

# **Appendix F**

SSMP Audit

# Sewer System Management Plan Audit Report

Calendar Years 2022 – 2024

Adapted from format developed by BACWA

<b>Name of agency</b>	<i>City of Benicia</i>
<b>CIWQS CS Name</b>	<i>Benicia City CS</i>
<b>WDID</b>	<i>2SSO10095</i>
<b>Date of audit</b>	<i>January 8, 2025</i>
<b>Reporting Period</b>	<i>Calendar years 2022-2024</i>
<b>Audit Team</b>	<i>Ray Goebel, P.E. (EOA, Inc.) John Gant (Public Works Maintenance Superintendent) Carrie Wenslawski (Public Works Management Analyst) Marc Bautista (Water Quality Supervisor) Andy Morris (WWTP Superintendent)</i>
<b>System Overview</b>	
<b>Miles of gravity sewer mains</b>	<i>148*</i>
<b>Miles of force mains</b>	<i>5</i>
<b>Total miles of all sewer lines</b>	<i>153</i>
<b>Number of pump stations</b>	<i>23</i>
<b>Miles of private sewer mains, excl. laterals</b>	<i>0</i>
<b>Miles of private sewer laterals</b>	<i>~80</i>
<b>Population served</b>	<i>~26,000</i>
<b>Current average monthly single family residential sewer rate, based on 12 ccf of water used</b>	<i>\$101.81 (2024) \$104.92 (2025)</i>

\*Previously listed as 145 miles. Revised in 2020 to 148 based on more accurate information.

This audit includes information regarding the status and implementation of the SSMP for calendar years 2022 through 2024.<sup>1</sup> Annual spill statistics through calendar year 2024 are presented in Table 1, with selected statistics also shown graphically in Figure 1. Audit team comments for particular sections (or subsections) are indicated in italics. Underlined items reflect action items.

Directions: Circle YES or NO for each question. If NO is answered for any question, describe the updates/changes needed and the timeline to complete those changes. Include discussion for YES responses as appropriate.

*Note: The SSMP was last updated in 2020, and the update approved by the Benicia City Council on November 17, 2020 (Resolution 20-137). An audit for CY 2020-2021 was conducted on March 17, 2022. However, because it was anticipated that the Statewide General Order for Sanitary Sewer Systems (General Order) was impending, needed SSMP updates identified through that audit were deferred until the General Order was re-issued, since it was anticipated that General Order would contain new requirements that would trigger the need for updating both the content and format of the SSMP. The next SSMP update (2025 update) will be completed, approved by the City Council, and submitted by the 8/2/2025 due date. The update will include items identified in the 2022 audit and this audit.*

<sup>1</sup> The 3-yr audit period technically ended in August 2024. However, this audit covers through the end of 2024.

The 2025 SSMP update will utilize a different overall format. Although the required elements and most of the content will remain, the new format will not utilize a Public Works Memoranda to introduce each section's content. Such a change will streamline the process for future SSMP updates. Additional section subheadings will be added to conform with the new General Order.

The titles and order of headings below is based on the current General Order WQO-2022-0013-DWQ).

### 1. GOALS & INTRODUCTION

- Are the goals stated in the SSMP still appropriate and accurate? **YES/NO**
- Are other required items of this element incorporated into Section 1 **YES/NO**

The new General Order calls for additional information to be included in this section. The following will be added:

- Regulatory Context
- SSMP Update Schedule
- Structures for Diverting Stormwater to the SSS: (There are no such structures in the Cit's system).
- Data Management Systems: Information on Data Management systems that appear in other sections of the SSMP and will be described in this section.
- Unique conditions/challenges: (No particularly unique challenges were identified during the Audit).

### 2. ORGANIZATION

- Is the SSMP up-to-date with agency organization and staffing contact information? **YES/NO**

Organization and contact information for the City's Public Works Maintenance and Wastewater Operations Divisions is included in SSMP Section 2. In the 2025 update, the organization chart will be updated with the current (January 2025) version. The updated chart includes the new position of GIS Coordinator, who is part of the City's Finance Department. A description of the Field Utilities Division Supervisor responsibilities will be added to the text. A description of the chain-of-command for reporting spills will also be added. A separate table will be added that lists the primary and backup LROs.

### 3. LEGAL AUTHORITY

- Does the SSMP contain up-to-date information about your agency's legal authority? **YES/NO**
- Does your agency have sufficient legal authority to control sewer use and maintenance? **YES/NO**

*SSMP Section 3 has a summary table of legal authorities and relevant excerpts from the Benicia Municipal Code. The excerpted sections were checked to ensure that all references were current. The City's legal authority for control of FOG is consistent with the City's current FOG control program. A statement will be added to Section 3 regarding easement accessibility agreements.*

**4. OPERATION AND MAINTENANCE PROGRAM (formerly MEASURES AND ACTIVITIES)**

**A. COLLECTION SYSTEM MAPS**

- Does the SSMP contain up-to-date information about your agency's maps? **YES** NO
- Are your agency's collection system maps complete, up-to-date, and sufficiently detailed? **YES** / NO

*The utility map system was originally based on CAD drawings. The CAD-based maps were updated in 2008, with revised pages bound into the map books in 2010. These are carried in Maintenance crew trucks. The City has transitioned its utility maps to a Geographic Information System (GIS)-based map system, which is hosted and maintained by an outside contractor (ID Modelling), and which is linked to the City's NEXGEN computerized maintenance management system (CMMS).<sup>2</sup> Necessary map corrections and updates are tracked by the Public Works Maintenance Superintendent and collection System Maintenance Supervisor and forwarded to the City's GIS Coordinator for updating the GIS files. These maps and related information from NEXGEN are available to Maintenance crew in the field via their mobile tablet computers. Although the CAD-based system map and example block map in the SSMP are still accurate, the City plans to replace both with GIS-based maps for improved readability. The SSMP will also make reference to new General Order requirement for submittal of a Boundary Map.*

**B. PREVENTATIVE OPERATION AND MAINTENANCE ACTIVITIES (Formerly PRIORITIZED OPERATION AND MAINTENANCE)**

- Does the SSMP contain up-to-date information about your agency's preventive maintenance activities? **YES** NO
- Considering the information in Tables 1 – 3, are your agency's preventive maintenance activities sufficient and effective in reducing and preventing spills and blockages? **YES** / NO

*In addition to targeted cleaning of certain areas that are known to be sources or potential sources of spills, the City also conducts "top-down" cleaning of the entire collection system on an approximate 3-year cycle. (During 2020 and 2021, The Covid-19 epidemic impacted sewer line cleaning activities because of the need to reduce worker-to-worker exposure and isolate individuals who may have*

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<sup>2</sup> In January 2025, the City will complete the transition from use of the Sedaru CMMS application (which is no longer supported by the vendor) to NEXGEN, a CMMS that is currently in use by the City's wastewater treatment plant and the water utility.

*been exposed from others. This impact was typical across Bay Area collections system agencies).*

*The maintenance crew now uses iPads linked to the NEXGEN CMMS in the field. This change has rendered most of the hard copy forms and spreadsheet logs/reports that are included in SSMP Section 4 obsolete, although these records are still available in Maintenance Division files. The equivalent information can now be generated as-needed from the CMMS for any time period of interest.*

*Lift station inspections are conducted by WWTP staff. Inspections are done weekly, but only the more comprehensive semi-annual and annual inspections are tracked in the WWTP's CMMS (also NEXGEN). The next SSMP revision will eliminate the obsolete forms/logs or clarify their current status and include additional screen shots or example print-outs of reports generated from NEXGEN, including examples for the lift stations. A preliminary listing of the new forms and other content has been generated.*

*Overall, the number of spills is trending downward, as indicated in Table 1 and Figure 1. However, several large spills in 2021 and 2023 increased the total annual volumes cited in the table and figure. Significant year-to-year variability can always still be expected within the overall trends.*

*The spills related to bypass pumping that occurred in December 2022 and January 2023 are primarily responsible for the increase in volume in those years and warrant discussion. A pipeline replacement/upsizing project initiated in April 2022 and was subject to various delays. Bypass pumping associated with those was not designed to accommodate the very high wet weather flows that were experienced, and site constraints prevented upsizing bypass pumping capacity. The City became aware of this and maintained close watch during storm events. The ultimate solution was to complete the project as quickly as possible. The City believes these spills were the result of an unusual situation and do not reflect deficiencies in the O&M program. The decline in FOG-related and root-related spills over the years indicates that maintenance cleaning efforts have been very effective in reducing or preventing spills from these "preventable" causes.*

**C. REHABILITATION AND REPLACEMENT PLAN, INSPECTIONS AND CONDITION ASSESSMENT**

- Does the SSMP contain up-to-date information about your agency's inspections and condition assessment?
- Are your agency's scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies?

**YES / NO**

**YES / NO**

*The results of earlier condition assessment studies are incorporated into the Capital Improvements budgets that are part of the SSMP. The most recent assessments are documented in the 2020 Wastewater Master Plan described below. The City also uses information from inspections conducted during maintenance activities to identify problems/deficiencies.*

*The June 2020 Wastewater Master Plan and Major Facility Condition Assessment included a condition and risk assessment component that identified 23 potential CIP projects for the collection system and specific recommendations for rehabilitation or corrective maintenance work for each of the 23 lift stations. Current planned CIP projects are listed below in Table 4 of Section 8. The Master Plan’s Executive Summary is available on the City’s web site through [this link](#).*

*The City purchased a CCTV truck in 2016 (the City formerly used an outside contractor for CCTV work). CCTV video is managed using the IT Pipes software and stored on City server. The software includes PACP ratings. CCTV inspections were conducted in 2022-2024, with footages inspected returning to their “pre-Covid” levels. An example IT Pipes screen shot is included in SSMP Section 4.*

*In addition to the CCTV truck, the maintenance crew also has a small “push camera” that is used for troubleshooting during maintenance activities.*

**D. TRAINING**

- Does the SSMP contain up-to-date information about your agency’s training expectations and programs? YES/ NO
- Do supervisors believe that their staff is sufficiently trained? YES NO
- Are staff satisfied with the training opportunities and support offered to them? YES NO

*Training is an ongoing activity as documented in the SSMP. Refresher training of collection crew, supervisors, and stand-by personnel for spill volume estimation will be conducted in mid-January 2025 by DKF Solutions Group, who developed the original SERP and updated it in 2023. (Although Maintenance staff are trained in spill volume estimating methods, for consistency in reporting, spill volume estimates are normally done by the Maintenance Supervisor or the Maintenance Superintendent). The City also plans to conduct refresher training on the remainder of the SSMP in 2025*

*WWTP laboratory staff previously provided formal training in spill sample collection for the Maintenance crew and annually checks its spill sampling kits. The City’s current procedure calls for laboratory staff to conduct spill sampling when needed. Maintenance staff are aware of when sampling is required but will not perform the actual sampling or receive future training in sample collection.*

*The City also puts a major emphasis on safety training and has developed a Safety Program with assistance of an outside contractor (Du-All Safety). Currently, Du-All conducts almost all formal safety training.*

*Finally, the City emphasizes the importance of CWEA certification, and the number of certifications among the Public Works Maintenance crew has increased.*

**E. CONTINGENCY EQUIPMENT AND REPLACEMENT INVENTORIES**

- Does the SSMP contain up-to-date information about equipment and replacement inventories?  YES /  NO
- Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance?  YES /  NO

*The spare parts inventory was reviewed as part of the audit and was determined to be current, with only one minor correction needed.*

## **F. RESOURCES AND BUDGET**

*Note: the following questions regarding resources and budget do not correspond directly to a requirement in the current General Order but are relevant to this element.*

- Does the SSMP contain up-to-date information about your agency's resources and budget?  YES /  NO
- Are your agency's resources and budget sufficient to support effective sewer system management?  YES /  NO
- Do your agency's planning efforts support long-term goals?  YES /  NO

*The Wastewater Division's administration, operation, maintenance, and replacement functions are funded through bi-monthly wastewater charges. Residential units are charged a fixed rate per bi-monthly bill and a volumetric charge based on metered water use capped at 18 hundred cubic feet per bi-monthly bill. Non-residential customers pay fixed bi-monthly service charges based on meter size and a volume charge based on low, medium, or high strength. On November 16, 2021, City Council approved 5-year water and wastewater rate increases. The rate increases are needed to fund basic operations, ensure adequate funding for maintenance of aging equipment and infrastructure, and provide funding for the City's highest priority wastewater system capital improvement needs. The wastewater rate increases are approximately 3% each year over a five-year period. The first increase was effective January 1, 2022, with annual increases each January 1 thereafter, through calendar year 2026. The updated Wastewater Rate Schedule will be added to the 2025 SSMP update.*

## **5. DESIGN AND CONSTRUCTION STANDARDS**

- Does the SSMP contain up-to-date information about your agency's design and construction standards?  YES /  NO
- Are design and construction standards, as well as standards for inspection and testing of new and rehabilitated facilities sufficiently comprehensive and up-to-date?  YES /  NO

*The SSMP's Section 5 has a copy of the City's [Engineering Design Standards](#) and [Standard Plans](#) that apply to collection system components in Public Works projects. The standards have not been recently updated but continue to reflect the City's requirements. A particular construction project design may incorporate different construction details if approved by the City's Engineering Group.*

Section 13.60 of the City's Ordinance Code requires that "The building sewer and lateral sewer shall be tested in accordance with city standard specifications". The Public Works Engineering Department does an inspection when a lateral is replaced.

The next SSMP revision should clarify that while the property owner owns a building's upper and lower lateral lines to the main sewer, it is the City's policy that if the property owner installs a right-of-way cleanout and a new lateral using approved materials and with a building permit, the City will assume responsibility for maintaining the lower lateral.

## 6. SPILL EMERGENCY RESPONSE PLAN

- Does the SSMP contain an up-to-date version of your agency's Overflow Emergency Response Plan? **YES / NO**
- Considering the information in Table 1, is the Overflow Emergency Response Plan effective in handling Spills? **YES / NO**

*The SERP, prepared by DKF Solutions Group, underwent a major updating by DKF in July 2023 to conform with the new General Order. It includes a separate document "Appendix D - Sanitary Sewer Spill Response Workbook" intended to serve as a field guide. A copy of this SERP is included in the SSMP and maintained in the Maintenance Division office. The SERP and its companion Spill Response Workbook address all of the General Order's requirements for spill response and reporting. However, the City does not necessarily use all of the materials and documentation forms that are contained in the Workbook.*

*The Maintenance Supervisor is typically on-site for spills and takes notes during the response process. These notes form the basis for spill volume estimation and other spill information submitted through CIWQS. The Maintenance crew is also trained in spill volume estimation methods, with the most recent training update conducted in January 2025.*

The current SSMP's "SSO Regulatory Notification, Reporting and Record Keeping" document in Section 6 needs updating to reflect the new spill Category 4 and other items associated with the new General Order. Since the updated material is also contained in the current SERP, that document will be condensed. The SERP's Spill Response Workbook, Section B-1 (Regulatory Reporting Guide) provides a good tabular summary of spill reporting requirements that may be replicated in the main body of Section 6.

Table 1 and Figure 1 contain annual summary data for spills that have occurred over the period 2007-2024.

**Table 1. Annual Spill Statistics**

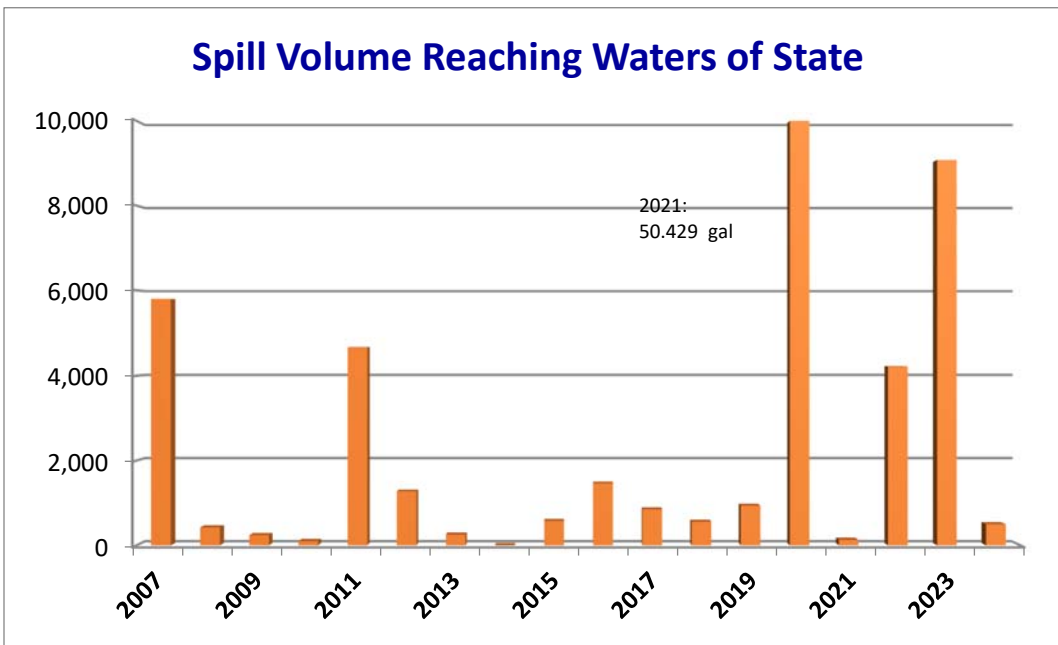
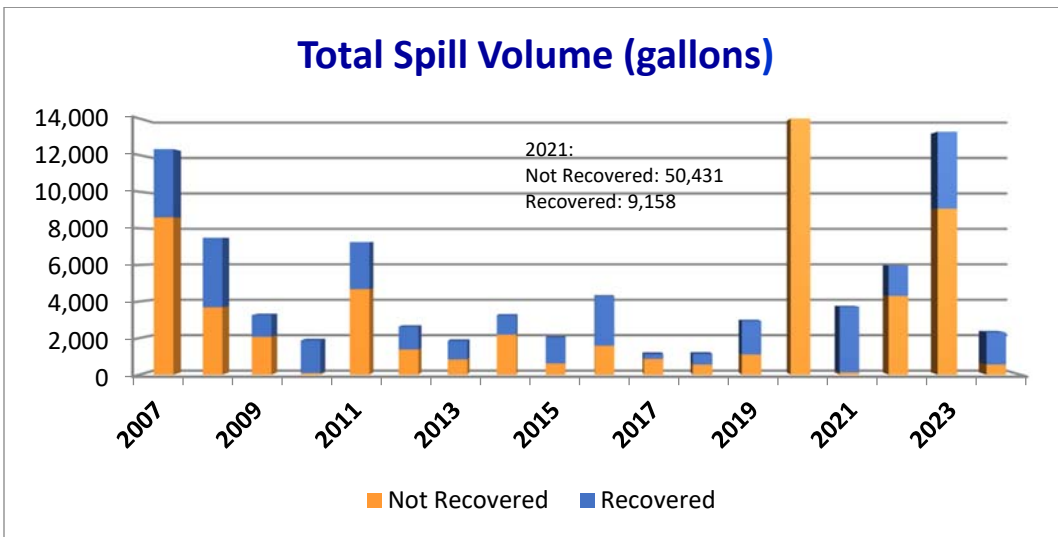
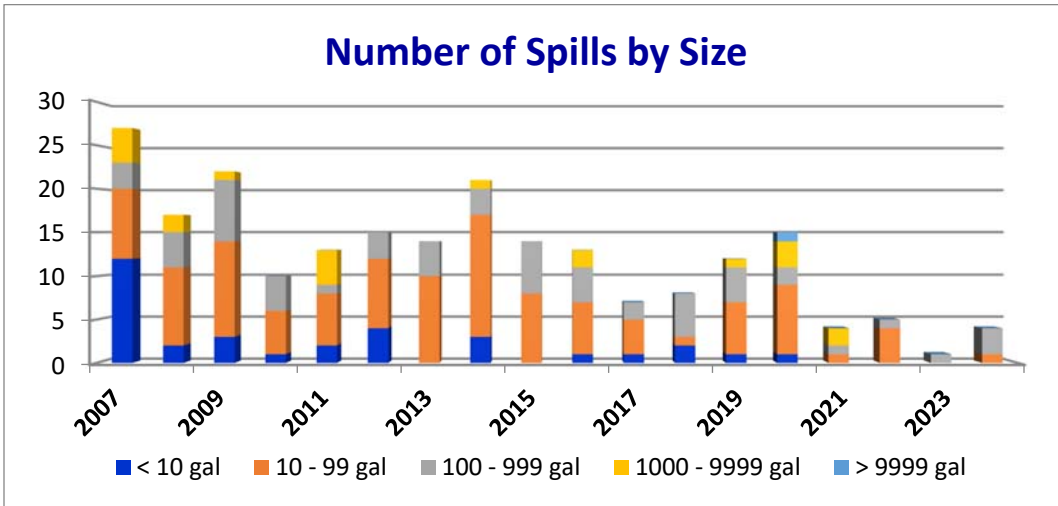
Indicator	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Number of Spills (total)	27	17	22	10	13	15	14	21	15	13	7	8	12	15	4	6	3	4
Wet season Spills <sup>1</sup>	*	3	6	4	10	8	9	9	9	9	5	5	7	8	1	5	1	3
Dry season Spills <sup>1</sup>	*	14	16	6	3	7	5	12	6	4	2	3	5	1	3	1	2	1
Number of Spills (by cond.at time of SSO)																		
Wet Conditions				0	0	0	0	0	1	3	2	1	1	0	3	3	1	0
Dry Conditions				10	13	15	14	21	14	10	5	7	11	15	1	3	2	4
Number of Spills (by volume range)																		
< 10 gal	12	2	3	1	2	4	0	3	0	1	1	2	1	1	0	0	0	0
10 – 99 gal	8	9	11	5	6	8	10	14	8	6	4	1	6	8	1	4	0	1
100 – 999 gal	3	4	7	4	1	3	4	3	6	4	2	5	4	2	1	1	1	3
1000 – 9999 gal	4	2	1	0	4	0	0	1	0	2	0	0	1	3	2	1	2	1
≥10,000 gal	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Total SSO Volume (A)	12,326	7,486	3,264	1,873	7,251	2,625	1,838	3,241	2,029	4,299	1,121	1,130	2,930	59,589	3,709	5,966	13,279	2,310
Volume reaching waters of the State (B)	5,800	425	240	101	4,675 <sup>4</sup>	1,275	251	0	576	1,463	850	557	937	50,429	130	4,217	9,075	500
Volume not contained but not reaching waters of the State (A-B-C)	2,806	3,255	0	0	2	100	589	2193	48	127	18	0	175	2	0	92	0	60
Volume recovered (C)	3,720	3,806	1,189	1,772	2,574	1,250	998	1,048	1,405	2,707	253	573	1,818	9,158	3,579	1,657	4,204	1,750
Net volume (total minus recovered) (A-C)	8,606	3,680	2,078	101	4,677	1,375	840	2193	624	1592	868	557	1,112	50,431	130	4,309	9,075	560
Number of Spills per 100 miles of sewer/year <sup>2</sup>	18.0	11.3	14.7	6.67	8.67	10	9.33	14.0	10	11.5	4.7	5.3	8.0	10.0	2.7	4.0	2.0	2.7
Volume of Spills per 100 miles of sewer/year <sup>2</sup>	8,217	4,991	2,178	1,249	4,834	1,750	1,225	2,161	1,353	2,866	747	753	1,953	39,726	2,473	3,977	8,853	1,540
Total Volume conveyed to the plant (mil gal)	865	830	806	837	920	841	738	799	692	739	878	719	820	642	655	666.63	926.7	839.3
Total volume SSO / Total volume conveyed, gallons / million gallons	14.2	9.0	4.0	2.4	7.88	3.1	2.5	4.1	2.9.3	5.8	1.3	1.6	3.6	92.82	5.66	8.95	14.33	2.75
Number of SSO (by cause)																		
Blockages																		
Roots	8	7	6	4	7	3	4	6	7	8	2	6	3	1	1	1	2	2
Grease	5	3	2	2		2	2	4		1	1		3			0		1
Debris - General	4	4	5		4	7	4	3	2				1	6	1	1		
Debris - Construction (added 2014)								2								0		
Debris - Rags (added 2014)								1	5	1		1	2	2		0		
Debris from Laterals				2												1		
Other (added 2014)								1 <sup>5</sup>			1	1 <sup>5</sup>	1	5	1	1		
Multiple causes		1														0		
Infrastructure failure	3	1	9	1	1	2	2	4	1	3	3		2	1		0		1
Inflow & Infiltration					1 <sup>4</sup>													
Electrical Power Failure																		
Flow Capacity Deficiency															1			

Indicator	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Natural Disaster																		
Bypass																2	1	
Cause Unknown	7	1		1	1	1	2											
Average Emergency Response Time, minutes <sup>3</sup>																		
Business Hours	*	*	*	*		11.8	8.5	25	13.3	11.2	5.8	10.1	N/A	9.5	17.5	2.5	17.7	15.5
Non-business hours	*	*	*	*		21.3	25	30.8	20	28.3	30	10.5	45	12.9	52.5	6.3	N/A	N/A
Number of locations with multiple Spills	*	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
Maintenance Activities																		
Footage Cleaned (linear feet) <sup>6</sup>			107,767	103,633	87,314	97,949	107,491	116,147	113,625	109,430	115,088	99,171	99,171	99,171	99,171	99,000	99,000	99,000
Top-down Cleaning (linear feet) <sup>6</sup>										111,028	55,809	70,893	0	5,712	16,148	55,000	55,000	55,000
Targeted Cleaning – added 2018 (LF) <sup>6</sup>												7,648	12,772	5,253	5,846	see note	see note	see note
Televised Inspection (number through 2017, LF 2018-2019)	*	*	43	45	42	47	56	62	51	54	159	45,686	40,030	15,001	25,760	55,000	55,000	55,000
Manholes Repaired (number)			4	2	3	3	2	1	9	18	1	0	0	0	0	0	1	0

**Notes for Table 1:**

1. Wet season defined as Nov-April, dry season May-Oct. This seasonal categorization does not necessarily reflect weather or flow conditions at the time of the spill, which is indicated in the “by conditions” rows.
  2. 2007 statistics revised in Sept version 2009 to reflect corrected total miles of sewer lines (150 mi)
  3. From time spill notification received by PW Maintenance Division
  4. Of this total, 2200 gallons is attributed to an SSO that was caused by a potable water main brake that resulted in potable water entering a sewer manhole, exceeding the capacity of the sewer line. In CIWQS, the cause of this SSO is identified a I&I (inflow). The estimate for spill volume that reached waters of the state included both sewage and potable water.
  5. SSO caused by Collection System maintenance activity.
  6. Footage cleaned refers to biannual and quarterly maintenance cleanings of specific problem areas. Top-down cleaning refers to cleaning of the entire system done in conjunction with CCTV. Targeted cleaning eliminated as a separate category in 2022.
- \* Raw data is available on field log sheets but cannot easily be compiled for this summary. Summary data for these metrics will be more accessible in the future upon implementation of a computerized maintenance management system.

**Figure 1. Spill Statistics**



## 7. BLOCKAGE CONTROL PLAN

- Does the SSMP contain up-to-date information about your agency's Blockage and program?
- Considering the information in Table 2, is the current FOG program effective in documenting and controlling FOG sources?

(YES) / NO  
(YES) / NO

*The City's activities related to minimizing blockages are described in Section 4, with cleaning and CCTV footages listed in Table 1. As indicated in Table 1, spills over the period of 2022-2024 were attributed to a variety of causes, with the greatest number attributed to root intrusion. The locations of these spills were added to the list of locations for more frequent cleaning.*

**Table 2. FOG Control Statistics**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Number of Spills caused or partially influenced by FOG</b>	5	3	2	2	0	2	2	4	0	1	1	0	3	0	0	0	0	1
<b>Number of FOG inspections completed</b>	N/A	5	16 <sup>1</sup>	28	12	37	42	89	42	12	55 <sup>2</sup>	36	21	2	7	22	19	18

<sup>1</sup> Includes 12 restaurant inspections and 16 oil/water separator inspection.

<sup>2</sup> Includes re-inspections

*The City's Sewer Pipe Blockage Control Program (SPBC), previously referred to as the FOG Program, continues to emphasize the importance of enhanced maintenance activities in areas with higher concentrations of restaurants and businesses that could contribute to sewer pipe blockage issues. These enhanced maintenance activities include increased use of CCTV in areas known for FOG accumulation and a higher frequency of cleaning for city infrastructure, such as pump stations and sections of the collection system that are more likely to experience FOG buildup, particularly in the historic downtown area. The City maintains a list of targeted cleaning areas and periodically evaluates the cleaning frequencies for those locations. Maintenance crews also provide input to the Water Quality Division staff if new areas of concern are identified or if maintenance frequencies should be reassessed.*

*In 2024, there was one reported Sanitary Sewer Overflow (SSO) attributed to Fats, Oils, and Grease (FOG). No FOG-related SSOs were reported in 2022 or 2023. Water Quality staff met with the facility involved and discovered that the business owner had allowed kitchen wash water and waste to enter an external storm drain. During the investigation, it was recommended that the facility replace its existing grease interceptor and provide additional training for staff on FOG and stormwater pollution prevention. Additionally, the facility has been added to the annual inspection list for the Stormwater Pollution Control Program (SPPCP).*

*In 2023, the Water Quality Division reorganized the Water Quality Technician position and cross-trained staff to ensure that more employees could conduct pretreatment and SPBC inspections. Additionally, an extra Water Quality Technician was hired in 2024.*

**8. SYSTEM EVALUATION CAPACITY ASSURANCE AND CAPITAL IMPROVEMENTS**

**Table 3. Spills Caused by Hydraulic Limitations**

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<b>Number of Spills caused by capacity limitations</b>	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

- Does the SSMP contain up-to-date information about your agency’s capacity assessment? YES / NO
- Has your agency completed a capacity assessment and identified and addressed any hydraulic deficiencies in the system? YES / NO

*The SSMP includes two documents related to capacity assessment:*

- 1) *July 2011 Master Plan Executive Summary (Section VIII)*
- 2) *September 2000 I/I Improvements Project Master Plan Executive Summary (Section VII)*

*Add an additional reference to the June 2020 Wastewater Facility Master Plan Update and Major Facility Condition Assessment. The 100-page Executive Summary of that document can be incorporated into the SSMP through a link to the copy on the Public Works Department web page. Note that the 2011 Master Plan is still relevant in that it included results from collection system modelling, and the 2020 Master Plan stated that the various flow scenarios used for that 2011 modelling effort were still representative. The 2020 Master Plan therefore used the results from the earlier effort in its analysis of future capacity needs.*

*All potential hydraulic deficiencies have not yet been addressed through capital projects, but have been identified and prioritized in the 2011 and 2020 Master Plan documents for inclusion in future capital projects. Several of the projects in the 2011 document related to expected increases in flow from development in the Benicia Industrial Park that has not occurred. Others have been incorporated into the CIP budgets. Referring to Table 3, it is evident that hydraulic deficiencies are not a significant contributor to spills, largely due to capacity-related improvements implemented prior to 2007. The capacity-related spill that occurred in 2021 was associated with the extreme storm even of October 2021, which has been characterized as 50-100 year event. The spills that occurred on December 31, 2022 and January 29, 2023 were attributed to high flows during*

storm events but were the result of insufficient bypass pumping capacity rather than capacity limitation of the underlying main lines.

Table 4 summarizes planned collection system CIP projects. The projects, identified in the 2020 Wastewater Facility Master Plan Update and Major Facility Condition Assessment, have not been formally adopted into a CIP budget, but adoption is expected.

**Table 4. Planned CIP Projects**

Project Name	Estimated Cost
Annual Sewer Rehabilitation	\$830,000
West H Shoreline Stabilization	\$ 1,706,750
E. 7th St to WWTP Headworks Sewer Replacement	\$ 3,379,333
Jackson Street Drain Inlet Improvements	\$ 428,200
Bayshore Road Force Main Sanitary Sewer Crossovers	\$ 694,000

Lift Station Upgrades have been incorporated into a large series of projects, which are described in the [Master Plan Executive Summary](#).

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

- Does the SSMP contain up-to-date information about your agency’s data collection and organization? **YES** / NO
- Is your agency’s data collection and organization sufficient to evaluate the effectiveness of your SSMP? **YES** / NO

*The SSMP includes examples of forms used to document field activities. It also includes a table of SSMP performance indicators that are tracked to assess the effectiveness of SSMP over the years (see Table 1 and Figure 1 of this audit). Field data collection is now done on iPads, with data then transferred to the CMMS. The City believes the current methods do provide the information needed to evaluate SSMP effectiveness.*

**10. INTERNAL AUDITS**

- Will the SSMP Audit be conducted a minimum of every three years and included in the SSMP? **YES** / NO

*The SSMP audit was historically conducted every two years, but is now on a three-year cycle, consistent with the new General Order. The audit report will be incorporated into the SSMP and posted on the City’s web site*

## 11. COMMUNICATION PROGRAM

- Does the SSMP contain up-to-date information about your agency's public outreach activities? YES / NO
- Does the SSMP contain up-to-date information about your agency's communications with satellite and tributary agencies? YES / NO
- Has your agency effectively communicated with the public and other agencies about the SSMP, and addressed feedback? YES / NO

*The entire SSMP and related documents, including this audit, is posted on the City's web site, along with information for contacting City staff. The web site can be accessed [at this link](#) or by typing "Benicia SSMP" in any search engine.*

*The 2020 update of the SSMP was re-certified by the City Council on November 24, 2020. A copy of the Council resolution is included in the SSMP. The next (2025) certification will also be posted.*

*Information on spills, including an interactive reports and an spill incident map are available on the State Water Board's web site at:*

*[https://www.waterboards.ca.gov/water\\_issues/programs/ciwqs/publicreports.html#sso](https://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.html#sso) Note that generating an Interactive Spill Report, it is only necessary to enter the Sanitary Sewer System name (Benicia City CS), the Sanitary Sewer System Agency Name (Benicia City) or the WDID number (2SSO10095) in order to identify the City of Benicia.*

*The City's public outreach efforts for FOG control is described in Section 8 above.*

*The Communication Program is a relatively modest effort that reflects what City staff can realistically achieve in the area of public outreach and education (and the frequency of these activities), given available resources and priorities.*