | |
| Animal Carcass | | | | | |
| Construction Debris | | | | | |
| Multiple causes | | | | | |
| Infrastructure failure, | 1 | 1 | 3 | | |
| Inflow & Infiltration | | | | | |
| Electrical Power Failure | | 1 | | | |
| Flow Capacity Deficiency | | | | | |
| Natural Disaster | | | | | |
| Bypass | | | | | |
| Cause Unknown | | | | | |
| Average Emergency Response Times, minutes | | | | | |
| Business Hours | | | | | |
| Notification to arrival on site | 19.3 | 5.5 | 11.8 | 17 | |
| Notification to complete clearance | 35.7 | 13 | 50.4 | 30 | |

| | | | | | |
|--|-------|----|-----|----|--|
| Non-business hours | | | | | |
| Notification to arrival on site | 28.7 | 30 | N/A | 30 | |
| Notification to complete clearage | 201.5 | 35 | N/A | 60 | |
| Number of locations with multiple SSOs | 0 | 0 | 0 | 0 | |

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.

* Values for 2007 – 2009 revised on 3/11/11 based on corrected total miles of sewer (111.2 mi).

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

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

7. 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.

SSMP Appendix A was updated in 2010 with revised LGVSD Incident Report form and Emergency Call Out list. Insert reference to July 2009 LGVSD “SOP for Water Quality Sampling for SSOs” into SSMP Section 3.3 (Impact Mitigation and Monitoring) as part of 2011 update.

IV. 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 2. FOG Control Statistics

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|------|------|------|------|------|
| Number of SSOs caused by FOG | 2 | 0 | 0 | 0 | |
| Number of FOG inspections completed | - | 68 | 24 | 28 | |

8. Does the SSMP contain up-to-date information about your agency’s FOG control program? **YES / NO**

9. Considering the information in Table 2, is the current FOG program effective in documenting and controlling FOG sources? **YES / NO**

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

Add or reference the CMSA annual P2 report for additional information on FOG Program activities (record of inspections, etc) as part of 2011 SSMP update.
Also put revised “hot spot” list into Appendix B.

V. LEGAL AUTHORITY

REFERENCE MATERIAL

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

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

12. Does your agency have sufficient legal authority to control sewer use and maintenance? **YES/NO**

13. 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 ordinances into a new Ordinance Code. The underlying legal authority was unchanged by this action. However, SSMP Table 5-1 should be updated with cross-references to the Ordinance Code numbering system. Complete in 2011.

VI. MEASURES AND ACTIVITIES

a. COLLECTION SYSTEM MAPS

REFERENCE MATERIAL

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

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

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

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

Add information regarding the new GIS system as part of 2011 SSMP update. If available, include examples of new map pages generated from GIS system in SSMP Appendix E.

b. RESOURCES AND BUDGET

REFERENCE MATERIAL

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

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

18. Are your agency's resources and budget sufficient to support **YES/NO**

effective sewer system management?

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

20. 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.

Revise CIP section by moving description of specific projects (and costs) to an Appendix, so as to facilitate future updates. Add copies of (or references to) Proposition 218 Rate Increase Budget Spreadsheet (CIP funding), and District's Annual O&M Budget. Complete these as part of 2011 SSMP update

c. PRIORITIZED PREVENTIVE MAINTENANCE

REFERENCE MATERIAL

- **Cleaning schedules**
- **List or map of hotspots**
- **Work orders**
- **Incidence Reports**
- **Customer feedback**

Table 3. Annual Preventive Maintenance Activities

| Maintenance activities (lineal ft/yr) | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------------------------------------|---------|---------|---------|---------|------|
| ITV (Camera truck)* | 180,115 | 132,539 | 84,343 | 62,396 | |
| CJET (Flushing with camera truck) | 199,854 | 221,987 | 230,971 | 274,221 | |
| CJET2 (Flushing with flusher truck) | 142,942 | 114,539 | 97,508 | 97,665 | |
| ROOTCT (Rodding) | 56,170 | 73,884 | 78,080 | 68,103 | |
| IRO (TVing with push camera) | 52,842 | 54,281 | 47,225 | 33,459 | |
| SMOKE (Smoke testing)** | 85,019 | 0* | 80,305 | 65,757 | |

* Second cycled of system-wide CCTV inspections

**5-yr smoke testing cycle completed in 2007. New cycle initiated in 2009

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

22. 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.

d. SCHEDULED INSPECTIONS AND CONDITION ASSESSMENT

REFERENCE MATERIAL

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

23. Does the SSMP contain up-to-date information about your **YES / NO**

agency's inspections and condition assessment?

24. Are your agency's scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies?

YES NO

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

e. CONTINGENCY EQUIPMENT AND REPLACEMENT INVENTORIES

REFERENCE MATERIAL

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

26. Does the SSMP contain up-to-date information about equipment and replacement inventories?

YES NO

27. Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?

YES NO

28. 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**

29. Does the SSMP contain up-to-date information about your agency's training expectations and programs?

YES NO

30. Do supervisors believe that their staff is sufficiently trained?

YES NO

31. Are staff satisfied with the training opportunities and support offered to them?

YES NO

32. 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 2010, District conducted cross-training of Camera and Maintenance Crews.

g. OUTREACH TO PLUMBERS AND BUILDING CONTRACTORS

REFERENCE MATERIAL

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

33. Does the SSMP contain up-to-date information about your

YES NO

agency's outreach to plumbers and building contractors?

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

YES / NO

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

Make minor updates to Plumber Outreach section: indicate that mailings have been conducted annually; include copy of new brochure developed in 2010.

Table 4. Number of Permits Issued to Plumbers for Work that Could Impact District facilities:

| | | | | | |
|-------|---|-------|----|-------|----|
| 2001: | 1 | 2005: | 21 | 2009: | 36 |
| 2002: | 3 | 2006: | 29 | 2010: | 60 |
| 2003: | 4 | 2007: | 38 | 2011: | |
| 2004: | 9 | 2008: | 32 | 2012: | |

The permit process includes inspection by District staff.

VII. DESIGN AND CONSTRUCTION STANDARDS

REFERENCE MATERIAL

- Design and construction standards
- Ordinances

35. Does the SSMP contain up-to-date information about your agency's design and construction standards?

YES / NO

36. 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

37. 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 are subject to ongoing review as new information is being generated from inspection and other O&M activities. The District's current standards were developed jointly with other Marin County collection system agencies. The desire to have uniform County-wide constructions standards places some limitations on the speed of the revision process.

VIII. CAPACITY MANAGEMENT

REFERENCE MATERIAL

- Capacity assessment reports
- CIP
- SSO data

Table 5. SSOs Caused by Hydraulic Limitations

| | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|----------|----------|----------|----------|------|
| Number of SSOs caused by capacity limitations | 0 | 0 | 0 | 0 | |

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

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

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

Potential hydraulic capacity limitations for a 20-year design storm and plan for addressing these limitations have been identified in the Capacity Assessment Report and addressed in the CIP. 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 CIP projects.

IX. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

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

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

43. 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 1) and tracking of preventative maintenance activities (Table 3) are sufficient to evaluate effectiveness of the SSMP in minimizing SSOs. However, the actual effectiveness of these indicators can only be determined by examining trends over multiple years.

X. SSMP AUDITS

44. Will this SSMP Audit be submitted with the Annual Report to the Regional Water Board by March 15? YES / NO

XI. COMMUNICATION PROGRAM

REFERENCE MATERIAL

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

45. Does the SSMP contain up-to-date information about your YES / NO

agency's public outreach activities?

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

YES / NO

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

YES / NO

48. 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), with an invitation for customers to provide feedback on the Plan.