



Sanitary Sewer Collection System Annual Performance Report 2023 WDR R3-2002-0078



March 14, 2024

Sanitary Sewer Collection System Performance Report

State of California Water Quality Control Board.
WDR R3-2002-0078

Goals

The goals of the City of Salinas Wastewater Division are to:

- a) Properly manage, operate, and maintain the wastewater collection system.
- b) Verify the wastewater collection system has adequate capacity to convey sewage during peak flows.
- c) Minimize the frequency of sanitary sewer overflows.
- d) Respond to sanitary sewer overflows quickly and mitigate the impact of the overflow.
- e) Provide training on a regular basis for staff in collection maintenance and operations.
- f) Maintain a Fats, Oil, and Grease (FOG) program to limit fats, oils, grease, and other debris that may cause blockages in the sewage collection system.
- g) Identify and prioritize structural deficiencies and implement short-term and long-term maintenance and rehabilitation actions to address each deficiency.
- h) Meet all applicable regulatory notification and reporting requirements; and
- i) Provide excellent customer service.

Waste Discharge Requirements (WDR)

California State Water Resources Control Board Order 2022-0103-DWQ set forth Statewide Water Discharge Requirements (WDR) for Sanitary Sewer Systems. The City of Salinas must comply with these State regulations to monitor discharges that may cause sanitary sewer overflows and degrade receiving waters including channels, rivers, and beaches. Fats, Oils, and Grease (FOG) are one of the leading causes of sanitary sewer overflows, which occur when the sewer becomes clogged and sewage discharges into the street. Sanitary sewer overflows may result in violations of water quality standards, pose a threat to the public health, adversely affect aquatic life, and impair the public recreational use and enjoyment of surface waters.

Sanitary Sewer Overflows (SSO's)

A collection system's greatest concern is a sanitary sewer overflow (SSO); this is where a pipe is plugged, and raw sewage wastewater flows out of a manhole or facilities. SSOs are typically caused by buildup of grease in pipes and root intrusion. There are many other causes that can contribute to sanitary sewer overflows such as vandalism, lift station failures, pipe failures, and debris.

Sanitary Sewer Maintenance Program

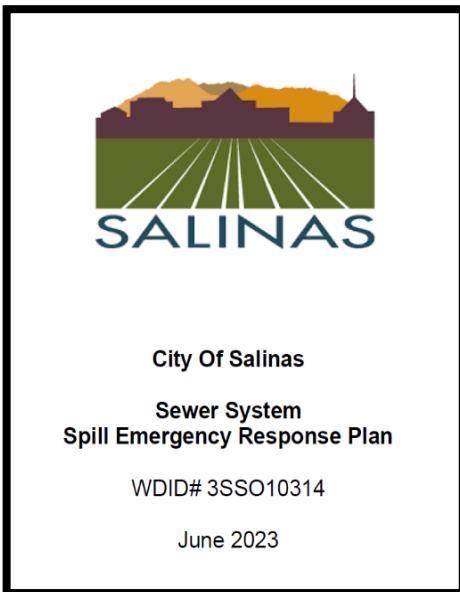
The City maintains 274.77 miles of sanitary sewer collection system pipeline and 11 sanitary sewer lift stations. High priority and routine line cleaning, manhole inspections, and lift station inspections are completed each business day by dedicated sewer collections maintenance staff. Sewer collection staff also remain on-call 24 hours a day for any sanitary sewer related emergency. The City's Wastewater Division of the Public Works Department, under the direction of the Public Works Director and the Environmental and Maintenance Services Superintendent, is responsible for operation and maintenance of the City's sanitary sewer collection system. The City's Wastewater Manager is the lead person to plan and implement these responsibilities. The Wastewater Division of the Public Works Department oversees developing and implementing the maintenance goals and the activities. The Engineering and Transportation Department provides engineering services for development and implementation of capital improvement projects and sets standards for design and construction specifications. During 2023 the Sewer System Spill Emergency Response Plan (SERP) was completed per General Order along with the Sanitary Sewer Master Plan (SSMP).

Effective management of a collection system includes.

- Minimizing the number and impact of sanitary sewer overflows (SSOs)
- Providing adequate sewer capacity to convey peak flows, and
- Maintaining and improving the condition of the collection system infrastructure to provide reliable service into the future.

2023 Plan Updates

2023 SERP Plan Update



2023 SSMP Update



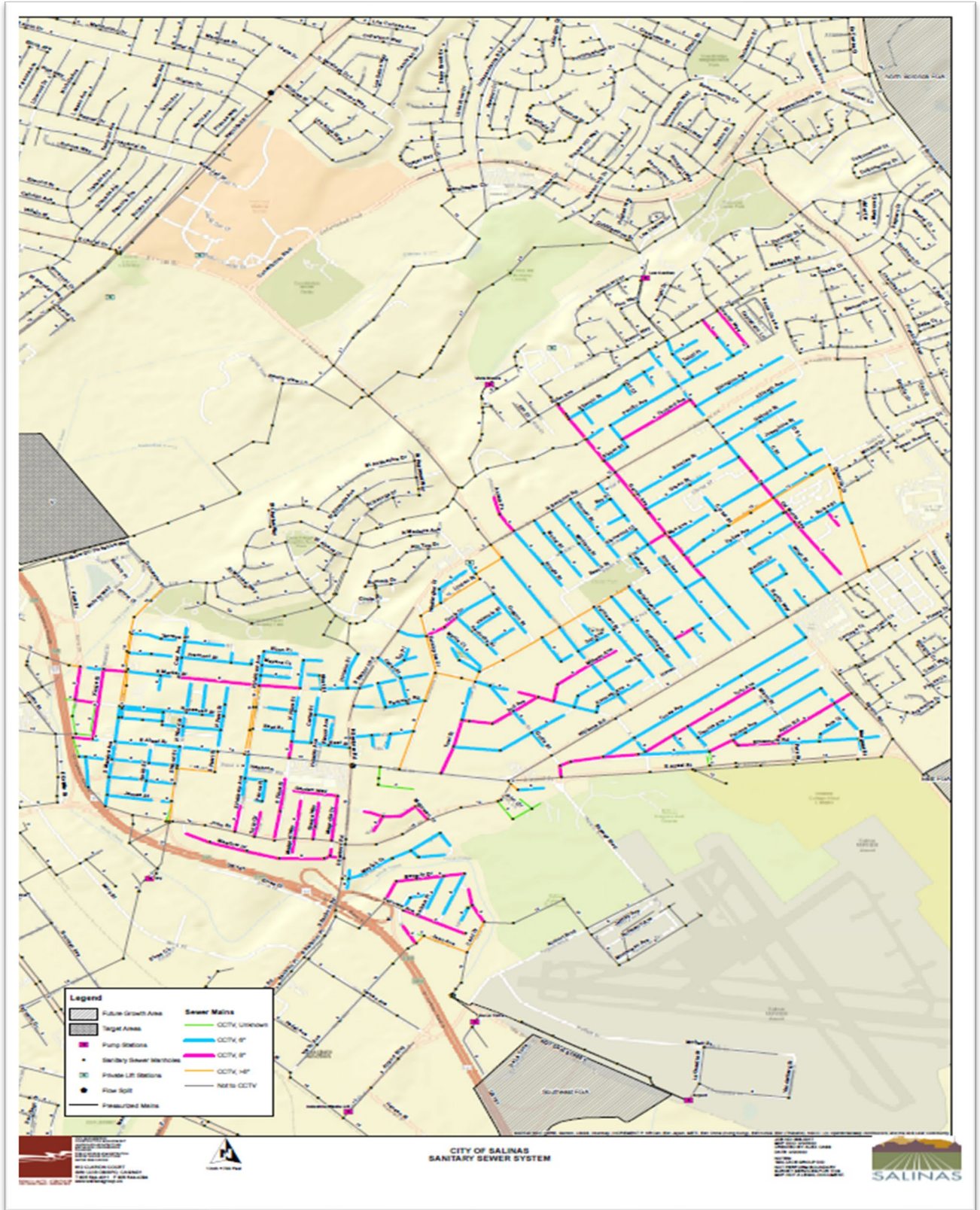
Sanitary Sewer Line Cleaning Program

Sanitary sewer line cleaning consists of pipe flushing and high-pressure jetting to remove grease, debris, and roots. City Wastewater collections staff service sewer system pipes daily using a hydro vacuum truck which uses a high-pressure jetting system that uses water and an optional vacuum to remove debris. The Wastewater Division also utilizes its new HPRTV trucks which are hydro jetters equipped with CCTV to identify issues within the sanitary sewer system. This program removes grease buildup as well as minor roots and debris to enable the wastewater to flow freely through the pipes. Blocked wastewater sewer lines cause odors, SSOs, and damages pipes. The objective of sewer pipe cleaning is to prevent future blockages of the sewer system. The division focuses most of the cleaning operations in the high priority areas or line segments. These areas or line segments have been based on historical information such as repeated overflows or grease issues. Three days a week staff schedules high priority line cleaning and the remaining 2 days is dedicated to routine line cleaning. Wastewater Collections staff cleaned 60.10 miles of pipe in 2023 this is a decrease from 2022 of 94.87 miles.

CCTV Inspections

CCTV inspections are an essential part of a successful sanitary sewer rehabilitation program it identifies damages or causes of blockages. CCTV greatly enhances the planning of the maintenance and repair programs, and we are always looking for better ways that are more efficient to accomplish the State WDR requirements. During 2023 the Wastewater Division completed 27,164 linear feet of CCTV inspections on sanitary sewer main lines. During 2022 Engineering staff worked with Wallace Group on CCTV locations to identify areas of concern based on age and historical information. CCTV RFP was initiated in 2023 to CCTV infrastructure based on age in East Salinas, project is projected to begin spring 2024. See attached mapping of location of CCTV project.

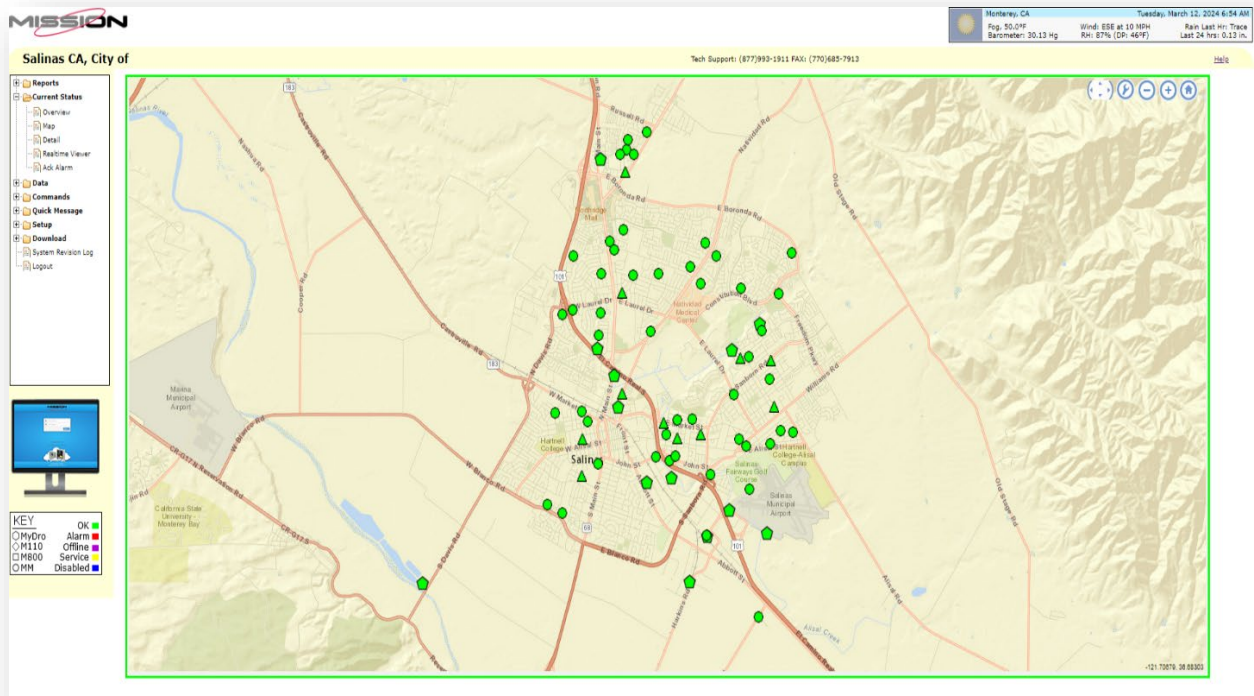
2023-2024 CCTV ARP Funded



Manhole Inspections

Manhole inspections are scheduled weekly to identify locations where blockages are common. Collections staff visually inspect these manhole locations on a regular basis to look for sluggish flows that can indicate an issue that can lead to overflows. High priority manhole checklists are used to inspect, and monitor locations based on historical information of overflow issues. During 2023 staff completed inspection of 525 manholes. During 2018 staff initiated a manhole SCADA monitoring program identifying six (6) high priority manhole locations which proved to be a great success. With additional funding secured during 2019 the program was expanded considerably with the installation of an additional twenty-four (24) more manhole monitors. During 2020 staff continued its expansion of the SCADA manhole program adding (20) more monitors bringing the total to (50) locations. During 2021 Wastewater Division added (6) more manhole monitors bringing the new total to (56). During 2022 the Wastewater Division added (9) more manhole monitors to the system bring total to (65) monitors on the system. During 2022 due to the increase in monitoring locations throughout the city, staff again seen a reduction of sanitary sewer overflows. The manhole monitors alarmed staff 21 times during the 2023 reporting period indicating surcharged systems which were responded to without overflow from the sewer system. This manhole SCADA program has become a very successful component of the City's overall operations and maintenance program. During 2024 staff will evaluate the need for additional monitoring locations if deemed necessary.

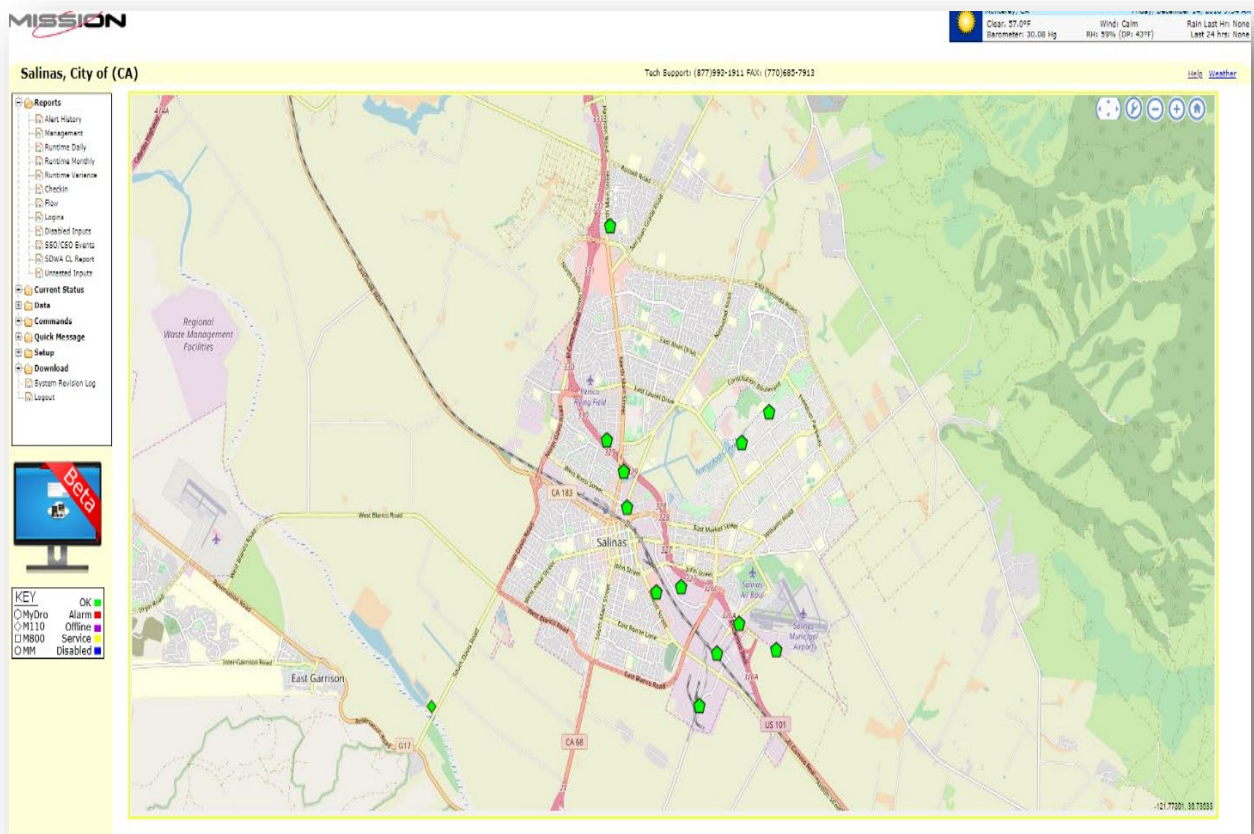
Manhole Monitors (65) Locations



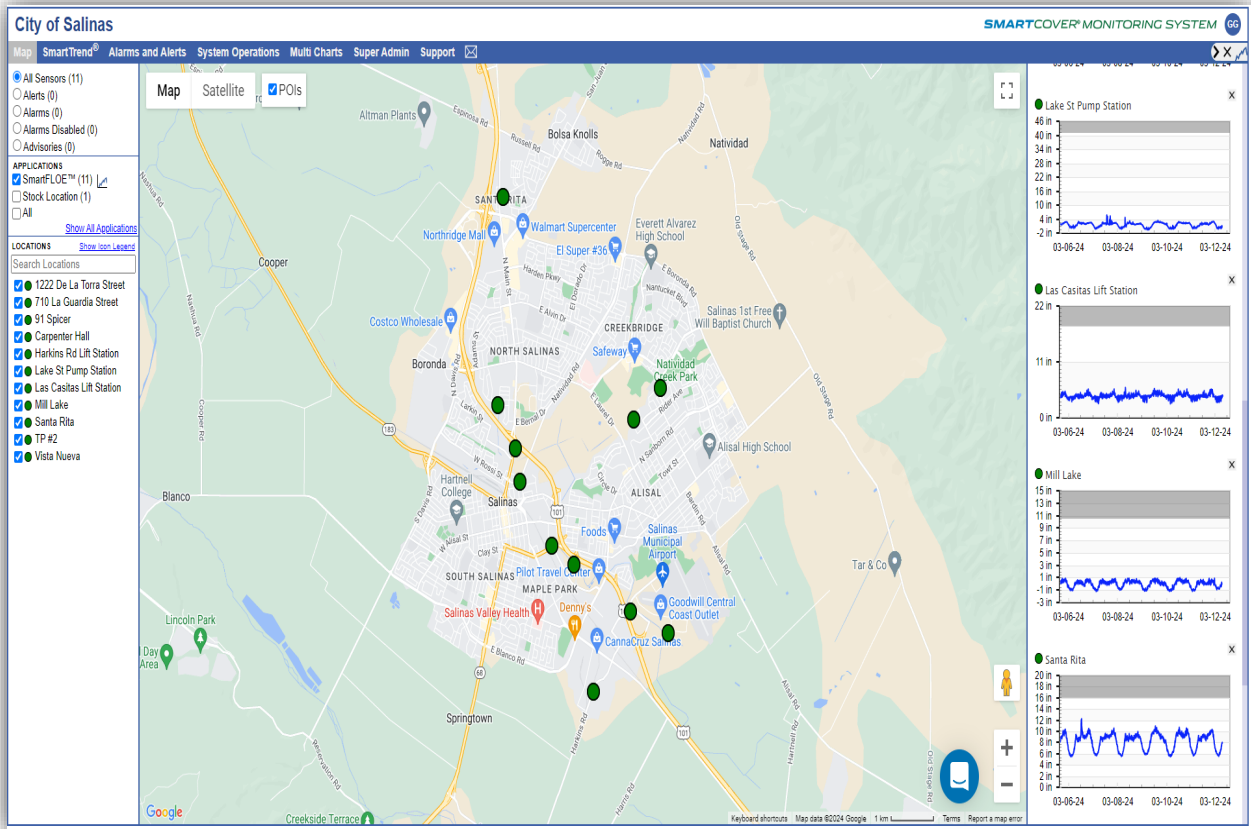
Lift Station inspections

The Wastewater Pump Mechanic currently conducts regular maintenance of the City's 11 sewer pump stations. The 4 highest flow sewer lift stations are inspected daily. All other sewer lift stations are inspected two to three times weekly depending on work schedule. Staff completed 1562 inspections for 2023. During 2018 staff initiated a supervisory control and data acquisition (SCADA) program to monitor all eleven (11) sanitary sewer lift stations. During 2023 this program has continued to help with monitoring and continue the prior year's successes. This SCADA program tracks flow, motor run time, and other essential data on lift station operations. One of the most critical monitoring components is the alarming system that calls staff directly if there are any operational issues at the lift stations. This program helps in reduce potential overflows related to lift station failures and helps staff better manage the system. During 2023 the City started using smartcovers as an additional monitoring tool to alert staff of changes to upstream flow patterns. These smartcovers were installed to alert staff if the lift station controllers ever fail.

Lift Station SCADA Map



2023 Smartcover Platform Flow Monitoring Upstream of Lift Stations



Underground Service Alert Marking (USA's)

Wastewater staff mark City infrastructure utilities such as sanitary sewer lines and storm sewer drainage systems daily. On a daily average staff marks 10 tickets received through Dig Alert 811. Staff will mark out the proposed excavation site to show contractors where City utilities are located so not to cause damage during excavation projects that could lead to an SSO. During 2023 staff completed 6340 underground service alert tickets.

Prevention Program Fats, Oils, and Grease (FOG) Outreach

Background on City Grease Program

The City of Salinas currently has 274.77 miles of sanitary sewer pipelines. The service area includes a variety of residential, commercial and industrial facilities. Primary focus of an effective grease program will include commercial food service/preparation facilities.

Commercial facilities may include but are not limited to restaurants, sandwich shops, delicatessens, bakeries, cafeterias, markets, caterers, retirement and nursing homes. Establishments that are identified as not participating in the preparation of food on premises or processing food in a manner so as to contribute grease to the sewer system will not be included in the source control program. The food service grease source control inspection list is derived from several sources including the City's business license database, the Monterey One Water food service database, Monterey County Health Department food service database and a search of food service listing from the local telephone directory. The list currently identifies approximately 455 food service facilities which was updated during 2023. During 2023 (110) commercial food businesses were inspected. The city is working from this list to identify problem locations and the need for appropriate grease pretreatment equipment. Monterey One Water assists the city with pump out requirements when a problem is identified. The city determines the need and sizing of grease traps and interceptors based on the latest version of the Uniform Plumbing Code.

Public Education Outreach

During 2023 the City continued participating in the Southern Monterey Bay Dischargers Group with the goal of partnering with the Monterey One Water and other local agencies on a fats, oils and grease program (FOG) and continued participation in an effective public outreach program. The City of Salinas with the Southern Monterey Group work together to develop a regional public education program for users of the system for the purpose of reducing grease problems in the collection system.

The education campaign includes newspaper ads (three in English, one in Spanish), radio, and TV ads on two local stations along with ads in Salinas's movie outlets. The Southern Monterey Bay Discharges Group directed resources to a multi-agency web site for fats, oils and grease information at <http://www.clogbusters.org/>. The regional program will be modified yearly as conditions warrant.

2023 Southern Monterey Bay Dischargers FOG Outreach Partnership Distribution and Budget

Attachment A

WDR FOG Public Education Program Outline FY 2022-2023

Program Goals

- Educate our communities on the proper disposal of fats, oils, and grease through advertising and public resources
- Help members meet the issued Waste Discharge Requirements (WDR) by the California Regional Water Quality Board

Program Timeframe

July 2022 – June 2023

Media Types

- Print
- Broadcast TV
- Streaming TV
- Digital
- Radio
- Social Media

Digital copies of all advertisements will be provided to entities to continue using beyond this campaign

Costs

Total advertising across all media not to exceed \$18,000



**Southern Monterey Bay Dischargers FOG Outreach
Partnership Distribution and Budget
FY 2022-2023**

Shared Budget for FY 2022-2023 Not to Exceed \$18,000			
Entity	Population within area to be covered by regional WDR program ¹	% of budget to be paid	Contribution not to exceed
California American Water ²	6,400	2.12%	\$382.20
Carmel Area Wastewater District*	4,000	1.33%	\$238.88
Castroville Community Services District ³	8,129	2.70%	\$485.46
City of Monterey	30,218	10.03%	\$1,804.60
City of Pacific Grove	15,090	5.01%	\$901.17
City of Salinas	163,542	54.26%	\$9,766.65
Marina Coast Water District ⁴	35,258	11.70%	\$2,105.59
Pebble Beach Community Services District*	4,509	1.50%	\$262.28
Seaside County Sanitation District ⁵	34,283	11.37%	\$2,047.36
TOTAL	301,409	100%	\$18,000
<i>* PBCSD and CAWD contributions will increase no more than \$693.00 each for additional Carmel Pine Cone ads in December 2022</i>			

Notes


1. Source: U.S. Census Bureau, 2021 Census of Population
2. Combined data for Oak Hills, Indian Springs, Las Palmas, Spreckels, Pasadera, White Oaks, Village Green, Carmel Valley Ranch provide by Cal Am
3. Combined data for Castroville, Moss Landing, and, provided by CCSD, the Moro Cojo area population
4. Combined data for Marina and, provided by MCWD, the Ord Community
5. Combined data for Seaside, Sand City, and Del Rey Oaks

Wastewater Division Outreach

The City of Salinas Wastewater Division distributes FOG door hangers in areas that have been identified with grease issues. The door hanger notifies residents and business that a problem has been identified in their area. Other FOG outreach consists of a similar post card mailer that is sent out through a generated mailing list to notify English and Spanish speaking residents and business that a FOG issue has been identified and how they can help reduce fats, oils, and grease from blocking sanitary sewer lines in their area that cause SSO's.

Reduce FOG & Stop Sewer Clog!

Disminuya las gorduras, grasas y aceites y ayude a prevenir que se tapen las alcantarillas




Do your part by properly disposing of fats, oils and grease.

FOG – or Fats, Oils & Grease – have caused sewer blockages in your neighborhood.

You can help prevent future blockages by following the simple steps.

The build-up of fats, oils and grease which include cooking oils, sandwich spreads, salad dressings, meat fat and juices, and other similar products eventually causes sewer back-ups that can overflow onto streets and even into the home, damaging properties and the environment.

- DO NOT pour fats, oils and grease down the sink or garbage disposal
- DO pour fats, oils and cooled grease into a sturdy container, such as an empty glass jar or coffee can. When the container is full, secure the lid and place it in the trash.*
- Before washing your dishes, scrape and dry wipe pots, pans and dishes with paper towels. Place the soiled paper towels in the trash.
- Use sink strainers to catch food items, and empty the strainer in the trash.



Ponga de su parte deshaciéndose de las gorduras, aceites y grasas

Las gorduras, grasas y aceites son la causa de obstrucción de las alcantarillas de su vecindario.

Usted puede ayudar a evitar futuras obstrucciones. Siguiendo éstos sencillos pasos.

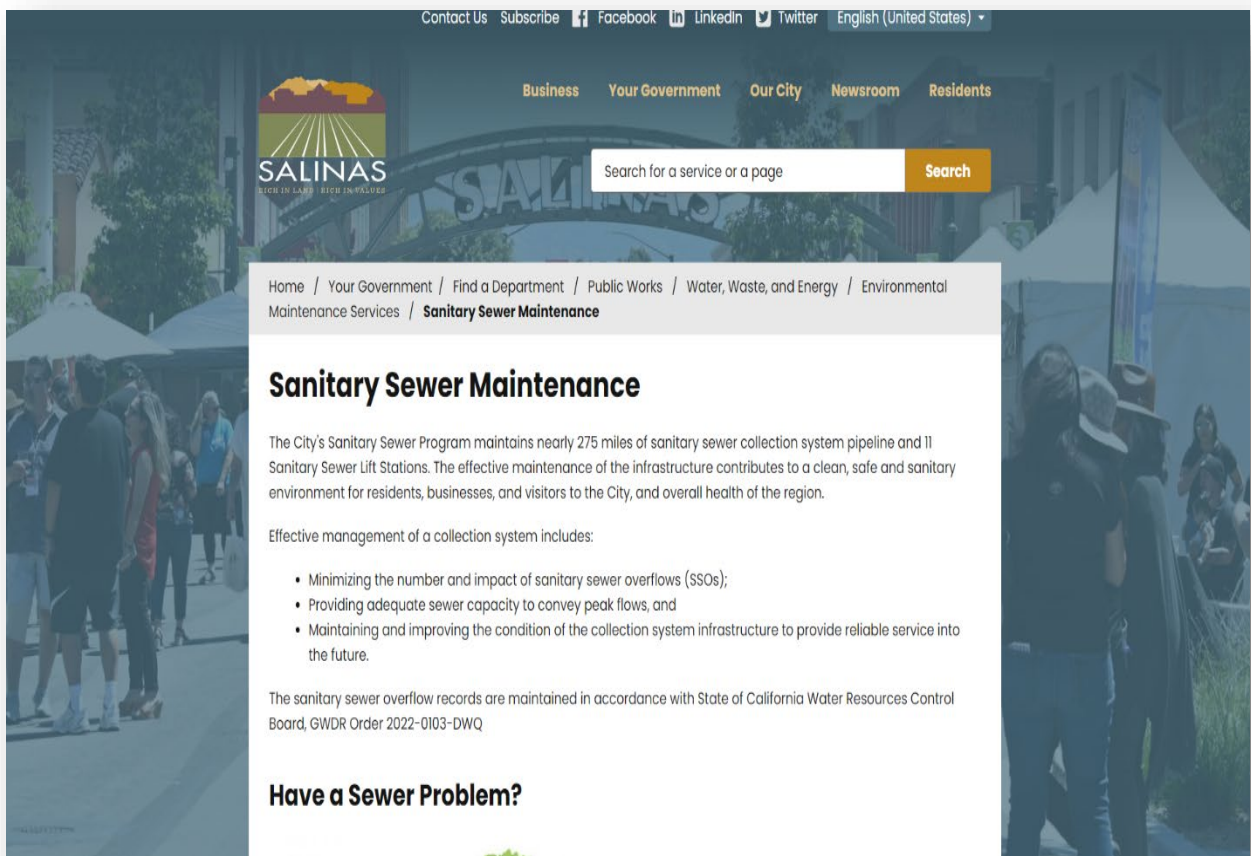
La acumulación de gorduras, aceites y grasas las cuales incluyen, aceites para cocinar, mezclas para sándwich, aderezos para ensaladas, la grasa y los jugos de las carnes y otros productos similares eventualmente causan acumulación en las alcantarillas, la cual causa inundaciones en los hogares, dañando las propiedades y el medio ambiente.

Sanitary Sewer Maintenance City Web Page

The sanitary sewer subpage of the Environmental Maintenance Services has continued to be updated during 2023 to inform the citizens and business of Salinas on the various programs such as maintenance, FOG outreach and sewer overflow reporting the Wastewater Division implements.

The web page has sewer related documents, information on fats, oil and grease outreach programs, sewer backup claim procedures, and helpful links in regard to contacting other agencies such as Monterey One Water for billing and Monterey County Health Department for sewer related health issues [Sanitary Sewer Maintenance - City of Salinas](#)

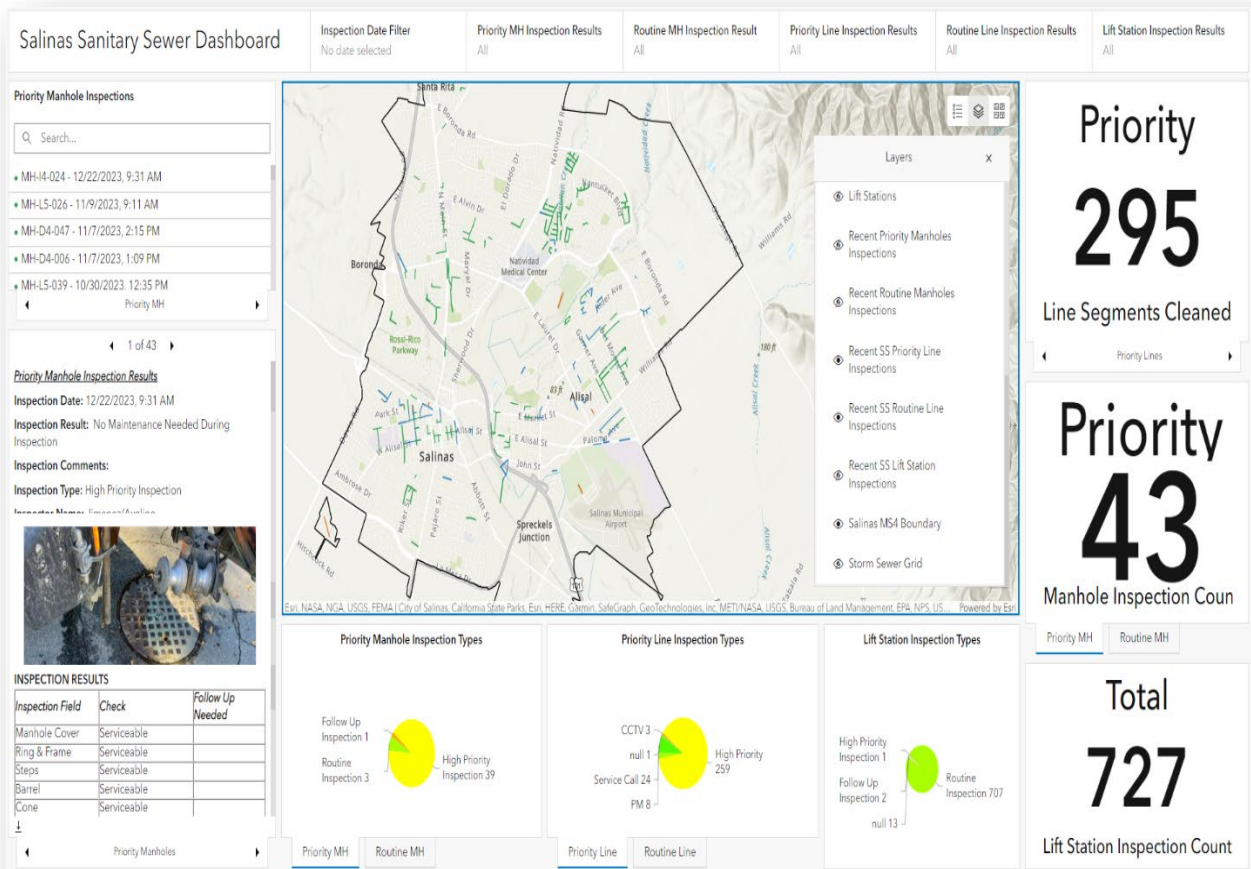
2023 Sanitary Sewer Maintenance City Web Page



Data Collection for Sanitary Sewer Systems

During 2022 collections staff started working with 2Nature staff to develop a new computerized maintenance management system (CMMS) using ArcGIS Field Mapping applications. This web application development will update mapping, store data, and produce tasks for inspections and maintenance. Staff will be able to accomplish documentation of work using handheld computers in the field utilizing the sanitary sewer web application. This is an important element for accurate data collection and management of the sanitary sewer. There will be many layers for inspection work such as line cleaning, manhole inspections, lift station inspections, repairs, CCTV inspections and SSO reporting. Additional layers were added to incorporate a managing dashboard and SSO reporting elements for staff responding to overflow for documentation using iPads. During 2023 updates continued adding additional fields such as issues found grease, roots, mainline plugs, and vermin. Grease tracking during maintenance is essential for Fats Oils and Grease compliance inspections.

2023 Sanitary Sewer Web Application Dashboard



Staff Training

Wastewater supervisory staff were provided additional training during 2023 as follows:

1. P3S 2023 Annual Conference-FOG Training
2. SSO Documentation Training
3. Water Quality Monitoring Training
4. Sanitary System Management Training

Wastewater Collection Field staff training for 2023 focused on as follows:

1. FOG Training
2. SSMP Training
3. Post SSO Briefing and SSO Reporting Packet Review Training
4. SERP Review Training
5. Lockout Tagout Training
6. Sewer Pump Station ERP Training
7. Sanitary Sewer Spill Estimation Training
8. Gas Monitoring Training
9. SOP Training Vac-Con Truck
10. Wastewater ARC GIS Application Training (2Nature)

Annual Sanitary Sewer Achievements for 2023

1. Purchased and installed six (6) Mission SCADA manhole overflow monitors to monitor high priority manholes for potential SSO's.
2. Met maintenance goals for City main line overflows 5 or less spills for 2023.
3. Purchased and installed (11) smartcovers to monitor systems upstream of all sanitary sewer lift station in case of controller failure.
4. During 2023 staff continued sanitary sewer web application design for better management of Sanitary Sewer Systems. Updating mapping and in field data processing.
5. Continued partnership with Southern Monterey Bay Dischargers Group on fats, oils and grease outreach.
6. City Environmental Compliance Staff performed Fats, Oils & Grease inspections completing a total of 110 commercial food inspections.
7. Sanitary Sewer Master Plan Update completed.
8. Sewer System Spill Emergency Response Plan (SERP) was completed per General Order.

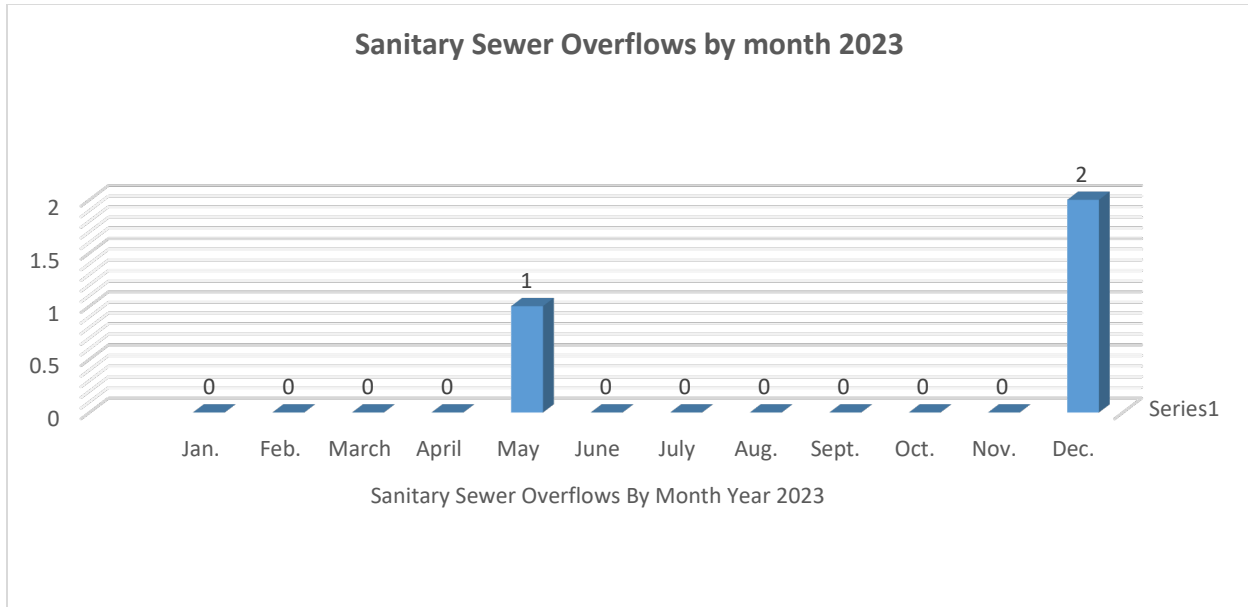
Conclusions

It's been another exciting year for the Wastewater Division with many achievements that met the City goals of properly managing, operating, and maintaining the wastewater collection system. The confidence of the staff has grown with more in-depth training expanding their knowledge and understanding of the collection system industry. Our maintenance, investigation and prevention programs are proving to be successful. Staff continues to strive for a more proactive and efficient program emphasizing the importance of minimizing City sanitary sewer overflows and meeting maintenance goals. Continued effort to respond quickly and mitigate the impact of overflows. Maintaining a fats, oil and grease program that reduces the potential of overflows. Continuing to meet all applicable regulatory notification and reporting requirements and providing excellent customer service. During 2023 the Wastewater Division seen some additions the addition of six (6) manhole monitors brings the total of to 65 manhole monitors on the system to alert staff of surcharges. During 2023 eleven (11) smartcovers were installed on all lift station upstream systems to monitor flow and changes that would indicate an issue along with providing additional alarming if lift station controllers failed.

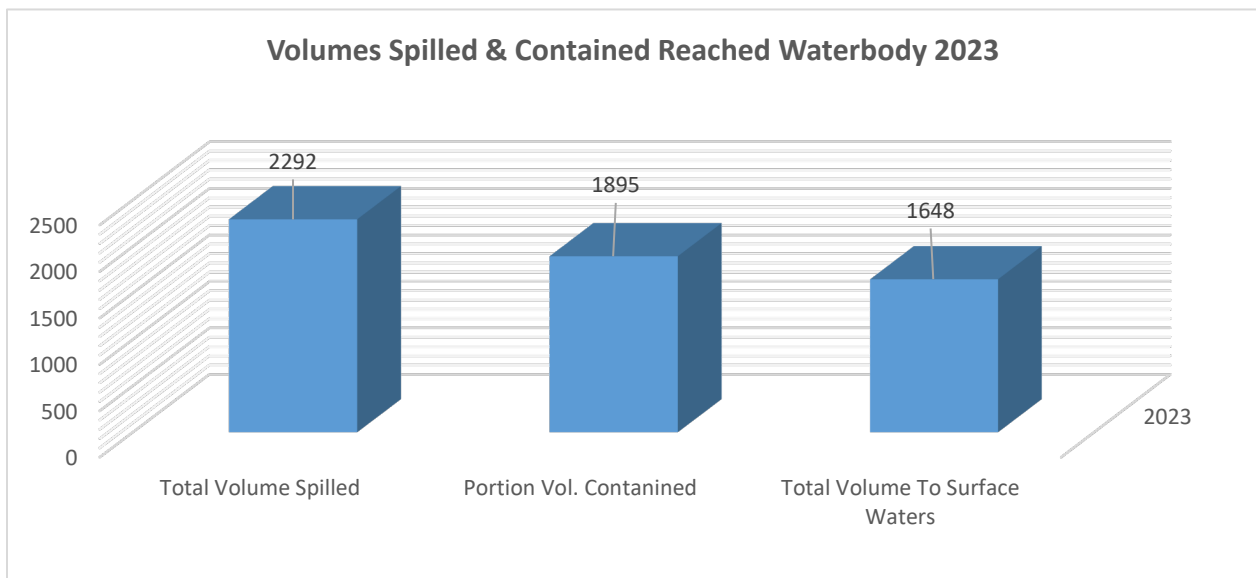
Sanitary Sewer Maintenance, Inspections and SSO Response Data

Sanitary Sewer Overflows

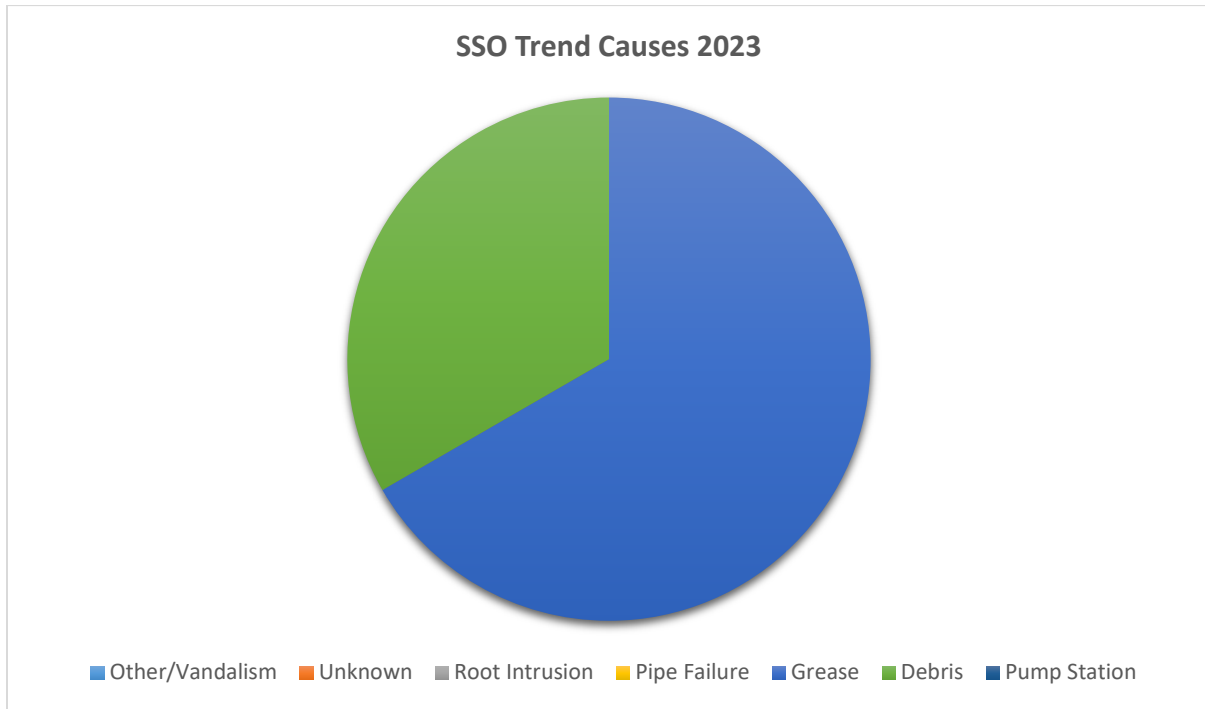
The Wastewater Division met its goal of 5 or less overflows per year. The Division has met these goals for the last 16 years. There was a total of three (3) City main line overflows responded to during 2023.



SSO Volumes Spilled & Contained 2023

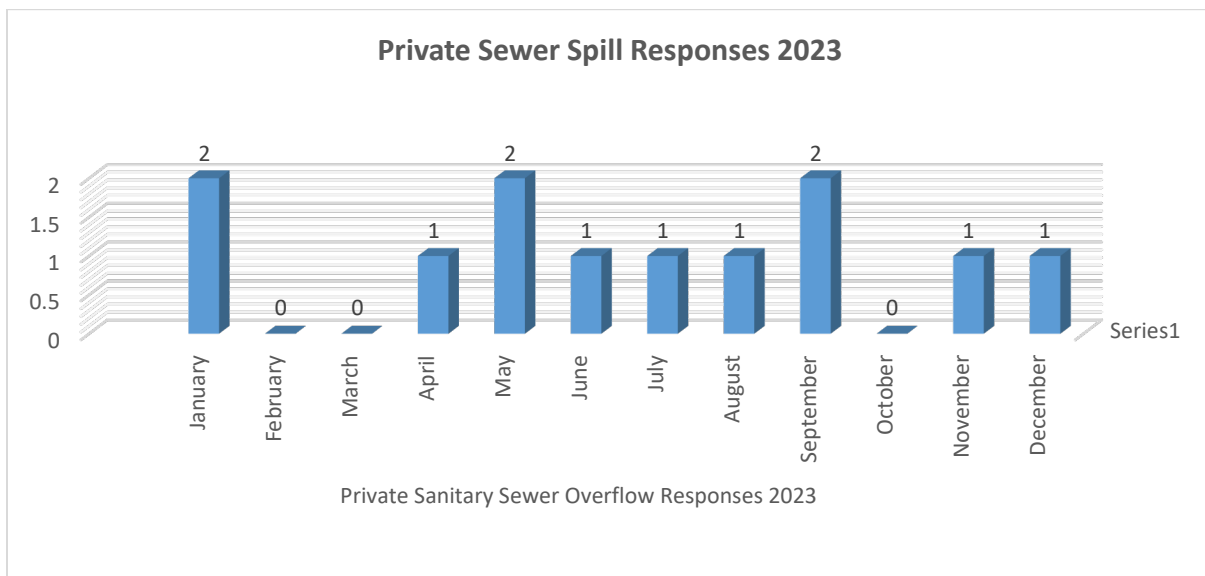


City SSO Trend Causes 2023



Private Lateral Sanitary Sewer Responses

City Sanitary Sewer Collections staff responded to 12 private sanitary sewer overflows during 2023. In every case staff responded in a timely manner and captured and contained SSO's that discharged from private sewer line laterals. City of Salinas has no responsibility to maintain private sewer collection systems.

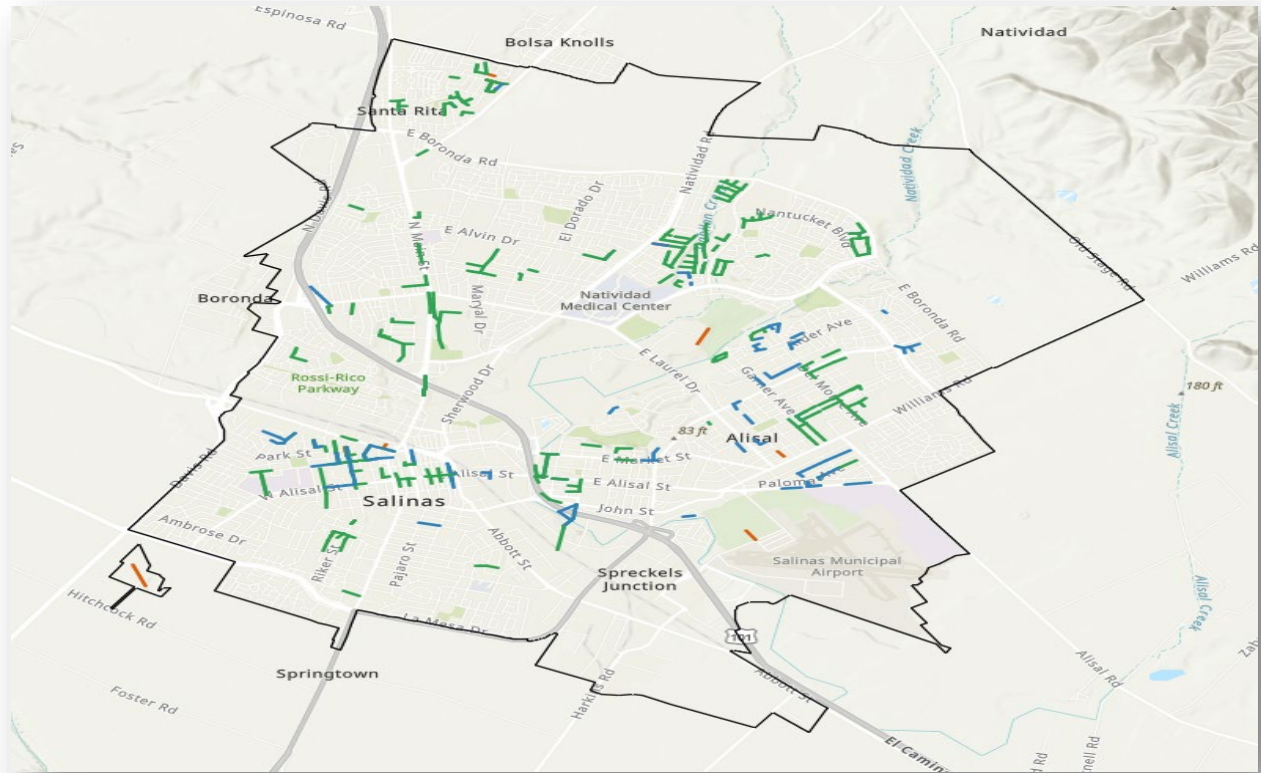


Sanitary Sewer Line Cleaning

Annual sanitary sewer line cleaning totaled 317,307 linear feet or 60.10 miles for 2023. Cleaning consisted of high priority line cleaning and routine cleaning.



2023 Sanitary Sewer Cleaning Map

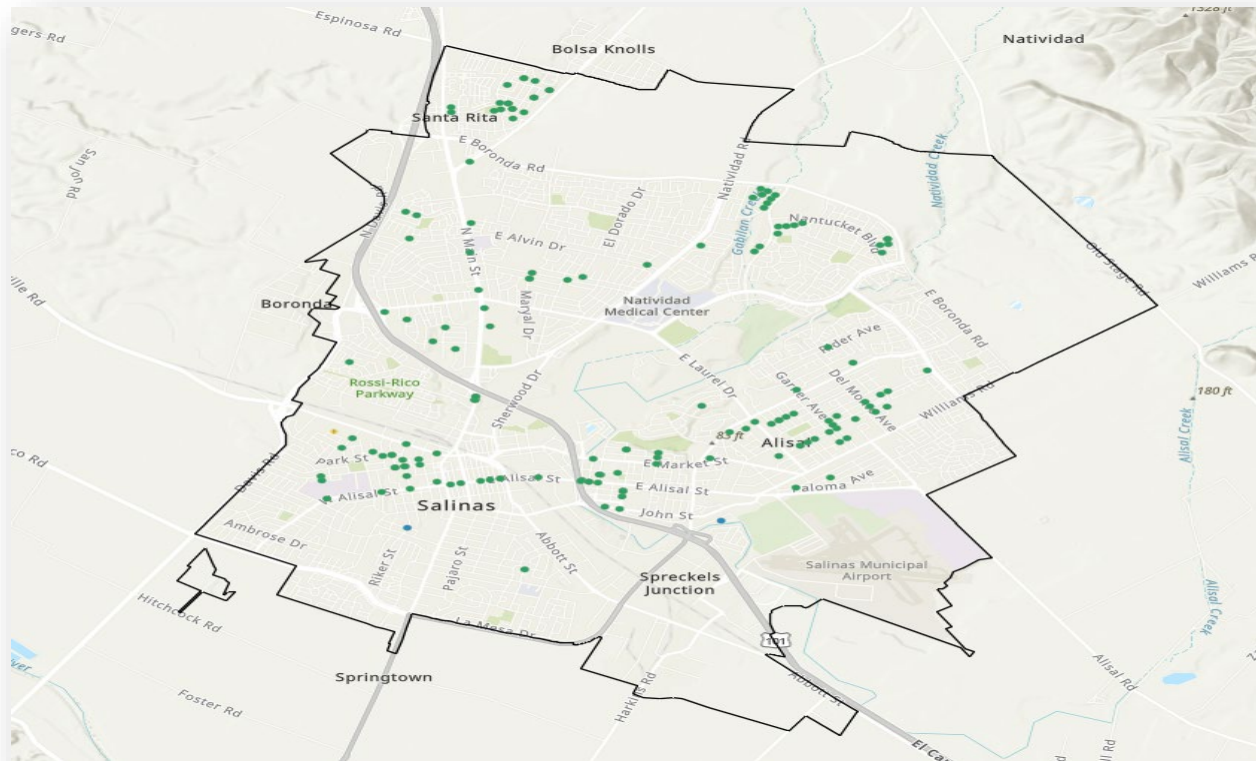


Manhole Inspections

Annual monthly manhole inspections are completed to detect sluggish moving flow and other issues that may contribute to SSO's. There was a total of 525 manhole inspections completed for 2023.

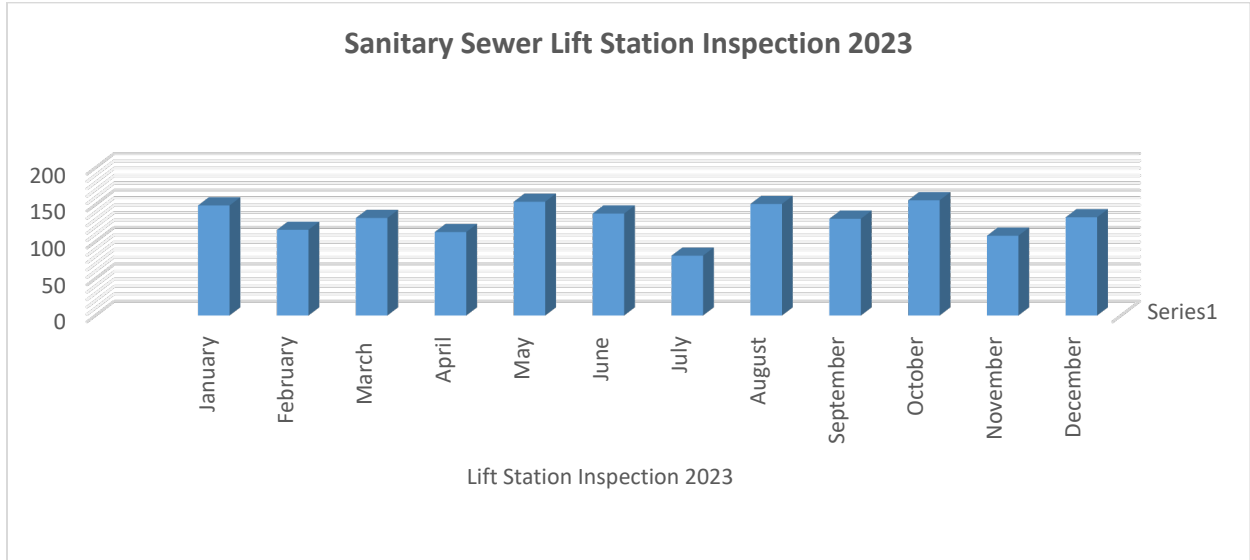


2023 Manhole Inspection Map

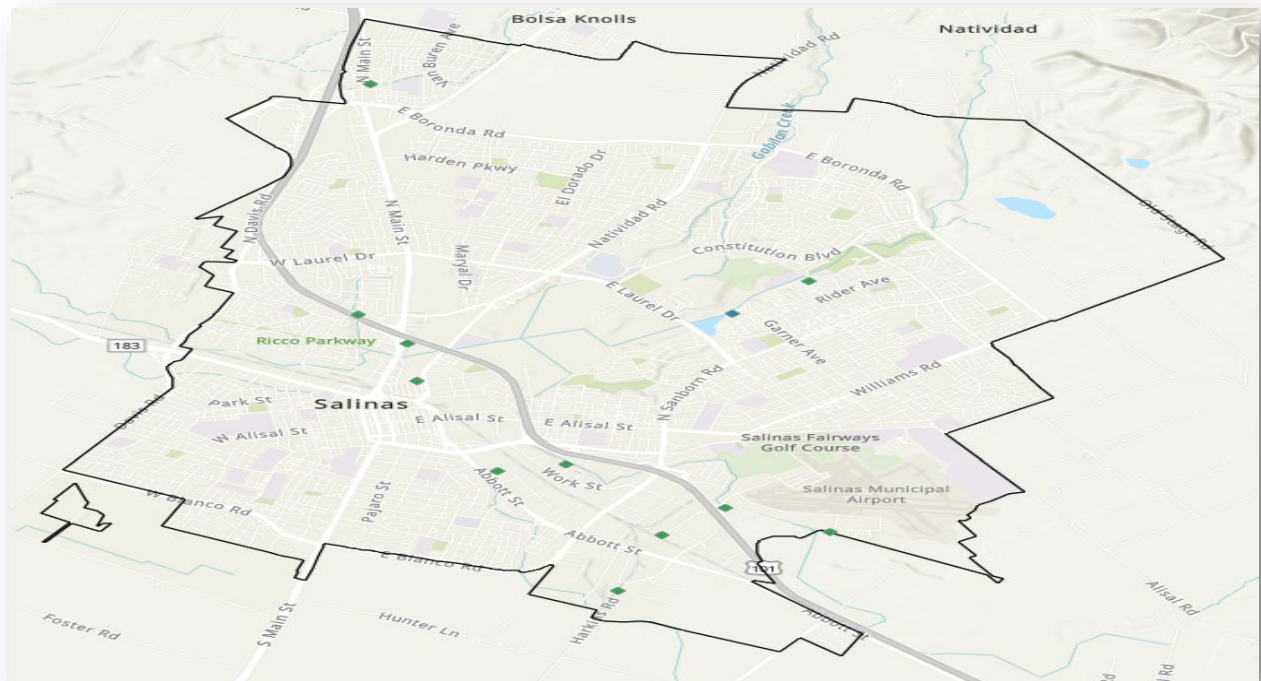


Lift Station Inspections

Lift station inspections are completed on a daily basis. A dedicated Pump Mechanic is assigned to these duties. Lift station maintenance and inspections have stayed consist for the last 8 years. During 2023 there was 1562 lift station inspections completed.

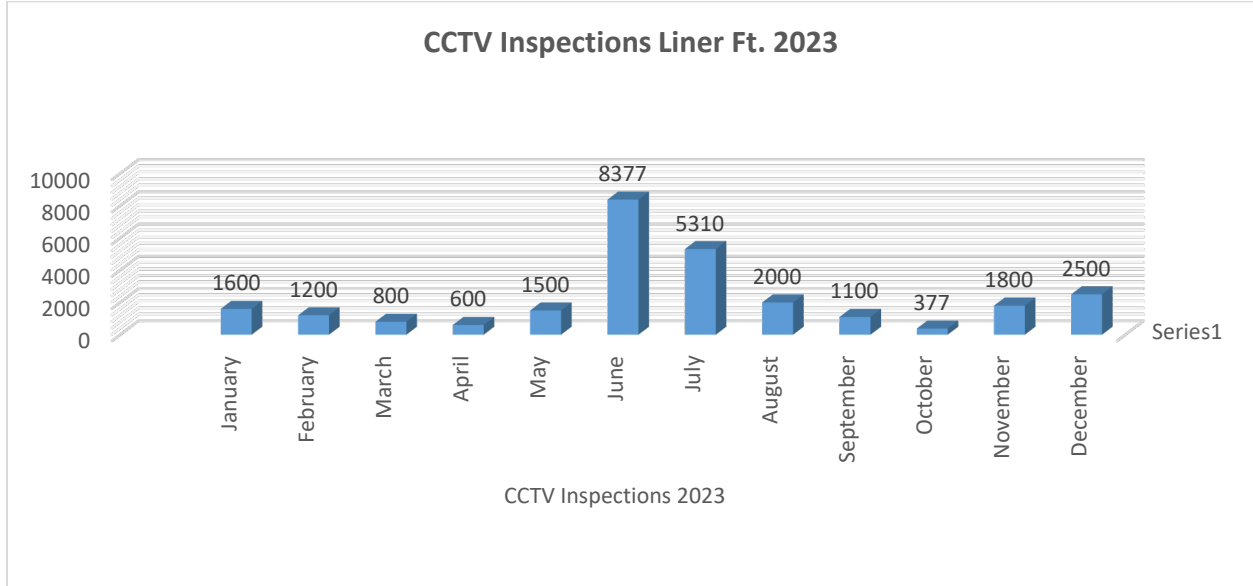


2023 Lift Station Inspection Map

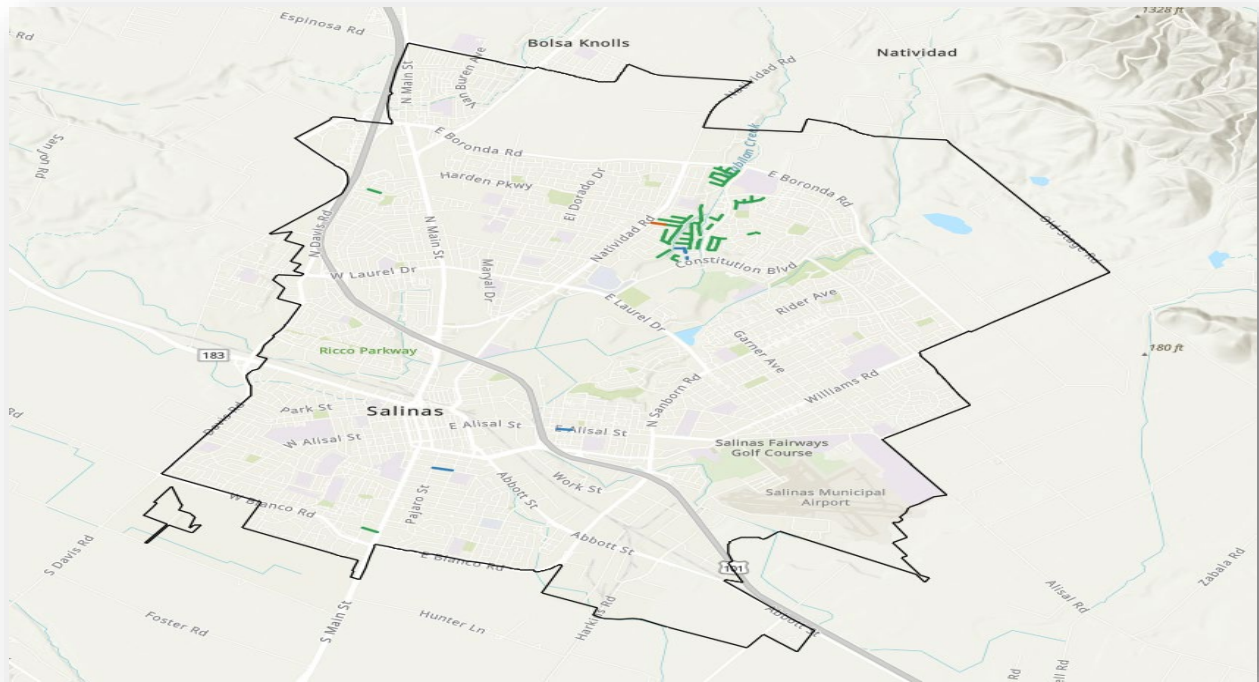


CCTV Inspections

Collections staff videoed 27,164 liner feet or 5.14 miles of pipe during 2023. These totals were up from previous year.

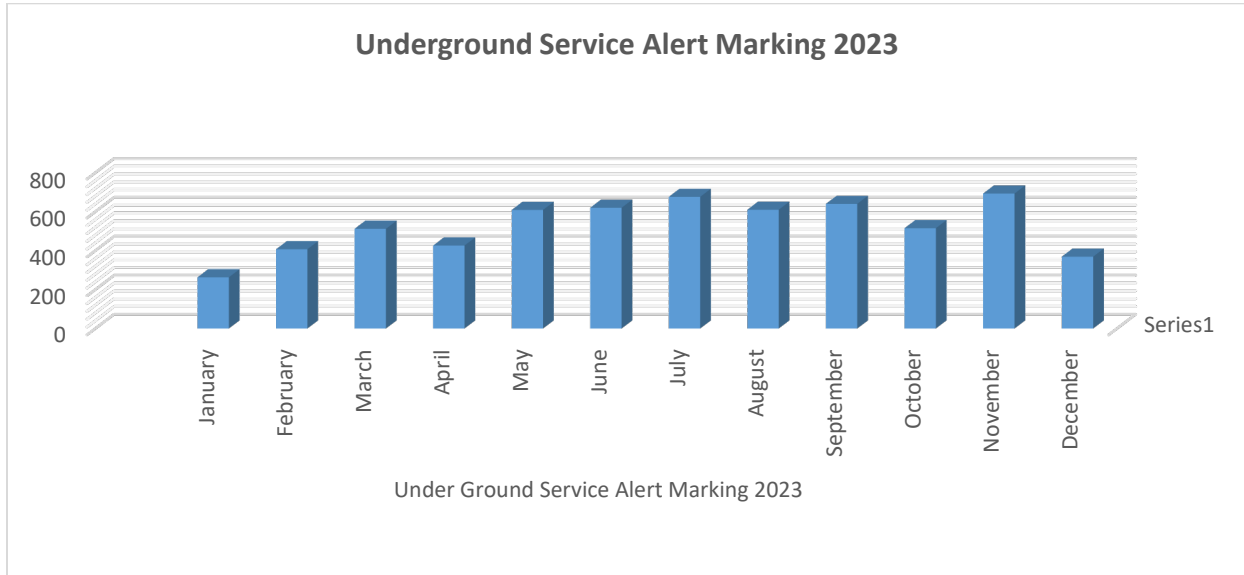


2023 CCTV Inspections Map



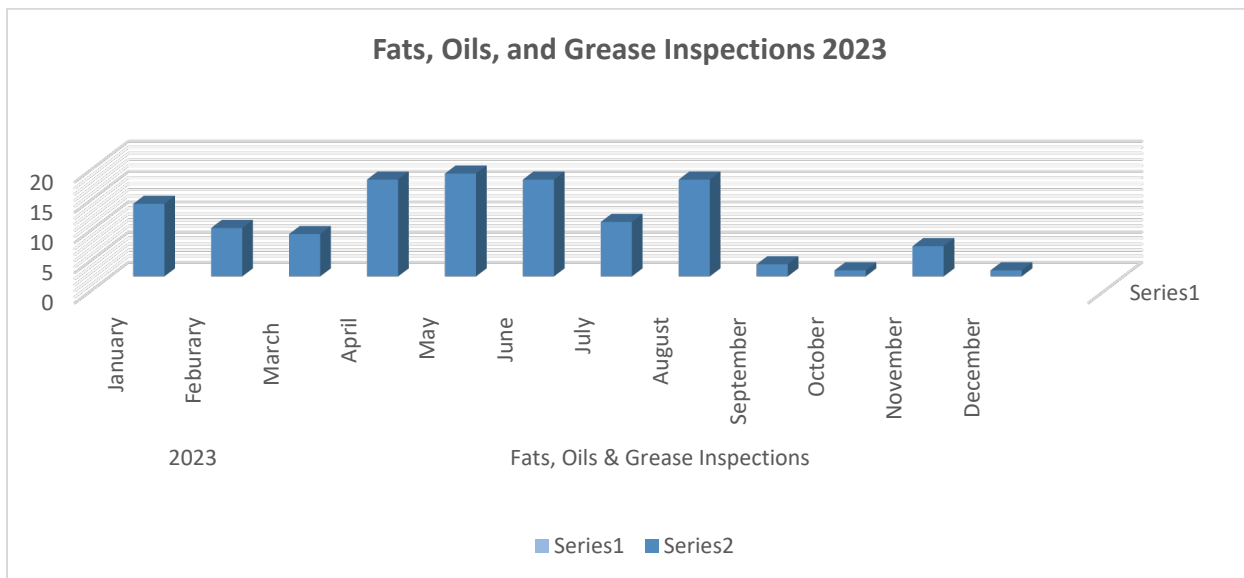
Under Ground Service Alert Markings

During 2023 collections staff completed a total of 6340 USA marking tickets. These totals are up from previous totals of 5898 markings.



Fats Oils & Grease Commercial Food Inspections

Environmental Compliance staff completed a total of 110 Fats Oils & Grease inspections during 2023.



Sewer System Performance Review 2023

Sewer System Performance	Performance Year 2023	Previous Year Comparison 2022
City Main SSO's Totals	3	3
Main SSO Causes		
Grease	2	1
Debris	1	1
Other/Vandalism/Roots	0	0
Pump Station Failure	0	1
Private SSO's City Response Totals	12	13
Pipe Cleaning Linear Feet	317,307 = 60.10 Miles	500,938 = 94.87 Miles
Manhole Inspections	525	2013
Lift Station Inspections	1562	1699
CCTV Inspections Lin. Feet	27,164 = 5.14	18,118 = 3.43 Miles
Under Ground Service Marking Requests	6340	5898
Fats, Oils and Grease Commercial Food Inspections	110	135