



# 2021 SSMP Biennial Self-Audit Report

## Sewer System Management Plan (SSMP)

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**Signature Page**

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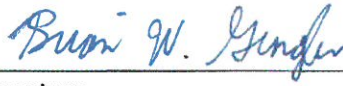
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## List of Acronyms

CCTV	Closed-Circuit Television
CIP	Capital Improvement Program
CIWQS	California Integrated Water Quality System
EMA	Enhanced Maintenance Area
FOG	Fats, Oils, and Grease
FSE	Food Service Establishments
I/I	Infiltration and Inflow
LRO	Legally Responsible Official
NGO	Non-Government Organization
NOV	Notice of Violation
OES	Office of Emergency Services, State of California
SMP	Sewer Master Plan
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SSS WDR	Statewide General WDR for Sanitary Sewer Systems
WDR	Waste Discharge Requirements
WWTP	Waste Water Treatment Plant

## 1. Purpose and Background

This Audit Report was prepared by the City in accordance with the requirements of Paragraph D.13 (x) of the California State General Waste Discharge Requirements (WDR). This document was designed to meet the requirements of State Water Resources Control Board Order No. 2006- 0003-DWQ as revised by Order No. WQ 2013-0058-EXEC. Documentation of SSMP audits are kept on file at the City and an entry is made in the California Integrated Water Quality System (CIWQS) database that the audit was completed.

The primary purpose of the Sewer System Management Plan (SSMP) Audit is to

- (1) Evaluate the effectiveness of the City of Victorville's (City) 2019 Sewer System Management Plan (SSMP) and to make recommendations for improvements, and assuring that it complies with the requirements of the WDR;
- (2) Evaluate the City's performance in maintaining the sewer infrastructure and responding to SSO's;
- (3) Evaluate how the City has responded to infrastructure deficiencies;
- (4) Make recommendations for sewer system capital improvements.

In order to evaluate and make recommendations for 2019 Victorville SSMP a thorough examination of the City's operation and maintenance system, including response measures taken to address SSO's along with the management of the staff and Capital Improvement Projects, accomplished for the last couple of years has been conducted. The purpose of this audit is to review the City's SSMP for compliance with the WDR and effectiveness in controlling and mitigating Sanitary Sewer Overflows (SSOs).

Paragraph D.13 (X) of WDR states:

*"SSMP Program Audits - As part of the SSMP, the Enrollee shall conduct periodic internal audits, appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every two years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the Enrollee's compliance with the SSMP requirements identified in this subsection (D.13), including identification of any deficiencies in the SSMP and steps to correct them. "*

Pursuant to WDR Paragraph D.13, The City prepared a SSMP for the City's Sanitary Sewer System, which was approved by the Victorville City Council on May 2009. A self-audit report on the City's SSMP is, therefore, due no later than May of each odd year following the Victorville City Council's adoption of the original SSMP in 2009.

In addition, Paragraph D.14 of WDR states that:

*"... The SSMP must be updated every five (5) years, and must include any significant program changes. Re-certification by the governing board of the Enrollee is required in accordance with D.14 when significant updates to the SSMP are made. "*

Accordingly, the Victorville City Council adopted a Five-year Update of the SSMP in May 2019. The next Five-year Update will be due in May 2024.

## 2. Methodology for Self-Audit

The WDR requires that the biennial self-audits focus on (1) the SSMP continued compliance with WDR, and (2) effectiveness in controlling and mitigating sewer overflows. The City of Victorville’s latest SSMP, adopted by the City Council prior to this 2021 biennial self-audits report is 2019 Sewer System Management Plan (SSMP). The City’s 2019 SSMP contained a variety of recommendations throughout, addressing deficiencies and suggestions for improving the overall efficiency or functionality of the Operations and Maintenance of the City’s sanitary sewer system; including the stormwater system as it related to the sanitary sewer system. This current audit examined those recommendations and suggestions of 2019 SSMP as well as the last self-audit report prepared back in 2018 by the City, 2018 SSMP Biennial Self-Audit Report. Therefore, in each section of this report, pertinent recommendations or suggestions from the earlier reports may or may not be listed. However, those recommendations that have been thoroughly examined are part of the narration in this audit report.

### Outline of Audit Structure

- Review WDR requirements and other guidance material provided for developing SSMP’s and Audit Reports
  - Including the 11 required elements
- Review 2019 Victorville SSMP
- Review the last “Audit Report” (2018 SSMP Biennial Self-Audit Report)
- Review effectiveness & Accomplishments of the City’s SSMP
  - Q&A Public Works Staff
  - List Accomplishments (CIP, GIS, System Improvements, etc.)
- SSMP Audit Report
  - Brief Introduction/Description
  - Evaluation of each section and element of SSMP
    - Section 1 EXECUTIVE SUMMARY
    - Section 2 INTRODUCTION
    - ELEMENTS 1-11
    - CONCLUSION/FINAL RECOMMENDATIONS

An audit questionnaire was prepared and key personnel in the City’s Public Works Sanitary Sewer Division and the City’s Engineering staff were interviewed. All Parts and Sub-parts of the SSMP were evaluated with respect to compliance with WDR and their effectiveness in helping meet the SSMP Goals as set forth in SSMP Part I.

The SSMP elements which have been determined to be WDR-compliant and effective will continue to be implemented. Recommendations are made for the SSMP elements which have been determined to be in need of an update or enhancement.

Pursuant to the requirement to prepare the next Five-year Update of the SSMP (WDR Paragraph D.14), this Audit Report will include recommendations to be incorporated into the upcoming SSMP, to be completed by May 31, 2024.

## Element 1 - Goals

*This element describes the City's stated goals of the SSMP and is intended to clarify the City's desired level of service that it is providing to its customers (D. 13(i)).*

The City has adopted the following broad goals, which we consider adequate to meet the regulatory requirements of the Statewide General WDR for Sanitary Sewer Systems (SSS WDR).

### CITY GOALS:

1. Collection system facilities are properly managed, operated, and maintained to diminish preventable sanitary system overflows (SSOs);
2. Response measures are in place and that all feasible steps are taken to mitigate the impacts of SSOs to public health and the environment when they occur;
3. Reporting procedures are in place to notify the appropriate regulatory and health authorities of SSOs within the required time frames; and
4. SSO events, mitigation measures, and corrective actions are documented; and
5. City sewer system operators, employees, contractors, responders, or other agents are adequately trained and equipped to address an SSO event; and
6. City sewer system is properly designed, constructed and funded to provide sufficient capacity to convey base flows and peak flows while meeting or exceeding applicable regulations, laws and generally acceptable practices relative to sanitary sewer system operations and maintenance.
7. Provide outreach to the public and business owners related to FOG and enforcement measures.

### Highlights of accomplishments

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The following items highlight major accomplishments of the 2019-2020 and 2020-2021 fiscal years. A deeper level of detail is contained in individual Parts and Sub-parts of the report, arranged according to the 11 essential elements of the SSMP.

**SCLA Industrial Sewer Manhole Rehabilitation Project** – The City of Victorville cleaned, restored, and epoxy-coated 47 corroded industrial wastewater manholes and replaced 47 30-inch diameter manhole covers and mounting rings with corrosion proof composite locking manhole covers and mounting rings.

**Sewer Structural Rehabilitation Project** has replaced 7,915 linear feet (LF) of existing sewer pipes with new SDR-35 PVC pipes that were determined to have severe structural defects, as determined by CCTV Reports in 2017, with 7,200 LF of 8-inch and 715 LF of 12-inch PVC pipe and constructed 7 new manholes; two replacing existing and five to newly added pipes.

**Sewer Structural Capacity (C) Improvement Projects C1, C2 and C3** - A total of three sewer capacity improvement projects comprised of 44 sewer segments consisting of 11,320 linear feet (2.1 miles) of replacement sewers were recommended for upsizing along the same alignments with existing sewers to alleviate the projected capacity deficiencies.

- For Structural Capacity Improvement Project - C1: the City is currently upsizing 3,033 LF of existing 10-inch sewer pipes to 15-inch SDR-26 PVC pipes. Construction is work-in-progress and the estimated completion date is August 17<sup>th</sup>, 2021.
- For Structural Capacity Improvement Project - C2: the City has completed 100% of the plans, specifications and estimates, and will advertise the project for construction once the outstanding easement(s) have been acquired from the respective property owners.

- For Structural Capacity Improvement Project - C3: the City has completed 60% design of the plans, specifications and estimates and has applied for an encroachment permit through San Bernardino County Flood Control District (pending approval).

**Sewer Lateral Repair** – The City plans to install a concrete encasement around a sewer lateral pipe crossing a drainage wash that is vulnerable to storm water damage or convert the existing property to septic system (construction alternatives are be reviewed).

**Sewer Forced Main Condition Assessment Project** – As part of the City’s Sanitary Sewer Maintenance Program (SSMP) and by the recommendation of the State Water Resources Control Board, the City inspected approximately 5,800 linear feet of Stoddard Wells Force Main pipes with Bracelet Probe which is external scanning device measuring exterior pipe wall thickness along with Recon+ which is inline free-flow prescreening device. The City discovered that majority of pipes shows no indication of possible imminent failure except for the minor defect found on the north side of the line under the train trestle. The rest of the data acquired through the inspection is currently being analyzed by the Consultants and the final report containing recommended solutions are anticipated to be ready by end of May of this year.

**And**

- Cleaned more than 480 miles of sewer line, as a part of preventive maintenance program.
- Annually inspected 320 food service establishments (FSEs) for compliance with the FOG Control Program Ordinance.
- Executed a professional services contract with David Evans and Associates (DEA) for SEWER FEASIBILITY STUDIES & ENGINEERING SERVICES.
- Revised its codes providing for stricter penalties for negligence leading to SSO’s
- Increased its sewer rates.
- Has conducted extensive outreach efforts, including a booth at a public fair, and Bill Inserts.
- Secured many more manhole lids to prevent unauthorized entries and vandalism.

**Key Performance Indicators (KPIs)**

*A measurable value that demonstrates how effectively an organization is achieving key objectives.*

Recommended KPIs:

- Total Number of SSOs
- Number of SSOs per 100 LF per year
- Total Volume of SSOs
- Number of SSOs caused by
  - Roots
  - FOG
  - Debris
  - Pipe Failure or Structural Defect
  - Capacity Limitation
- Average response time during business hours
- Average response time after business hours

**Effectiveness in Controlling Sanitary Sewer Overflows (SSO’s)**

During this audit cycle *all SSMP goals have either been met or are work-in-progress* (sewer capacity projects). In addition, City is currently in the process of budgeting funds for the sewer main and manhole lining CIP



projects for the upcoming fiscal years which shall also increase the effectiveness in controlling SSOs.

According to the *State Water Resources Control Board's CIWQS Collection System Operational Report*, in Fiscal Years 2019/20 and 2020/21, the number of SSOs were a total of (3) three (Table 1-1), or 0.13 SSOs per year per 100 miles of sewer pipes (Table 1-2); far below the State average of 1.92 SSOs per 100 miles of pipe per our region 6 (updated March 31, 2021).

Table 1-1 CIWQS Spill Public Report – Summary Page

WDID - 6SSO11425	
Collection System	Victorville SD CS
Region	6B
Miles of Pressure Sewer	1.1
Miles of Gravity Sewer	437
Miles of Laterals	243
Number of Pumps	8
Total # of SSO Locations	3
Total Volume of SSO	14827
Total Volume of Recover (gallons)	3500
Total Volume of Reach Surface Water	7890
Percent Recover	23
Percent Reach Surface Water	53

Date Range: 07/01/2019 to 03/31/2021

SSO Caused by	
Roots	1
FOGs	0
Debris	1
Structural Defect Pipe failure	0
Capacity Limitation	0
CIP Projects (Contractors bypass pump failure)	1

Average Response Time	
During business hours	22 minutes
After business hours	n/a

Date Range: 07/01/2019 to 03/31/2021

Table 1-2 CIWQS Collection System Operational Report (March 31, 2021)

	Category 1			Category 2		
	Mainlines	Laterals	Not Specified	Mainlines	Laterals	Not Specified
Victorville SD CS	0.13	0	0.08	0.13	0	0
State Municipal (Public) Average	2.96	0.96	1.52	1.92	0.98	3.51
Region Municipal Average	3.22	0	0.08	2.2	0	0

Observations:

- *The City performed CCTV Video Inspections on entire City Sewer system and analyzed the condition back in 2017. The report was then used to determine where remediation or reconstruction was needed in the system and the City has completed various CIP projects accordingly as stated in highlights of Accomplishments.*
- *The response to SSO's is very good.*
- *Many of the SSMP goals have either been met, or actively in the process of being met.*
- *The data indicates that less than 4% of the food-related enterprises received some sort of violation over the last audit period.*

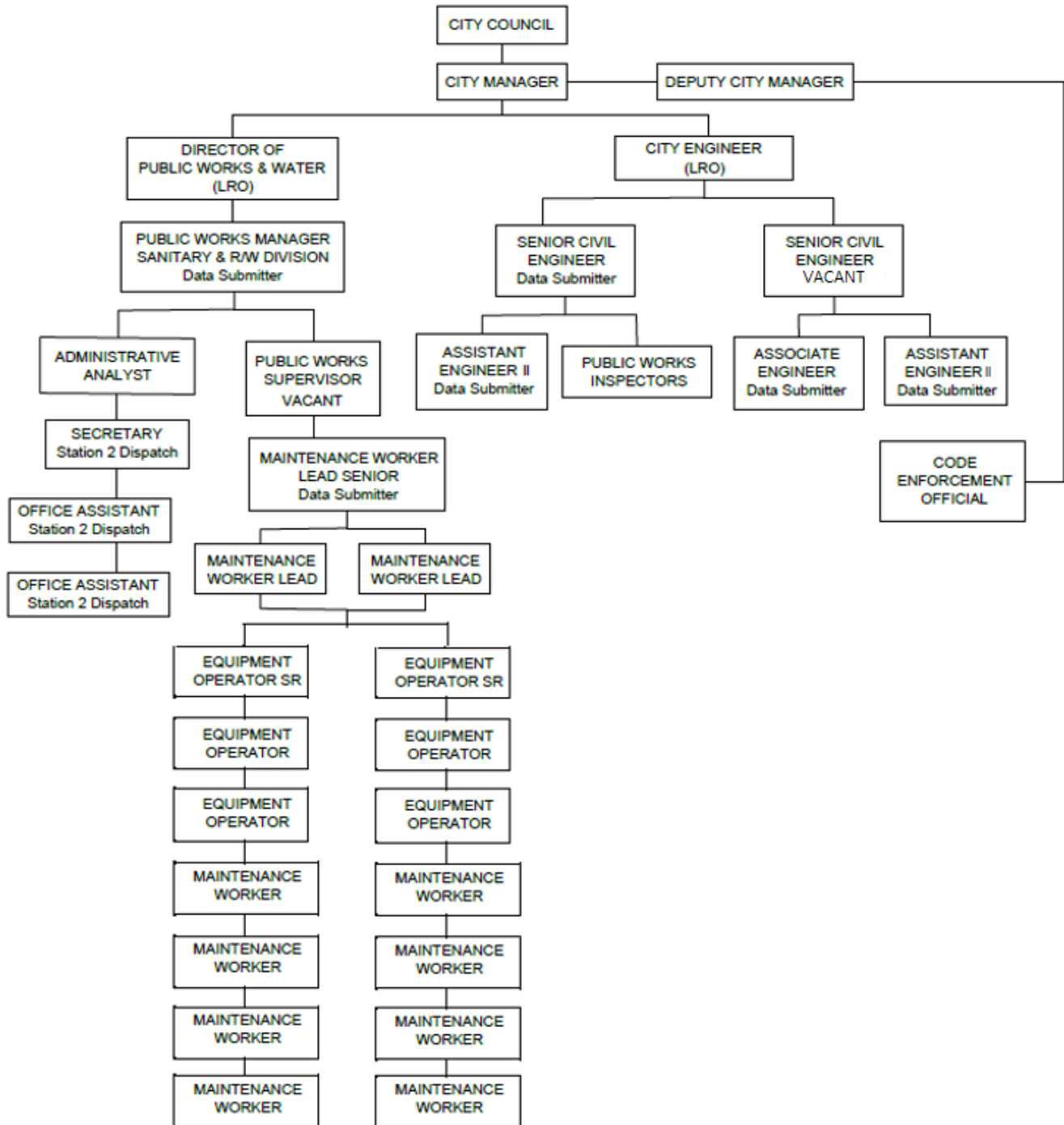
Recommendations:

Make persistent efforts to properly manage, operate and maintain collection system facilities. Ensure all City Goals listed herein this section on page 6 are either met or in the process of being met.

## **Element 2 – Organization**

The names and contact information of certain City staff, having a lead or support role in the policy making, management, operation, and maintenance of the sanitary sewer systems have recently changed, and are shown on the updated Table 2-1 and Table 2-2, on page 12. Names have been changed to reflect their current responsibilities and functions. All these changes will be included with the updated SSMP when the recommended revisions are incorporated.

**FIGURE 2-1. Organization Chart of Responsible Sewer Collection Staff (Current)**



**Observations:**

*In this audit duration, City has experienced several staff changes, which is reflected herein on Table 2-1 and Table 2-2, page 12 of audit.*

**Recommendations:**

*Ensure all names and contact information of the organization is current.*

**Table 2-1 City's Contact Phone Numbers for SSO Chain of Communication**

<b>Contact</b>	<b>Telephone Number</b>
City Hall	760-955-5000
Fire Department-Comm. Fire Dispatch	760-955-5233
Police Station	760-245-4211
Public Works Dispatch (Station II)	760-241-6365
Public Works/Water Director	760-243-6332
City Engineer	760-955-5156
Public Works Manager	760-243-6380
Public Works Supervisor	VACANT
Public Works Maintenance Lead Senior	760-243-6386
Public Works Maintenance Lead	760-241-6365

**Table 2-2 City's Names and Phone Numbers of Sanitary Division Contacts**

<b>Position</b>	<b>Name</b>	<b>Telephone Number</b>
Director of Public Works and Water	Doug Mathews	760-243-6332
City Engineer	Brian Gengler	760-955-5156
Public Works Manager	Joe Flores	760-243-6380
Public Works Supervisor	VACANT	VACANT
Public Works Maintenance Lead Senior	Mitch Tucker	760-243-6386
Public Works Lead	Sparky Kale	760-243-1942
Public Works Maintenance Workers	All Crew Members	760-241-6365

### Element 3 - Legal Authority

Ordinances/enforcement mechanisms -

Q: Are the City ordinances for illicit discharge prevention and Inflow/Infiltration (I/I) control still current and accurate?

A: *Yes. Article VII, 10.02.640;650*

Q: Are the existing permit requirements sufficient for proper sewer connections?

A: *Yes. Article VI, 10.02.170; 10.02.350*

Q: Legal authority for access to the portion of sewer laterals the City is responsible for?

A: *Not applicable. Property owners own and are responsible for the entire lateral reach **on private property**. CITY ORD 10.02.060*

Q: Is the FOG Control Ordinance current and effective?

A: *Yes. FOG ordinances have been revised and were approved by City Council March 7, 2018 (Title 10 and Title 16).*

Q: Are the City's enforcement mechanisms still adequately addressing violations of sewer ordinances?

A: *Yes. Enforcement ordinances have been revised and were approved by City Council March 7, 2018 (Title 10 and Title 16. 10.02.170 General Sewer; 10.03.300 FOG)*

**Observations:** *Necessary legal authority does exist for all SSM activities and enforcement.*

**Recommendations:** *Continue to ensure the evidence of the required, necessary legal authority is clearly provided in the body of the SSMP, along with proper and up-to-date references.*

## Element 4 - Operation and Maintenance Program

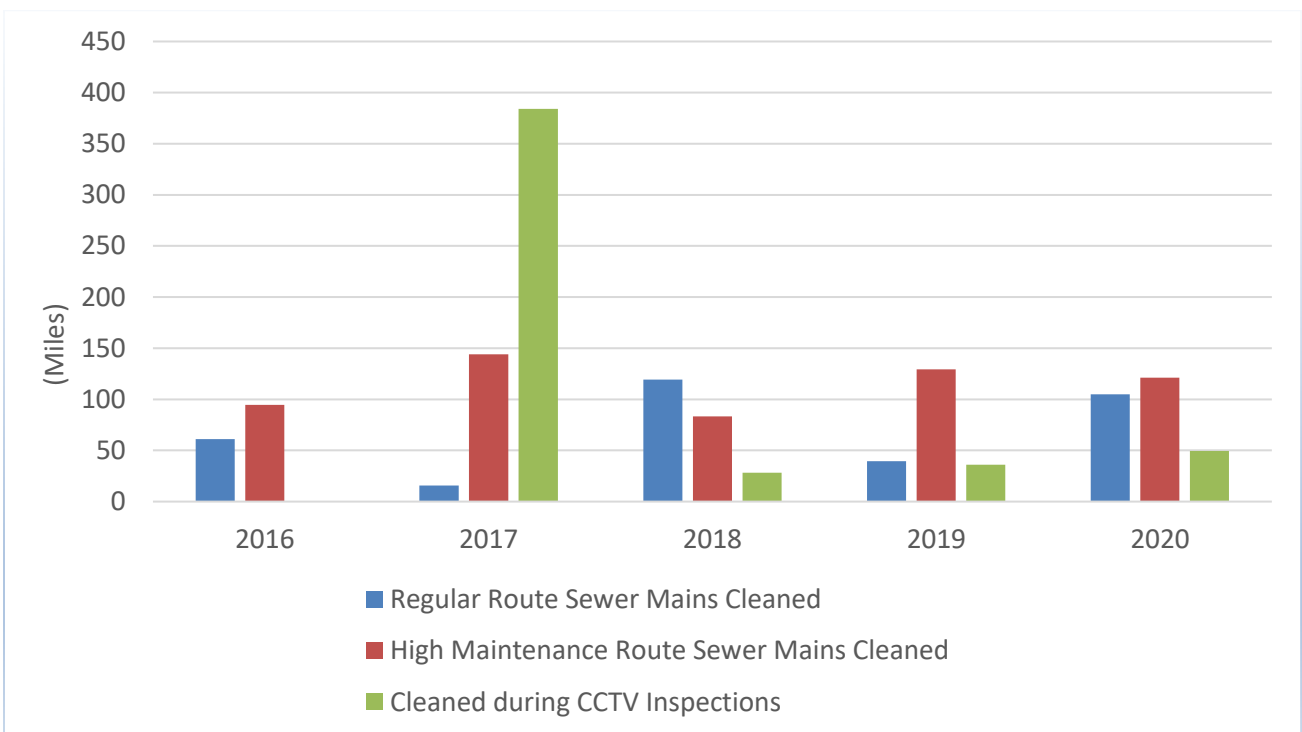
### Cleaning Efforts -

The following is a list of the cleaning efforts performed by city staff during 2019 and 2020 -

- Calendar Year – 2019 High Maintenance – 682,929.00 feet cleaned (129.34 Miles)
- Calendar Year – 2019 Regular Maintenance – 208,380.00 feet cleaned (39.47 Miles)
- Calendar Year – 2019, as a part of CCTV contract with Pro Pipe 190,676.50 feet cleaned (36.11 Miles)
- Calendar Year – 2020 High Maintenance – 639,720.00 feet cleaned (121.16 Miles)
- Calendar Year – 2020 Regular Maintenance – 554,149.00 feet cleaned (104.95 Miles)
- Calendar Year – 2020, as a part of CCTV contract with Pro Pipe 261,106.00 feet cleaned (49.45 Miles)

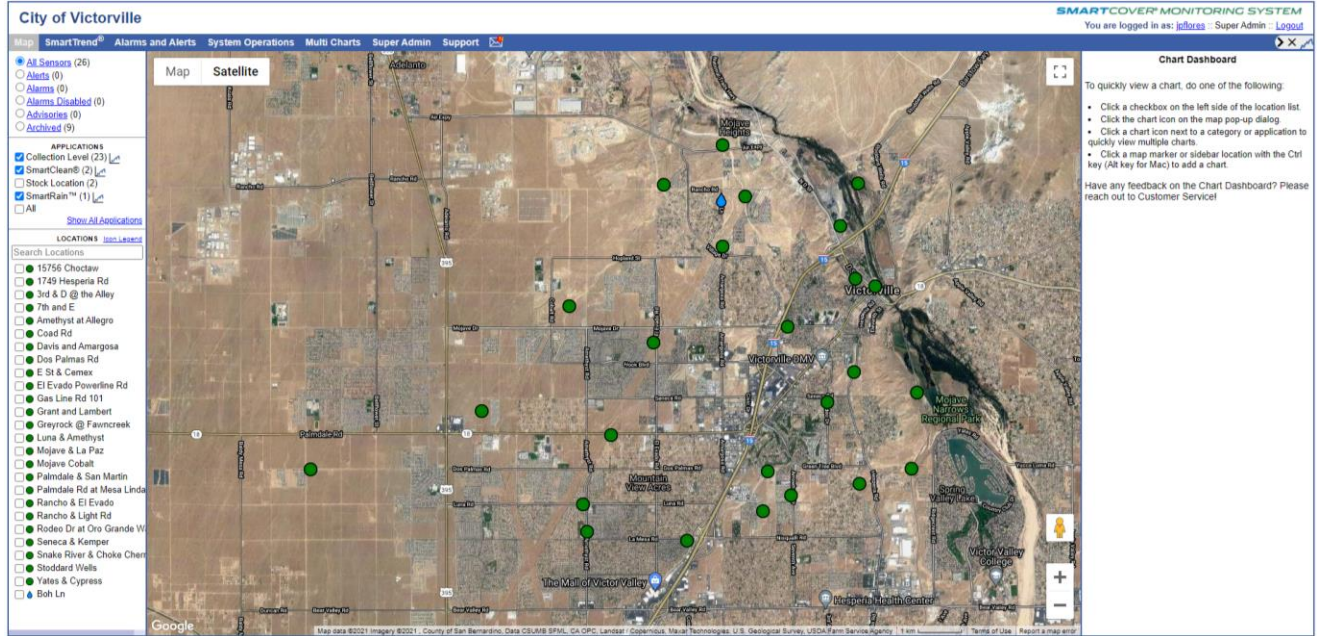
The following is a list of the cleaning efforts performed by city staff prior to 2019 -

- Calendar Year - 2013 High Maintenance – 413,952 feet cleaned (78.4 Miles)
- Calendar Year – 2013 Regular Maintenance – 250,800 feet cleaned (47.5 Miles)
- Calendar Year – 2014 High Maintenance – 377,520 feet cleaned (71.5 Miles)
- Calendar Year – 2014 Regular Maintenance – 283,008 feet cleaned (53.6 Miles)
- Calendar Year – 2015 High Maintenance – 400,224 feet cleaned (75.8 Miles)
- Calendar Year – 2015 Regular Maintenance – 196,944 feet cleaned (37.3 Miles)
- Calendar Year - 2016 High Maintenance – 500,025.00 feet cleaned (94.7 Miles)
- Calendar Year – 2016 Regular Maintenance – 321,815.00 feet cleaned (61 Miles)
- Calendar Year – 2017 High Maintenance – 760,635.00 feet cleaned (144.1 Miles)
- Calendar Year – 2017 Regular Maintenance – 82,487.00 feet cleaned (15.6 Miles)
- Calendar Year – 2017 as a part of CCTV contract with Pro Pipe 2,027,520 feet cleaned (384 Miles)
- Calendar Year – 2018 High Maintenance – 439,575.00 feet cleaned (83.3 Miles)
- Calendar Year – 2018 Regular Maintenance – 629,500.00 feet cleaned (119.22 Miles)
- Calendar Year – 2018 as a part of CCTV contract with Pro Pipe 148,933.00 feet cleaned (28.21 Miles)



Since 2021, the City's Public Works Department has installed twenty-five (25) SmartCover sewer monitoring systems in manholes at various locations throughout the City's sanitary sewer collection system.

### City of Victorville's SmartCover Locations



### Training -

The City continues to provide ongoing and special training to City staff. The following training has been conducted and documented by internal staff as of August 2017. (Refer to next page for Training Records).



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Agency Training	Training Date	Description	Attendees
CWEA	8/24/2017	CWEA DAMS Vendor Fair and Air Pack Derby	Sam Arvizu, Barbara Soper, Justin Foster, Ernie Garcia, Brad Robinson, Mitch Tucker, Felix Acevedo, Omar Covarrubias, Anthony Manriquez, Harry Lopez, Sparky Kale, Clay Emberson, Tracy Ludwig
	8/23/2018	CWEA DAMS Vendor Fair and Air Pack Derby	Sam Arvizu, Barbara Soper, Justin Foster, Joe Flores, Jarrett Robinson, Anthony Manriquez, Harry Lopez, Demetrio Enriquez, Aaron Gemel, Sparky Kale, Josiah Ramirez, Rudy Abrego
	11/7/2018	CWEA DAMS Collection System Training Day	Sam Arvizu, Brad Robinson, Barbara Soper, Joe Flores, Mitch Tucker, Harry Lopez, Anthony Manriquez, Felix Acevedo, Sparky Kale, Doug Hennigar, Aaron Gemel, Demetrio Enriquez, Clay Emberson, Jarrett Robinson, Omar Covarrubias, Josiah Ramirez, Joe Swal, Robert Kelsey, Josh Montes, Ernie Garcia, Rudy Abrego, Mike Crego, Jacob Bellgardt, Joseph St. Louis, Robert Guerrero, Tom Morales
	4/9/19 to 4/12/19	CWEA Annual Conference	Joe Flores
	8/21/2019	CWEA DAMS Vendor Fair and Air Pack Derby	Sam Arvizu, Barbara Soper, Joe Flores, Clay Emberson, Omar Covarrubias, Doug Hennigar, Felix Acevedo, Jarrett Robinson, Sparky Kale, Josh Montes, Joseph St. Louis
	11/6/2019	CWEA DAMS Collection System Training Day	Sam Arvizu, Barbara Soper, Joe Flores, Felix Acevedo, Omar Covarrubias, Clay Emberson, Demetrio Enriquez, Aaron Gemel, Doug Hennigar, Harry Lopez, Anthony Manriquez, Jarrett Robinson, Rudy Abrego, Jacob Bellgardt, Mike Crego, Ernie Garcia, Robert Guerrero, Robert Kelsey, Tracy Ludwig, Josh Montes, Tom Morales, Joseph St. Louis, Joe Swal
	1/29/2020	CWEA FOG Workshop	Barbara Soper, Sam Arvizu, Joe Flores
DKF Solutions	3/22/2018	Tactical Communication-Verbal Judo	Sparky Kale, Felix Acevedo
	4/3/2018	Supervisor 101 Training	Sparky Kale, Felix Acevedo
	4/18/2018	Audit your SSMP	Joe Flores, Doug Mathews, Victor Fajardo, Barbara Soper
	1/29/2019	SSO Documentation Workshop	Joe Flores, Sam Arvizu, Barbara Soper
	6/25/2019	Introduction to Collection System Training	Aaron Gemel, Demetrio Enriquez, Anthony Manriquez, Clay Emberson, Barbara Soper, Doug Hennigar, Felix Acevedo, Ernie Garcia, Jarrett Robinson, Harry Lopez, Joseph St. Louis, Josh Montes, Omar Covarrubias, Sparky Kale
	6/26/2019	SSO Documentation & Response	Aaron Gemel, Demetrio Enriquez, Anthony Manriquez, Clay Emberson, Barbara Soper, Doug Hennigar, Felix Acevedo, Ernie Garcia, Jarrett Robinson, Harry Lopez, Joseph St. Louis, Josh Montes, Omar Covarrubias, Sparky Kale
	11/6/2019	Ironclad SSO Documentation: Getting from Initial SSO Notification to CIWQS	Sparky Kale, Mitch Tucker
	9/10/2020	Electrical Awareness	Joe Flores, Sparky Kale, Mitch Tucker, Doug Hennigar, Omar Covarrubias, Aaron Gemel, Jarrett Robinson, Harry Lopez, Anthony Manriquez, Clay Emberson
Tri-State Seminar	9/26/17 to 9/28/17	Tri-State Seminars	Joe Flores, Sam Arvizu, Harry Lopez, Clay Emberson, Brad Robinson, Ernie Garcia, Sparky Kale, Felix Acevedo, Omar Covarrubias, Anthony Manriquez, Justin Foster
	9/25/18 to 9/27/18	Tri-State Seminars	Sam Arvizu, Doug Hennigar, Jarrett Robinson, Aaron Gemel
	8/6/19 to 8/8/19	Tri-State Seminars	Joe Flores, Sparky Kale, Felix Acevedo, Ernie Garcia, Harry Lopez, Clay Emberson, Omar Covarrubias, Anthony Manriquez

**Questions and Answers –**

Q: Does the current mapping system and applications provide for adequate display of Sanitary Sewer Systems components and applicable features of the stormwater system?

A: *Yes. The City maintains hardcopies of up to date sewer maps and atlases for its sewer and stormwater system, and is in the process of updating its GIS map with all current sewer and stormwater information.*

Q: Does the City's sewer rehabilitation and replacement program continue to be effective in identifying and prioritizing deficiencies and implementing the needed improvements in a timely manner to prevent failures?

A: *Yes, mitigation measures have been implemented and plans for a vigorous inspection program and capital improvement projects are underway so as to prevent failures in the future.*

Q: Does the City continue to provide ongoing and special training to the City (PW sanitary sewer) staff effectively?

A: *The City continues to invest generously on staff training; no issues attributable to a lack of sufficient training. All training and certification requirements for proper operation & maintenance, timely and effective emergency response, and safe practices are met and documented. For contractors' staff, training requirements are spelled out in the contracts.*

Q: Does the City continue to maintain a reliable inventory of parts to ensure timely and emergency replacement?

A: *The City continues to maintain a reliable source of emergency parts, such as an air vacuum valve at the Stoddard Wells Lift Station for the 8" diameter force main; and pipe clamps, pipes (PVC, VCP) within storage facility at our Palmdale Rd yard.*

**Observations:** *Over the last few years, it appears that the City has conducted great efforts into preventative maintenance of the sewer system and training.*

*With the vigorous cleaning and CCTV efforts, the city has identified potential problematic areas, has replaced 7,915 linear feet (LF) of sewer pipes with structural defects, rehabilitated 47 industrial wastewater manholes, and inspected 5,800 linear feet of force main pipes. Sewer Capacity Improvement project C1 is under construction and C2 and C3 are in the final design and permitting process. There are more ongoing projects which include but are not limited to project such as sanitary sewer main and manhole lining which are currently being budgeted for the upcoming fiscal years and the design process has been initiated; that are being carried out for preventative maintenance purposes. (Refer to the Highlights of Accomplishments for more details).*

**Recommendations:** *Continue with robust maintenance program.*

## Element 5 - Design and Performance Provisions

### Questions and Answers –

Q: Does the City have adequate Design/Construction standards and specifications for installation/construction of new sanitary sewer systems, pump stations, and other appurtenances?

A: Yes.

### Observations:

*Many of the sewer standard drawings and specifications have not been updated for at least 10 years (they might be acceptable as-is). No standards or drawings for addressing SSO or monitoring.*

### Recommendations:

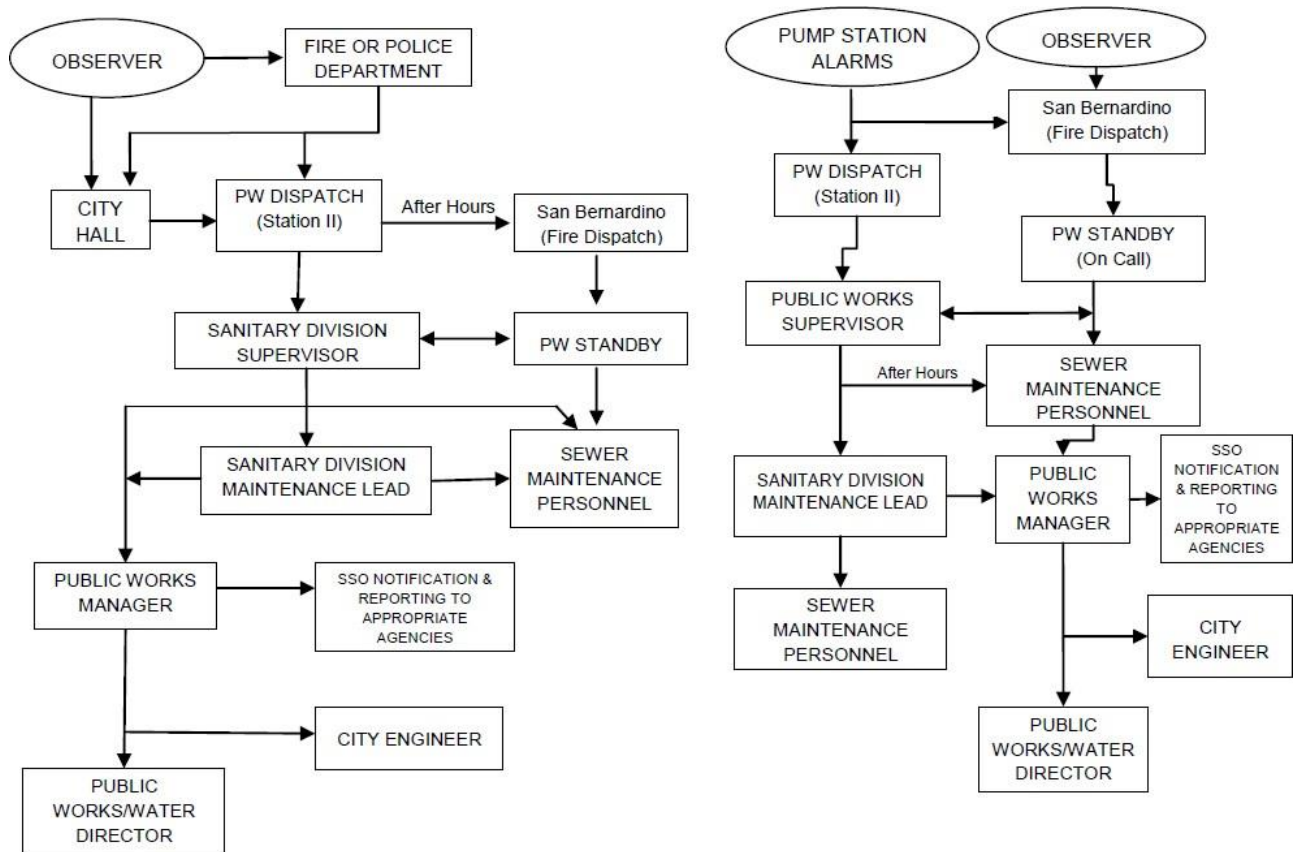
*Conduct regular meetings with staff to review/update standard. We need to revisit Section VIII – Sewers of our Standard Specifications immediately and on a regular basis, to be sure they are up to date.*

*Sanitary Sewer and appurtenances shall be installed in accordance with City Standard specifications, drawings, and the standard specifications for Public Works Improvements and Section 64630, Title 22, of California code regarding water/sewer systems.*

### Element 6 - Overflow Emergency Response Plan

The overflow emergency response plan continues to be WDR-compliant and very effective in documenting, communicating, containing, and mitigating all overflows. Public notification plan and procedures to limit access to and contact with the areas affected by SSOs are very effective. A notable example is the City’s response to the July 2016 North Outfall Sewer (NOS) overflows.

**FIGURE 6-1. SSO Response Chain of Communication (Current)**



## Element 7 - Fats, Oils, and Grease (FOG) Control Program

There are 318 FOG permits on file, roughly equivalent to the number of Food Service Establishments (FSE) in the City.

The City conducts an inspection when the FSE fails to submit a service manifest timely and conduct a follow up inspection to issue fines if the business continues to be in violation. The inspection consists of:

1. Checking of the business is still operating,
2. Checking the FOG apparatus and issuance of a Notice of Violation due to failed timely service (if the violation is founded).

Annual inspections have been added to all FOG cases in the permit system. These will be completed at the renewal of the FOG permit and will consist of the verification of FOG controls and best practices and inspection of the FOG apparatus. On average the City conducts approximately 30 FOG inspections per month, which may consist of compliance service inspections and re-inspections. From April 2019 through April 2021 there have been 1081 FSE's that have passed inspection.

During the same period, 10 Notice of Violations (NOV) have been issued to FSE's, and no Administrative Citations have been issued to FSE's. These notices are issued for a variety of reason, including failure to provide evidence of timely FOG service, expired permits, or faulty FOG apparatus.

### Observations:

*During this audit cycle, the data indicates that less than 4% of the food-related enterprises received some sort of violation though back in 2017~2018 year period over 60% of the food-related enterprises have received some sort of violation. The biggest reason for such dramatic decline of violation is because during this audit cycle, COVID-19 pandemic impacted the United States restaurant industry and most Food Service Establishments had closed their dining rooms and bars for most of the year due to government closures.*

### Recommendations:

*Always log which SSO's are caused by FOG, and document & map those locations. Continue to educate FSE's about FOG, and ways to prevent/reduce it (Outreach).*

## Element 8 - System Evaluation and Capacity Assurance Plan

The capacity planning methods documented in the existing SSMP continue to be practiced.

The City received the final 2016 Sewer Master Plan (SMP) in early 2017. The SMP highlighted capacity issues in the system as well as borderline capacity issues, which need to be closely monitored and/or addressed. Out of three separate capacity improvement projects and one structural rehabilitation project that 2016 SMP recommended, the City completed the construction of structural rehabilitation project and is currently in progress of upsizing 3,033 LF of 8" sewer pipe to 15" PVC. The remaining two capacity improvement projects are in the final permitting process now.

The City also implemented a requirement for the submittal of Sewer Feasibility Studies for development project, which at the discretion of the City have the potential for a significant effect upon the sewer system that it is tying into. Because of this new requirement, the City has contracted with an engineering consulting firm for evaluations of these studies, managing and running the City's sewer hydraulic model, and providing general engineering services.

During the two-year period covered by this Audit Report the City did not experience major wet weather overflows.

### **Observations:**

*Contract executed with David Evans & Associates (DEA) for sewer feasibility studies and general sewer engineering services.*

### **Recommendation:**

*Rewrite City of Victorville Standard Specifications for Sewer to include a current description of the City's flow monitoring and reporting program. Also document how any exceptions are identified and improvement measures are planned and implemented.*

*Some planning features and tools, however, have been enhanced and ought to be documented in the updated SSMP to keep current, for example, flow monitoring and hydrodynamic modeling.*

## **Element 9 - Monitoring, Measurements, and Program Modifications**

The City's ongoing measures and activities have produced exceptional results particularly in controlling the number of SSOs and providing emergency response when SSOs do occur. The number of SSOs occurred during the period covered by this biennial self-audit is only three and it equates to 0.13 SSOs per year per 100 miles of sewer pipes in average; far below the State average of 1.92 SSOs per year per 100 miles of sewer pipes.

### **Observations:**

*There has been great improvement in controlling the number of SSOs.*

### **Recommendations:**

*To ensure sufficient and continued commitment of resources to the highest of priorities, conduct a review of all SSMP measures and activities as a part of the next Five-year Update of the SSMP which is due by May 2024. This review ought to focus on key results areas with the aim to validate the existing programs and/or make refinement recommendations for effective and efficient development and implementation of the various program elements.*

## **Element 10 - SSMP Program Audits**

Since the original SSMP was approved by the Victorville City Council (“City Council”) in 2009, the Biennial Self-audits (Gap Analysis) and Five-year Update of the SSMP were prepared in-house by the City Staff.

The upcoming required Five- year Update of the SSMP, which is due by May 31, 2024 (Paragraph D.14 of the WDR) provides an excellent opportunity for the City to compile a new fully-updated version of the City’s SSMP, utilizing the City’s Engineering and Public Works staff, whom are intimately familiar with the City’s sanitary sewer system and its operation and maintenance schedules and procedures. We are confident that we can produce an instrument that is more concise, usable, and uniquely-suited to our needs.

### **Observations:**

*This current self-audit was conducted in house by the City Staff and the City strived to make it more concise and non-redundant while following the format recommended by WDR, A Guide for Developing and Updating of Sewer System Management Plans (SSMPs).*

### **Recommendations:**

*Develop and implement a schedule for conducting the next Five-year Update of the SSMP by May 2024.*

*Include and track changes with Change Log Form (Appendix E)*



## **Element 11 - Communication Program (Outreach)**

Sanitary Division personnel have participated with Public Works Day events annually, during the month of May, except for 2020. The Public Outreach program has been targeted to local fourth grade students. The COVID-19 pandemic controls restricted the City from the Public Works Day event in 2020.

### **FOG – Sewer Bill Inserts Run dates**

- January 2019
- March 2019
- June 2019
- August 2019
- January 2020
- March 2020
- January 2021
- March 2021

### **Observations:**

*Unfortunately, the COVID-19 pandemic controls has called off the City's scheduled programs.*

### **Recommendations:**

*When the COVID-19 pandemic ends, continue to do what has been called off*

*Consider using more online resources.*

*Recommend the use of Overflow Protection Devices to business and public.*

## **Final Audit Recommendations**

In summary, the recommendations of this Audit Report are:

- (1) Begin preparations for a Five-year fully-updated SSMP in time for City Council adoption by May 31, 2024, incorporating all of the recommendations/suggestions to individual SSMP Parts and Sub-parts and recertify the updated SSMP to the State Water Board.
  
- (2) Begin tracking changes in SSMP with a Change Log (APPENDIX E)

Appendix E: Sewer System Management Plan Change Log

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Section Changed	Subsection Changed	Page Changed	Change Made	Date of Change	Author Of Change	Who Authorized Change

Appendix E-1

SSMP Change Log