



**Seaside County Sanitation District
Sewer System Management Plan
Internal Audit Report
January 15, 2020
WDID: 3SSO10334**

Audit Period: 8/3/17 to 8/2/19

**Prepared By:
Causey Consulting
Walnut Creek, California 94598**



CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage 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



Scott Ottmar, P.E.
Acting District Engineer
Seaside County Sanitation District

Acronyms Used in the Audit Report

CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
DS	Data Submitter
EOP	Emergency Operations Procedure
FOG	Fats, Oils and Grease
FSE	Food Services Establishment
GIS	Geographic Information System
LRO	Legally Responsible Official
M1W	Monterey One Water (formerly Monterey Water Pollution Control Agency)
MRP	Monitoring and Reporting Program
MWPCA	Monterey Water Pollution Control Agency – see M1W
OERP	Overflow Emergency Response Plan
PS/FM	Pump Station/Force Main
R&R	Renewal and Replacement
RWQCB3	Regional Water Quality Control Board, Region 3
SCSD	Seaside County Sanitation District operated by City of Seaside staff
SMP	Sewer Master Plan
SOP	Standard Operating Procedure
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow

SSORP	Sanitary Sewer Overflow Response Plan
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
WDID	Waste Discharge Identification Number 3SSO10334
WDR	Sanitary Sewer Waste Discharge Requirements
WQMP	Water Quality Monitoring Plan

I. SSMP Audit

This internal audit (audit) reviews the Seaside County Sanitation District (SCSD) Sewer System Management Plan Revision 2 dated September 9, 2014 (SSMP) by the Wallace Group and approved by the District Board on September 9, 2014. The SCSD is a separate California special sanitation district managed by a three member Board of Directors appointed from the three cities in the SCSD service area. In addition, by Board agreement, the staffing of SCSD is provided by the City of Seaside. SCSD operates as a separate enterprise fund providing sewage collection services to the member agencies. SCSD owns or manages 73.8 miles of gravity sewer pipe, 0.5 miles of force mains and four sewage lift stations that are maintained by contract with Monterey One Water (M1W). The service area includes the three separate government agencies described in Table 1: Service Area Information from Wikipedia on November 10, 2019.

Table 1: SCSD Service Area Information

Topic/City	Del Rey Oaks	Sand City	Seaside	Total SCSD Service Area
Population	1,684 (2016 est)	383 (2016 est)	33,930 (2018 est)	35,997
Service Area, sq. mi	0.48	2.92	9.38	12.78
Incorporation date	9/3/53	5/31/60	10/13/54	1957
Elevation, Feet	82	72	33	33

The audit covers the period of August 3, 2017 to August 2, 2019. The audit is intended to meet State Water Resources Control Board (SWRCB) 2006 waste discharge requirements (WDR), State Water Board Order No. 2006-0003-DWQ, Section D13(x) for agencies that own or operate more than one mile of sanitary sewer collection systems discharging to a publicly owned treatment plant. In addition, the SWRCB also revised the Monitoring and Reporting Plan (MRP) requirements in September 9, 2013 in order number WQ 2013-0058-EXEC. This audit assesses the current state of compliance with WDR and the MRP provisions including effectiveness of the sewer program implementation, identifies "deficiencies" found in the SSMP along with recommendations for corrective actions to remedy those deficiencies. In addition, the audit also included a review of record keeping procedures supporting the certified overflow reports in the California Integrated Water Quality System (CIWQS) database.

Causey Consulting performed the audit on behalf of SCSD through evaluation of SSMP documentation provided by SCSD, review of the August 2, 2017 SSMP Internal Audit Report and deficiencies (See Attachment 2) by the Wallace Group, publicly available data sources such as the SCSD website and the CIWQS site using the SCSD Waste Discharge Identification Number (WDID) 3SSO10334, documents provided by SCSD and meetings and interviews with City, SCSD and M1W staff involved in the implementation of the SCSD SSMP and the SCSD sanitary sewer collection system program. The Table 1 lists the interviews conducted during the audit and Attachment 1 provides the schedule of the interviews.

Table 2: SSMP Audit Participants Interviewed

Participant	Role	Agency
Rick Reidl	District Engineer/City Engineer	City/SCSD
Dave Fortune	Maintenance & Utilities Superintendent	City/SCSD
Scott Ottmar	Senior Engineer	City/SCSD
Misty Bradshaw	Associate Engineer	City/SCSD
Leslie Llantero	Assistant Engineer (FOG)	City/SCSD
Roy Tilly	Utility Sr. Maintenance Worker	City/SCSD
Travis Edwards	Utility Sr. Maintenance Worker	City/SCSD
Lesley Milton-Rerig	Assistant City Manager/District Clerk	City/SCSD
Jacque Tulua	Administrative Assistant	City/SCSD
Jasmine Dolan	Administrative Assistant	City/SCSD
Rosa Salcido	Executive Assistant	City/SCSD
Ed Pastrano	Field O&M Supervisor for SCSD Lift Stations	M1W

II. Audit Schedule

This audit was authorized pursuant to an agreement between SCSD and Causey Consulting dated April 25, 2019. The WDR requires audits of an agency SSMP at least every two years from the original adoption date of the SSMP by the District Board of Directors. The original SSMP was adopted by the SCSD Board on August 11, 2009. The audit included a review of the 2014 SSMP Parts 1 and 2, all SSMP appendices and other ancillary documents provided by SCSD Staff or available on the City and District websites. The audit began with a May 25th document request to SCSD staff for relevant documents supporting the SSMP and the sewer program through the audit period. This was followed by a kick-off conference call on August 20th with the project sponsors to assure understanding of the project scope and goals, discussion of regulatory requirements and future revisions to the WDR, discussion of the interview processes, presentation of historical performance and overflow summaries, discussion of the general form of the Audit Report and the schedule for completion of the audit. Finally, onsite interviews above were conducted at the City of Seaside Public Works Department trailer on September 25th and 26th. Subsequently, a draft of the Audit Report was provided to the staff for review and comment, a meeting was held to discuss the comments and a final Audit Report was delivered to SCSD on January 15, 2020.

III. Historical Performance Results

This following two section of the Audit Report provides an historical presentations of sewer program operations and maintenance results and sewer overflow performance results certified in the State CIWQS system. In addition, Section III-C provides overflow history during the two year audit period.

III-A: Sewer System Performance Results

This section provides historical fiscal year results of the sewer system operation and maintenance taken from the monthly sewer operations reports to the Board of Directors. The SCSD system contains 73.8 miles or 389,664 linear feet of gravity sewer pipes and approximately 2640 linear feet of force mains from the four lift stations. There currently is no defined maintenance program for these pressure mains and therefore no performance results to report.

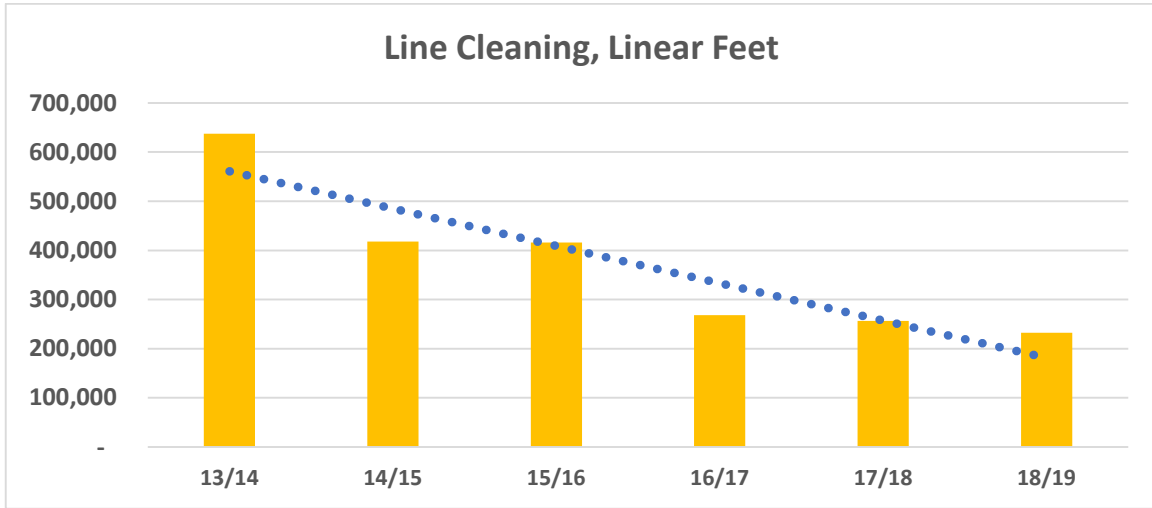


Figure 1: Summary of Historical Line Cleaning

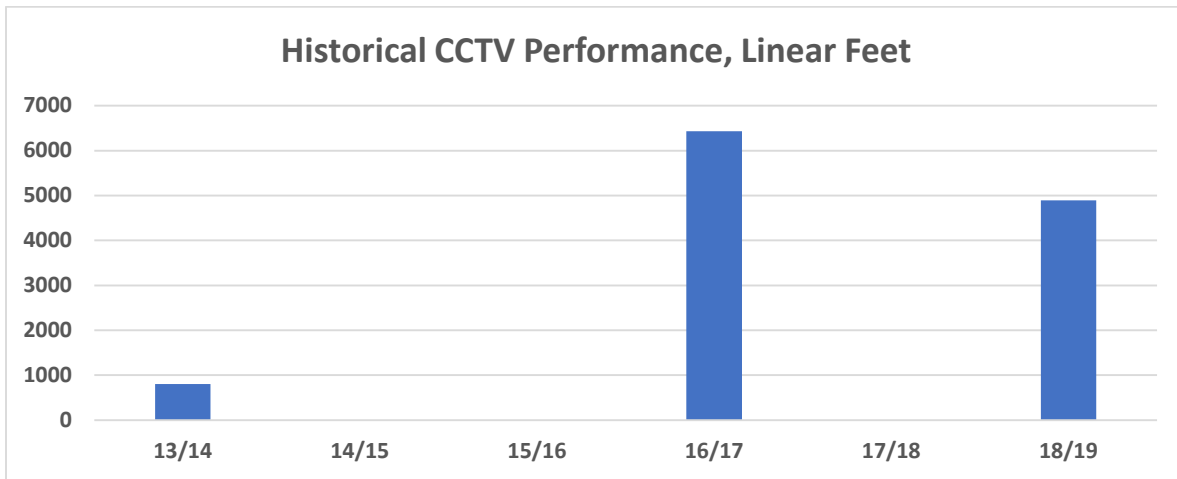


Figure 2: Historical Summary of Closed Circuit Television Assessments

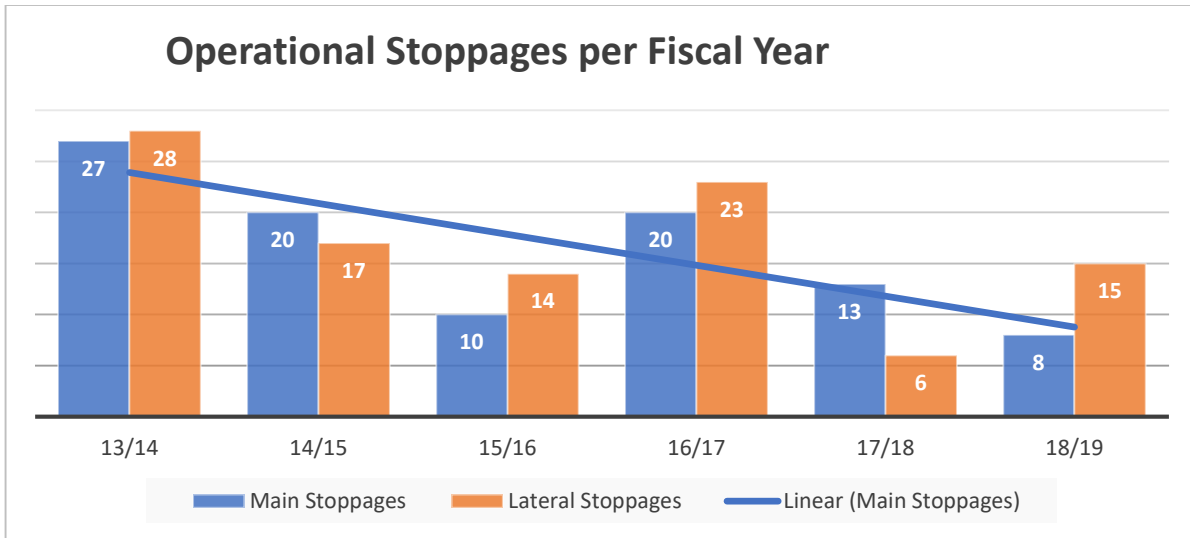


Figure 3: Summary of Collection System Blockages

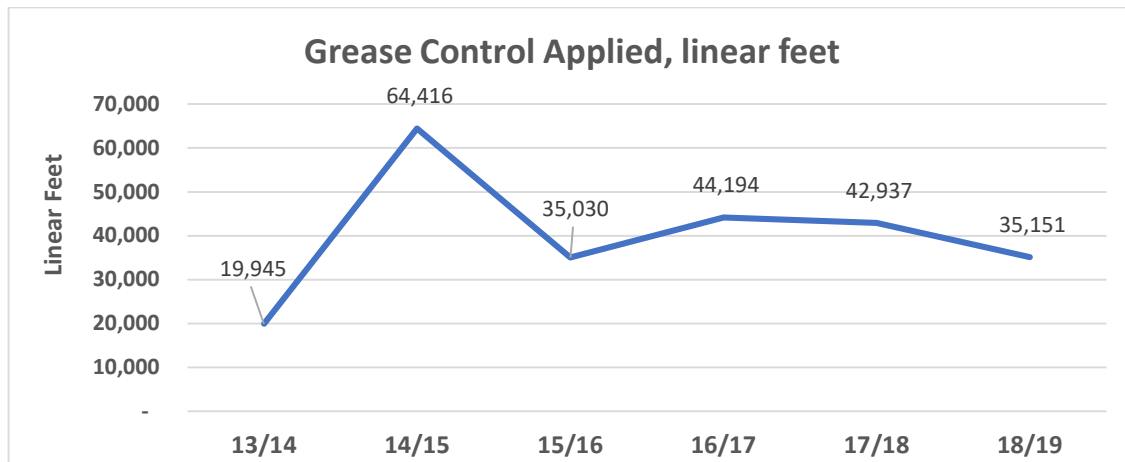


Figure 4: Summary of Historical Grease Control Applied

III-B. Historical Sanitary Sewer Overflow Performance Results

The following graphs provide calendar year historical summary of SCSD sanitary sewer overflow records from the State CIWQS certified overflow events database for each of the calendar years since the required reporting of all overflows to the SWRCB in 2007.

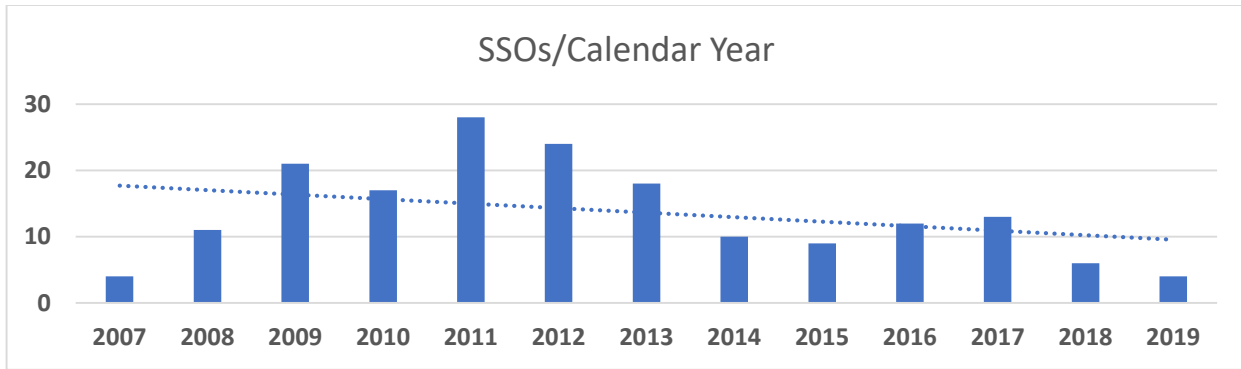


Figure 5: Summary of Sewage Overflow Events

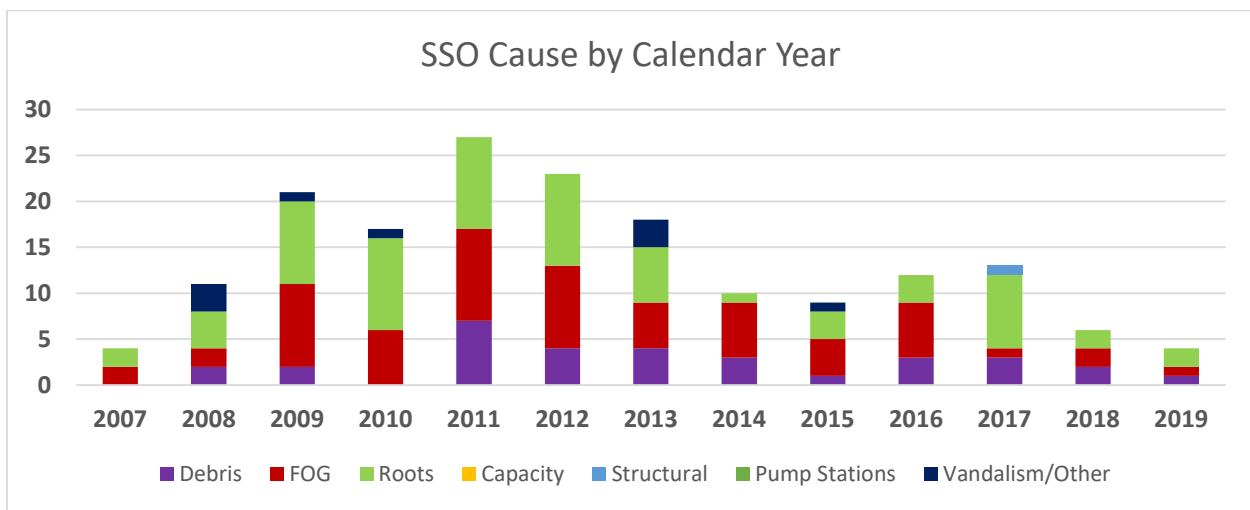


Figure 6: Summary of Causes of Sewage Overflow Causes

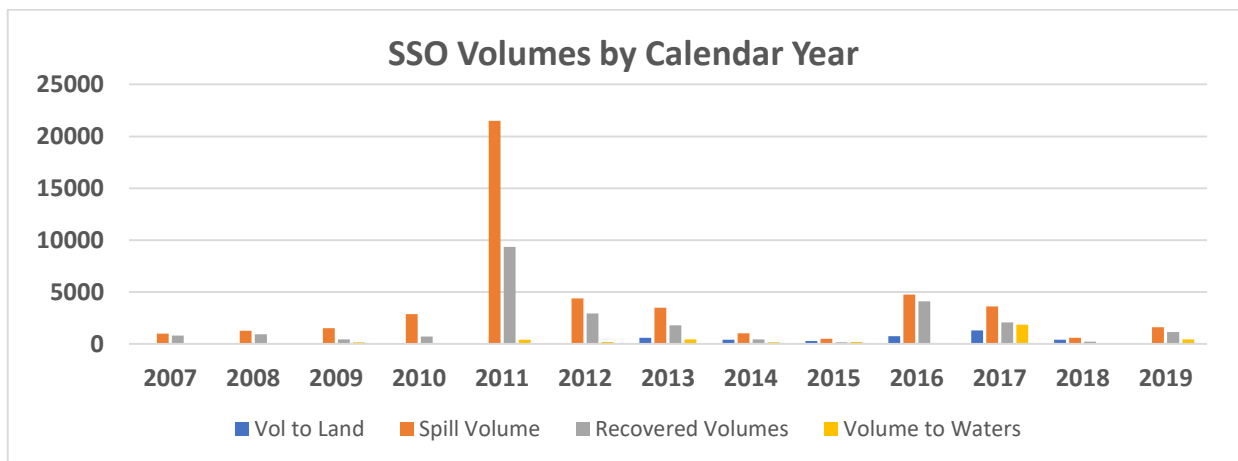


Figure 7: Summary of Spill, Recovered and to Water Overflow Volumes

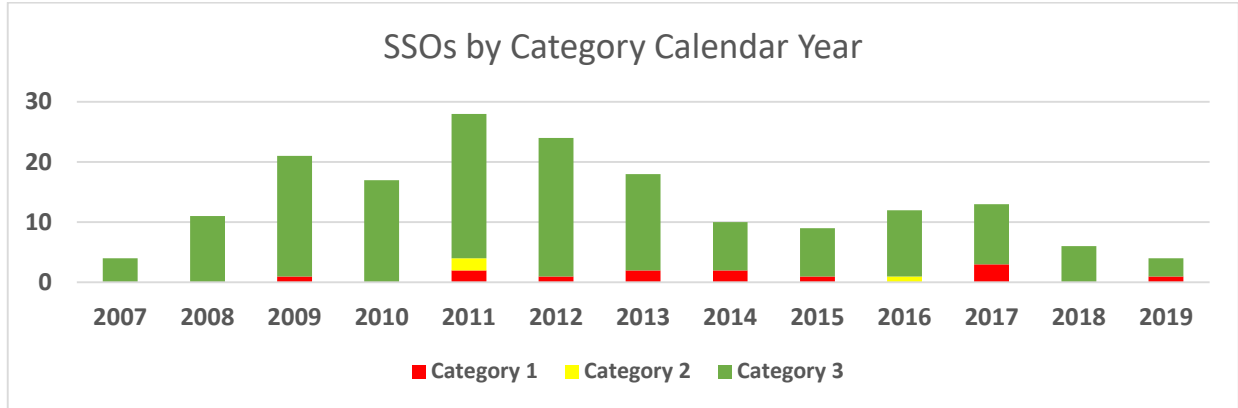


Figure 8: Summary by Year of State Overflow Categories

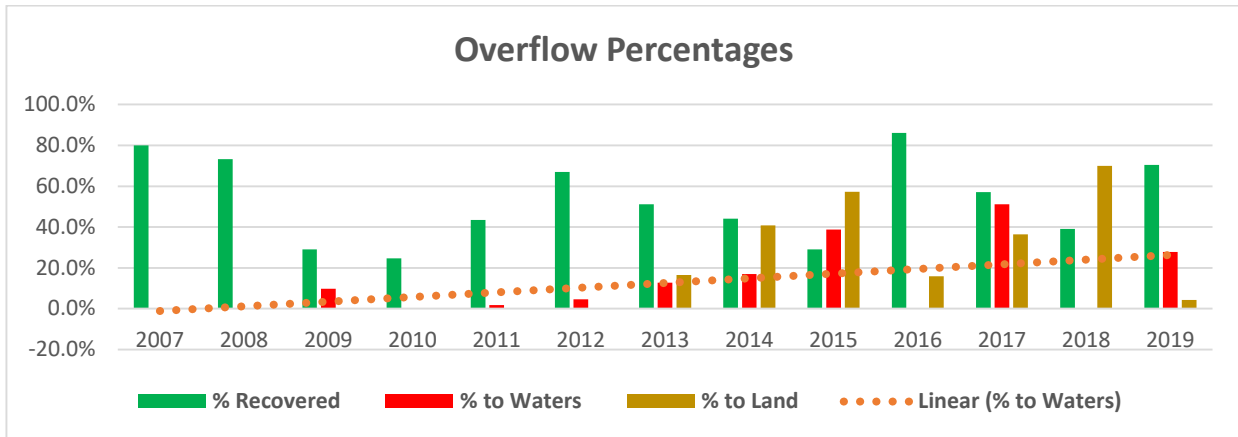


Figure 9: Summary of Overflow Locations per Year

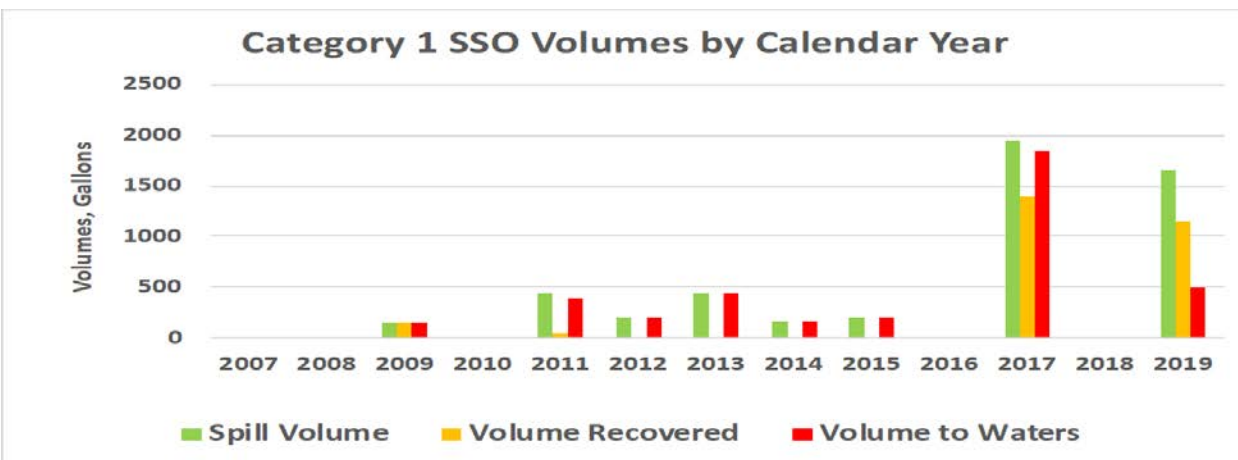


Figure 10: Summary of Category 1 Spill Volumes

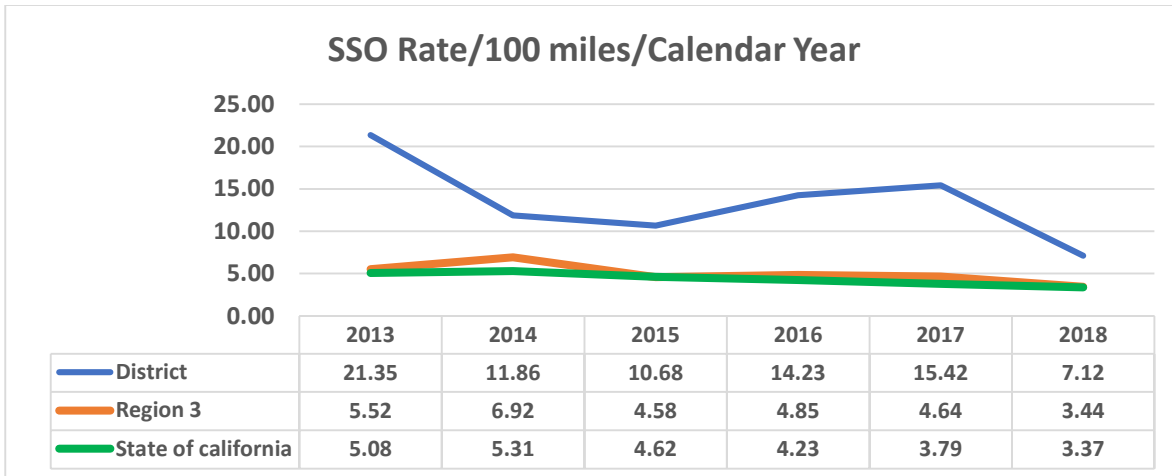


Figure 11: Comparison of SSO Rate to State and Regional Board SSO Rates

III-C. Audit Period SSO Results

Table 2: Audit Period Performance Results*

Sewer Overflow Metric	8/2/17 to 8/1/18	8/2/18 to 8/1/19	Total Audit Period
Category 1	1	2	3
Category 2	0	0	0
Category 3	5	6	11
SSO, each	6	8	14
Spill Volume, gallons	1971	2600	4571
Volume recovered, gallons	1551	1975	3526
Volume to Waters, gallons	1400	500	1900
Percent recovered	78	75	77
Percent to waters	71	19	41
SCSD SSO Rate	8.07	10.76	9.42
Region 2 SSO Rate	4.86	5.44	4.89
State SSO Rate	3.34	3.43	3.07

*CIWQS Database for WDID 3SSO10334

IV. SSMP Findings

The purpose of the Audit is to evaluate the effectiveness of the District’s SSMP and sanitary sewer program, to identify the strengths and areas for improvement (deficiencies). The information identified below should be used to inform revisions and to evaluate program effectiveness to the 2014 SSMP. The findings and recommendations are broken into two categories, General and Element Specific. The general section deals with the entire SSMP and the support of that document by staff. The Element specific findings and recommendations

provide not only an assessment of necessary changes to the WDR Element but also a ranking of each SSMP Element as to its compliance with the WDR Section D13 stated requirements as well as regulatory expectations stated since 2006. While some of the recommendations exceed the WDR requirements, their inclusions are recommended as a result of presentations and statements by the SWRCB Office of Enforcement and settlement agreements from litigation and enforcement actions against sanitary sewer systems across the State. In addition, many of these recommendations include information that would be requested by the State prior to a field inspection or enforcement actions. It is hoped that the inclusion of this additional information should reduce potential enforcement liability and expensive settlement requirements if SCSD is involved in any litigation or enforcement action.

IV-1: General Findings and Recommendations

The following general findings and recommendations apply to the entire SSMP and all appendices and are intended to assist SCSD in revising and streamlining the SSMP to improve use and availability for the Board, staff, the public and regulators.

General Findings	General Recommendations
F1. The size of the SSMP, while compliant, is not user friendly or lead to regular use by staff and field crews.	R1. Streamline the SSMP and hyperlink most appendices from the SSMP and from the webpage if determined to be a critical supporting document.
F2. The SSMP contains many appendices and documents that are not required by the WDR.	R2. Eliminate non-required documents and hyperlinking remaining critical supporting documents (references) from webpage and document or submit to SWRCB per MRP Section 8(iv).
F3. The 2014 SSMP revisions did not follow the WDR format outline as stated in WDR Section 13.	R3. Assure that the SSMP follows the WDR and includes responses to all sub Element requirements.
F4. Element SSMP Change Logs were updated but do not include specific sections changed or all required approvals.	R4. At least annually update change log for changes in contacts or policies or procedures – assure that Log includes specific section or appendices modified and includes full approvals by staff or board.
F5. SSMP Change Logs included in each Element and not in a single form.	R5. Remove and consolidate all change logs into a single change log. Log should be regularly updated for significant changes to SCSD policies and procedures, contacts, planning or regulations between Board adoptions.
F6. References to MRWPCA need to be revised.	R6. Revise to Monterey One Water (MIW) throughout.
F7. Several new critical supporting documents completed but not included in the proper Element or in the change log.	R7. Assure change logs and Element narratives are updated and modified when completed for new information.
F8. Not all critical support documents(references) available on SSMP webpage as required by MRP Section 8(iv). They are only included in hardcopy in the SSMP as an appendix to each individual	R8. Add separate reference section at the end of each element to identify the reference(s), provide hyperlink and help manage critical supporting documents that must be available electronically.

Elements.	
F9. SSMP specifies unnecessary annual actions and activities for staff related to the SSMP– most of which are not being completed.	R9. Include only actions and activities that are necessary to satisfy the WRD and MRP; create separate checklist of actions and activates to assure timely tracking and completion -
F10. Contact information and data throughout dated from 2014 and not updated since.	R10. Update all contact information to current and add dates to the tables for the information at least annually.
F11. Board adoption records attached to Introduction as required but includes several minute actions from original SSMP development that are not required.	R11. Attach minute actions or adoption resolutions for SSMP readoption in an SSMP appendix; remove Board actions for intermediate completion of Elements developed in 2007, only include Board adoption documents of full SSMP.
F12. Emergency operating procedures (EOP) are too broad and conflict with OERP and are in many cases duplicative and are not available or trained on with staff.	R12. Eliminate EOPs or revise as SOPs removing much of the overlapping and multiple stated procedures.
F13. SSMP contains almost all critical supporting documents in hard copy.	R13. Hyperlink most from SSMP or from the SSMP webpage or send hardcopies to SWRCB as required by MRP Section 8(iv).
F14. Table and charts do not have reference dates included for ease of management and updating.	R14. Add dates of preparation on all charts and tables especially contact tables.

IV-2: Specific Element Findings and Recommendations

The specific findings and recommendations below follow the SSMP Elements stated in the WDR Section D13 in no particular priority. Each of the 2014 Draft SSMP Revision 2 Elements and supporting comments were evaluated against the WDR Section D13 requirements utilizing the following sufficiency ranking system and considering both the findings and the associated document narratives and supporting information:

- *Complies (C) – complies with all WDR objectives (2 each)*
- *Substantially Complies (SC) – complies mostly with all WDR objectives (4 each)*
- *Partially Complies (PC) – complies with basic WDR objectives (7 each)*
- *Marginal Compliance (MC) – complies minimally with basic objectives of the WDR (4 each)*
- *Does Not Comply – does not comply with WDR objectives (none)*

Finding	Recommendations
Element: Cover Page	
Sufficiency Ranking: PC	
F15. Cover page, missing basic agency information	R15. Add cover page with all agency logos, original adoption date of SSMP, revision adoption dates and CIWQS WDID.
Element: Table of Contents	
Sufficiency Ranking: PC	
F16. Complete revision required after streamlining of	R16. Update and create hyperlinks into the revised

SSMP.	SSMP Elements referenced.
Element: Acronyms and Abbreviations	
Sufficiency Ranking: SC	
F17. Not a complete listing of acronyms.	R17. Update and add missing acronyms
Element: Executive Summary	
Sufficiency Ranking: MC	
F18. Redundant information to remainder of the document. F19. Conflicting information with SSMP Elements especially Goals Element.	R18. Streamline and reduce information R19. Remove entirely and move important information to Introduction.
Element: Introduction	
Sufficiency Ranking: MP	
F20. Introduction does not properly describe assets under management in the SCSD sewer system. F21. Good basic member agency information. F22. Appendix 0A hardcopy unnecessary F23. Table 0-1 outdated F24. Asset tables outdated. F25. Pipe information should not combine both gravity and pressure. F26. Good service area map included.	R20. Remove references to 2011 Master Plan and Rate Study R21. Expand asset information to include City demographics, pipe material, lift stations and force main asset tables. Some now in Element 4 move here. R22. Remove and hyperlink all regulatory documents in Appendix 0A to the SCSD webpage. R23. Retain and revise Table 0-1 with current populations, service area size, and incorporation dates. R24. Asset tables should be updated with improvements since 2014 and completion dates for all projects in the CIP lists. R25. Create separate tables for asset information – move Tables 4-1 & 4-2 here. Add pump station and force main table and also expand size table for specific pipe sizes not ranges..
Element: I. Goals	
Sufficiency Ranking: C	
F27. Very limited number of goals – F28. Goals not consistent with goals stated in the Executive Summary or on the SCSD SSMP webpage.	R26. Create and conform around a single set of goals for the sewer operations supported by proper performance metrics in Element 9– see sample list in Attachment 3.
Element: II. Organization	
Sufficiency Ranking: SC	
F29. Element very out of date. F30. Figure 2-1 does not include PS/FM chain of communications. F31. Tables 2.1 and 2.2 out of date. F32. No statement of City staff role in managing SCSD sanitary sewer system facility. F33. Table 2-2 not required. F34. Organization charts outdated. F35. Exhibit 2B1 very outdated. F36. No identification of District designated LRO or DS positions. F37. No discussion of force main operations, maintenance or regular condition assessment. F38. Service contractors not discussed or included on organization charts. F39. No discussion of service contractors F40. Table 2A-1 Governing Board not required	R27. Complete update required. R28. Annually update and add changes to the Change Log especially contact information. R29. Consider adding simple table of responsibilities for all SSMP related Elements and appendices to replace Table 2.2 or update to current if to remain – see attachment 4. R30. Expand Figure 2-1 to include response requirements for pump station emergency response R31. Add discussion of City staffing for SCSD sewer program. R32. Add District organization chart as a figure in this Element rather than in appendix. R33. Add narrative description of each classification working in the sewer program and include designated classifications that are LROs or DS. R34. Add additional narratives on force mains O&M, etc. R35. Add discussion of service providers like City staff, MIW and Greenline, etc., to narratives and organization charts. R36. Remove Table 2A-1
Element: III. Legal Authority	
Sufficiency Ranking: PC	

<p>F41. Table 3.1 not required or useful. F42. SSMP does not require the inclusion of all District ordinances. F43. Appendix 3A to 3Q no longer appropriate since new District Code completed. F44. New District Code not included in the Element narrative or Change Log for this Element</p>	<p>R37. Revise for consolidated District code; remove all references to previous ordinances. R38. Complete revision required; replace with a simple table of the WDR requirements and the associated District code section that applies. R39. Create hyperlink in the reference section and from the SSMP webpage to the new District Code and remove all old ordinances R40. Change Log should include the new District Code adoption date and approval authority.</p>
<p>Element: IV. O&M Program Sufficiency Ranking: PC</p>	
<p>F45. No change log changes since 2014. F46. Tables 4-1 & 4-2 sewer asset info tables outdated and do not agree with CIWQS annual collection questionnaire information. F47. Excellent storm system information. F48. Figure 4.1 not required. F49. Figure 4.2 excellent. F50. Tables 4.1 and 4.2 require updating to be consistent with CIWQS data of 73.8 miles of gravity pipe. F51. No table of force main asset information. F52. Manhole, lamp hole information dated and not consistent with increased sewer miles stated above. F53. Table 4-3 should provide additional asset info. F54. Limited asset information of lift stations. F55. No force main asset information for lines. F56. Retain storm drain info and Figure 4.3 in future. F57. Section 4.3.1 CCTV not implemented as stated. No CCTV Inspection program currently. F58. Section 4.4 and Table 4-4 outdated. F59. Section 4.5 does not discuss WDR, EOP, SSMP, OERP, WQMP or field exercise training. F60. No formal training program developed as stated. F61. Section 4.5.1 outdated. F62. Appendix 4D missing MWPCA Agreement as stated. F63. No Appendix 4-A program definition. F64. Sewer Cleaning narrative not consistent with CIWQS operation performance statements - 53.2 miles vs 73.8 F65. Appendix B forms not required in the SSMP. F66. Appendix 4C good. F67. Appendix 4E unnecessary. F68. Appendix 4F not current, F69. Appendix 4G outdated. F70. Appendix 4H not required. F71. Appendix 4I dated and does not include date of preparation of list.</p>	<p>R41. Change log should reflect changes in policies and procedures since 2014 along with asset improvements or additions. R42. Assure consistency between SSMP and Annual Collections Questionnaire in CIWQS. R43. Eliminate Figure 4.1 and replace with table of pipe ages from CIWQS in Introduction. Update Tables 4.1 and 4.2 to 73.8 miles and move to the Introduction Section of SSMP or conform CIWQS data; add reference dates for table. Move Figure 4.2 to Introduction Section with asset information. R44. Update appurtenances numbers below pipe tables. R45. Add tables of historical line maintenance, CCTV and high frequency maintenance results for at least five years. R46. Revise CCTV program information and define condition assessment program and include. R47. Completely revise Section 4.4 and Table 4-4 to current approved CIP for both short and long term capital; remove references to CCTV inspections program. R48. Revise Section 4.5 to include specific WDR and SSMP related training at least annually. R49. Remove list of SOPs especially ones never completed in Table 4.5. R50. Remove App 4B R51. Retain high frequency information from 4C R52. Develop a formal sewer related training matrix for all sewer and emergency response employee classifications. R53. Revise Section 4.5.1 for additional engineering staffing. Appendix 4A remove and discuss in narrative. R54. Hyperlink MWPCA Agreement remove Appendix 4D. R55. Remove Appendix 4E R56. Remove Appendix 4F in favor of simple table of CIP program for 5 and 10 years in future. Update and extend into future for 10 years from 19/20. R57. Remove Appendix 4H and just list BMPs actually used by staff not planned to be completed.</p>

	R58. Update and add date of preparation to 4I if to be retained; update annually and indicate in change log.
Element: V. Design	Sufficiency Ranking: SC
F72. Green Book reference currently to 2009 edition. F73. SCSD requests for proposal states, “most current” Green Book. F74. Appendix 5A not required to be included.	R59. Establish process for regular updates of Green Book or just say most current version; adopt by resolution. R60. Conform narratives to actual use of the Green Book standards as most current version not 2009. R61. Hyperlink Green Book from SSMP and website – critical supporting document.
Element: VI. OERP	Sufficiency Ranking: MC
F75. Procedural conflicts exist between EOPs and OERP. F76. EOPs all overlap and not consecutive included in the appendices. F77. SCSD procedures in OERP and EOPs not followed in the field. F78. Section 6.3 not being followed and requires complete revision. F79. Emergency response roles for force mains and lift stations not properly defined. F80. No lift station or force main emergency response contingency plans available. F81. OERP or EOP or flow charts missing steps and responsibilities for lift station or force main emergency responses. F82 SCSD overflow file documentation does not comply with OERP or EOP requirements or use forms in EOPs nor provide adequate support for CIWQS certified reports. F83. SCSD support file not approved and/or signed off by the LRO. F84. No current direction or procedure for a properly documented overflow file. F85. EOP-7 WQMP through but does not include maps of water bodies in service area. F86. EOP-7 missing chain of custody form. F87. EOP-09 Training not followed.	R62. Create a single emergency response document (OERP) and place in appendix for ease of removal and use by emergency response personnel replacing Section 6.3 and the cumbersome EOPs. R63. Prepare lift station and force main contingency plans coordinated with MIW. Define responses and roles for emergency response to pump stations and force mains events for SCSD and MIW. R64. Require staff to follow/utilize specific forms or modify procedures to use current forms with additional direction. R66. Require final overflow file to be approved by the LRO prior to completion. R67. Consider use of a SCSD specific overflow file checklist (Attachment 5) to assure all required supporting documents are in the final approved support file for each CIWQS certified report. R68. Include all forms used in the WQMP. R69. Place WQMP in its own appendix so can be removed and placed in response vehicles. R70. WQMP needs to have map identifying all water bodies in the service area so proper sampling requirements are met based upon beneficial uses. R71. Revise training requirements to include SSMP, OERP, WQMP and field exercises regularly – create training matrix by employee classification.
Element: VII. FOG Program	Sufficiency Ranking: PC
F88. Webpage has hyperlink to Clogbusters with good information. F89. Figure 7.1 outdated. F90. FOG outreach program description dates to 13/14. F91. Appendix 7C not required F92. Section 7.4 outdated. F93. Table 7-1 to 7.3 no longer applicable. F94. Section 7.7 list of hot spots not required. F95. Appendix 7A not required. F96. Appendix 7B not required.	R72. Recommend addition of no wipes in pipes info on webpage. R73. Update and add reference date to Figure 7-1. R74. Update outreach program. R75. Remove or hyperlink. R76. Revision 7.4 for District Code and additions of MIW ordinance. R77. Revise Table 7-1 to 7.3 or preferably refer to Element 3. R78. Remove Appendix 7C. R79. Appendix 7A either remove or hyperlink from

<p>F97. Appendix 7D not required. F98. Appendix 7E not required</p>	<p>webpage. R80. Refer legal authority to Element 3. R81. Appendix 7B & C documents should be hyperlinked or on FOG webpage. R82. Update and add outreach materials to FOG webpage. R83. App 7D and 7E remove or add to SSMP webpage b hyperlink.</p>
<p>Element: VIII. SHECAP Sufficiency Ranking: MC</p>	
<p>F99. Change log missing updated information and 2017 Rate Studies. F100. 2011 Sewer Master Plan and Capacity Study outdated and not being pursued as stated. F101. Element narratives outdated for activity since 2014 – check 2017 Audit F102. Capital program administration confusing and has many conflicting documents and plans with no explanation or updates to SSMP explaining changes or updates. F103. Element does not contain completed CIP information since 2011. F104. Section 8.2.9 Rate Study outdated and not required but if stated must be on webpage or hyperlinked. F105. 2017 Rate Study critical supporting document and not described or added to change log. F106. CIP ended in 2013/14 and dated 2008. F107. No long term capital program beyond 18/19 for five to ten years into the future.. F108. CIP on webpage updated beyond 18/19 but not in SSMP. F109. Projects not stated as capacity related or R&R. F110. Sewer Master Plan update scheduled for 21/22. F111. District CIP webpage not consistent with SSMP. F112. Capital program behind schedule and updates not described in the Element or in the change log. F113. Section 8.3 design criteria dates to 2009 with no changes. F114. Section 8.4 & 8.5 outdated</p>	<p>R84. Consider updating Master Plan earlier in CIP. R85. Complete revision of this Element necessary for current state of capital program. R86. Make regular updates following project completion at least annually. Assure that regular CIP updating is provided either in the SSMP change log or in the audits reports. R87. Consider updating lift station information. R88. Identify changes made in the SSMP change log. R89. Sections 8.3 to 8.5 require substantial updating.</p>
<p>Element: IX. Monitoring, Measurement and Modification Sufficiency Ranking: MC</p>	
<p>F1154. Table 9.1 nonresponsive to requirements – no define metrics supporting goals in Element 1. F116. Section 9.3 duplicative and nonresponsive. F117. MRWPCA TAC narrative out of date. Section 9.4 not complied with on the CCTV Program starting in 2014. F118. Section 9.6 not being followed and in conflict with Element 10 Program Audits. F119. All tables and graphs in Section 9.6 dated to only 2013 and not regularly updated since.</p>	<p>R90. Remove 9.1 and replace with appropriate metrics to support Goals in Element 1. R91. Eliminate 9.3. Update TAC information in Section 9.3.11. R92. Establish, define and implement SCSD CCTV assessment program for all assets – pipes, manholes, lift stations and force mains. R93. Remove statement of annual reviews in 9.6 of SSMP if not to be done. R94. Bring current all performance results and track</p>

<p>F120. Metrics do not support goals stated in three separate places. F121. Appendix 9A not required and very dated.</p>	<p>results at least annually – add maintenance metrics. R95. Consider preparation of annual collection system report for the Board of Directors using defined metrics and narratives accomplished during previous fiscal year. R96. Remove 9A in favor of updated metric tables and graphs only. Add WDID reference for readers want info in 9A currently.</p>
<p>Element: X. SSMP Audit Sufficiency Ranking: C</p>	
<p>F122. Change log not updated for 2017 and 2015 Audit Report and corrective actions completion from 2017. F123. Section 10.2 says every two years from “2015” – See Development Guide page 72 – not consistent with SSMP Section 9.5 F124. Biannual audits have been completed and provide proper review and deficiency findings. F125. SSMP Data & Records Request Appendix 10A form not utilized. F126. Only 2013 Audit Report in the SSMP and not online. F127. 2017 Audit Report completed but not publicly available on webpage or submitted to Board or included in SSMP appendix.. F128. Deficiency list did not include “plan and schedule for revisions” – see status of deficiencies in Attachment 2. Not all deficiencies resolved or completed during audit period. F129. Table 10.2 not required but not updated since 2013. F130. Recommended “quarterly or semiannual reviews and revisions not being conducted. F131. Appendix 10B does not include stated documents or recent 2015 and 2017 Audit Reports.</p>	<p>R97. Assure updating of change log upon acceptance of an audit report adding any corrective actions directed and made. R98. Revise 10.2 to say from “original SSMP adoption date” and revise Section 9.5. R99. Delete SSMP Data & Records request if not to be used – replace with SSMP Checklist including an Element ranking system as above. R100. Consider adding all audit reports to new SSMP appendix for ease of retrieval. R101. Present audit reports to Board and place on SSMP webpage upon acceptance. R102. Establish plan, schedules and responsible persons for all identified corrective actions (deficiencies) and complete prior to next audit.. R103. Remove Table 10.2 as not required especially if Audit Report attached in appendices. R104. Retain only biannual SSMP review statements that will be conducted. R105. Revise 10A to SSMP Checklist with proper ranking system and only completed as the first step in the biannual audit to inform interviews. R106. Develop tickler file to assure completion of action items in SSMP and audit report.</p>
<p>Element: XI. Communications Plan Sufficiency Ranking: PC</p>	
<p>F132. Table 11-1 References only City website and not SCSD F133. Appendix 11A dated materials back to 2011. F134. Section 11.2.2 states audit reports presented to Board – reports not found on previous agendas. F135. Excellent monthly collections operations reports provided to Board. F136. Section 11.3 outdated. F. Appendix 11A outdated and could be hyperlinked and deleted in hard copy. – all webpages have been replaced. F137. District claim form in Appendix 11A not referenced or referred to in SSMP. F138. Relationship between City and SCSD not properly stated in Element 11.</p>	<p>R107. Include direct SCSD link to District webpage. R108. Update and hyperlink documents from webpage. R109. Assure all audit reports presented on Board agendas. R110. Replace all web screen shots with simple hyperlinks to two or three webpages and remove hard copies. R111. Consider development of an annual collection system report for the Board including updates of all performance metrics. R112. Remove Appendix 11A or move to OERP. R113. Add information that City staff provides SCSD staffing.</p>
<p>Element: Appendices Sufficiency Ranking: C</p>	
<p>F139. All appendices are included at the end of each Element.</p>	<p>R114. Limit formal appendices to only major documents like OERP, WQMP, Adoption</p>

	documents, Change Log and audit reports not with each element.
--	--

V. SSMP Effectiveness

The SCSD operation and maintenance program has traditionally cleaned the entire system annually (Figure 1) and has developed a very effective grease control program (Figure 4) of approximately 10% of the entire collection system. This later program has resulted in both a reduction of operational stoppages (Figure 3) and sewage overflow. The single greatest weakness in the sewer program relates to the condition assessment of all sewer assets by both CCTV and annual assessments of both lift stations and force mains. SCSD had included the definition of a full CCTV program for the pipes in 2017 Audit Report but had not completed that effort during the current audit period as expected. SCSD has recently purchased CCTV equipment and now must define a CCTV program that includes both pipeline condition assessment as well as a cleaning program QA/QC procedure. The CCTV program definition should enhance both the cleaning frequencies as well as informing the priority program for capital renewal and replacement not previously included in the CIP project definitions. These result will also be important to the evaluation of staffing levels current and future especially if the challenges to hiring and retention continue at SCSD. One additional area for possible improvement deals with the clarification of responsibilities between SCSD and M1W on force mains and development of a pump station force main inspection and assessment program

The WDR requires that the internal audit evaluate the effectiveness of the SSMP and the sanitary sewer program implementation as defined in the SSMP. SCSD has depended on the services of consultants to define and describe SCSDs sanitary sewer program in the past. The 2014 SSMP is comprehensive and contains critically supporting documents all in hard copy which has created a document that is not user friendly and of limited value to staff. It however does not properly mirror field actions and activities. The SSMP also contains an extensive list of staff required annual reviews and evaluations that are not being supported by the staff available in the sewer system operations and should be removed if not to be completed as stated.

The actual sewer program in the field however has been effective in reducing the numbers (Figure 5), volumes (Figure 7) and comparative SSO rate per 100 miles per year (Figure 11) of sewage overflows since the inception of reporting in the State database in 2007. Figure 6, Historical Causes of SSO does not reveal any one specific cause that should be evaluated and shows a significant reduction in overflows during the audit period. Interestingly the overflow trends in the figures appear to have come from an emphasis on quality and quantity in line cleaning annually especially in the past three fiscal years even without a comprehensive pipeline condition assessment program to visually confirm the quality of the cleaning operations. This is probably due to the underlying staff commitment to proactive maintenance, customer satisfaction and response and the continuing commitment to grease control as shown in Figure 4.

The SSO Rate/100 miles per year has dropped from a high of 21+ to 7+ over the last twelve years. SCSDs SSO rate however is still above the RWQCB3 and State rates. This is not a surprise because SCSD has less than 100 miles of lines. The trend in the reduction of the SSO rate is a very positive indicator of the results of the sewer program. However, the trend in

overflows reaching water of the state (Figure 9) appears to be increasing which suggests the need for more timely response, additional staffing, additional training on spill response or some combination of these areas. From across the State and collection system enforcement and litigation actions, it appears that an SSO Rate of 3.0 or lower is considered by some to be a well performing sewer system emergency response operation. For small agencies with less than 100 miles of pipe, it is difficult to directly compare them to larger systems because the divisor for the small agency becomes a decimal and not a whole number. This means that for SCSD any more than 2 overflows per year places them above the artificial target SSO rate, while an agency with 500 miles of pipe could experience 15 annual events and still report an SSO Rate below 3.0 per 100 miles per year. The fact that SCSDs SSO Rate is trending down is a positive indicator of program effectiveness and commitment to meeting the WDR goals and the SCSD goals.

During the SSMP audit period the SCSD staff has been very effective with the operations and maintenance program resulting in very low incidents of sewage overflows. 78.5% of the overflows have been at the Category 3 level and therefore very small and not impacting waters of the US while experiencing three Category 1 overflows. Total spill volume of 4571 gallons remains very small compared to total sewage discharged to the SCSD sewer system over the audit period. Of particular note is the fact that SCSD staff was able to recover 3526 or 77% of the spilled volumes from the 14 overflow events. All of these numbers are significantly below the SCSD experience in the years prior to the audit period.

SCSD has recently been experiencing challenges in recruiting and retaining collection system employees resulting in two current unfilled positions. This has a significant impact on both cleaning and condition assessment of the sewer program. This issue needs further evaluation and consideration of alternative means to continue to accomplish the desired level of collection operations and maintenance program if positions cannot be filled.

On the other hand, SCSD has been able to expand the technical staff, which will have a positive impact on the future prosecution of the capital program for sanitary sewers. Additionally, the District has also hired outside professional project support assistance for the design and construction management of capital replacement projects. This should enhance completion of the delayed capital program. Finally, it is SCSDs intentions, when a full complement of staff are available, to define and pursue an in house condition assessment program having recently purchased CCTV equipment to support this activity. The Board has also been proactive in funding upgraded equipment in the sewer maintenance operations which has increased the efficiency and effectiveness of the maintenance program.

As far as the 2014 SSMP is concerned, while compliant, it contains much information and many attachments that can be eliminated or hyperlinked from the SSMP and from the SSMP webpage to significantly reduce the size and use of future SSMPs. SCSD needs to determine what are critical supporting documents and hyperlink only those. This change alone will reduce the size of the SSMP by two-thirds and make it much more user friendly for management and the field staff. In addition, reducing the number of appendices to five or six at the end of the SSMP and by placing documents like the OERP and the WQMP in separate appendices and be separated and available to emergency response personnel in the field. In addition, revisions to the SSMP must remove many if not all of the annual requirements for the management and the annual reviews

especially if the staff is not able to comply with these stated actions. The SSMP Change Log must be used to assist the public, regulators and other interested parties to understand changes in SCSD policies, procedures and staffing made between Board considerations of the SSMP at least every five years. The findings and recommendations above are intended to assist SCSD in streamlining and establishing an SSMP that not only meets the regulatory requirements but also is useful for management and staff to understand SCSD policies for meeting the WDR requirements but does not require staff attention to unnecessary reviews and evaluations.

Finally, the review of the overflow record keeping and documentation of CIWQS certified reports needs improvement and more management oversight at the end of an overflow event. Current documentation does not follow the SCSD OERP or the EOP procedures nor is the final file complete or approved by the LRO upon completion. SCSD documentation should follow the procedures used in the field and must include SCSD forms that are to be used in documenting the overflow event. This process can be much more effective by the development of an SSO Document Checklist that identifies and states all records expected to be included in a properly documented supporting file. Of particular importance are the needs for enhanced start time documentation and spill and recovered volume calculations and associated assumptions leading to the certified statements in CIWQS. These two areas should be discussed and used as training during debrief and failure analysis of all overflow events.

VI. District Sewer System Program Strengths

During the interviews conducted of staff and outside consultants, the following sewer program strengths during the audit period were identified and are listed in no particular order.

- A. Improved management and board commitments to sanitary sewer system program.
- B. Purchase of CCTV equipment for the condition assessment program for the future.
- C. Replacement of major cleaning equipment at end of useful life
- D. New generator available at lift station 19.
- E. Emergency response shed completed with necessary response equipment.
- F. Strong, professional, long term dedicated collections staff that work well together
- G. Staff training both in house and outside available as needed.
- H. SSMP generally complete but much information outdated
- I. SSMP contains all identified hard copy critical supporting documents as required
- J. Updated sewer rate study completed in January 2017.
- K. Hiring outside professional support for capital program
- L. Additional engineering staff support for collections system capital program
- M. Improved communication and coordination with other City departments
- N. Regular meetings and training with M1W regarding lift station operations and joint outreach.
- O. Effective grease control program.
- P. All overflow events were certified well in advance of required deadlines.

VII. District Opportunities for Improvement/Deficiencies

The following list, in no priority order, were determined from the interviews and from the review of documents and information provided by staff of SCSD as program opportunities for improvement in the sewer program.

1. Challenges filling two vacant positions
2. Ability to hire and retain collections employees
3. Consideration of outside cleaning support for inability to find staff
4. No collection system new employee defined orientation program
5. No comprehensive training matrix by classification for collection system operations.
6. Staff responsibilities split across many public works functions
7. SSMP not user friendly, seldom used by staff
8. Lack of condition assessment program for sewer system, lift stations and force mains
9. No defined condition assessment program or prioritization process for projects
10. Capital program progress and funding behind schedule
11. Field crews have limited input to capital project priorities.
12. Prioritization processes for capital project selection not well documented or understood
13. No computerized work order system purely paper system currently
14. Emergency response roles for lift stations and force mains not well understood.
15. District EOPs not proactively used or even fully available to field staff
16. EOPs long, duplicative, outdated and staff not regularly training on them OERP and EOPs not being utilized or followed by field staff.
17. Enhanced overflow event documentation required especially for start times and all volumes associated with a spill event. Greater emphasis on volume estimation and overflow reporting training needed.
18. Photos taken of only Category 1 spills
19. No agency specific water quality monitoring program as required by MRP Section D.
20. No annual performance reports provided to Board
21. Not all Audit Reports presented to the Board of Directors.
22. No customer complaint or overflow post event follow-up with impacted complainants
23. No overflow event debrief or failure analysis evaluations
24. Potential growth in the service area including impacts on staffing requirements in the future
25. Addition of portions of Fort Ord presents additional challenges for the future O&M program
26. Consider FOG permitting program to reduce SSOs related to FOG
27. No force main condition assessment or regular maintenance program or field inspection – no clear responsibility for maintenance and emergency response responsibilities
28. No lift station emergency response and contingency plans as expected by WDR and regulators
29. Station 20 generator issues and concerns.

VIII. Corrective Actions

The following corrective actions are necessary as a result of the findings and recommendations from the internal audit. These actions require further evaluation and scheduling and should be resolved prior to the next internal audit if at all possible. Each corrective action should be assigned to a responsible person along with an estimated completion schedule for the action. Final statements of completion and a description of the final disposition should be included in

the final report or in the next internal audit. All modifications resulting to the SSMP should also be stated in the SSMP Change Log upon completion.

- A. 2014 SSMP Revision 2 is not frequently used and contains annual actions and activities that are not being accomplished. Some activities are not required by the WDR. The SSMP is generally compliant with the regulations.
Corrective Action: During preparation of five year SSMP revision, streamline and reduce SSMP size by hyperlinking only critical supporting documents and adding expanded narratives, graphs and tables to explain status of sewer program. Remove any annual or other review and update requirements that will not be properly accomplished and documented by staff.
- B. Sewer program effectiveness may be jeopardized by inability to hire and retain collection system employee positions.
Corrective Action: Evaluate methods or programs to assure continued program performance either by improved hiring and retention or by utilizing service contractors. Establish a well-defined new employee orientation and annual training program matrix for sewer collection system workers and emergency response employees.
- C. Current EOPs and the OERP (Element 6) conflict with actual field operations and emergency response activities.
Corrective Action: Eliminate the EOPs and prepare a single, stand-alone OERP to describe City response actions and activities during and following an event and train at least annually including field response exercises. Assure staff utilizes only proper SCSD forms for overflow documentation from the OERP.
- D. Current overflow record keeping documentation of CIWQS certified reports and form utilization not being followed or properly documented or approved upon completion of the event.
Corrective Action: Develop an agency specific SSO Overflow Checklist (See attached) to coordinate and assure complete supporting documentation of an overflow event. Require LRO approval and certification of the final overflow event file.
- E. Limited and inconsistent implementation of CCTV and condition assessments of pipeline and force main infrastructure necessary to assure effectiveness and efficiency of maintenance activities and proper capital program prioritization based upon asset needs.
Corrective Action: Define and conduct regular CCTV and condition assessment program for sewer collection system assets (gravity, pressure and lift station) based upon risk and consequence factors and for capital program prioritization. Develop regular QA/QC evaluation of pipeline cleaning efforts.
- F. Currently there is no FOG permitting program for food service establishments in the SCSD service area.
Corrective Action: Prepare a written District standard operating procedure and implement an FSE permitting program with annual permits funded from FSE fees and charges.

- G. SCSD 2011 Sewer Master Plan is old and outdate and behind the implementation schedule.
Corrective Action: Consider authorization of a revised sewer collection system master plan earlier than 2022 along with a full supporting baseline pipe system CCTV assessment.
- H. Lack of clear documented emergency response contingency plans for lift station or force main emergency response. Roles and responsibilities not well defined.
Corrective Action: Prepare separate lift station emergency response contingency plans for each station and force main overflow events similar to MIW pump station contingency plans. Clarify roles and responsibilities between SCSD and MIW for both maintenance and emergency response especially related to force mains.
- I. Current use of a paper recordkeeping systems makes evaluation of maintenance system operations difficult and ineffective.
Corrective Action: Consider the acquisition of a small computerized maintenance management system for both work order management and customer complaint management to demonstrate effective recordkeeping as required by the WDR and MRP.
- J. Current procedures for photographing of only Category 1 overflows does not provide proper documentation of the other categories of overflows which can be as environmentally damaging as Category 1 overflows.
Corrective Action: Modify emergency response procedures to require photographs or video evidence (photographer, dates, photo direction, etc.) of all overflow events, signs placed to protect the public, overflow sampling locations and cleanup activities. File in the approved overflow file
- K. While the SCSD Board receives regular monthly collection system maintenance reports, there is not regular reporting of final fiscal year performance results or audit report action items for corrective actions from the Audit Reports.
Corrective Action: Consider the preparation of an Annual Collection System Performance Summary Report to the Board of Directors. Assure that all Audit Reports and Corrective Action activities are included on regular Board agendas.
- L. Previous biannual audit deficiencies not clearly evaluated or completed. SSMP Change Logs not consistently updated.
Corrective Action: Establish process, assign responsible parties and create schedule for review and completion of the corrective actions identified herein. Assure regular updates to the SSMP Change Log between SSMP Board adoptions.

IX. Conclusions

While the SCSD 2014 SSMP Revision 2 is technically complete and included a comprehensive and aggressive description of the SCSD sewer program including critical supporting documents, it does appear that it has committed SCSD to procedures not being followed in the field and to

many annual actions that are not required by the regulations and/or do not bring operational value to the sewer program. The size of the document is cumbersome and not used by the staff responsible for the implementation of the sewer program. SCSO has been effective in reducing both the numbers and volumes of sewage overflows as a result of a long standing and very committed work force. Those efforts have recently been impacted by the inability to retain and recruit staff for the sewer operations. This is not true of the technical support for sewers as both additional staff and outside professional support have been added to expand the scope and results of the current and future sewer capital program. These changes should improve the prosecution of the capital improvement program projects,

In addition, the next revision of the SSMP should include the recommendations identified in Section V A. to C. for a complete and well documented SSMP. The actions and revisions described in the Audit Report should result in a fully compliant and user friendly plan that includes information expected by regulators and which can help reduce liability for enforcement or legal actions.

Finally, the staff should develop a schedule and assign responsibility for the completion of each of the correction action items along with regular reporting and documentation of the activities to complete the action items until complete or a determination is made to not implement the corrective action.

Attachment 1: Audit Schedule

	Wednesday	Thursday
	9/25/19	9/26/19
8:00	Dave Fortune	Travis Edwards. Roy Tilley
8:30		
9:00	Rosa Salcedo; Leslie	
9:30	Milton-Rerig	Jacque Tulva
10:00	SSO Record Keeping- Evaluation	Scott Ottmar; Misty Bradshaw
10:30		
11:00		
11:30		
12:00		
12:30		
1:00		Edward Pestrano, M1W
1:30	Rick Riedl	
2:00		
2:30		
3:00	CIWQS Data Training	
3:30		
4:00		
4:30		

Attachment 2: 2017 Deficiencies Status

Element	2017 Audit Recommendation	Current Status	Comments
1	Revise the Goal Section in the next 5 year SSMP Update	In progress	Several CIP projects are in design or construction. Goals will be evaluated once firm construction costs are understood.
2	Continue to update the Organization Section and keep CIWQS current	Completed	Org Chart updated.
3	Continue to update the Legal Authority Section when there are future updates to District Ordinances.	Completed	Ordinance 20 & 21 uploaded to website.
4	Update and implement the deficient portions of the Operations and Maintenance Program Section by the end of 2017.	In progress	Maintenance crews and engineering staff continually monitor SSOs and adjust O&M as needed.
6	Consider training every 2 years in tandem with the SSMP Audit.	In progress	Staff receives frequent training on safety throughout the year as part of weekly tail gate meetings. Staff recently receive training on SSO response/reporting , volume estimation and bypass procedures.
7	Revise the FOG Program section with MRWPCA FOG Inspection results in 2017.		
8	Provide annual updates on the status of CIP in the SSMP		SCSD has issued contracts for upgrades to the Del Monte, Rosita, and Military lift stations. SCSD is in design for sewer main replacements within Canyon Del Rey and Del Monte Boulevard.
9	Develop a plan to implement goals/commitments and evaluate O&M activities by the end of 2017. Document these activities.	In progress	O&M activities are reviewed presented at each monthly board meeting. Specifically, the length of lines jetted and the number and location of SSO are reported monthly.
10	Conduct next SSMP Audit prior to August 2, 2019.	In progress	
11	Continue to advocate for the return of a Collection System Satellite Agency meeting with MRWPCA	In progress	Staff currently meets with representatives of Monterey 1 Water (formerly MRWPCA) on a quarterly basis.
2017 Audit Report Deficiency Recommendations			
2	Revise this section when new staff is assigned responsibilities that would require inclusion in this section.	Compliant	Org chart has been updated
3	Upload Ordinance 20 and 21 to the District website.	In progress	Completed 9/19/19
4	Deficient sections of the O&M Program to be created and documented in the next SSMP revision include:		
4	Implement a formal plan and schedule that documents manhole inspections.	In progress	District recently purchased video inspection van and equipment. Next step is to train staff to NASSCO MACP, LACP, PACP standards in Nov, 2019 and begin manhole inspections along with inspections of sewer mains. To be incorporated into CCTV program
4	Develop a formal Rehabilitation and Replacement (R&R) plan that incorporates CCTV sewer line condition assessments and future manhole inspection data. Include the proposed short- and long-term CIP completion schedule from the 2011 SMP.	Not started	See immediately above
4	Develop procedures specific to SCSD O&M activities and train on these procedures annually. Maintain documentation of this training.	In progress	See Audit Recommendations #6. Staff has received recent training on SSO reporting and volume estimation.
4	Develop a plan to incorporate and train new staff as current staff nears retirement to insure SCSD "institutional knowledge" is maintained and there is adequate staffing to maintain compliance with requirements found in the SSWDRs.	In progress	Difficulty recruiting new staff. Cross training has started.
6	Consider training every 2 years in tandem with the SSMP Audit.		See Audit Recommendations #6. Staff has received recent training on SSO reporting and volume estimation.
7	Re-start FOG inspections which was accomplished by hiring MRWPCA in January 2017.		Started inspections in late 2017. Approx 50 completed through 2018. Goal is to use in house staff to complete inspections
8	Track and update projects identified in the CIP project plan and schedule into annual updates to the SSMP.		See Audit recommendations #8 response.
10	Schedule future SSMP Audits and revise the SSMP with the dates of future audits which are to be conducted.	in progress	
11	Continue to advocate for the return of a Collection System Satellite Agency meeting with MRWPCA.	done	Staff meets quarterly with MIW.
Change Log	Completely deficient no updates since 9/9/2014 to any Elements of the SSMP.		Suggest revisions to SSMP. Incorporate new methods to track changes.

Attachment 3: Sample SSMP Goals

Possible Goals for Sanitary Sewer Management Plans Element 1

1. To properly manage, operate, and maintain all portions of the agency's wastewater collection system.
2. Provide adequate capacity to convey the peak wastewater flows associated with the design storm event. Adequate capacity, for the purposes of this SSMP, is defined as the capacity to convey the peak wastewater flows that are associated with the design storm event.
3. Prevent or minimize the frequency of SSOs.
4. Reduce the number of SSOs and to achieve the greatest reasonable reduction in SSOs.
5. To mitigate the impacts that are associated with any SSO that may occur.
6. Eliminate or minimize preventable SSOs.
7. Minimize and mitigate the adverse impacts of SSOs that may occur despite best efforts.
8. Minimize the frequency of SSOs
9. Reduce, prevent, and mitigate the impacts of SSOs
10. To meet all applicable regulatory notification and reporting requirements.
11. To provide adequate capacity to convey the peak wastewater flows.
12. To measure progress through performance measures so the plan can be adjusted as needed.
13. To Protect public health and safety, and the environment.
14. Prevent unnecessary property damage.
15. Provide a safe work environment for employees and contractors.
16. To effectively identify and remedy design, construction, and operational deficiencies.
17. To perform all operation and maintenance activities in a safe manner.
18. Prevent adverse impacts to waters of the U.S., and their beneficial uses.
19. Ensure corrective action is taken in a timely manner.
20. Ensure compliance with current regulatory requirements.
21. Document and define procedures to address SSO prevention and response.
22. Prepare for emergencies.
23. Be a part of the community and be a responsive public agency.
24. Involve employees in the strategic planning process for the Collection System.
25. Effectively plan system expansion to meet the capacity needs of the agency served.

26. Set high, yet achievable standards for the construction of new infrastructure.
27. Cost effectively minimize infiltration/ inflow (I/I).
28. Maintain and improve the condition and performance of the agency's wastewater collection system.
29. Understand the condition of and maintain infrastructure to maximize the life of the collection system.
30. Properly operate and maintain the collection system to minimize financial impacts on customers.
31. Responsibly manage, operate, and maintain all parts of the wastewater collection
32. Adhere to the components of the SSMP.
33. Provide adequate capacity to.
34. Be available and responsive to the needs of the public and work cooperatively with local, state and federal agencies to reduce, mitigate the impacts of, and properly report SSOs.
35. Identify, prioritize and continuously renew and replace sewer system facilities to maintain reliability.
36. Implement regular, proactive maintenance of the system to remove roots, debris, and fats, oils and grease (FOG) in areas prone to blockages that may cause sewer backups or SSOs.
37. Uphold high standards and specifications on newly constructed and/or rehabilitated public and private sewers.

Attachment 4: Sample Table of Responsibilities

Table 2-1 List of Responsible Staff for SSMP

SSMP Element	Responsible City Official	Phone Number	Email Address
Introduction			
I – Goal			
II – Organization			
III – Legal Authority			
IV – O&M Program			
V – Design & Performance Provisions			
VI – Overflow Emergency Response Program			
VII – FOG Control Program			
VIII – System Evaluation and Capacity Assurance Plan			
IX – Monitoring, Measurement, and Program Modifications			
X – SSMP Program Audits			
XI – Communication			
App A – SSMP Change Log			
App B – SSMP Adoption Documents			
App C – Audit Reports			

Attachment 5: Sample SSO File Checklist

SSO Event Checklist

Date of SSO _____ SSO Location/Name _____
 CIWQS Event ID # _____ Category? 1 2 3 OES# _____
 Property Damage? Yes No Service Request # _____

<ul style="list-style-type: none"> <input type="checkbox"/> Effort made to contain and return a portion to the sanitary sewer <input type="checkbox"/> Pictures/video taken of overflow <input type="checkbox"/> Pictures taken of affected/unaffected area <input type="checkbox"/> If Property Damage, start that process <input type="checkbox"/> Pictures taken of containment efforts <input type="checkbox"/> If Cat 1 >1000 gals OES Control # _____ <input type="checkbox"/> Impacted waters identified? <input type="checkbox"/> No impacted waters? <input type="checkbox"/> Field Report Form Complete (includes fields for all required fields in CIWQS, and a sketch of SSO) <input type="checkbox"/> Volume Estimation Worksheet Done <input type="checkbox"/> Start Time Determination Form Done <input type="checkbox"/> Initial review of Forms is complete (ensure consistency with dates, times, volumes, and other data) <input type="checkbox"/> Review of pics and vids (label/date) <input type="checkbox"/> Start Folder for all documentation for this SSO event. Put everything in it (SR, Field Reports, Worksheets/Forms, follow-up work orders, notes, pics, drawings, etc. CIWQS print outs and emails) <input type="checkbox"/> Failure Analysis <ul style="list-style-type: none"> <input type="checkbox"/> TV to determine cause <input type="checkbox"/> Review Asset History <input type="checkbox"/> Determine next steps to prevent recurrence <input type="checkbox"/> Document findings and next steps on Field Report <input type="checkbox"/> Submit Draft in CIWQS w/in 3 business days (for Cat 1 and 2 only) <input type="checkbox"/> Print CIWQS Draft Hard Copy and email <input type="checkbox"/> Review CIWQS, Field Reports, Worksheets, CMMS, and any other documentation to ensure data is consistent ie dates, times, volumes, cause, follow-up action etc. <input type="checkbox"/> Submit Ready to Certify in CIWQS (with sufficient time for LRO review) <input type="checkbox"/> Print CIWQS Ready to Certify and email <input type="checkbox"/> Hand Folder to LRO 	<ul style="list-style-type: none"> <input type="checkbox"/> LRO review folder and CIWQS verify accurate and consistent data <input type="checkbox"/> Certify in CIWQS (w/in 15 Calendar days for 1 & 2, 30 days after the month for Cat 3) <input type="checkbox"/> Print Certified CIWQS and email <input type="checkbox"/> Any changes? Change in CIWQS and hard copies and explain changes, print our current version <input type="checkbox"/> Move completed folder to SSO Binder <p>For 50,000 Gallons or larger</p> <ul style="list-style-type: none"> <input type="checkbox"/> Follow Water Quality Monitoring and Sampling procedures <input type="checkbox"/> Map of where samples were taken <input type="checkbox"/> Sampling results <input type="checkbox"/> Write Technical Report <input type="checkbox"/> Attach to CIWQS <input type="checkbox"/> Add to SSO Folder/Binder <p>If any changes are made to SSMP</p> <ul style="list-style-type: none"> <input type="checkbox"/> Update SSMP and link on CIWQS to SSMP <input type="checkbox"/> Add to SSMP Change Log <input type="checkbox"/> If change is substantive, re-certify SSMP
--	---