CITY OF ROSEVILLE
Sewer System Management Plan (SSMP)
Biennual Audit for FY 11/12 – FY 12/13

Date: December 2013

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SECTION 1 Audit Objectives

This report summarizes the results of the required Sewer System Management Plan (SSMP) internal audit process for the FY 11/12 and FY 12/13 evaluation period. The purpose of the SSMP is to provide a written framework for sanitary sewer collection system management, operation, and maintenance programs executed by the City of Roseville (City) with the ultimate goal of minimizing sanitary sewer overflows (SSOs) and achieving compliance with California State Water Resources Control Board (SWRCB) Order No. 2006-0003-DWQ, the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS WDR). The SSMP audit is based on a review of performance measures established to evaluate the City's success in achieving compliance with various requirements of the SSS WDRs and implementing programs as stated in the SSMP. The SSMP audit process allows the SSMP document to evolve over time through the identification of potential enhancements in the management, operation and maintenance of the sanitary sewer collection system and the implementation of changes to the SSMP to address any deficiencies.

The City of Roseville is committed to complete biennial audits of the SSMP consistent with the procedure outlined in Appendix J-1 of the SSMP. To ensure that the audits are performed objectively, the City assigns this task to individuals that are removed from the daily activities of the Wastewater Collections (WWC) division. These individuals, along with the assistance from the Wastewater Collection Superintendent and/or Supervisor, must have a working knowledge of the collection system and the ability to gather the appropriate data to perform the audit. The following tasks, at a minimum shall be performed with each audit:

1. Compare the records from the computerized maintenance management system (CMMS) of record, to the data reported to the California Integrated Water Quality System (CIWQS). Review performance metrics tracked by the WWC division versus previous years to identify trends. (see **Section 3.1**)
2. Review condition assessment data and rehabilitation philosophy/strategies with the Wastewater Superintendent and/or Supervisor and the Rehabilitation Manager. **(See Section 5.4)**
3. Review records from previous internal audits, to ensure noted deficiencies have been addressed. (**this Section**)
4. Review preventative maintenance schedules, responses to SSOs, and mitigation of SSO causes. (see **Section 3.1**)
5. Review SSO Emergency Response Plan (SSOERP) and identify improvements if needed. (see **Section 5.6**)
6. Identify accomplishments in improving the collection system.
7. Record all findings during the audit process and keep the audit on file. (see **Section 5.10**)

SECTION 2 Agency Background / System Information

The City of Roseville is located in Placer County and situated approximately 16 miles north of Sacramento. The City covers approximately 42 square miles near the base of foothills of the Sierra Mountains. The elevations in Roseville range from approximately 250 feet to 100 feet above sea level with an average slope across the City of 0.5% from east to west. Several streams flow through the City (i.e., Dry Creek, Pleasant Grove Creek, Kaseburg Creek, Linda Creek, Cirby Creek, Secret Ravine, and Miners Ravine).

The City is responsible for operation and maintenance of a growing sewer system. The current population is approximately 122,000. The population of the City of Roseville grew 48.6% between 2000 and 2010, which is more than five times the national average according the U.S. Census Bureau. The City's sewer collection system has grown in step with the rapid population growth. The City currently provides service to over 41,000 connections to the system. **Table 1** provides additional information about the City collection system and WWC division over the last two SSMP audit periods.

Table 1. Overview of System Indicators

Audit	FY 09/10 – 10/11	FY 11/12 – 12/13
Miles of Mainline	522	485.52*
Miles of laterals (lower)	208	235.3
Pump stations	13	14
Population served	118,788	122,060
WWC Staff	24	25
Annual Budget (FY1 – FY2)	$3,200,000 / $3,200,00	$3,400,000 / $3,800,00
Category 1 SSOs	2	2
Category 2 SSOs	19	75

* Previously recycled water pipelines were included in "Miles of Mainline".

The City treats the wastewater conveyed through its collection system at two regional wastewater treatment plants owned and operated by the City (i.e., the Dry Creek and Pleasant Grove WWTPs). Two satellite agencies (i.e., South Placer Municipal Utility District and Placer County) discharge wastewater into the City's collection system. A small portion of the City's collection system discharges into the Sacramento Area Sewer District system and is treated at the Sacramento Regional WWTP.

2.1 Review of Last SSMP Audit

An internal audit of the City SSMP was conducted and concluded on March 14, 2012 which reviewed the activities and performance related to the SSMP for the fiscal year 2010/2011 (FY10/11). **Table 2** summarizes the identified deficiencies and the associated action items outlined in the previous SSMP audit. The table also shows the date when the identified deficiencies have been resolved. All identified deficiencies in the previous audit were addressed quickly. The three items that have a "Yes" in the "Resolved" column were found to have been updated when reviewed as part of this audit, but no revision date was available. The remainder of the deficiencies were updated in the SSMP and referenced documents and marked with a revision/updated date.

Table 2. Summary of Findings from the Last SSMP Internal Audit

Element	Action Item	Resolved
1 – Goals	Review and revise goals. Goal 1 is obsolete since the City's SSMP development plan and implementation schedule is complete.	16 APR 2012
2 – Organization	LRO needs to be updated on City's website.	3 MAR 2012
	Section 2.2 outlining SSMP Responsibility Organization Chart needs to be updated, then placed on City's website.	16 APR 2012
	Management contact information needs to be updated on City's website and general position descriptions need updating.	Yes
	Contact information for maintenance personnel and after-hour response needs to be updated on City's website.	22 FEB 2012
	Chain of Communication reporting section needs to be updated on City's website, along with RWQCB contacts updated.	9 MAY 2012
4 – O&M	Business process needs to be developed to ensure mapping updates are completed.	28 MAR 2012
	Update needed to App D-6 (Equipment Inventory) and D-7 (Critical Parts)	Yes
6 – OERP	Updates needed to Appendix F (SSOERP Documents). Changes to SSOERP flowchart are needed for notifications. Information needs to be updated on City's website.	20 MAR 2012
8 – MMM	Update Element 9.4 to add lateral lining and maintenance programs. Remove the measure for chemical root control as the City does not use chemicals to control root growth.	16 APR 2012
11 - Communication	SSMP and supporting documents need to be updated on the City's website. Revisions and log kept internally, but neglected to update via the website.	Yes

2.2 Review of FY11/12 and FY12/13

Over the past two fiscal years it has been a priority of the City to eliminate mainline SSOs, which pose the largest risk for Category 1 SSOs due to the larger volumetric flowrate of wastewater in mainlines versus laterals. Having only six mainline SSOs (two Category 1 and four Category 2) over the two year period for an average of 0.62 SSOs/100 miles of pipeline per year is evidence of that priority. Of the six, two SSOs were caused by an unusually large storm that was reported as greater than the design capacity of a 10 year 24 hours storm. Two SSOs were caused by the accumulation of Fats, Oils, and Grease (FOG), and the last two were caused by overgrown roots.

Due to the large number of SSOs from laterals over the current audit period, plans were developed to address the issue of lateral SSOs. Records of the events listed the causes of the 71 lateral SSOs as; roots (49), debris (12), pipe failure (9), and vandalism (1). In FY11/12 the City rehabilitated 0.22 miles of laterals and 0.25 miles of laterals in FY12/13. Also, the Roseville WWC has developed and implemented an eeling program for lateral lines as a preventative maintenance activity targeted at reducing SSOs from laterals. This plan is explained below in **Section 3.2** regarding SSO reduction goals.

SECTION 3 SSO Trends

3.1 Historical SSO Data

There are a total of 77 spills that occurred in the fiscal years of 2011/2012 and 2012/2013. Information regarding the 77 SSOs is located in **Appendix 7.1** of this internal audit and includes information such as; date, location, spill type, spill volume, spill volume recovered, and a short description.

One of the City-defined tasks of the internal audit is to compare the information submitted to the state CIWQS database against the information keep in the City records regarding SSO events. **Table 3** organizes the data by source to show discrepancies, if any, between the data reported to CIWQS and the City's records.

Table 3. CIWQS and City SSO Historic Data

SSO Historical Data since last SSMP Internal Audit	CIWQS Data FY 11/12 – 12/13	Internal Records FY 11/12 – 12/13
The total number of potential SSO service calls received	-	943 service calls
The total number of SSOs reported	77 SSOs	77 SSOs
The reported total volume of SSOs	2053 gallons	2053 gallons
The reported total volume of SSOs that reached waters of the state	405 gallons	405 gallons
The percent volume of SSOs recovered	80%	80%
The average SSO response time	23 minutes	21 minutes
The average SSO duration time	18 minutes	-

The WWC Superintendent verifies, on a quarterly basis, the data in CIWQS against the information gathered and maintained by the City on individual SSO Field Report Forms on a regular basis. The information presented in the column labeled "Internal Records" of **Table 3** represents the summarized information reported in the various performance measures maintained by the City.

The City strives to maintain quality data regarding historical SSOs so that trends in the occurrences and potential causes of SSOs can be investigated. The following discussion investigates the City's historical SSO data to identify potential SSO trends so that future efforts can be targeted to reduce SSOs.

Figure 1: Number of SSOs per Fiscal Year

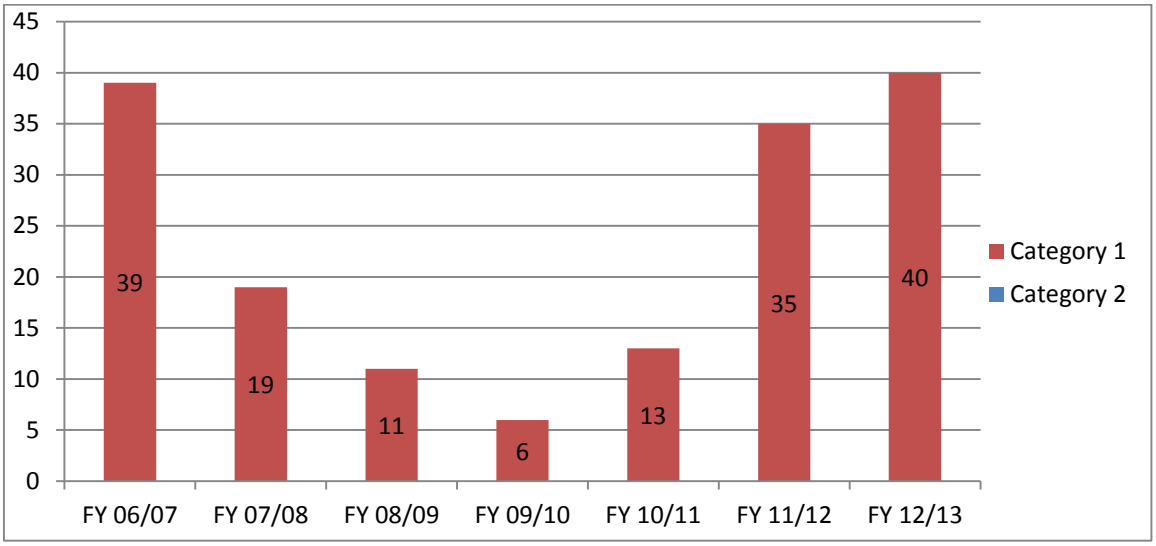
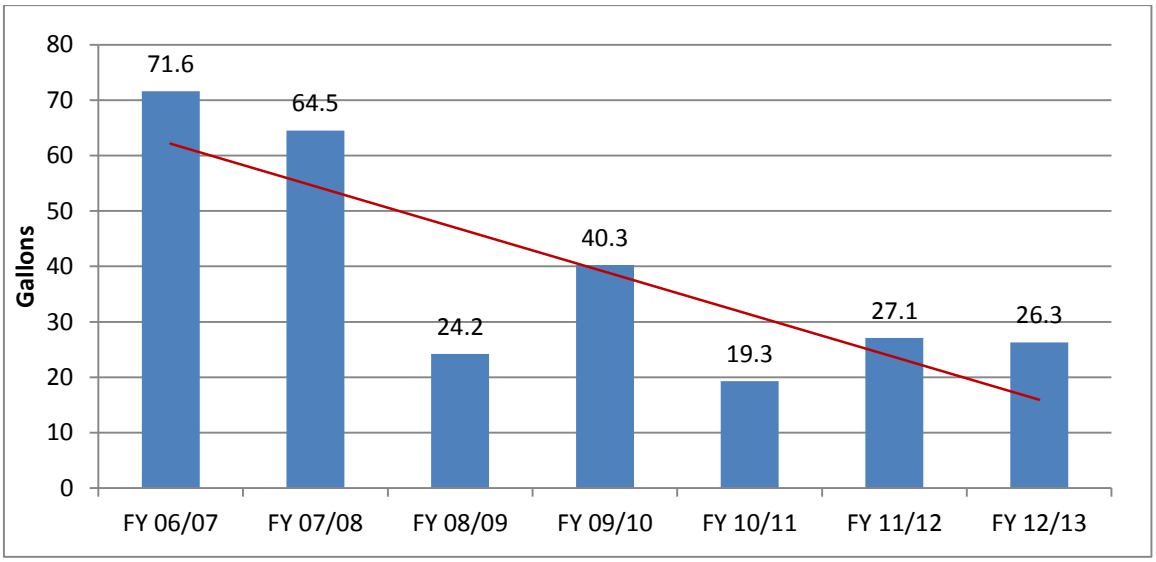


Figure 1 shows a decrease in the number of SSOs per year from FY06/07 to FY09/10 and an increase in the number of SSOs since that time. However, if we investigate the average spill volume for each SSO over the same time period, we see a downward trend (see **Figure 2**). Although the number of SSOs in FY11/12 and FY12/13 is similar to the number of SSOs seen in FY06/07, the average spill volume per SSO during FY11/12 and FY12/13 is less than half of what was recorded during FY06/07 and FY07/08.

Figure 2: Average Gallons per SSO



These trends indicate that the City has effectively targeted its efforts to limit large-volume SSOs through the preventative maintenance programs for mainline assets (e.g., hydroflushing, CCTV inspection) and the City SSO emergency response plan. However, these trends also show that the number of SSOs (specifically those from laterals) is on the rise over the period of this internal audit.

The City's SSO records were queried to identify the leading causes of SSOs. **Table 4** shows the leading causes of SSOs in the City by 1) the number of SSOs, 2) the spill volume of SSOs, and 3) the average spill volume per SSO.

Table 4. Leading Causes of SSOs in FY11/12 and FY12/13

By Number		By Volume		By Average Volume per SSO	
Cause	**Number**	**Cause**	**Gallons**	**Cause**	**Gallons**
Roots	51	Roots	1235	Capacity	200
Debris	12	Capacity	400	FOG	39
Pipe Failure	9	Debris	222	Roots	24
FOG	2	Pipe Failure	114	Debris	19
Capacity	2	FOG	77	Pipe Failure	13
Vandalism	1	Vandalism	5	Vandalism	5

Table 4 shows that root growth in pipelines is the major cause of an occurrence of a SSO, and capacity-deficient pipelines are the major cause for SSOs with large spill volumes. The actions planned as a result of this SSMP audit will target the leading causes to most effectively reduce the number and spill volume of SSOs.

3.2 SSO Reduction Performance Goals

One of the goals of the City's SSMP is "to minimize the frequency of SSOs". The City has set specific goals to monitor its performance in regards to the frequency of SSOs. **Table 5** compares the City SSO goals against the actual number of SSOs during the timeframe of the last SSMP internal audit, the timeframe of the current SSMP internal audit, and the table lists the SSO goals projected before the City's next internal SSMP audit. It should be noted that the goals for the upcoming two fiscal years reflect the change in how SSOs will be categorized and reported to the state based on the recent SSS WDR Revised Monitoring and Reporting Program (Revised MRP) (WQ 2013-0058-EXEC). Additional recommendations on tasks the City should implement to comply with the Revised MRP are described in **Section 5.9**.

Table 5. SSO Reduction Goals

	FY09/10 – 10/11		FY11/12 – 12/13		FY13/14 – 14/15
	Goal	Actual	Goal	Actual	**Goal**
Mainline SSOs	6[1]	4	6[1]	6	**6**
Lateral SSOs	38[2]	17	38[2]	71	**70**
Category 1 SSOs	0	2	0	2	**0**
Category 2 SSOs	28[3]	19	28[3]	75	**6**
Category 3 SSOs[4]	-	-	-	-	**70**
Total SSOs	**44**	**21**	**44**	**77**	**76**

[1] Based on a goal of 0.6 mainline SSOs per 100 miles of sewer main per year w/ 487 miles of mains.
[2] Based on a goal of 8.0 lateral SSOs per 100 miles of service laterals per year w/ 235 miles of laterals.
[3] Based on a goal of 2.0 Category 2 SSOs per 100 miles of sewer pipe per year w/ 722 miles of total pipe.
[4] Category 3 was added as a new spill definition by State Order No. WQ 2013-0058-EXEC in Sept. 2013.

The SSO performance goals for the period before the next internal SSMP audit are set consistent with the performance metrics set by the City (i.e., number SSOs per 100 miles of pipe per year) and the performance of municipal agencies in the state. The goal for the number of mainline SSOs is based on an aggressive performance measure of 0.6 SSOs per 100 miles of mainline per year. The performance of the City has been consistent against this goal based on the data in **Table 5**, and represents a satisfactory level of service. The goal for the number of lateral SSOs was exceeded during the period of this internal audit. This goal was adjusted to a total of 70 lateral SSOs for the next SSMP audit period. This represents a realistic goal for the City to strive for and represents a reduction in the number of lateral SSOs. This goal represents an average of approximately 15 SSOs per 100 miles of service lateral per year, which is significantly less (i.e., 42% less) than the statewide average of 26 SSOs per 100 miles of pipe for municipal agencies according to past SSO Facility Operational Reports provided by the State Board.

3.2.1 Planned Efforts to Reach Identified SSO Reduction Goals

The following section describes specific changes to be implemented based on the identified SSO trends to meet the target reduction goals in **Table 5**. The discussion of planned efforts is broken down into a number of potential categories (i.e., cleaning, tools, maintenance schedules, BMPs, staffing, funding, and training). It is recommended that these categories for potential changes be revisited with each subsequent SSMP internal program audit to examine if they may apply to future conditions. Changes in each category may not be necessary in each audit, but addresses each category provides a holistic approach to SSO reduction.

Changes to be employed to sanitary sewer system cleaning

No planned changes to current cleaning activities are anticipated to meet SSO reduction goals.

Changes to be employed to sanitary sewer system tools and/or technology

The City has implemented a standard operating procedure to utilize trenchless technology to rehabilitate service laterals that are prone to blockages. After hour service calls are tracked by the City for each sewer service lateral. Once a sewer service lateral receives six after hour service calls, it is lined to minimize root growth.

Changes to be employed to sanitary sewer system maintenance and repair schedules

The City has investigated methods to decrease the growing number of SSOs from laterals. The City reinforced the efforts of its eeling program near the end of FY12/13. More details about the eeling program are outlined in **Section 5.4**. Based on the data collected during the two months that the eeling program has been in effect, there has been marked improvement. The City of Roseville averaged approximately four lateral SSOs per month during the period of this audit. In the two months since the start of the new eeling program, there was an average of one lateral SSO per month. Although the new eeling program has only been in effect for a short time, the preliminary results indicate that it is effective in reducing the number of SSOs from laterals and should be continued. The new eeling program is one of the planned efforts to meet the SSO reduction goals set in **Table 5**.

Changes to be employed to sanitary sewer system best management practices

No planned changes to sewer system best management practices are anticipated to meet SSO reduction goals.

Changes to be employed to sanitary sewer system staffing levels

The City intends to hire one additional staff during the period of the next SSMP audit.

Changes to be employed to sanitary sewer system funding levels

No planned changes to funding levels are anticipated to meet SSO reduction goals.

Changes to be employed to sanitary sewer system training

It is anticipated that training of WWC staff to the revised OERP (see **Section 5.6**) will be required to effective meet the SSO reduction goals.

Measures to Assure No Repeat SSOs

"No repeat overflows from the same location" is one of the City's SSMP goals and one of the performance measures tracked over time. The City employs various strategies to meet the goal of no repeat SSOs from the same location. The City completes a System Failure Form for every SSO that occurs to identify any potential for a repeat blockage.

Table 6 describes the related sanitary sewer system rehabilitation and capital improvement projects, including schedules and costs, planned before the next SSMP internal program audit.

Table 6. Planned R&R and CIP Projects Planned Before Next SSMP Audit

Project	Year	Cost
Atkinson / Dry Creek Crossing	2013	$ 314,500
Shadowbrook Lift Station Rehab and Replacement	2014	$ 525,000
2012 CIPP Rehab Project	2014	$ 1,890,000
Wastewater Interceptor Inspection and Assessment	2014	$ 500,000
Sewer Line / Clean Out / Sewer Service Upgrades	2014	$ 300,000
WW – Technology Replacement	2014	$ 50,000
Sewer Manhole Upgrade	2014	$ 250,000
2013 CIPP Rehab Project	2015	$ 1,890,000
Sewer Line / Clean Out / Sewer Service Upgrades	2015	$ 300,000
WW – Technology Replacement	2015	$ 50,000
Sewer Manhole Upgrade	2015	$ 250,000

Table 7 describes the target goals for time between notification of a potential SSO and arrival on scene for containment (i.e., SSO response time) under varying conditions.

Table 7. Goals for SSO Response Time

Condition	Goal
During normal business hours	40 minutes
After business hours / holidays	40 minutes

SECTION 4 Audit Procedure

Per SSS WDR Section D.13.x, the objective of this audit is to focus on evaluating the effectiveness of the SSMP and the City's compliance with the SSMP requirements identified in the SSS WDR order. This section describes the procedure used to accomplish this objective.

4.1 Review of SSMP Compliance

An assessment of the City of Roseville's SSMP was conducted as part of the audit against the requirements outlined in the SSS WDR. The subsections of **SECTION 5** below are organized by SSMP element. Each subsection contains a table which lists the requirements of section D.13 of the SSS WDR for the respective SSMP element and indicates the level of compliance of the SSMP against that requirement. The compliance status of the City's SSMP is indicated with one of the following ratings; *1 - in compliance, 2 - not in compliance, or 3 – N/A with written justification in SSMP*. If there are deficiencies with regards to compliance, an explanation of the deficiency is given. Each deficiency will have associated SSMP enhancements which may include action items, SSMP adjustments, and/or timelines of planned completion.

4.2 Review of SSMP Effectiveness

Subsequent to the indication of the level of compliance of the SSMP in relation to the requirements of the SSS WDR, an evaluation of the effectiveness of the SSMP elements will be conducted to comply with the requirements for SSMP audits per subsection D.13.x of the SSS WDR. Where appropriate, recommendations will be made based on the results of this audit to identify tasks to improve the effectiveness of SSMP activities. Wherever possible, performance metrics will be used to measure the effectiveness of SSMP elements. Performance indicators (PIs) will be recommended for SSMP elements that do not currently have a means for quantifiably measuring performance and where it is justified.

A summary of the recommended modifications made throughout this SSMP internal program audit is included in **SECTION 6** – Audit Summary.

SECTION 5 Audit of SSMP Elements

This chapter evaluates all elements of the City's SSMP. Each section of this chapter is associated with one of the eleven elements of the SSMP required by SSS WDR D.13. Each element is evaluated for compliance and effectiveness using the procedure described above in **Sections 4.1** and **4.2**, respectively.

5.1 Goals

5.1.1 Compliance

Table 8. Compliance with SSS WDR D.13.i - Goals

SSMP Requirement	Compliance	Deficiencies
i Properly manage, operate, and maintain all portions of the City's wastewater collection system.	1	-

5.1.2 Effectiveness of SSMP Elements and Recommended Modifications

Roseville Goals (SSMP 1.2)

- Description of Current Status: The City currently has six goals identified in the SSMP.
- Level of Effectiveness: The goals the City of Roseville recorded in the SSMP have been effective in guiding the activities of the City and support the objective of the SSS WDR to protect waters of the state.
- Recommendations: No recommended modifications at this time.

5.2 Organization

5.2.1 Compliance

Table 9. Compliance with SSS WDR D.13.ii - Organization

SSMP Requirement	Compliance	Deficiencies
ii(a) Identify Legally Responsible Official (LRO)	1	-
ii(b) SSMP responsibility and organization chart	1	-
ii(c) Chain of communication for reporting SSOs	1	-

5.2.2 Effectiveness of SSMP Elements and Recommended Modifications

List Legally Responsible Official (LRO) (SSMP 2.1)

- Description of Current Status: Currently Ken Glotzbach (Utility Manager) and Chris Bracco (Wastewater Collections Superintendent) are registered in the California Integrated Water Quality System (CIWQS) as legally responsible officials as of 9 SEP 2013. This type of information is recorded in Appendix B-1 of the City SSMP, which is accessible to the public via the City website.
- Level of Effectiveness: Posting Appendix B-1 on the City website is effective in communicating the legally responsible officials and data submitters for the City to the public.

- Recommendations: Appendix B-1 needs to be updated to show Ken Glotzbach and Chris Bracco as LROs for the City. Additionally, once Dan Pruden (Wastewater Collections Supervisor) is registered as a Data Submitter in CIWQS, his information should be added to Appendix B-1 and updated on the City website.

SSMP Responsibility Organization Chart (SSMP 2.2)

- Description of Current Status: The SSMP Resposibility Organization Chart (SSMP Figure 2-1) is current in the SSMP, with descriptive definitions of each individual's responsibilities. Additionally, a narrative of "general position descriptions" are outlined in section 2.2 of the SSMP.
- Level of Effectiveness: The chart is effective in defining the work flow and responsibilities of the individual as well as departments within the City of Roseville's operations with relation to the SSMP.
- Recommendations: No recommended modifications at this time.

Chain of Communication Reporting Chart (SSMP 2.3)

- Description of Current Status: The internal notification contact chart is current and readily available to all faculty members of the waste water utility district. The City of Roseville has a 24 hour call center and a full time staff wastewater utility customer service representative. This individual's job is to respond to any service calls including but not limited too; backups, SSOs, smell complaints, etc.
- Level of Effectiveness: This has been effective as represented in customer notification to operator arrival time average is 23 minutes during business and non-business hours over the past two fiscal years. This average time is well below the target of 40 minute arrival time. There is only one instance that the operator arrival time exceeded the target 40 minutes in the past two year. This track record indicates the right people are getting the information to correct staff members make a quick decision to respond and mitigate the SSO.
- Recommendations: Figure 2.2 in SSMP section 2.3 has typographical errors. There is text missing. The figure found in SSMP Appendix F-1 (1) - *SSO Procedures Flowchart* is the same chart, but includes all of the text. WWE recommends reinserting the figure from Appendix F-1 (1) into section 2.3 of the SSMP with the corrections made.

  Appendix B-3 includes a call list of staff members who are on call during non-business hours; this is out of date, but also unnecessary. WWE recommends the City develop a SOP for the call center procedures for receiving calls and mobilizing field staff. A call list may be kept internally as deemed necessary by the City.

5.3 Legal Authority

5.3.1 Compliance

Table 10. Compliance with SSS WDR D.13.iii – Legal Authority

SSMP Requirement	Compliance	Deficiencies
iii(a) Prevent illicit discharges	1	-
iii(b) Properly designed and constructed sewers	1	-
iii(c) Ensure access to laterals owned/maintained by City	1	-
iii(d) Limit the discharge of FOG and other debris	1	-
iii(e) Enforce any violation of City ordinances	1	-

5.3.2 Effectiveness of SSMP Elements and Recommended Modifications

Industrial Pretreatment Program (SSMP 3.2)

- Description of Current Status: The Industrial Waste Section (IWS) administers the Pretreatment Program Enforcement Response Plan and implements enforcement procedures specified by the U.S. EPA in accordance with 40CFR 403.5 (f) (5). The IWD has the authority to permit and monitor significant industrial users (SIUs) and small commercial/industrial dischargers.
- Level of Effectiveness: The implementation of the Pretreatment Program Enforcement Response Plan has been effective in providing the City the authority to control and prevent illicit discharges to the collection system.
- Recommendations: No recommended modifications at this time.

Municipal Code and Design and Construction Standards (SSMP 3.3)

- Description of Current Status: The City's design and construction standards regulate the preparation of plans for construction of additions/improvements to the sewer. The Roseville Municipal Code (RMC) section 14.12.040 requires that building sewers and connection into the public sewer system conform to the requirements of the building and plumbing code or other applicable rules and regulations of the City. The RMC also requires an installation of a lateral line clean out at the point of connection with the public sewer.
- Level of Effectiveness: The City design and construction standards and the RMC section 14.12.040 have been effective in providing the City the legal authority to properly design and construct the sewers and connections.
- Recommendations: No recommended modifications at this time.

Municipal Code – Sewer Access Authority (SSMP 3.4)

- Description of Current Status: The Charter in the RMC, Article X Sec. 10.01 designates the authority to access City owned and operated facilities, either within or outside its corporate limits, for a number of activities including, but not limited to maintenance, inspection, and repair related to sewage collection.
- Level of Effectiveness: This authority gives legal access to all City-owned sewer facilities. The City has not had issues to date with lack of access to facilities based on legal authority. The current legal authority to access sewer facilities has been effective in supporting the goals of the SSMP.
- Recommendations: No recommended modifications at this time.

Municipal Code – FOG (SSMP 3.5)

- Description of Current Status: The RMC section 14.12.050 provides authority to require grease and grit interceptors when the director deems necessary for proper handling of liquid waste. Chapter 14.14 is the FOG ordinance that provides liquid discharge requirements for Food Service Establishments (FSEs). An FSE must remain in compliance with this ordinance or fees as explained in 14.14.140 can be cited.
- Level of Effectiveness: This ordinance is effective in identifying the required equipment/BMPs for FSEs as well as indicating the authority of the City to enforce the FOG requirements
- Recommendations: No recommended modifications at this time.

Municipal Code – Enforcement Authority (SSMP 3.6)

- Description of Current Status: The RMC section 14.12.060 provides authority to penalize violators of the City's code requirements. An individual may be charged with an infraction or a misdemeanor, at the discretion of the city attorney.
- Level of Effectiveness: The authority to penalize infractions that may cost the City recourses has proven effective to maintain proper use of the wastewater collection system.
- Recommendations: No recommended modifications at this time.

Inter-Agency Agreements and Satellite Systems (SSMP 3.7)

- Description of Current Status: The City of Roseville has the following agreements in effect:
  - Joint Exercise of Powers Agreement for the South Placer Wastewater Authority
  - Agreement Regarding the Operation and use of the South Placer Regional Wastewater Facilities
- Level of Effectiveness: These agreements have proven effective in laying out the legal requirements and responsibilities of the regional partners (City of Roseville, South Placer Municipal Utility District, and Placer County) with regards to planning, financing, acquisition, ownership, construction, and operation of Regional Wastewater Facilities for the treatment of the wastewater collected and conveyed through the City's collection system, and treated at the Regional Wastewater Facilities.
- Recommendations: No recommended modifications at this time.

5.4 Operation and Maintenance Program

5.4.1 Compliance

Table 11. Compliance with SSS WDR D.13.iv – O&M Program

SSMP Requirement	Compliance	Deficiencies
iv(a) Collection system maps	1	-
iv(b) Preventive O&M activities	1	-
iv(c) Rehabilitation and Replacement (R&R) plan	1	-
iv(d) Training	1	-
iv(e) Equipment and critical replacement parts	1	-

5.4.2 Effectiveness of SSMP Elements and Recommended Modifications

Roseville Collection System Maps (SSMP 4.2)

- Description of Current Status: The City maintains electronic and hard copy maps of the sanitary sewer system and storm drain system. The electronic mapping data are accessible in the City's GIS and hard copy maps are located in the various utility department offices and field crew trucks.
  Maps are updated with new sub-divisions, repairs, or rehabilitation or replacement of assets that require updating of the maps. The City Mapping Update Policy is followed in order in ensure mapping is correct and completed in GIS and made available to the required users.

- Level of Effectiveness: The City meets the requirements of section D.13.iv(a) of the SSS WDR for maintaining up-to-date mapping. However, the City currently has not identified the number and length of pipeline in the collection systems that is located in easements. Doing so will assist the City in identifying assets located in areas that are potentially difficult to access, thus increasing the risk of identifying and/or responding to SSOs from those locations.
- Recommendations:
    - Include the Mapping Update Policy document as an appendix to the SSMP and post it on the City's SSMP page of its website.

Roseville Preventive Operations & Maintenance Activities (SSMP 4.3)

- Description of Current Status: The audit identified and verified that the WWC engages in programs to complete the following routine preventative O&M programs/activities: cleaning program, CCTV inspection, visual inspection, regular maintenance, construction/repair, rehabilitation projects, customer service, and staff support.

  In response to the increased number of SSOs from laterals over the last two years, the City has reassigned one additional crew to the eeling program for service lines. Eeling is a mechanical cleaning process used to remove roots or blockages.

  The City has SOPs for both office and field workflows related to CCTV inspection work. SSMP appendices D-4 and F-4 are the same SOP for SSO Containment and Mitigation. The SSMP identifies that the City has standard operating procedures for SSO response and mitigation, backhoe operation, sewer cleaning equipment, locating and marking USAs.
- Level of Effectiveness: The City sets a number of metrics to measure the performance of the O&M activities, which are listed in SSMP section 9.4. The performance measures related to the O&M activities are listed in **Table 12**. The table also lists the targets for each performance measure and the actual performance accomplished in FY11/12 and FY12/13. The table shows that the City has met or exceeded the target level of performance in all of the measures that have a target.

Table 12. Performance Measures related to SSS WDR D.13.iv(b)

Performance Measure	Target	FY11/12	FY12/13
Total miles cleaned per year	250	277	272
Total miles of mechanical root control per year	-	9.74	11.23
Total number of sewer maintenance field staff	NA	23	23
Average high velocity cleaning per crew per day	NA	1866 LF	1852 LF
Average cost of sewer mechanical cleaning	-	$1.57 /LF	$1.36/LF

The City's recent effort to bolster its eeling program has initially shown a high level of effectiveness. As mentioned in **Section 3.2.1**, the number of SSOs from laterals has dropped from four SSOs per month on average to one SSO per month on average after the initiation of the changes to the eeling program.

The SOPs for preventative maintenance work are in their preliminary stages and could be more effective if they were finalized and documented for frequent use. The SOP WWC – 01 for SSO Containment found

in the SSMP appendices, could be used as a template for standardizing the development of the remaining SOPs.

- Recommendations:
  - Identify targets for all performance measures so that data collected can be compared to a goal to assess performance and the effectiveness of SSMP activities. A comprehensive review of benchmarks or performance measures/indicators is discussed in the recommendations of **Section 5.9**.
  - Continue the efforts of the recently revised eeling program due to the immediate impact on the frequency of SSOs from laterals. Data on the number of lateral SSOs per month should be monitored so that the impact of these efforts can be evaluated at the time of the next internal SSMP audit.
  - Develop SOPs for the regular preventative maintenance activities using SOP-WWC-01 as a template. The following is a list of suggested SOPs based on the activities currently tracked with performance measures:
    - Lift station maintenance
    - Receiving and responding to customer service request

Rehabilitation and Replacement Plan (SSMP 4.4)

- Description of Current Status: Pipelines and manholes are regularly inspected in accordance with the City's WWC Capital Improvement Plan, which began in 2006. The NASSCO rating system is used to document observations and rate defects. The length of pipeline and the number of manholes inspected each year are tracked with performance measures. The City evaluates the risk of failure for each asset based on the various data sources it maintains (i.e., CCTV, CMMS, GIS, capacity assessment, visual inspections) and assigns high risk assets to the Rehabilitation and Replacement (R&R) Plan.

  The City keeps a list of known R&R CIP projects that is developed and maintained by the Rehabilitation Manager. This list outlines the planned projects over the next five year to rehabilitate the system and includes information such as; the year of action, the project budget, the bid amount for current projects, the project status (e.g., in design, in construction, in punch list, completed), and tracking of various milestones.
- Level of Effectiveness: The City sets a number of metrics to measure the performance of the WWC activities, which are listed in SSMP section 9.4. The performance measures related to the inspection activities and R&R program are listed in **Table 13**. The table also lists the targets for each performance measure and the actual performance accomplished in FY11/12 and FY12/13. The table shows that the City has met or exceeded the target level of performance in all of the measures that have a target, with one exception. In FY11/12 the City missed its goal for total miles of CCTV inspection by 0.8 miles (2.7% of the goal). The City responded in the following fiscal year by more than doubling the targeted goal for CCTV inspection.

Table 13. Performance Measures related to SSS WDR D.13.iv(c)

Performance Measure	Target	FY11/12	FY12/13
Total miles visually inspected per year (not CCTV)	-	0.25	0.25
Independent manhole inspections per year	1054	1424	1328
Number of laterals rehabilitated using CIPP per year	50	134	50
Total miles CCTV inspected per year (main)	30	29.2	67.6
Average cost of CCTV	-	$0.48/LF	$0.56/LF

The known R&R CIP projects list has proven effective in identifying and planning the projects to be completed to address high risk areas of the system.

- Recommendations: The following recommendations are given to increase the effectiveness of this SSMP element:
    - Develop SOPs for regular inspection activities using SOP-WWC-01 as a template. The following is a list of suggested SOPs based on the activities currently tracked with performance measures:
        - Alarm testing of lift stations
    - Document the process/procedure for evaluating available data (i.e., CCTV, CMMS, GIS, capacity assessment, visual inspections), conducting a risk assessment to determine the assets to be renewed, and developing the R&R plan with its associated data.

Training (SSMP 4.5)

- Description of Current Status: The WWC require all employees to be certified with CWEA, DMV, CPR, First Aid, Confined Space Policy, and Gas Detector Policy, as well be trained in equipment safety, maintain OSHA rules, and review material safety data sheets.
- Level of Effectiveness: The training program has been effective in safe, well-trained staff. Over this audit period the City has reported three on-the-job accidents; two in FY11/12 and one in FY12/13. The City strives for zero on-the-job accidents and uses the training programs to improve safety at work.
- Recommendations:
    - The SSMP internal audit from FY10/11 stated that NASSCO training for condition assessment should be added to SSMP Element 4.5. The City implements the NASSCO rating system for collecting condition assessment data and provides this training to the WWC staff. While this is not a requirement of the SSS WDR, the City needs to decide if this training will be referenced in SSMP Element 4.5.
    - Use the SOPs recommended to be developed in this section as a training tool for WWC staff. The SOPs can also be used to inform contractors working in the system of the role they play in responding to and mitigating potential SSOs.

Equipment and Critical Replacement Parts (SSMP 4.6)

- Description of Current Status: The equipment inventory is found in Appendix D of the SSMP. WWC equipment use is monitored and maintained by the following persons:
    - WWC Superintendent – Equipment
    - Materials Technician – Pipes, manholes

- Mechanical Maintenance – Lift station equipment and appurtenances

The City currently has critical parts on hand but there are limited records about those parts. Appendix D-7 of the SSMP contains a matrix of the City lift stations and the types of critical spare parts (i.e., bubbler compressor, PLC cards, pumps, fuses, level control, radio telemetry, and heater/overloads).

- Level of Effectiveness: The City has experienced one SSO related to a lift station failure since 2007. The SSO occurred in 2008 as a result of a failed bubbler line, which caused the lift station to shut down. The volume of this spill was only 10 gallons due to the quick response of City staff and all 10 gallons were recovered. However, this lift station that caused the SSO is one of the smallest in the system with regards to flow rate. Although the probability of a lift station failure may be low based on the low frequency of SSOs from lift stations in the past, the consequence of such a failure could be very high and justifies the need for up-to-date records of critical spare parts.
- Recommendations:
  - The SSMP identifies the WWC Superintendent as the person responsible for maintaining lists of the equipment and critical spare parts. The position directly responsible for tracking equipment and maintaining up-to-date equipment and critical spare parts lists is Materials Technician. The SSMP should be updated to correctly reflect the responsible party for equipment and critical spare parts.

5.5 Design and Performance Provisions

5.5.1 Compliance

Table 14. Compliance with SSS WDR D.13.v – Design and Performance Provisions

SSMP Requirement	Compliance	Deficiencies
v(a) Sanitary sewer design and construction specifications	1	-
v(b) Procedures and standards for inspecting and testing new and R&R projects	1	-

5.5.2 Effectiveness of SSMP Elements and Recommended Modifications

Sanitary Sewer Design and Specifications (SSMP 5.2)

- Description of Current Status: The City's design and construction standards are available on the City website. These designs encompass the design needs for the waste water system for the City of Roseville. These standard details are available on records in the county office as well as on the City's website. The operating procedure for testing of new constructed pipes is clear and effective in determining readiness of newly constructed pipe. City specifications are updated as needed.
- Level of Effectiveness: These design and construction standards are effective in ensuring that new or rehabilitated infrastructure is designed and constructed in a manner acceptable to the City.

- Recommendations: No recommended modifications at this time.

Sanitary Sewer System Construction and Performance Provisions (SSMP 5.3)

- Description of Current Status: Section 91-12 of the City's Sanitary Sewer Construction Standards defines the criteria for testing and cleaning of installed sewer improvements. There is a punch list that must be followed to indicate compliance with this measure to ensure proper construction.
- Level of Effectiveness: This process lessens the chance of pipe failure by verifying, through proper testing, that new construction and rehabilitation work are completed correctly.
- Recommendations: No recommended modifications at this time.

5.6 Overflow Emergency Response Plan

5.6.1 Compliance

Table 15. Compliance with SSS WDR D.13.vi - OERP

SSMP Requirement	Compliance	Deficiencies
vi(a) Proper notification procedures	1	-
vi(b) Program for appropriate SSO response	1	-
vi(c) Procedure for prompt notification to regulatory agencies	1	-
vi(d) Procedures for appropriate staff and contractor training	1	
vi(e) Procedures to address emergency operations (e.g., traffic, crowd control)	1	-
vi(f) Program to ensure containment of SSO to prevent discharge and minimize adverse impacts on the environment	1	-

The State Water Board amended the monitoring and reporting program (MRP) with revised requirements (Revised MRP WQ 2013-0058-EXEC) that took effect September 9, 2013. The revised requirements are available at the State Water Resources Control Board's Sanitary Sewer Overflow Reduction Program website (http://www.waterboards.ca.gov/water_issues/programs/sso/). The changes from these revised requirements include the type data that must be collected in the event of an SSO and the follow up reporting that is required.

- Recommendations:
  - Complete all unpopulated fields in the revised "Collection System Questionnaire" in CIWQS. Enrollees have six months from the date that the revised MRP became effective to complete the questionnaire. This means that the questionnaire must be completed by approximately March 9,

2014. If this questionnaire is not completed by that time, the system will lock the Enrollee out from all reporting capabilities.

5.6.2 Effectiveness of SSMP Elements and Recommended Modifications

Notification Procedures (SSMP 6.2)

- Description of Current Status: The notification procedures are available in the on-call service vehicles and in the main office. The procedures include an easy to read flow chart with corresponding action items including contact information for the parties that require notification during an SSO event.
- Level of Effectiveness: The measures taken to ensure proper notification have been effective in providing prompt notification to the required parties based on various SSO scenarios. This is evident in the fact that the average SSO response time is just under 24 minutes for this audit period.
- Recommendations: No recommended modifications at this time.

Response Program (SSMP 6.3)

- Description of Current Status: The response procedure are documented in Appendix F-1 Section 2 of the SSMP and are summarized in a flow chart of actions required to respond to and mitigate a SSO.
- Level of Effectiveness: The flow chart steps through a series of yes/no questions to guide SSO responders to on the sequence of actions to proper assess and mitigate a SSO. This chart is simple and effective in explaining a process in which to mitigate an SSO.
  The SSO Response Program has been effective in responding and mitigating SSOs. This is evident in the fact that the average SSO duration is under 18 minutes. The average spill volume is less than 27 gallons and the average volume of SSO recovered is just over 21 gallons. The SSO response crew recovers on average almost 80% of a SSO. These averages come from the SSO data from this audit period (i.e., last two fiscal years).
- Recommendations:
  - Figure 6.2 in SSMP section 6.3 has a typographical error. There is text missing in some of the decision boxes. The same figure is in SSMP Appendix F-1(1) without the missing text. WWE recommends reinserting the figure with the corrections made or removing the figure from the SSMP and only reference Appendix F-1(1).
  - Section 2.I.A of the City SSO Response Procedures indicates that the time a call was received notifying the City of a SSO will be used as the SSO start time on the forms reported to CIWQS. WWE recommends that the City develop a SOP for estimating the start time of SSOs to include additional methods for examining possible start times to support the SSO start time entered into CIWQS.
  - The WWC has developed a table of information specific to lift station response which includes all of the lift stations in the City and lists for each station; the average flow from the station, the wet well depth, the volume of the wet well, the available storage/downtime if the lift station goes down, the point at which a SSO will first occur if the lift station goes down, the assigned manhole for decanting if vacuum trucks are used to draw down the wet well, and the street location of the

decant manhole. This information should be included as an Appendix in the OERP and the information for each lift station should be posted onsite at each respective lift station.

Regulatory Notification Procedure (SSMP 6.4)

- Description of Current Status: The Superintendent and Utility Manager are the legally responsible officials (LRO) for certification of SSO reports submitted to CIWQS data base. Also the Superintendent and Supervisor are responsible for reporting SSO to RWQCB, OES and Placer Environmental Health Department as necessary.
  Level of Effectiveness: This section clearly indicates the responsibility of the LRO regarding reporting SSO events to the proper authorities. To date, the City has not encountered a situation in which notification information for a required party was not available to City staff responding to a SSO.
- Recommendations: No recommended modifications at this time.

Staff and Contractors Training (SSMP 6.5)

- Description of Current Status: Each employee is required to complete SSO response procedure training. Updates and review of SSO training are included in the weekly tailgate meeting throughout the year. Contractors are also required to implement the procedures identified in the SSO training prior to working within the collection system.
- Level of Effectiveness: The implementation of the training program has been very successful as indicated in the historical data. Response and mitigation times of SSOs are almost half of the WWC set target time of 40 minutes.
- Recommendations: No recommended modifications at this time.

Emergency Response Coordination (SSMP 6.6)

- Description of Current Status: Employees are required to complete Emergency Action plan training annually. This covers HAZ WOPER 1st responder and Roseville's Incident Command System (ICS). These procedures, processes and systems are also reviewed through the year in weekly safety tail gate meetings.
- Level of Effectiveness: Training with HAZ WOPER is an effective way to ensure safety of the staff members when dealing with hazardous waste and materials.
- Recommendations: No recommended modifications at this time.

Spill Mitigation and Containment Procedure (SSMP 6.7)

- Description of Current Status: An SSOERP is available for staff to review and following during an emergency which includes an SOP for spill mitigation and containment.
- Level of Effectiveness: The SSOERP is comprehensive with indication of proper responsibilities as well as SOPs for containment (SOP WWC-01) and spill rate estimation (Section 5 of SSOERP).
- Recommendations: No recommended modifications at this time.

5.7 FOG Control Program

5.7.1 Compliance

Table 16. Compliance with SSS WDR D.13.vii – FOG Control Program

SSMP Requirement	Compliance	Deficiencies
vii(a) Public education plan	1	-
vii(b) FOG disposal plan	1	-
vii(c) Legal authority to prohibit SSOs and blockages caused by FOG discharges	1	-
vii(d) BMPs, grease removal devices, recordkeeping, and reporting requirements	1	-
vii(e) Authority to inspect and enforce FOG ordinance	1	-
vii(f) FOG Characterization Assessment and Hot Spot Cleaning Schedule	1	-
vii(g) FOG Control Program Measures	1	-

5.7.2 Effectiveness of SSMP Elements and Recommended Modifications

Public Education Plan (SSMP 7.2)

- Description of Current Status: There is a comprehensive FOG outreach program to residents, restaurants and the plumbing community on the proper disposal of FOG that the WWC adopted in May 2006. The main objective is to educate City of Roseville residents and restaurants on the proper disposal of FOG to meet or exceed outreach standards set forth in the State General WDR Requirements.
- Level of Effectiveness: This program implements modern media communication technologies; TV advertisements, flyers, inter-active website information, and information printed on monthly statements. The Public Education Plan recommends reaching out to K-12 schools to provide public education about the issues related to proper disposal of materials to the collection system. The efforts the City has made to incorporate multi-media information and target future users of the system appear to be effective in reaching the objective of educating the public on the proper disposal of FOG and other substances.
- Recommendations:
    - List Sean Bigley as the responsible party for the FOG Public Education Plan.

FOG Disposal Plan (SSMP 7.3)

- Description of Current Status: The Lab/Industrial Waste Supervisor oversees the Industrial Waste Pretreatment Program and FOG control program. Each food service establishment (FSE) is required to obtain a FOG wastewater discharge permit (FOG WDP). There are currently 294 permitted FSEs in the City. The Lab/Industrial Waste Supervisor oversees the inspection of permitted FSEs. A FOG WDP holder is required to keep all manifests, receipts and invoices of all cleaning, maintenance, grease removal from the grease control device, disposal carrier and disposal site location for no less than three years.

The City provides information about the permitting process and permit applications on the City website (address below) as a resource for businesses within the City.
http://www.roseville.ca.us/eu/wastewater_utility/fats_oils_n_grease/businesses.asp
City residents are offered free curbside pickup of FOG services that can be scheduled with the City. This helps ensure that FOG from residential units is properly collected and disposed. Information about the FOG pickup program can be found at the link below.
http://www.roseville.ca.us/eu/wastewater_utility/fats_oils_n_grease/residential.asp

- Level of Effectiveness: The City has developed a comprehensive FOG disposal program to address the various dischargers of FOG to the collection system. This program appears effective because the City has only had two FOG-related SSOs over the audit period (less than 3% of the total spills). This indicates that amount of FOG being disposed into the collection system is manageable and the FOG disposal program is meeting its objective in limiting the amount of FOG.
- Recommendations: No recommended modifications at this time.

Record Keeping Requirements (SSMP 7.4)

- Description of Current Status: The RMC Section 14.14.260 – "Recordkeeping requirements" includes a list of items that may be required to be kept for no less than three years and made available upon request of a FOG inspector/Industrial Waste technician or City representative. The SSMP further identifies which of these recordkeeping items is mandatory for a FSE and which items may be deemed mandatory at the discretion of the City.
- Level of Effectiveness: The recordkeeping requirements and timeframes identified in the RMC have been effective in providing the City the information necessary to enforce permit requirements of FSEs.
- Recommendations: No recommended modifications at this time.

Legal Authority to Prohibit SSOs and Blockages Caused by FOG Discharges (SSMP 7.5)

- Description of Current Status: The RMC section 14.12.050 provides authority to require grease and grit interceptors when the director deems necessary for proper handling of liquid waste. Additionally, chapter 14.14 of the RMC defines the City's FOG ordinance and provides the authority to implement its FOG control program, prohibit SSOs and blockages caused by FOG, and limit the concentration of FOG as set forth in RMC section 14.26.140.
- Level of Effectiveness: These codes are effective in organizing the type of equipment required to reduce FOG discharged from FSEs, as well as indicating the authority of the City to prohibit SSOs and blockages due to FOG. The City FOG Ordinance is also effective in a practical way because if the City has reason to believe that a FSE or residence is contributing too much FOG, it can numerically test the effluent from the property against the concentrations limits set in RMC section 14.26.140 to identify if there is a violation.
- Recommendations: No recommended modifications at this time.

BMP, Grease Removal Devices, Recordkeeping, and Reporting Requirements (SSMP 7.6)

Description of Current Status: The Industrial Waste Section requires that all FSEs have best management practices (BMPs) in accordance with the City FOG ordinance. Also each FSE must have an appropriately

sized grease removal device per the Uniform Plumbing Code and they must maintain records as outlined in section 7.4 of the SSMP.

The City provides information about BMP requirements, BMP posters, and BMP information sheets on the following topics; proper grease disposal, requirements for new and remodeled FSEs, grease interceptor maintenance, grease trap maintenance, selecting a grease hauler, a list of licensed grease haulers, dumpster maintenance, and equipment cleaning on the City website (address below) as a resource for businesses within the City.

http://www.roseville.ca.us/eu/wastewater_utility/fats_oils_n_grease/businesses.asp

The City supplements the information provided on its website through onsite inspections/meetings with FSEs to reinforce the level of understanding of the FOG program and its requirements.

- Level of Effectiveness: The City's efforts to disseminate information regarding BMPs, grease removal devices and the associated record keeping and reporting requirements have been effective.
- Recommendations: No recommended modifications at this time.

Inspection and Enforcement Authority – FOG Producers (SSMP 7.7)

- Description of Current Status: All FSEs that discharge wastewater containing FOG into the sewer system are required to obtain a Fat, Oil, and Grease Water Discharge Permit (FOG WDP) from the City. FOG WDPs are expressly subject to all provisions of the ordinances and regulations regarding FOG, charges for use, and violation fees established by the City. The RMC section 14.14.290 provides City representatives right of entry to access and inspect permitted FSEs.

  The City currently has 294 FSEs subject to FOG control that are connected to its system. All 294 FSEs are permitted under the City's FOG control program. Over the past 12 months, all 294 of the FSEs received a FOG inspection. During that same time zero enforcement actions were initiated. The Industrial Waste Section plans to conduct 294 FOG inspections (i.e., every FSE again) in the next 12 months.
- Level of Effectiveness: Over the period of this audit, two SSOs (less than 3% of the total spills over the audit period) were caused by blockages in the collection system due to FOG. The total volume of wastewater that left the system as a result of these two spills was 77 gallons or less than 4% of the total volume of wastewater spilled during the audit period. As identified in **Section 3.1** above, FOG is not a significant contributor the number or volume of SSOs. If FOG were a significant contributor to SSOs, then it would be expected that the number of enforcement actions might be higher and potentially taken against FSEs contributing to the blockages. However, the low number of FOG-related SSOs correlates with the low number of FOG-related enforcement actions.

  Currently, the communication between IWS and WWC departments is limited regarding the correlation between pipelines with deposits of FOG and FSEs with poor maintenance of BMPs and grease removal devices.
- Recommendations:
  - Schedule routine meetings between WWC and IWS to share findings from preventative maintenance activities and FSE inspections to identify FSEs who are negatively impacting the collection system by discharging excessive amounts of FOG. An active FSE inspection program and communication of inspection results is key to a FOG control program.

FOG Characterization Assessment and Hot Spot Cleaning Schedule (SSMP 7.8)

- Description of Current Status: The City conducted a FOG characterization assessment of the system that established a hot spot cleaning schedule. This schedule includes quarterly, semiannually, and annually cleaning to ensure that FOG is controlled in these lines that are subject to FOG blockages. Additionally, each hot spot is CCTV inspected once each year to verify the cleaning schedule is adequate to mitigate the probability of a FOG blockage. The cleaning schedule and records of cleaning are documented in the CMMS. The City currently has 101 pipeline segments on the hot spot cleaning schedule.
- Level of Effectiveness: The City's aggressive hot spot cleaning schedule has proven effective in limiting the number of SSOs due to FOG blockages.
- Recommendations:
    - Develop a SOP describing the process of how pipelines are added to the hot spot cleaning schedule, how the cleaning frequency (i.e., quarterly, semiannually, annually) for each hot spot is initially set, and how the cleaning frequency for an individual hot spot may be adjusted over time.
    - SSMP section 7.8, paragraph three contains a typographical error. It states that "sewer line maintenance work orders are issued and completed to ensure that hot spot lines **do** have grease blockages/SSOs between cleaning schedules". The word "do" should be changed to "do not".

FOG Control Program Measures (SSMP 7.9)

- Description of Current Status: The Industrial Waste Section has instituted a FOG waste discharge permit (FOG WDP) as the method of source control for FSEs. A FSE must obtain a FOG WDP before it is able to discharge to the public sewer per the RMC section 14.14.030. The City uses the FOG WDP as a means to apply incremental and progressive discipline if permit holders are in violation of the FOG ordinance until performance measurements are met.
- Level of Effectiveness: This City's FOG source control measures have proven effective during the period of this audit with respect to the low number of FOG-related SSOs.
- Recommendations: No recommended modifications at this time.

5.8 System Evaluation and Capacity Assurance Plan

5.8.1 Compliance

Table 17. Compliance with SSS WDR D.13.viii - SECAP

SSMP Requirement	Compliance	Deficiencies
viii(a) Evaluate hydraulic deficiencies	2	The schedule is to be reviewed and updated consistent with the SSMP review and update requirements in SSS WDR D.14 (i.e., every 5 years). The schedule is 7 years old.
viii(b) Establish design criteria	1	-
viii(c) Establish short- and long-term CIP	1	-
viii(d) Develop schedule of completion dates for CIP	1	-

5.8.2 Effectiveness of SSMP Elements and Recommended Modifications

Evaluation Process – Capacity Enhancement Projects (SSMP 8.2)

- Description of Current Status: The City developed two hydraulic models (i.e., the Roseville Model Project and the South Placer Wastewater Authority (SPWA) Wastewater Systems Evaluation Project) to identify peak flows in each collection system component (i.e., pipe and pump station). The evaluation of hydraulic capacity using these two models identified potential deficiencies and recommended improvements. Additionally, the City has started the process of evaluating the hydraulic capacity of the collection system again.
- Level of Effectiveness: Appendix I-1 of the SSMP indicates that the system evaluation & capacity assurance plan will be reviewed and updated every five years. The Roseville Model Project and the SPWA Wastewater Systems Evaluation Project were both conducted in 2006 (seven years ago). According to the SSMP, the system should have been reevaluated in 2011. However, the modeling efforts conducted in 2006 have been effective in evaluating the system and planning for future capacity.
- Recommendations: Complete the recently initiated capacity assessment so that changes to the system can be updated and recent flow monitoring results can be used to update findings to reflect current conditions and revisions to planned development. The City should consider revising the planned frequency for system evaluation updates if a frequency of five years is not warranted based on system needs.

Design Criteria (SSMP 8.3)

- Description of Current Status: The City established a 10-year 24-hour peak wet weather design storm for the evaluation of existing collection system components and sizing of new collection system components. This included the development of wastewater flow generation factors based on water use records and flow monitoring data.
- Level of Effectiveness: A 10-year 24-hour peak wet weather design storm has been effective in accounting for the impact wet weather on the system and planning for system improvements. In December 2012, a

storm occurred that resulted in two Category 1 SSOs that were caused by excessive rainfall as reported to CIWQS. This was actually one SSO that had two appearance points. The appearance points were two manholes that are located next to a utility path/bike path that runs along a tributary to Linda Creek. The combined SSO volume was approximately 400 gallons, all of which flowed into the creek. Considering the relatively small SSO volume that resulted from the rainfall event, the existing design storm appears sufficient.

- Recommendations: Add documentation to internal SSO reports showing that the amount of precipitation over a 24-hour period exceeded 2.82 inches if the cause of the SSO is identified as "rainfall exceeded design". The lower bound of the 10-year 24-hour precipitation frequency estimate with a 90% confidence interval from the NOAA Atlas 14, Volume 6, Version 2 data for the Rocklin (station ID 04-7516) is 2.82 inches.

  Investigate excessive I/I observed from satellite agencies (e.g., observed peaking factors) associated with storms that caused an SSO to document the correlation between the SSO and the excessive offsite I/I.

Capacity Enhancement Measures (SSMP 8.4)

- Description of Current Status: The SPWA Wastewater Systems Evaluation includes the identification of short and long-term Capital Improvement Projects (CIP) to meet current and future build-out flow projections for trunk sewers larger than 15 inches. Two capacity deficiencies under peak wet weather scenarios were identified in the SPWA Wastewater Systems Evaluation. The Roseville Model Project did not include the identification of capacity improvement projects.
- Level of Effectiveness: The Roseville Model Project evaluated the capacity of every pipe within the City collection system. However, the project did not identify measures to address capacity deficiencies. Appendix H-1 of the SSMP states that the process of identifying projects to address capacity deficiencies will be performed by the City at a later date.
- Recommendations: No recommended modifications at this time.

Capital Improvement Program Schedule (SSMP 8.5)

- Description of Current Status: The following table lists the projects that are identified in the SPWA Wastewater Systems Evaluation that identify the City as the agency with the primary responsibility for the project. The other projects identified in the SPWA Wastewater Systems Evaluation do not list the City as the agency with primary responsibility, so they are not considered in this audit.

Table 18. Schedule of CIPs to Address Capacity Deficiencies

CIPs (from SPWA Report)	Responsible Agency	Assigned Date	Completed Date	Revised Date
Improvement Project 5 – Area D	Roseville	APR 2006	SEP 2006	NA
Improvement Project 6 – Area E	Roseville	APR 2006	NA	NA

SSMP Appendix H-1 states that the SPWA project at Area D, which consisted of installing a diversion structure to shed approximately 1.1 mgd at manhole B06-313 to the existing 33-inch trunk sewer, was

completed by the fall of 2006. Flow monitoring of Area E was completed and following the evaluation of the data, it was determined that the proposed sewer relief project is not required.
The existing CIP schedule is

- Level of Effectiveness: The schedule of capital improvement projects to address potential hydraulic deficiencies in the system has been effective in identifying the tasks needed to assure hydraulic capacity within the collection system.
- Recommendations: No recommended modifications at this time.

5.9 Monitoring, Measurement, and Program Modifications

5.9.1 Compliance

Table 19. Compliance with SSS WDR D.13.ix – MMM

SSMP Requirement	Compliance	Deficiencies
ix(a) Maintain metrics to prioritize SSMP activities	1	-
ix(b) Measure effectiveness of SSMP elements	1	-
ix(c) Assess preventative maintenance program	1	-
ix(d) Update elements based on evaluations	1	-
ix(e) Identify and illustrate SSO trends	1	-

5.9.2 Effectiveness of SSMP Elements and Recommended Modifications

Utility Metrics to Prioritize SSMP Activities (SSMP 9.2)

- Description of Current Status: The City has established four categories of metrics to monitor and measure the effectiveness of the various elements of this SSMP: System Information, Financial Information, Sewer Maintenance, and Performance Measures. In addition to these metrics, the City maintains a number of performance measures related to various SSMP activities. A summary of all of the performance measures tracked by the City is included in **Appendix 7.2** of this internal audit.
- Level of Effectiveness: Appendix I has effectively been used to identify and track the specific metrics in each of the four categories established by the City.
- Recommendations: Update Appendix I-Benchmarking Metrics on City website with information from FY11/12 and FY12/13.

Metrics to Monitor Effectiveness of SSMP (SSMP 9.3)

- Description of Current Status: SSMP Appendix I is a schedule that assigns individual staff members to one or more SSMP element and defines the frequency that each element must be monitored and updated.
- Level of Effectiveness: The City currently tracks performance using a number of metrics. However, none of these metrics are associated with specific SSMP elements. Some of these metrics have identified targets or goals, but not all. These metrics can be used to measure the effectiveness of elements, but without associating metrics with specific SSMP elements and without setting goals for each metric it is difficult to monitor the effectiveness of the SSMP.
- Recommendations:

- Update Appendix I. This appendix includes information from the initial 2007 Implementation Schedule. The initial SSMP implementation and the SWRCB compliance schedule concluded many years ago and does not need to be included in the SSMP. However, the information regarding the continual implementation of the SSMP such as the document location, responsible person, and review frequency should be included.
- Identify the metrics that correspond with specific elements of the SSMP and develop numerical goal ranges so the data currently collected and monitored by the City can be used as performance indicators (PIs) to quantitatively monitor SSMP effectiveness. The ultimate measure of SSMP effectiveness is the limiting of SSOs. However, setting goals for activities related to various SSMP elements and measuring performance against those goals, will help determine how success in those elements, relates to the overall effectiveness of limiting SSOs. Associating metrics with specific SSMP elements will allow for direct assessment of those elements and provide consistency in their evaluation in future audits. **Appendix 7.2** of this internal audit contains a list of PI and associates each one with a SSMP element, a suggested audit frequency, and a person responsible for monitoring that PI. A sample Performance Indicator Assessment Form is included in **Appendix 7.3** of this internal audit. Performance Indicator Assessment Forms can be developed for each metric and assessed periodically by the person responsible, according to the suggested audit frequency for that metric. At the time of the next internal SSMP audit, the completed Performance Indicator Assessment Forms can be used to evaluate the effectiveness of SSMP elements and included as attachments to the audit.
- Consider tracking additional metrics targeted at measuring the effectiveness of SSMP elements that do not currently have metrics associated with them. A list of potential performance measures listed by SSMP element is included in **Appendix 7.2** of this internal audit.

Metrics to Assess Preventative Maintenance Program (SSMP 9.4)

- Description of Current Status: The metrics listed in SSMP section 9.4 are measured, recorded, and analyzed to assess the effectiveness of the preventative maintenance program. **Table 20** below contains a summary of the metrics listed in SSMP section 9.4 as well as other performance metrics tracked by the City in various appendices and reports. The column labeled "Source" identifies which plan, appendix, or report tracks a particular metric.

Table 20. Summary of Current Preventative Maintenance Performance Metrics

Performance Indicator	Unit	Target	Source
Sewer main - flushed	Miles	250	A, B, C, D, E
Service laterals - cleaned	Miles	8	D
Sewer main – visually inspected (not CCTV)	Miles	-	A, B
Manholes – cleaned and inspected	Number	1054	A, D
Manholes - rehabilitated	Number	25	D
Service laterals - rehabilitated	Number	50	A, C, D, E
Service laterals – mechanically cleaned (eeled)	Miles	8	A, E
Sewer main - CCTV inspected	Miles	30	A, B, C, D, E
Service laterals - CCTV inspected	Miles	16	B, D, E
Total number of sewer maintenance field staff	Number	-	A, B
Working staff time to PM program	%	80	D
Total emergency work orders	Number	-	B
Average high velocity cleaning per crew per day	LF/day	-	A, B
Average cost of sewer mechanical cleaning	$/LF	-	A, B
Average cost of hydro cleaning	$/LF	-	B
Average cost of CCTV (main)	$/LF	-	A, B
Average cost of CCTV (lateral)	$/LF	-	B
Cleanouts - installed	Number	100	B, C, D
On-the-Job accidents	Number	0	D, E
Average response time to customer inquiry	Minutes	40	A, D, C

A = SSMP section 9.4
B = SSMP Appendix I
C = WW Collections KPIs
D = Program / Performance Reports
E = Strategic Plan Data

- Level of Effectiveness: The City tracks a number of metrics to quantitatively evaluate the performance of the activities of the preventative maintenance program. This is effective because it allows the City to monitor the performance of particular activities over time and against other metrics (e.g., staffing levels, SSO trends) to determine correlations between the data. However, not all of the metrics have an associated goal, which makes it difficult to assess whether or not that activity is meeting the intended result.
- Recommendations: Using the data collected in SSMP Appendix I as a reference, develop goals for metrics that track preventative maintenance activities and identify the person/position responsible for tracking data against those goals. See **Appendix 7.2** for a list of potential performance indicators for preventative maintenance activities with responsible parties.

SSMP Performance Monitoring and Update Process (SSMP 9.5)

- Description of Current Status: Individual staff responsibilities for each SSMP element and the frequency that each element must be monitored are defined in SSMP Appendix I. The City tracks revisions/updates to the SSMP using a SSMP Revision Log that is maintained by the LRO. The SSMP Revision Log is a

spreadsheet that chronicles revisions to the SSMP by logging the date of the revision, the SSMP element that was changed, a brief description of the change, and who made the change.

- Level of Effectiveness: The SSMP Revision Log is effective in tracking changes to the SSMP.
- Recommendations: Assign the individuals responsible for the various elements of the SSMP to complete the Performance Indicator Assessment Forms that are developed for their SSMP elements. See **Appendix 7.2** for a list of potential performance indicators with the assigned responsible parties.

SSO Trends – Frequency, Location and Volume (SSMP 9.6)

- Description of Current Status: The metrics listed in SSMP section 9.6 are measured, recorded, and analyzed to identify and illustrate SSO trends, including: frequency, location, and volume. **Table 21** below contains a summary of the metrics listed in SSMP section 9.6 as well as other performance metrics tracked by the City in various appendices and reports. The column labeled "Source" identifies which plan, appendix, or report tracks a particular metric.

Table 21. Current Performance Measures to Monitor SSO Trends

Performance Measure	Unit	Target	Source
SSOs - Total number, mains and laterals	Number	-	A, B
SSOs - Total volume, mains and laterals	Gal	-	A, B
SSOs - Total volume recovered	Gal	-	B
SSOs - Total number of wet weather	Number	-	A, B
SSOs - Total volume of wet weather	Gal	-	A, B
SSOs - % of spills caused by FOG (main)	%	-	A, B
SSOs - % of spills caused by roots (main)	%	-	A, B
SSOs - % of spills caused by Vandalism (main)	%	-	A, B
SSOs - caused by LS failures	Number	-	A, B
SSOs - caused by pipe failures	Number	-	A, B
SSOs - % of spill volume caused by FOG (lateral)	%	-	A, B
SSOs - % of spill volume caused by roots (lateral)	%	-	A, B
SSOs - % of spill volume caused by Vandalism (lateral)	%	-	A, B
Customer service requests per year	Number	-	A, B
Sewer odor complaints	Number	-	A, B
Flooding claims per year	Number	-	A, B
Cost of flooding claims per year	$	-	A, B
SSO – Repeats within two years	Number	0	B, C
SSOs - Category 1	Number	0	C, D
SSOs / 100 mi pipe / year - Category 2	Number	2.0	C
SSOs / 100 mi pipe / year - Mainline	Number	0.6	C
SSOs / 100 mi pipe / year - Lateral	Number	8.0	C

A = SSMP section 9.6
B = SSMP Appendix I
C = WW Collections KPIs
D = Program / Performance Reports

- Level of Effectiveness: Data for most of the metrics listed in **Table 21** are tracked annually in SSMP Appendix I and the Program / Performance Report. This allows the City to effectively review trends in SSOs over time.
- Recommendations: Using the data collected in SSMP Appendix I as a reference, set performance goals for the metrics used to illustrate SSO trends. See **Appendix 7.2** for a list of potential performance indicators related to SSO trends.

5.10 SSMP Program Audits

5.10.1 Compliance

Table 22. Compliance with SSS WDR D.13.x – SSMP Program Audits

SSMP Requirement	Compliance	Deficiencies
x Conduct periodic audits	1	-

5.10.2 Effectiveness of SSMP Elements and Recommended Modifications

Audit Procedures, Roles, and Responsibilities (SSMP 10.2)

- Description of Current Status: The City conducts an internal audit biennially with a primary focus on the evaluation of system metrics towards the elimination of preventable SSO and the reduction of the impact of those SSOs that do occur.
  The City developed an audit form as a template to record information produced during internal SSMP audits. This form is included in SSMP Appendix J-2.
- Level of Effectiveness: The internal audit has had success in identifying areas of improvement. The past audit identified two major enhancements and plans were put in place to improve the SSMP. This audit has specified additional recommended enhancements. The regular review of the SSMP is effective in assuring the usefulness of the planned activities.
  The Audit Form in Appendix J-2 assesses the compliance of the SSMP. However, the Audit Form does not adequately evaluate the effectiveness of the SSMP elements. SSS WDR D.13(x) requires that the internal audits evaluate both the *effectiveness* of the SSMP and the Enrollee's *compliance* with the SSMP requirements.
- Recommendations:
  - Post this SSMP internal audit to the City website.
  - Schedule the next internal SSMP audit for July - August 2015.
  - The SSMP must be recertified by the City Council before January 21, 2014. Per SSS WDR D.14, the City must have the SSMP updated and re-certified by the governing board (i.e., City Council) every five years. The City Council approved the original SSMP on January 21, 2009 which sets the date for re-certification on January 21, 2014.

- Revise Appendix J-1 to reflect recommendations for review of performance indicators (i.e., metrics associated with specific SSMP elements and the associated timelines).
- Revise Appendix J-2 (Audit Form) to provide areas in the tables for each SSMP element to conduct an assessment of both 1) the compliance against SSMP requirements and 2) the effectiveness of the SSMP element. Information gathered on the recommended Performance Indicator Assessment Forms should be included in the "Support Documents and Data" section of the Audit Form.

SSMP Program Modification/Update Process (SSMP 10.3)

- Description of Current Status: The City established a program for monitoring and reviewing sewer performance metrics on a periodic basis and the status of each element of the SSMP on a biennial basis. The City conducts internal SSMP audits every two years following the adoption of this SSMP. The Wastewater Utility Manager is assigned to initiate/direct corrective action when and if SSMP deficiencies are identified between/during periodic internal audits.
- Level of Effectiveness: The City has been prompt in responding to deficiencies/enhancements identified during regular reviews of SSMP data and during formal internal audits as documented in the City's SSMP Revision Log.
- Recommendations:
  - Document the submittal process for proposed changes to the SSMP. The process may include, the following; identify the individual who maintains the most current version of the SSMP, the steps in which suggested modifications are received (by internal staff or the public), how suggestions are routed to the individual/position responsible for the SSMP element associated with suggested modification, the process for review, and the process for updating the SSMP on the City website and documenting changes.

5.11 Communication Program

5.11.1 Compliance

Table 23. Compliance with SSS WDR D.13.xi – Communications Program

SSMP Requirement	Compliance	Deficiencies
xi(a) Communicate on a regular basis with the public and tributary/satellite systems regarding SSMP	1	-

5.11.2 Effectiveness of SSMP Elements and Recommended Modifications

Internal Communication – Staff, Utility Commission, and City Council (SSMP 11.2)

- Description of Current Status: The WWC uses two PowerPoint presentations for the purpose of presenting internally to the City Council and City staff, the purposes of the SSMP. The presentations are organized in a simple manner to explain an overview of the SSS WDR. These presentations support the City's WDR Awareness Program with the goal to provide staff with an overview of the SSS WDR regulation and educate the Public Utilities Commission and the City Council.

- Level of Effectiveness: This has been an effective way to ensure the City Council and WWC department have clear communications regarding the expectations place on the City with regards to complying with the regulation, the City's SSMP to limit SSOs and address the requirements of the regulation. These presentations were used during the initial implementation of the SSMP to educate City Council and staff on the new requirements being placed on the City.
- Recommendations:
    - As of September 2013 the State Water Board amended the MRP of the SSS WDR. Update or develop a new PowerPoint presentation to reflect the new reporting requirements and how it affects the City.

Stakeholder Communication – Residential, Commercial and Industrial (SSMP 11.3)

- Description of Current Status: The City communicates information about the SSMP by posting the entire SSMP (including appendices) on the City website. The contact information of the City's LROs is included on the website inviting public input or questions about the SSMP.

  The City has a created a PowerPoint presentation for the purpose of presenting in a public setting. The presentation is organized in a simple manner to provide an overview of the SSS WDR. This presentation has been presented as needed to the public in regards to informing the public about the implementation process of the SSMP to limit SSOs.

  The City also produces a series newsletters called "EU Today" that are distributed to customers and posted on the City website every two months with information about FOG and what not to flush. A crucial step to prevent SSOs is collaboration with the public.

  The City developed a marketing objective and strategy for the FOG outreach program targeted to Roseville residents and restaurants. The outreach program includes television advertisement, mail notices and direct visits to heavy FOG producing food service establishments. The City developed a budget, broken down by month, to fund the activities of the FOG outreach marketing plan.

  Additionally, the City joined with other agencies in the region (the Cities of Auburn and Lincoln and Placer County) to develop an outreach program to educate residents about the consequences of what is put into the sewers with of ultimate goal of protecting the environment. The Live Sewer Smart campaign has information available on the internet, monthly newsletters, and the campaign participates in public events.
- Level of Effectiveness:

  Posting the SSMP on the City website has been an effective way for communicating information about the SSMP to the public. The City has made significant efforts to modify/update the SSMP so that the information there is current and accessible to all who desire access.

  The PowerPoint presentation has been used in public meetings. The effectiveness of how well these presentations educate the general public about the SSMP is difficult to measure.

  The City devotes significant staff time on a regular and reoccurring basis to produce the "EU Today" newsletters. These newsletters are distributed to the City's customers on a regular basis and provide another conduit of information about the ways the customers can support the aims of the SSMP.

The FOG outreach program has multiple ways of communicating information to the public. This increases the likelihood that all members of the community will receive information about the items that may be properly disposed into the waste water conveyance system.

The LiveSewerSmart campaign has been another effective tool in communicating to the public about the ways in which they impact the potential for blockages and SSOs in the system.

- Recommendations: No recommended modifications at this time.

Tributary/Satellite Communication (11.4)

- Description of Current Status: The City has created and implemented agreements to facilitate communication with tributary/satellite agencies. The WWC routinely communicates with their satellite partners and often supports them with mutual aid sharing equipment and resources. The City has three formal agreements that include the following:
  - The Joint Exercise of Powers Agreement for the SPWA
  - The Agreement Regarding the Operation and Use of the South Placer Regional WW Facilities
  - The Funding Agreement Relating to the South Placer Regional WW Facilities
- Level of Effectiveness: Having agreements in place is great preparation for establishing a source of help during an emergency event. A quarterly meetings with the regional partners has proven effective to discuss the ongoing coordinate between the tributary/satellite systems.

  A small portion of the City discharges to the Sacramento Area Sewer District's (SASD) sewer collection system. The City identified this portion of its system that is satellite to SASD and is in the process of formalizing an agreement with SASD about the expectations between the two agencies.
- Recommendations:
  - Finalize the formal agreement with Sacramento Area Sewer District (SASD) regarding the discharge of wastewater from the City collection system into the SASD system.
  - Update SSMP section 11.4 to reference Appendix C-5 for the Joint Exercise of Powers Agreement for the SPWA and to reference SSMP Appendix C-6 for the Agreement Regarding the Operation and Use of the South Placer Regional Wastewater Facilities.
  - Update SSMP Appendix K-5 to include the Funding Agreement Relating to the South Placer Wastewater Facilities. It currently includes only the flysheet.
  - Update SSMP document to reference the appendices included on the City website (i.e., Appendix K-6 Sewer Smart Newsletter and Appendix K – FOG Pharm Outreach 2012-13 Budget).

SECTION 6 Audit Summary

This section summarizes the level of compliance of the SSMP with the SSMP requirements identified in subsection D.13 and the identified deficiencies as described in **Section 4.1**. **Table 24** is a summary of the results of that evaluation.

Table 24. Summary of SSMP Compliance Deficiencies

SSMP Requirement	Compliance	Deficiencies
viii(a) Evaluate hydraulic deficiencies	2	The schedule is to be reviewed and updated consistent with the SSMP review and update requirements in SSS WDR D.14 (i.e., every 5 years). The schedule is 7 years old.

This section also summarizes the recommended enhancements made during the process of evaluating each SSMP elements effectiveness as described in **Section 4.2**. **Table 25** is a summary of those recommendations.

Table 25. Summary of Audit Recommendations

SSMP Section	Recommendation	Timeline for Completion
2.1	Appendix B-1 needs to be updated to show Ken Glotzbach and Chris Bracco as LROs for the City. Additionally, once Dan Pruden (Wastewater Collections Supervisor) is registered as a Data Submitter in CIWQS, his information should be added to Appendix B-1 and updated on the City website.	JAN 2014
2.3	Figure 2.2 in SSMP section 2.3 has typographical errors. There is text missing. The figure found in SSMP Appendix F-1 (1) - SSO Procedures Flowchart is the same chart, but includes all of the text. WWE recommends reinserting the figure from Appendix F-1 (1) into section 2.3 of the SSMP with the corrections made.	JAN 2014
2.3	Appendix B-3 includes a call list of staff members who are on call during non-business hours; this is out of date, but also unnecessary. WWE recommends the City develop a SOP for the call center procedures for receiving calls and mobilizing field staff. A call list may be kept internally as deemed necessary by the City.	JAN 2014
4.2	Include the Mapping Update Policy document on the City SSMP website	JAN 2014
4.3	Identify targets for all performance measures so that data collected can be compared to a goal to assess performance and the effectiveness of SSMP activities. A comprehensive review of benchmarks or performance measures/indicators is discussed in the recommendations of **Section 5.9.**	JAN 2014
4.3	Continue the efforts of the recently revised eeling program due to the immediate impact on the frequency of SSOs from laterals. Data on the number of lateral SSOs per month should be monitored so that the impact of these efforts can be evaluated at the time of the next internal SSMP audit.	JAN 2014

SSMP Section	Recommendation	Timeline for Completion
4.3	Develop SOPs for the regular preventative maintenance activities using SOP-WWC-01 as a template. The following is a list of suggested SOPs based on the activities currently tracked with performance measures: ▪ Lift station maintenance ▪ Receiving and responding to customer service request	JUL 2014
4.4	Develop SOPs for regular inspection activities using SOP-WWC-01 as a template. The following is a list of suggested SOPs based on the activities currently tracked with performance measures: ▪ Alarm testing of lift stations	JUL 2014
4.4	Document the process/procedure for evaluating available data (i.e., CCTV, CMMS, GIS, capacity assessment, visual inspections), conducting a risk assessment to determine the assets to be renewed, and developing the R&R plan with its associated data.	SEP 2014
4.5	The SSMP internal audit from FY10/11 stated that NASSCO training for condition assessment should be added to SSMP Element 4.5. The City implements the NASSCO rating system for collecting condition assessment data and provides this training to the WWC staff. While this is not a requirement of the SSS WDR, the City needs to decide if this training will be referenced in SSMP Element 4.5.	JAN 2014
4.5	Use the SOPs recommended to be developed in this section as a training tool for WWC staff. The SOPs can also be used to inform contractors working in the system of the role they play in responding to and mitigating potential SSOs.	JAN 2014
4.6	The SSMP identifies the WWC Superintendent as the person responsible for maintaining lists of the equipment and critical spare parts. The position directly responsible for tracking equipment and maintaining up-to-date equipment and critical spare parts lists is Materials Technician. The SSMP should be updated to correctly reflect the responsible party for equipment and critical spare parts.	JAN 2014
6	Complete all unpopulated fields in the revised "Collection System Questionnaire" in CIWQS. Enrollees have six months from the date that the revised MRP became effective to complete the questionnaire. This means that the questionnaire must be completed by approximately March 9, 2014. If this questionnaire is not completed by that time, the system will lock the Enrollee out from all reporting capabilities.	JAN 2014
6.3	Figure 6.2 in SSMP section 6.3 has a typographical error. There is text missing in some of the decision boxes. The same figure is in SSMP Appendix F-1(1) without the missing text. WWE recommends reinserting the figure with the corrections made or removing the figure from the SSMP and only reference Appendix F-1(1).	JAN 2014
6.3	Section 2.I.A of the City SSO Response Procedures indicates that the time a call was received notifying the City of a SSO will be used as the SSO start time on the forms reported to CIWQS. WWE recommends that the City develop a SOP for estimating the start time of SSOs to include additional methods for examining possible start times to support the SSO start time entered into CIWQS.	JAN 2014

SSMP Section	Recommendation	Timeline for Completion
6.3	The WWC has developed a table of information specific to lift station response which includes all of the lift stations in the City and lists for each station; the average flow from the station, the wet well depth, the volume of the wet well, the available storage/downtime if the lift station goes down, the point at which a SSO will first occur if the lift station goes down, the assigned manhole for decanting if vacuum trucks are used to draw down the wet well, and the street location of the decant manhole. This information should be included as an Appendix in the OERP and the information for each lift station should be posted onsite at each respective lift station.	JAN 2014
7.2	List Sean Bigley as the responsible party for the FOG Public Education Plan.	JAN 2014
7.7	Schedule routine meetings between WWC and IWS to share findings from preventative maintenance activities and FSE inspections to identify FSEs who are negatively impacting the collection system by discharging excessive amounts of FOG.	JAN 2014
7.8	Develop a SOP describing the process of how pipelines are added to the hot spot cleaning schedule, how the cleaning frequency (i.e., quarterly, semiannually, annually) for each hot spot is initially set, and how the cleaning frequency for an individual hot spot may be adjusted over time.	JUL 2014
7.8	SSMP section 7.8, paragraph three contains a typographical error. It states that "sewer line maintenance work orders are issued and completed to ensure that hot spot lines **do** have grease blockages/SSOs between cleaning schedules". The word "do" should be changed to "do not".	JAN 2014
8.2	Reevaluate the capacity of the system so that changes to the system can be updated and recent flow monitoring results can be used to update findings to reflect current conditions and revisions to planned development. The City should consider revising the planned frequency for system evaluation updates if a frequency of five years is not warranted based on system needs.	JAN 2014
8.3	Add documentation to internal SSO reports showing that the amount of precipitation over a 24-hour period exceeded 2.82 inches if the cause of the SSO is identified as "rainfall exceeded design". The lower bound of the 10-year 24-hour precipitation frequency estimate with a 90% confidence interval from the NOAA Atlas 14, Volume 6, Version 2 data for the Rocklin (station ID 04-7516) is 2.82 inches.	JAN 2014
9.2	Update Appendix I-Benchmarking Metrics on City website with information from FY11/12 and FY12/13	JAN 2014
9.3	Update Appendix I. This appendix includes information from the initial 2007 Implementation Schedule. The initial SSMP implementation and the SWRCB compliance schedule concluded many years ago and does not need to be included in the SSMP. However, the information regarding the continual implementation of the SSMP such as the document location, responsible person, and review frequency should be included	JAN 2014
9.3	Identify the metrics that correspond with specific elements of the SSMP and develop numerical goal ranges so the data currently collected and monitored by the City can be used as performance indicators (PIs) to quantitatively monitor SSMP effectiveness.	JAN 2014

SSMP Section	Recommendation	Timeline for Completion
9.3	Consider tracking additional metrics targeted at measuring the effectiveness of SSMP elements that do not currently have metrics associated with them. A list of potential performance measures listed by SSMP element is included in **Appendix 7.2** of this internal audit.	JAN 2014
9.4	Using the data collected in SSMP Appendix I as a reference, develop goals for metrics that track preventative maintenance activities and identify the person/position responsible for tracking data against those goals. See **Appendix 7.2** for a list of potential performance indicators for preventative maintenance activities with responsible parties.	JAN 2014
9.5	Assign the individuals responsible for the various elements of the SSMP to complete the Performance Indicator Assessment Forms that are developed for their SSMP elements. See **Appendix 7.2** for a list of potential performance indicators with the assigned responsible parties.	JAN 2014
9.6	Using the data collected in SSMP Appendix I as a reference, set performance goals for the metrics used to illustrate SSO trends. See **Appendix 7.2** for a list of potential performance indicators related to SSO trends.	JAN 2014
10.2	Post this SSMP internal audit to the City website.	JAN 2014
10.2	Schedule the next internal SSMP audit for July - August 2015.	JAN 2014
10.2	The SSMP must be recertified by the City Council before January 21, 2014. Per SSS WDR D.14, the City must have the SSMP updated and re-certified by the governing board (i.e., City Council) every five years. The City Council approved the original SSMP on January 21, 2009 which sets the date for re-certification on January 21, 2014.	JAN 2014
10.2	Revise Appendix J-1 to reflect recommendations for review of performance indicators (i.e., metrics associated with specific SSMP elements and the associated timelines).	JAN 2014
10.2	Revise Appendix J-2 (Audit Form) to provide areas in the tables for each SSMP element to conduct an assessment of both 1) the compliance against SSMP requirements and 2) the effectiveness of the SSMP element. Information gathered on the recommended Performance Indicator Assessment Forms should be included in the "Support Documents and Data" section of the Audit Form.	AUG 2015
10.3	Document the submittal process for proposed changes to the SSMP. The process may include the following; identify the individual who maintains the most current version of the SSMP, the steps in which suggested modifications are received (by internal staff or the public), how suggestions are routed to the individual/position responsible for the SSMP element associated with suggested modification, the process for review, and the process for updating the SSMP on the City website and documenting changes.	DEC 2014
11.2	As of September 2013 the State Water Board amended the MRP of the SSS WDR. Update or develop a new PowerPoint presentation to reflect the new reporting requirements and how it affects the City.	JAN 2014
11.4	Finalize the formal agreement with Sacramento Area Sewer District (SASD) regarding the discharge of wastewater from the City collection system into the SASD system.	DEC 2014

SSMP Section	Recommendation	Timeline for Completion
11.4	Update SSMP section 11.4 to reference Appendix C-5 for the Joint Exercise of Powers Agreement for the SPWA and to reference SSMP Appendix C-6 for the Agreement Regarding the Operation and Use of the South Placer Regional Wastewater Facilities.	JAN 2014
11.4	Update SSMP Appendix K-5 to include the Funding Agreement Relating to the South Placer Wastewater Facilities. It currently includes only the flysheet.	JAN 2014
11.4	Update SSMP document to reference the appendices included on the City website (i.e., Appendix K-6 Sewer Smart Newsletter and Appendix K – FOG Pharm Outreach 2012-13 Budget).	JAN 2014

SECTION 7 Appendices

7.1 Appendix – Historical SSO Data

7.2 Appendix – Performance Indicators

7.3 Appendix – Sample Performance Indicator Assessment Form

7.1 Appendix – Historical SSO Data

Dated: FY 2012 – FY 2013

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
7/20/2011	127 Elm Street A Roseville, 95678	Category 2	20	20	Root intrusion	Root intrusion caused 20 gallons of sewage to spill from Gravity sewer; City Cleanout at 127 A Elm Street to Unpaved surface; Other (specify below);Landscape Area: No surface water body affected:
8/13/2011	201 Berkeley Avenue Roseville, 95678	Category 2	50	50	Debris-Rags	Debris-Rags caused 50 gallons of sewage to spill from Gravity sewer at 201 Berkeley Ave to Other paved surface: No surface water body affected:
8/22/2011	251 Elm Street Roseville, 95678	Category 2	20	20	Debris-Rags	Debris-Rags caused 20 gallons of sewage to spill from Gravity sewer; City Cleanout at 251 Elm Street to Unpaved surface: No surface water body affected:
9/11/2011	1332 Blossom Hill Way Roseville, 95661	Category 2	15	15	Root intrusion	Root intrusion caused 15 gallons of sewage to spill from Gravity sewer at 1332 Blossom Hill to Street/curb and gutter; Other (specify below);Landscape Area: No surface water body affected:
10/3/2011	319 Fifth Street Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer at 319 Fifth ST to Unpaved surface; Landscape Area: No surface water body affected:
10/7/2011	1414 Frances Drive Roseville, 95661	Category 2	30	30	Root intrusion	Root intrusion caused 30 gallons of sewage to spill from Gravity sewer at 1414 Frances Drive to Street/curb and gutter; Unpaved surface: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
10/8/2011	304 Walton Way Roseville, 95678	Category 2	20	20	Debris-Rags Wipes and Toilet Paper	Debris-Rags; Wipes and Toilet Paper caused 20 gallons of sewage to spill from Gravity sewer at 304 Walton Way to Street/curb and gutter: No surface water body affected:
10/11/2011	1718 Russell Way Roseville, 95661	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer at 1718 Russell Way to Unpaved surface; Landscape Area: No surface water body affected:
10/12/2011	1549 Misty Wood Drive Roseville, 95747	Category 2	10	10	Root intrusion	Root intrusion caused 10 gallons of sewage to spill from Gravity sewer at 1549 Misty Wood Drive to Street/curb and gutter: No surface water body affected:
11/28/2011	750 Atlantic Street Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer at 750 Atlantic St to Other paved surface: No surface water body affected:
12/2/2011	111 Valencia Avenue Roseville, 95678	Category 2	10	9	Root intrusion	Root intrusion caused 10 gallons of sewage to spill from Gravity sewer at 111 Valencia Ave to Unpaved surface; Landscape Area: No surface water body affected:
12/6/2011	600 Wemberly Drive Roseville, 95678	Category 2	20	20	Root intrusion	Root intrusion caused 20 gallons of sewage to spill from Gravity sewer at 600 Wemberly Drive to Other paved surface: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
12/10/2011	206 Irene Avenue Roseville, 95678	Category 2	2	2	Debris-Rags	Debris-Rags caused 2 gallons of sewage to spill from Gravity sewer at 206 Irene Avenue to Other paved surface; Contained in low area by driveway- Not spilling upon operator arrival: No surface water body affected:
12/16/2011	8980 Box Canyon Way Roseville, 95747	Category 2	10	10	Debris-Rags	Debris-Rags caused 10 gallons of sewage to spill from Gravity sewer at 8980 Box Canyon Way to Street/curb and gutter: No surface water body affected:
12/20/2011	1014 Coloma Way Roseville, 95661	Category 2	5	5	Other (specify below) Construction Debris	Other (specify below);Construction Debris caused 5 gallons of sewage to spill from Gravity sewer at 1014 Coloma Way to Unpaved surface; Other (specify below);Landscape Area: No surface water body affected:
12/29/2011	Joanne Lane Roseville, 95678	Category 2	480	480	Root intrusion	Root intrusion caused 480 gallons of sewage to spill from Manhole at SMH B05-240 to Other (specify below);Open Field and landscape area: No surface water body affected:
1/18/2012	219 Estates Drive Roseville, 95678	Category 2	10	10	Pipe structural problem/failure	Pipe structural problem/failure caused 10 gallons of sewage to spill from Gravity sewer at 219 Estates Drive to Street/curb and gutter: No surface water body affected:
1/25/2012	322 Berkeley Avenue Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer at 322 Berkeley Ave to Unpaved surface: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
1/25/2012	1162 Cirby Way Roseville, 95661	Category 2	45	45	Pipe structural problem/failure	Pipe structural problem/failure caused 45 gallons of sewage to spill from Gravity sewer at 1162 Cirby Way to Other paved surface: No surface water body affected:
12/23/2011	8025 Bauser Avenue Roseville, 95747	Category 2	15	15	Root intrusion	Root intrusion caused 15 gallons of sewage to spill from Gravity sewer at 8025 Bauser Ave to Unpaved surface; Landscape Area: No surface water body affected:
1/27/2012	1313 Champion Oaks Drive Roseville, 95661	Category 2	30	30	Root intrusion	Root intrusion caused 30 gallons of sewage to spill from Gravity sewer; City Cleanout at 1313 Champion Oaks Drive to Unpaved surface; Landscape: No surface water body affected:
2/9/2012	515 Encinal Avenue Roseville, 95747	Category 2	10	10	Root intrusion Roots and Offset	Root intrusion; Roots and Offset caused 10 gallons of sewage to spill from Gravity sewer; Sewer Cleanout at 515 Encinal Ave to Unpaved surface; Landscape: No surface water body affected:
2/15/2012	824 Elefa Street Roseville, 95678	Category 2	10	10	Pipe structural problem/failure	Pipe structural problem/failure caused 10 gallons of sewage to spill from Gravity sewer; Cleanout at 824 Elefa Street to Street/curb and gutter: No surface water body affected:
3/5/2012	1326 Chignahuapan Way Roseville, 95747	Category 2	1	1	Debris-General	Debris-General caused 1 gallons of sewage to spill from Gravity sewer; Cleanout at 1326 Chignahuapan Way to Unpaved surface; Contained in high grass area: Not spilling upon arrival: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
3/4/2012	406 Clinton Avenue Roseville, 95678	Category 2	15	15	Pipe structural problem/failure Broken pipe at mainline	Pipe structural problem/failure; Broken pipe at mainline caused 15 gallons of sewage to spill from Gravity sewer; Cleanout in alley at 406 Clinton Ave to Other paved surface; Spill was in paved alley, contained by dirt berm and low areas in the alley: No surface water body affected:
3/10/2012	417 Pleasant Street Roseville, 95678	Category 2	6	6	Pipe structural problem/failure	Pipe structural problem/failure caused 6 gallons of sewage to spill from Gravity sewer at 417 Pleasant Street to Unpaved surface; Contained in flower bed: Vacuumed all wet dirt from area: No surface water body affected: Spill was stopped upon arrival: Instructed resident to obstain from using until arrival
3/27/2012	335 Pleasant Street Alta Ave, 95678	Category 2	2	2	Root intrusion	Root intrusion caused 2 gallons of sewage to spill from Gravity sewer; Cleanout at 335 Pleasant Street to Unpaved surface; Spill was in lawn: Removed all standing water and debris from landscape: No surface water body affected:
4/9/2012	221 Ash Street Roseville, 95678	Category 2	14	13	Other (specify below) Mortar or pool plaster in mainline caused backup out of cleanout at 221 Ash St	Other (specify below);Mortar or pool plaster in mainline caused backup out of cleanout at 221 Ash St caused 14 gallons of sewage to spill from Gravity sewer; Cleanout at 221 Ash St at 221 Ash St to Unpaved surface; Contained in Lawn Area: No surface water body affected: Vactor main to remove mortar, cctv mainline to access cleaning effectiveness

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
4/11/2012	401 Vernon Street Roseville, 95678	Category 2	32	31	Root intrusion	Root intrusion caused 32 gallons of sewage to spill from Gravity sewer; City Cleanout at 401 Vernon St to Other paved surface; Unpaved surface; Spill was in parking lot and portion of overflow soaked into dirt landscape area: No surface water body affected: Service has been rehabilitated using CIPP liner
4/18/2012	2017 Katherine Place Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer; City Cleanout at 2017 Katherine Place to Street/curb and gutter; Spill contained in low area in gutter: Not spilling upon arrival: No surface water body affected: Work order created to CIPP line lateral
4/19/2012	936 Parry Street Roseville, 95678	Category 2	10	8	Root intrusion Was not spilling upon arrival	Root intrusion; Was not spilling upon arrival caused 10 gallons of sewage to spill from Gravity sewer; City Cleanout at 936 Parry Street to Unpaved surface; Lawn area: No surface water body affected:
5/1/2012	402 Main Street Roseville, 95678	Category 2	10	10	Debris-Rags Large rags in service that didn't dissolve	Debris-Rags; Large rags in service that didn't dissolve caused 10 gallons of sewage to spill from Gravity sewer; City Cleanout at 402 Main Street to Separate storm drain; Unpaved surface; Storm Drain DI was plugged full of dirt, and contained spill in inlet box: Line was not spilling upon arrival: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
5/30/2012	200 Atlantic Street Roseville, 95678	Category 2	15	15	Pipe structural problem/failure Pipe had separated causing blockage	Pipe structural problem/failure; Pipe had separated causing blockage caused 15 gallons of sewage to spill from Gravity sewer; City Cleanout at 200 Atlantic St to Other paved surface: No surface water body affected: Dig to repair lateral and restore service
6/7/2012	504 Church Street Roseville, 95678	Category 2	1	1	Debris-Rags Disposable wipes	Debris-Rags; Disposable wipes caused 1 gallons of sewage to spill from Gravity sewer; City Cleanout at 504 Church St to Other paved surface; Sidewalk and gutter: No surface water body affected:
6/15/2012	321 Elefa Street Roseville, 95678	Category 2	5	5	Vandalism Plastic window part was down cleanout and plugged lateral	Vandalism; Plastic window part was down cleanout and plugged lateral caused 5:0 gallons of sewage to spill from Gravity sewer; City Cleanout at 321 Elefa Street to Other paved surface; Unpaved surface; Spill was located in alley behind address: No surface water body affected:
7/8/2012	1104 Dartmouth Avenue Roseville, 95678	Category 2	5	5	Pipe structural problem/failure line has sag in it causing paper to build up	Pipe structural problem/failure; line has sag in it causing paper to build up caused 5 gallons of sewage to spill from Gravity sewer; Paper spilled from cleanout when homeowner removed cap from city cleanout at 1104 Dartmouth Ave to Other paved surface; Spill stayed on driveway and was not actively spilling upon arrival: No surface water body affected: Created work order to replace lateral

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
7/17/2012	300 Roseville Street Roseville, 95678	Category 2	50	50	Root intrusion Service was not spilling upon arrival and resident saw water standing in alley, after neighbor brought it to her attention:	Root intrusion; Service was not spilling upon arrival and resident saw water standing in alley, after neighbor brought it to her attention: caused 50 gallons of sewage to spill from Gravity sewer; City cleanout at 300 Roseville Street to Other paved surface; Spill was naturally contained in a low spot in the alley pavement: No surface water body affected:
7/19/2012	209 Birch Street Roseville, 95678	Category 2	10	10	Root intrusion Spoke with neighbor and resident and they stated they only saw the debris in the gutter, not the actual spill occur: No water was running upon arrival	Root intrusion; Spoke with neighbor and resident and they stated they only saw the debris in the gutter, not the actual spill occur: No water was running upon arrival caused 10 gallons of sewage to spill from Gravity sewer; City Cleanout had evidence of spill but was not spilling upon arrival at 209 Birch St to Street/curb and gutter; Low point in gutter held water from spill: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
7/20/2012	310 Oakridge Drive Roseville, 95661	Category 2	74	74	Debris-Rags Spill was caused by rags hanging up on roots in service:	Debris-Rags; Spill was caused by rags hanging up on roots in service: caused 74 gallons of sewage to spill from Gravity sewer; Cleanout was buried under landscape at 310 Oakridge Dr to Separate storm drain; Street/curb and gutter; Spill was in curb and gutter, and made it to storm drain DI 503' away from cleanout: Storm drain manhole was checked, and found completely dry: Vactored affected areas and vacuumed water out and returned to sewer system: No surface water body affected:
7/23/2012	175 Lincoln Street Roseville, 95678	Category 2	6	6	Root intrusion	Root intrusion caused 6 gallons of sewage to spill from Gravity sewer; Spill occurred from the city cleanout back of sidewalk: Neighbor noticed water coming from cleanout and notified resident at 175 South Lincoln St to Street/curb and gutter; Spill was contained in sunken area of gutter: No surface water body affected: Lateral has been scheduled for CIPP liner to rectify root intrusion
8/10/2012	1227 South Bluff Drive Roseville, 95678	Category 2	10	10	Root intrusion	Root intrusion caused 10 gallons of sewage to spill from Gravity sewer; Spill occurred from city cleanout, however, it wasn't spilling upon arrival: SSO occurred when eeling was started on the service: at 1227 South Bluff to Street/curb and gutter; Fully contained in gutter with dry sweep: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
8/1/2012	233 East Street Roseville, 95678	Category 2	53	53	Other (specify below) Debris-rags and roots caused the overflow	Other (specify below);Debris-rags and roots caused the overflow caused 53 gallons of sewage to spill from Gravity sewer; Spill point was from flushing branch on dead end line at 233 East Street to Street/curb and gutter; Spill was contained in gutter using rubber berm and dry sweep: All spilled water was vacuumed and area flushed: All water was captured and returned to sewer system: No surface water body affected: Section of main with root intrusion will be re-directed for better alignment: Flushing branch will be removed with a manhole installed in it's place: Upon completion, all pipe in section will be new pipe:
8/15/2012	98 Alta Vista Avenue Roseville, 95678	Category 2	75	70	Grease deposition (FOG)	Grease deposition (FOG) caused 75 gallons of sewage to spill from Gravity sewer; Manhole; Manhole and cleanout approx: 5' away from manhole at 98 Alta Vista AV to Separate storm drain; Unpaved surface; Other (specify below);Spill reached a DI that day lighted to a drainage channel along the railroad tracks: Spill was contained in this area, although we assumed approx 5 gallons seeped into dry dirt: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
8/30/2012	905 Main Street Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer; City Cleanout at 905 Main Street to Street/curb and gutter; Spill was contained in gutter with dry sweep: No surface water body affected: Follow up work order generated to CIPP line lower lateral
9/19/2012	159 Donner Avenue Roseville, 95678	Category 2	5	5	Root intrusion Root intrusion caused backup	Root intrusion; Root intrusion caused backup caused 5 gallons of sewage to spill from Gravity sewer; Cleanout was not spilling upon arrival at 159 Donner Ave to Street/curb and gutter: No surface water body affected: Work order generated to repair offset and damage caused by root intrusion
9/24/2012	615 Encinal Avenue Roseville, 95678	Category 2	5	5	Root intrusion Root intrusion and rags in the lower lateral	Root intrusion; Root intrusion and rags in the lower lateral caused 5 gallons of sewage to spill from Gravity sewer; Spilled from city cleanout at 615 Encinal Ave to Street/curb and gutter; Unpaved surface; Lateral was not spilling upon operator arrival, as resident had stopped all water use in the house: Spill was partially in a lawn area as well as the sidewalk, curb and gutter: No surface water body affected: Work order generated in CIPP line lateral

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
10/20/2012	995 Darling Way Roseville, 95678	Category 2	18	15	Root intrusion	Root intrusion caused 18 gallons of sewage to spill from Gravity sewer; City cleanout wasn't spilling upon arrival, but there was evidence of prior spill: Approx 3 gallons soaked into landscape area: Resident stated spill had only been going on for a few minutes: at 995 Darling Way to Unpaved surface; Other (specify below);Landscape/planter bed area: No surface water body affected:
11/1/2012	1100 Creekridge Court Roseville, 95747	Category 2	25	25	Root intrusion	Root intrusion caused 25 gallons of sewage to spill from Gravity sewer; Cleanout at 1100 Creekridge Ct to Street/curb and gutter; Spill was contained in gutter by leaves and debris, but was not actively spilling upon arrival: No surface water body affected:
11/3/2012	601 Encinal Avenue Roseville, 95678	Category 2	35	35	Root intrusion	Root intrusion caused 35 gallons of sewage to spill from Gravity sewer; Neighbor noticed a smell and traced odor back to this address, and then called dispatch service: Notified neighbor of water coming from city cleanout at 601 Encinal to Street/curb and gutter; Spill was contained in gutter by leaves and debris: Vacuumed all material out of gutter: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
11/5/2012	2208 Bud Court Roseville, 95661	Category 2	75	75	Root intrusion	Root intrusion caused 75 gallons of sewage to spill from Gravity sewer; Spill was from City cleanout, however, at phone call to homeowner, they indicated that all water had stopped, but her children had washed the driveway down with garden hose: at 2208 Bud Ct to Separate storm drain; Street/curb and gutter; Storm Drain DI is approx 450' from address, and minimal water had made it to the di: Di and gutter were flushed and all water vacuumed out: Spill volume was estimated by L x W x Depth of water, plus minimal volume in basin of DI: No surface water body affected:
12/2/2012	Eastridge Drive Roseville, 95661	Category 1	100	0	Rainfall exceeded design (Separate CS Only) Collection System was inundated by storm surge	Rainfall exceeded design (Separate CS Only);Collection System was inundated by storm surge caused 100:0 gallons of sewage to spill from Manhole; Spill was slowing seeping from the gap between the manhole frame and the manhole cover: The manhole was bolted down, slowing the release of water: at Eastridge Drive -East of Bridge to Surface water: Surface water body affected: Visually inspected the collection system and verified surcharge conditions were receding:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
12/2/2012	Eastridge Drive Roseville, 95661	Category 1	300	0	Rainfall exceeded design (Separate CS Only) Collection system was inundated by storm surge	Rainfall exceeded design (Separate CS Only);Collection system was inundated by storm surge caused 300:0 gallons of sewage to spill from Manhole; Spill was seeping from the gap between the frame and the cover: The manhole was also bolted down: at Eastridge Drive- West of Bridge to Surface water: Surface water body affected: Visually inspected collection system and verified surcharge conditions were receding
11/24/2012	1941 Inglis Way Roseville, 95678	Category 2	3	3	Root intrusion	Root intrusion caused 3 gallons of sewage to spill from Gravity sewer; City Cleanout- No visible water, but toilet paper was standing around cleanout at 1941 Inglis Way to Unpaved surface; Landscaped Area: No surface water body affected:
11/28/2012	1955 Inglis Way Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer; City cleanout at 1955 Inglis Way to Street/curb and gutter; Other (specify below);Landscape Area: No surface water body affected:
11/26/2012	1501 Colonial Parkway Roseville, 95661	Category 2	10	10	Root intrusion	Root intrusion caused 10 gallons of sewage to spill from Gravity sewer; City cleanout at 1501 East Colonial to Street/curb and gutter: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
12/14/2012	120 Fig Street Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer; City Cleanout at 120 Fig Street to Other paved surface; Sidewalk: No surface water body affected:
12/31/2012	301 Loretto Drive Roseville, 95661	Category 2	15	15	Other (specify below) Private plumber lost screw plug down line and was wedged in lower lateral, causing spill	Other (specify below);Private plumber lost screw plug down line and was wedged in lower lateral, causing spill caused 15 gallons of sewage to spill from Gravity sewer; City cleanout at 301 Loretto Drive to Street/curb and gutter; Used dry sweep to contain water in gutter: No surface water body affected:
12/31/2012	138 Cedar Street Roseville, 95678	Category 2	10	10	Root intrusion	Root intrusion caused 10 gallons of sewage to spill from Gravity sewer at 138 Cedar St to Street/curb and gutter; Used dry sweep to contain spill in gutter: All areas were flushed and vacuumed: No surface water body affected:
1/14/2013	376 Circuit Drive Roseville, 95678	Category 2	20	20	Root intrusion	Root intrusion caused 20 gallons of sewage to spill from Gravity sewer at 376 Circuit Drive to Other paved surface; Street/curb and gutter; Sidewalk: No surface water body affected: Added to lateral maintenance group project, 4 month interval
1/17/2013	1080 Douglas Boulevard Roseville, 95678	Category 2	10	10	Root intrusion	Root intrusion caused 10 gallons of sewage to spill from Gravity sewer at 1080 Douglas Blvd to Street/curb and gutter: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
1/18/2013	108 Ben Ezra Avenue Roseville, 95678	Category 2	10	10	Pipe structural problem/failure Pipe had failed due to significant roots crushing pipe	Pipe structural problem/failure; Pipe had failed due to significant roots crushing pipe caused 10 gallons of sewage to spill from Gravity sewer at 108 Ben Ezra Avenue to Other paved surface; Street/curb and gutter: No surface water body affected: Lateral was repaired at point of pipe failure, and work order generated to CIPP line entire service:
1/21/2013	2318 Cirby Way Roseville, 95661	Category 2	6	6	Root intrusion	Root intrusion caused 6 gallons of sewage to spill from Gravity sewer at 2318 N Cirby Way to Street/curb and gutter; Unpaved surface; Landscape area: No surface water body affected: Work order created and scheduled to CIPP line lateral
1/28/2013	1741 Evergreen Drive Roseville, 95747	Category 2	10	10	Root intrusion Root intrusion is coming from backside of cleanout wye: Notified homeowner that he would need to maintain or repair the break in their line	Root intrusion; Root intrusion is coming from backside of cleanout wye: Notified homeowner that he would need to maintain or repair the break in their line caused 10 gallons of sewage to spill from Gravity sewer; City cleanout at 1741 Evergreen Drive to Street/curb and gutter: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
2/12/2013	1332 Blossom Hill Way Roseville, 95661	Category 2	3	3	Pipe structural problem/failure Lateral had been CIPP lined within the last few weeks, and resin did not setup, causing the liner to collapse enough to hold back paper products	Pipe structural problem/failure; Lateral had been CIPP lined within the last few weeks, and resin did not setup, causing the liner to collapse enough to hold back paper products caused 3 gallons of sewage to spill from Gravity sewer; City cleanout at 1332 Blossom Hill to Other paved surface; Street/curb and gutter; Sidewalk and landscape area: No surface water body affected: Bad spot of liner has been cut out and repaired
2/16/2013	497 Diamond Bar Lane Roseville, 95678	Category 2	5	5	Pipe structural problem/failure House is on the top end of a dead end run: Lateral ties into main with a tee rather than a wye: Resident has also replaced all toilet fixtures with low flow units: All of this together equates to a problem with moving paper and waste through the lateral: Work order created to replace tee with wye to aid better flow angle:	Pipe structural problem/failure; House is on the top end of a dead end run: Lateral ties into main with a tee rather than a wye: Resident has also replaced all toilet fixtures with low flow units: All of this together equates to a problem with moving paper and waste through the lateral: Work order created to replace tee with wye to aid better flow angle: caused 5 gallons of sewage to spill from Gravity sewer; City cleanout at 497 Diamond Bar Ln to Street/curb and gutter: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
3/11/2013	120 Silverado Circle Roseville, 95678	Category 2	2	2	Other (specify below) Cleanout was holding water, but not spilling: As technician began to clear blockage, the cleanout started to spill: Cleared line and water subsided:	Other (specify below);Cleanout was holding water, but not spilling: As technician began to clear blockage, the cleanout started to spill: Cleared line and water subsided: caused 2 gallons of sewage to spill from Gravity sewer; City Cleanout at 120 Silverado Circle to Street/curb and gutter; Other (specify below);Landscape Area: No surface water body affected: Failure analysis showed root coming in from backside of wye, and traveling through coupling: Wye was dug up and replaced, large roots were removed from customer side of lateral: Lateral is also very flat
3/15/2013	237 La Rue Alley Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer; Cleanout- Resident was informed to stop all water use, and was not spilling upon arrival: at 237 LaRue Alley to Other (specify below);Landscape Area: No surface water body affected: Work order generated to CIPP line the lateral
3/23/2013	1505 Antrim Court Roseville, 95747	Category 2	8	8	Root intrusion	Root intrusion caused 8 gallons of sewage to spill from Gravity sewer; Resident was requested to stop all water use, and lateral was not spilling upon arrival at 1505 Antrim Ct to Street/curb and gutter; Other (specify below);Grass Area: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
3/23/2013	211 Kenroy Lane Roseville, 95678	Category 2	10	10	Root intrusion	Root intrusion caused 10 gallons of sewage to spill from Gravity sewer at 211 Kenroy Lane to Street/curb and gutter: No surface water body affected: Created work order to repair cleanout
4/2/2013	1415 frances Drive Roseville, 95661	Category 2	25	25	Root intrusion	Root intrusion caused 25 gallons of sewage to spill from Gravity sewer; City cleanout at 1415 Frances Drive to Street/curb and gutter; No water was spilling upon arrival: Overflow was contained by debris and a large offset in gutter: No surface water body affected: Work order generated to CIPP line lateral
4/9/2013	215 Coronado Avenue Roseville, 95678	Category 2	47	47	Root intrusion	Root intrusion caused 47 gallons of sewage to spill from Gravity sewer at 215 Coronado Ave to Other paved surface; Spill was contained with dry sweep and dirt berm: No surface water body affected:
4/14/2013	1307 Sheffield Way Roseville, 95661	Category 2	3	3	Root intrusion	Root intrusion caused 3 gallons of sewage to spill from Gravity sewer; Sewer cleanout in front lawn at 1307 Sheffield Way to Unpaved surface; Landscape lawn area: No surface water body affected:
4/18/2013	1015 Sunset Drive Roseville, 95678	Category 2	2	2	Root intrusion	Root intrusion caused 2 gallons of sewage to spill from Gravity sewer; City cleanout in landscape area: Not spilling upon arrival at 1015 Sunset Dr to Unpaved surface; Landscape: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
4/30/2013	2218 Americana Drive Roseville, 95747	Category 2	5	0	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer; City Cleanout at 2218 Americana Drive to Street/curb and gutter; Area was dry, but there was evidence of debris on sidewalk and gutter in front of address: No surface water body affected:
4/30/2013	512 Royer Street Roseville, 95678	Category 2	10	10	Root intrusion	Root intrusion caused 10 gallons of sewage to spill from Gravity sewer; City cleanout at 512 Royer St to Unpaved surface: No surface water body affected: Created work order to repair damaged pipe caused by root intrusion:
5/10/2013	330 Circuit Drive Roseville, 95678	Category 2	20	20	Root intrusion City cleanout started spilling after resident had a plumber clear their portion of the line: The large mass of roots stayed in the lower lateral, caused it to back up and spill	Root intrusion; City cleanout started spilling after resident had a plumber clear their portion of the line: The large mass of roots stayed in the lower lateral, caused it to back up and spill caused 20 gallons of sewage to spill from Gravity sewer; City cleanout had evidence of spill: at 330 Circuit Drive to Street/curb and gutter; Spill was contained in gutter by leaves and dirt: No surface water body affected:
6/20/2013	1795 Vista Creek Drive Roseville, 95661	Category 2	5	5	Debris-Rags	Debris-Rags caused 5 gallons of sewage to spill from Gravity sewer; City Cleanout at 1795 Vista Creek Dr to Street/curb and gutter: No surface water body affected:

Date Of SSO	Address Of SSO	Spill Type	Spill Volume (gal)	Spill Volume Recovered (gal)	Spill Cause	Overall Description
7/14/2013	618 Lassen Way Roseville, 95678	Category 2	5	5	Root intrusion	Root intrusion caused 5 gallons of sewage to spill from Gravity sewer; City cleanout: Customer said it was not spilling, and no one was home at 618 Lassen Way to Street/curb and gutter: No surface water body affected:

7.2 Appendix – Performance Indicators

SSS WDR Element	SSS WDR Ref.	Description	Performance Indicator	Unit	Target	City SSMP (section)	Utility Metrics (SSMP Appendix I)	WW Collections KPI.doc	Program / Performance Report FY12/13	Strategic Plan Data FY12/13.xls	Performance Metrics.xls	Suggested Audit Frequency	Suggested Responsible Party
Organization	D.ii.c	Chain of communication	Average response time to customer inquiry	Minutes	40		Data	40	-	-	-	Quarterly	Office Assistant
			Total customer service requests	Number	0	(9.6)	Data	-	-	-	-	Quarterly	Office Assistant
			Total sewer odor complaints	Number	0	(9.6)	Data	-	-	-	-	Quarterly	Office Assistant
			Average rating in feeback survey card	Number	5	-	Data	-	-	-	-	Quarterly	Office Assistant
O&M	D.iv.a	Maps	Average response time to map update requests	Days	30	-	-	-	-	-	-	Quarterly	GIS Manager
	D.iv.b	PM activites	Manholes - cleaned & visually inspected per year	Number	1054	(9.4)	-	-	1054	-	-	Quarterly	WWC Supervisor
			Sewer main - flushed per year	Miles	250	(9.4)	Data	250	250	250	-	Quarterly	WWC Supervisor
			Service laterals - cleaned per year	Miles	8	-	-	-	8	-	-	Quarterly	WWC Supervisor
			Service laterals - mechancially cleaned (eeled) per year	Miles	8	(9.4)	-	-	-	8	-	Quarterly	WWC Supervisor
			Working staff time to PM program	%	80	-	-	-	80	-	-	Quarterly	WW Superindendent
			Number of customer accounts per wastewater employee	Number	561	(9.4)	Data	-	-	-	-	Quarterly	WW Superindendent
			% of work orders completed as emergency	%	0.4	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			Average cost of hydro cleaning	$/ lf	0.36	-	Data	-	-	-	-	Annually	WW Superindendent
			Average cost of sewer mechanical cleaning	$/lf	1.6	(9.4)	Data	-	-	-	-	Annually	WW Superindendent
	D.iv.c	R&R plan	Manholes - rehabilitated (i.e., lined with CIPP)	Number	25	-	-	-	25	-	-	Annually	Rehabiliation Manger
			Sewer main - CCTV inspected per year	Miles	30	(9.4)	Data	30	30	30	-	Quarterly	WWC Supervisor
			Service laterals - CCTV inspected per year	Miles	16	-	Data	-	8	16	-	Quarterly	WWC Supervisor
			Service laterals - rehabilitated per year	Number	50	(9.4)	-	50	50	50	-	Quarterly	WW Superindendent
			Cleanouts - installed per year	Number	100	-	-	100	100	75	-	Quarterly	WWC Supervisor
			Total miles rehabed or replaced per year (main)	Miles	5	(9.6)	Data	-	-	-	-	Annually	Rehabiliation Manger
			Total miles rehabed or replaced per year (lateral)	Miles	0.25	(9.6)	Data	-	-	-	-	Annually	Rehabiliation Manger
			Annual capital budget for sewer rehab/replacement	$M	1.8	-	Data	-	-	-	-	Annually	Rehabiliation Manger
			Average cost of CCTV (main)	$/lf	0.53	(9.4)	Data	-	-	-	-	Annually	WW Superindendent
			Average cost of CCTV (lateral)	$/lf	1.34	-	Data	-	-	-	-	Annually	WW Superindendent
	D.iv.d	Training	On-the-Job accidents	Number	0	-	-	-	0	0	-	Quarterly	Safety Manager
	D.iv.e	Critical Parts	% of required number of identified critical parts are stocked	%	100	-	-	-	-	-	-	Annually	Materials Technician
Design	D.v.a & b	Construction	% of new sewer main construction accepted vs. inspected	%	100	(9.6)	Data	-	-	-	-	Annually	GIS Manager
			% of new sewer lateral construction accepted vs. inspected	%	100	(9.6)	Data	-	-	-	-	Annually	GIS Manager
OERP	D.vi.a	Notification	Average response time to SSO	Minutes	40	-	Data	-	-	-	-	Quarterly	WWC Supervisor
	D.vi.b	SSO response	Average SSO duration (main)	Minutes	40	-	-	-	-	-	-	Quarterly	WWC Supervisor
			Average SSO duration (lateral)	Minutes	40	-	-	-	-	-	-	Quarterly	WWC Supervisor
FOG	D.vii.a	Public education	FOG public education outreach program events per year	Number	4	-	-	-	-	-	-	Annually	Administrative Analyst
	D.vii.b	FOG disposal	Number of curbside FOG pickups per year	Number	25	-	-	-	-	-	-	Annually	Refuse Division
			% of CCTV inspections with grease observations (DAGS, >20%)	%	5	-	-	-	-	-	-	Quarterly	WWC Supervisor
	D.vii.d	BMPs & Devices	% of total FSEs with grease removal devices or waiver/variance	%	100	-	-	-	-	-	-	Annually	IWS Inspector
			% of total FSEs with a variance	%	5	-	-	-	-	-	-	Annually	IWS Inspector
	D.vii.e	FOG inspections	FSE FOG inspections per year	Number	294	-	-	-	-	-	-	Quarterly	IWS Inspector
			Coordination meetings between WWC and IWS per year	Number	4	-	-	-	-	-	-	Quarterly	IWS Inspector
	D.vii.f	Hot Spots	% of hot spot pipes CCTV inspected each year	%	100	-	-	-	-	-	-	Annually	WW Superindendent
			Number of spills caused by hot spots	Number	0	-	-	-	-	-	-	Quarterly	WW Superindendent
			Volume of spill volume caused hot spots	Gal	0	-	-	-	-	-	-	Quarterly	WW Superindendent
SECAP	D.viii.a	Evaluation	Frequency for capacity assurance evaluation (hydraulic model)	Years	5	App I	-	-	-	-	-	Annually	EU Engineering
MMM	D.ix.e	SSO trends	Total number of SSOs, mains and laterals	Number	76	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			Total SSO volume, mains and laterals	Gal	2000	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			% of total SSO volume recovered	%	100	-	Data	-	-	-	-	Quarterly	WW Superindendent
			Total number of wet weather SSOs	Number	0	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			Total volume of wet weather SSOs	Gal	0	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			% of SSOs caused by FOG (main)	%	1	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			% of SSOs caused by roots (main)	%	70	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			% of SSOs caused by Vandalism (main)	%	0	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			Number of SSOs caused by LS failures	Number	0	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			Number of SSOs caused by pipe failures	Number	0	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			% of SSO volume caused by FOG (lateral)	%	10	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			% of SSO volume caused by roots (lateral)	%	75	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			% of SSO volume caused by Vandalism (lateral)	%	0	(9.6)	Data	-	-	-	-	Quarterly	WW Superindendent
			Repeat SSOs within two years	Number	0	(9.6)	Data	0	-	-	-	Quarterly	WW Superindendent
			Category 1 SSOs	Number	0	-	-	0	0	-	-	Quarterly	WW Superindendent
			SSOs / 100 mi pipe / year - Category 2	Number	2.0	-	-	2.0	-	-	-	Quarterly	WW Superindendent
			SSOs / 100 mi pipe / year - Lateral	Number	15.0	-	-	8.0	-	-	8	Quarterly	WW Superindendent
			SSOs / 100 mi pipe / year - Mainline	Number	0.6	-	-	0.6	-	-	0.6	Quarterly	WW Superindendent
			Flooding claims per year	Number	0	(9.6)	Data	-	-	-	-	Annually	WW Superindendent
			Total cost of claims per year	$	0	(9.6)	Data	-	-	-	-	Annually	WW Superindendent

Legend

Green Text	Indicates the goal for the respective performance measure as stated in the associated document.
"Data"	Indicates that is recorded and tracked but no goal is defined in the associated document.

7.3 Appendix – Sample Performance Indicator Assessment Form

Goal:	**MRP (FY 2014 / 2015)**
Responsible Person (RP):	WWC Superintendent

Description of Performance Indicator(s) (PIs):

The State Water Board has recently concluded that the existing Monitoring and Reporting Program must be amended to remain adequate enough to advance the Sanitary Sewer Overflow Reduction Program objectives, assess compliance, and enforce the requirements of the Sanitary Sewer Systems Waste Discharge Requirements. The amended MRP will become effective on September 9, 2013 concurrent with the routine bimonthly CIWQS maintenance release. The Wastewater Collection Division is responsible for submitting, signing, and certifying all reports required by the SSS WDRs and the amended MRP order. The PIs listed below track the completion of tasks necessary for the City to remain compliant with the SSS WDRs.

PIs and Data Analysis Methods:

1. *Completion of unpopulated fields in revised "Collection System Questionnaire"*
   Discussion & Scoring Criteria: The City has three (3) months after September 9, 2013 to complete all unpopulated fields in the revised "Collection System Questionnaire" before the CIWQS locks you out from all reporting. After the questionnaire is completed, the system will default back to the annual update requirement and lock you out from all reporting only if the questionnaire is not updated at least annually.

2. *Update of OERP section in SSMP*
   Discussion & Scoring Criteria: The Overflow and Emergency Response Plan section of the City's SSMP must be updated in accordance with the amended MRP by January 21 2014, when a board review of the SSMP will take place.

PI	A+	A	A-	B+	B	B-	C+	C	C-	D	F
1	All unpopulated fields completed by December 9, 2013.			N/A			N/A			All or some of the unpopulated fields not completed by December 9, 2013.	
2	OERP section fully updated in SSMP before review.			N/A			N/A			OERP section never, or only partially, updated before review.	

Performance Tracking		
PI	**Measured Value**	**Performance Assessment Comments**
1		
2		

Recommendations for Programmatic or SSMP Updates
PI 1 – Completion of unpopulated fields in revised "Collection System Questionnaire" Recommendation: **PI 2 – Update of OERP section in SSMP** Recommendation:

Signature of Responsible Person: (sign when complete)	Date: