Sewer System Management Plan (SSMP)

2025 Update

Waste Discharge ID (WDID) #8SSO20044
Water Board Region 8

REVIEWED AND APPROVED BY:

Stephen Bise, Public Works Director
Legally Responsible Official
City of Fullerton

Sanitary Sewer Collection System
(includes Element Development Plans & Schedules)

Date Signed

PREPARED BY:

FISCHER COMPLIANCE LLC
PRACTICES THAT COMPLY

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Revision Date	SSMP Section	Description of Change/Revision Made	Initials

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March 7, 2025

Att: Mr. Stephen Bise, Public Works Director
Legally Responsible Official (LRO)
1580 W. Commonwealth
Fullerton, CA 92833

Dear Mr. Bise,

We are pleased to present the new 2025 Sewer System Management Plan (SSMP) Update developed in partnership with City management. The 2025 Update meets and exceeds compliance with the Reissued WDR (State Water Board, Water Quality Order No. 2022-0103-DWQ, Attachment D-10 and Specifications 5.4). The 2025 SSMP has been completely revised to harmonize with industry standard guidelines and incorporates the latest SSMP Audit findings.

The 2025 SSMP is a declaration of what the City is doing to demonstrate full compliance with the Reissued WDR. Attachment A of the Reissued WDR (page A-4), states “A sewer system management plan is a living document which requires the City to Enrollee develops and implements to effectively manage its sanitary sewer system(s) in accordance with this General Order.” This requires the City to periodically review and update the SSMP as necessary until its next required 6-year SSMP Update is completed.

We look forward to assisting the City wherever necessary to fully implementation its new 2025 SSMP Update.

Sincerely,

James Fischer, P.E.
Principal, Fischer Compliance LLC
Credentialed U.S. EPA NPDES Compliance Inspector

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Introduction

The City of Fullerton provided detail, information and institutional insight in preparation to develop this Sewer System Management Plan (SSMP) or "Plan" and received technical assistance from Fischer Compliance LLC and Sam Rose Consulting for meeting and exceeding compliance with the State Water Resources Control Board 2022 General Waste Discharge Requirements, Order WQ 2022-0103-DWQ for Sanitary Sewer Systems, referred to throughout this document as the WDR1. The SSMP has been developed to meet the size, scale, and complexity of the City to serve as a "living document" that will be used as a tool to manage and operate the collection system. Further, the new 2024 Sewer System Management Plan Guidance Manual published by the Bay Area Clean Water Agency (BACWA) was utilized as a model for development of the SSMP to ensure the SSMP harmonizes with the latest available industry standard recommendations for the development and updating of SSMPs.

The City's commitment to meeting or exceeding regulatory requirements, along with their proactive approach to operation and management of the collection system, has served them well, as evidenced by system performance relative to other agencies in the region and the state. The City has experienced only three spills between January 2018 and January 2025.

Figure 1 provides key City spill metrics, including data (8/2/2009 – 3/1/2025) comparing the City's spill record with state and regional system data. The City consistently performs below (better than) both statewide and regional spill rate indices and net spill volumes for all categories of spills from its sanitary sewer collection system.

Collection System Spill Summary

Operational Indices: Fullerton City CS

Spill Rate Indice (spills/100mi/yr)							
	Category 1			Category 2		Category 3	
	Main System	Laterals	Other	Main System	Other	Main System	Other
Fullerton City CS	0.09	N/A	0.0	0.0	0.0	0.0	0.0
State Municipal(Public) Average	1.54	N/A	0.71	0.75	1.01	2.46	0.47
Region Municipal Average	0.46	N/A	0.07	0.31	0.82	0.45	0.05

Net Volume Spills Indice (gallons/1000 Capita/yr)							
	Category 1			Category 2		Category 3	
	Main System	Laterals	Other	Main System	Other	Main System	Other
Fullerton City CS	0.65	N/A	0.0	0.0	0.0	0.0	0.0
State Municipal(Public) Average	2927.54	N/A	1481.84	300.52	1886.93	55.5	36.29
Region Municipal Average	359.58	N/A	11.49	46.4	127.74	1.2	0.08

Introduction: Figure 1 (Collection System Operational Report – SWRCB Integrated Water Quality System (CIWQS)

1 See Order No. 2022-0103-DWQ

SSMP Organization

This SSMP is organized into 11 core elements following Attachment D of the WDR, with inclusion of applicable Specifications requirements.

Each individual element in the SSMP includes the following technical contents.

1. Requirements – Provides the actual description of applicable requirements in the WDR.
2. Compliance – Describes the City's approach to complying with the WDR requirements.
3. Effectiveness – As measured by Key Performance Indicators (KPIs.)
4. Implementation – Demonstrates how the City will ensure the Plan is being carried out as described.
5. Resilience – Demonstrates the resilience that is addressed in the SSMP and built-in to the City's collection system and procedures.
6. Appendix Inclusions – List the items included in the Appendix for each SSMP Element, if any.

Abbreviations and Acronyms[2]

AGENCY	Agency Name
BMP	Best Management Practices
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CM	City Manager
CIWQS	California Integrated Water Quality System (State Water Board Online Spill Database)
CMMS	Computerized Maintenance Management System
CITY	City of Fullerton
EPA	US Environmental Protection Agency
FOG	Fats, Oils and Grease
FSE	Food Service Establishment
GCD	Grease Control Device
GIS	Geographic Information System
HFML	High Frequency Maintenance Locations
I & I	Inflow and Infiltration
LRO	Legally Responsible Official
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board (Lahontan Region)
SCADA	Supervisory Control and Data Acquisition
SERP	Spill Emergency Response Plan
SOP	Standard Operating Procedure
SSMP	Sewer System Management Plan
Spill	Sanitary Sewer Overflow
WDR	Sanitary Sewer Systems General Wastewater Discharge Requirements, (Order No. 2022-0103-DWQ)
SWRCB	State Water Resources Control Board
WDID	Waste Discharge ID Number (CIWQS)

Introduction: Table 1 Abbreviations and Acronyms

[2] *For a list of additional common acronyms for collection systems and related WDR terms, see the WDR, Attachment A (page 32)*

1. Goal and Introduction

REQUIREMENTS

Att. D-1 (pg. D-2)

"The goal of the Sewer System Management Plan (Plan) is to provide a plan and schedule to: (1) properly manage, operate, and maintain all parts of the Enrollee's sanitary sewer system(s), (2) reduce and prevent spills, and (3) contain and mitigate spills that do occur.

The Plan must include a narrative Introduction section that discusses the following items (see below):"

1.1. Regulatory Context

WDR REQUIREMENTS

Att. D-1.1 (pg. D-2)

"The Plan Introduction section providing a general description of the local sewer system management program and discuss Plan implementation and updates".

COMPLIANCE

The City is committed to fully implementing the WDR[3] which includes addressing all requirements by integrating a wide range of programs specifically designed for ensuring the integrity and efficiency of the City's sanitary sewer collection system. Additionally, the City is dedicated to maintaining its collection system in a systematic manner by implementing various work programs, with a focus on critical areas, to prevent spills, allowing for a comprehensive approach to maintenance. Work programs include CCTV inspections, pipe cleaning, manhole inspections and treatment, root control, just to name a few. Work programs are described in more detail in sections Specifications 5.19 Operation and Maintenance of this SSMP.

By prioritizing proactive measures and taking a comprehensive approach, the City is well-equipped to effectively operate its sanitary sewer collection system with the highest levels of service, complying with the WDR, and reducing/eliminating sewage spills.

EFFECTIVENESS

N/A

IMPLEMENTATION PLAN/SCHEDULE

N/A

[3] *Guidance 1.1.2*

1.2. SSMP Update Schedule

WDR REQUIREMENTS

Att. D-1.2 (pg. D-3)

"The Plan Introduction section must include a schedule for the Enrollee to update the Plan, including the schedule for conducting internal audits. The schedule must include milestones for incorporation of activities addressing prevention of sewer spills."

COMPLIANCE

The City utilizes the State Water Board's online lookup tool for ensuring all required due dates for updating its SSMP and completing its required SSMP Audits (see chart below).

The City's most recent SSMP audit was for the period May 2021 through May 2024.

Notable maintenance milestones include optimization of preventative measures including an 18-month gravity main cleaning cycle and a 60-month CCTV inspection cycle and capital improvement projects/schedules, all of which are monitored continuously throughout the 6-year SSMP update cycle.

Sewer System Management Plan & Subsequent Update Due Dates					
System Name	WDID Number	Original Plan Required Due Date	Required Plan Update Due Date	Required Plan Update Due Date	Required Plan Update Due Date*
Fullerton City CS	8SSO10573	5/2/2009	5/2/2014	5/2/2019	5/2/2025

Audit Due Dates								
System Name	WDID Number	Original Required Plan Audit Due Date	Required Plan Audit Due Date	Required Plan Audit Due Date	Required Plan Audit Due Date	Required Plan Audit Due Date	Required Plan Audit Due Date	End of Required 3-Year Audit Period**
Fullerton City CS	8SSO10573	5/2/2011	5/2/2013	5/2/2015	5/2/2017	5/2/2019	5/2/2021	5/2/2024

Figure 1-1 Sewer System Management Plan, Subsequent Update and Audit Due Dates

EFFECTIVENESS

Key Performance Indicators:

1. Are SSMP Audits and SSMP Updates being performed as scheduled?
2. Has the Sewer System Management Plan been approved by the governing board on schedule (every six years)?
3. Are specific internally established sewer program milestones being monitored?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			PWD	Mgr.	Sup
1.2.1	Prepare for next SSMP Audit	Begin 5/2/2027	X	X	X
1.2.2	Complete and Upload SSMP audit.	By 11/2/2027	X	X	
1.2.3	Incorporate Audit Findings, update Change Log and Update SSMP	5/2/2025		X	
1.2.4	Board Approval and LRO Certification of SSMP	By 5/2/2025	X	X	

1.3. Sewer System Asset Overview

WDR REQUIREMENTS

Att. D-1.3 (pg. D-3)

"The Plan Introduction section must provide a description of the Enrollee-owned assets and service area, including but not limited to:

a. Location, including county(ies).
b. Service area boundary.
c. Population and community served. 111,000
d. System size, including total length in miles, length of gravity mainlines, length of pressurized (force) mains, and number of pump stations and siphons.
e. Structures diverting stormwater to the sewer system.
f. Data management systems.
g. Sewer system ownership and operation responsibilities between Enrollee and private entities for upper and lower sewer laterals.
h. Estimated number or percentage of residential, commercial, and industrial service connections; and
i. Unique service boundary conditions and challenge(s).
j. Additionally, the Plan Introduction section must provide reference to the Enrollee's up-to-date map of its sanitary sewer system, as required in section 4.1 (Updated Map of Sanitary Sewer System) of this Attachment."

COMPLIANCE

The City of Fullerton is in Orange County and provides collection wastewater services to a 22 square mile service area with a total population of 139,461 and serves over 135,000 customers. The City is bordered by the cities of La Habra and Brea to the north, La Mirada to the northwest, Buena Park on the west, Anaheim on the south, and Placentia on the east. The collection system consists of 330 miles of gravity mains ranging from 6-inch to 36-inch in diameter, 36 siphons. Laterals are privately owned. The City does not own/operate any pump stations, force mains or stormwater diversion structures.

The Lucity computerized maintenance management system (CMMS) is used for work orders and maintaining inspection and asset data; POSM is used for sewer pipe CCTV inspections; and ArcGIS (ESRI) for system mapping.

The City does not own any portion of the service lateral, except for City owned buildings connected to the collection system. See Fullerton Municipal Code 12.08.031.

The 2024 Sewer Master Plan indicates the City's service connection classifications, residential, commercial industrial and institutional, are as follows:

Use Type	By Percentage of Total Connections
Residential	68%
Commercial	8%
Institutional	11%
Industrial	13%

Overall, the City has put itself in good position to maintain its collection system. There are few service area challenges. Some easements present challenges because they are in backyards. However, all can be accessed by CCTV and hydro-cleaning equipment. During heavy rain events, access to some easement roads/manholes can sometimes be limited for short periods. This is mitigated by performing necessary maintenance in the fall to help ensure proper performance throughout the rainy season.

System maps, include gravity mains, manholes, lift stations, siphons and other collection system features and are complete, accurate, up-to-date and available to staff. Refer to Section 4.1 Updated Map of Sanitary Sewer System for more detail.

EFFECTIVENESS

Key Performance Indicators:

- Are asset statistics periodically reviewed and updated as necessary?
- Are omissions or errors addressed in a timely manner?
- Are system maps up to date?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			PWD	Mgr.	Sup
1.3.1	Review City-owned asset statistics and element description; update as necessary	At the beginning of the audit cycle and when significant changes have been made.		X	X
1.3.2	Update Maps	Within 30 Days of Correction Submittal of Completion of Development Project		X	

RESILIENCE

Resilience is addressed for Element 1 by:

- Adhering to an SOP for collecting and managing asset data.
- Redundancy: More than one member of staff is trained and able to retrieve and manage the data.
- Implementing a QA/QC process to help ensure information is accurate.
- Using Calendar Reminders to ensure compliance deadlines are met.

APPENDIX 1 INCLUSIONS:

- None

Specifications 5.2 – SSMP Development and Implementation

WDR REQUIREMENTS

Spec. 5.2 (pg. 18)

"To facilitate adequate local funding and management of its sanitary sewer system(s), the City shall develop and implement an updated Sewer System Management Plan. The scale and complexity of the Sewer System Management Plan, and specific elements of The SSMP, must match the size, scale, and complexity of the Enrollee's sanitary sewer system(s). The Sewer System Management Plan must address, at minimum, the required Plan elements in Attachment D (Sewer System Management Plan – Required Elements) of this General Order. To be effective, the Sewer System Management Plan must include procedures for the management, operation, and maintenance of the sanitary sewer system(s). The procedures must: (1) incorporate the prioritization of system repairs and maintenance to proactively prevent spills, and (2) address the implementation of current standard industry practices through available equipment, technologies, and strategies."

COMPLIANCE

The City's current Sewer System Management Plan (SSMP) has been updated to meet the requirements of Order WQ 2022-0103-DWQ and addresses the required Elements. The SSMP addresses management, operations and maintenance procedures specific to the City's collection system. The City maintains a proactive O&M program to operate its system and identify defects, which are then prioritized for repair, replacement, rehabilitation, or placed on modified maintenance schedules. (See Elements 4, 8 and Specifications 5.19 of this SSMP for more detail.)

The City keeps up with current industry standards, technology and best practices by reviewing industry periodicals, networking and attending industry conferences, seminars and workshops.

Specifications 5.7 – Allocation of Resources

WDR REQUIREMENTS

Spec. 5.7 (pg. 22)

"The City shall comply with the following requirements:

- *Establish and maintain a means to manage all necessary revenues and expenditures related to the sanitary sewer system; and*
- *Allocate the necessary resources to its sewer system management program for: (a) compliance with this General Order, (b) full implementation of its updated SSMP, (c) system operation, maintenance, and repair, and (d) spill responses."*

COMPLIANCE

The City maintains financial stability and meets its operational needs for managing its sewer system.

The City's Sewer Service Fee is based on the actual water usage of each Fullerton resident and business. The fee will cover the costs for operation and maintenance, compliance with regulatory agency requirements, capital improvement and replacement of the sewer system. All revenue collected from the sewer fee is placed in the Sewer Enterprise Fund. Sewer Enterprise Fund revenues can only be spent on sewer related maintenance, operations and capital improvements.

The City is adequately staffed and owns and operates the necessary equipment to effectively maintain its collection system.

Provisions 6.1 - Enforcement Provisions

WDR REQUIREMENTS

Provisions 6.1 (pg. 27)

"The following enforcement provisions are based on existing federal and state regulations, laws and policies, including the federal Clean Water Act, the state Water Code and the State Water Board Enforcement Policy."

COMPLIANCE

The City is aware of the consequences for noncompliance including associated penalties for violations. The City maintains a proactive stance with full implementation of its SSMP.

Noncompliance with requirements of this General Order or discharging sewage without enrolling in this General Order constitutes a violation of the Water Code and a potential violation of the Clean Water Act and is grounds for an enforcement action by the State Water Board or the applicable Regional Water Board. Failure to comply with the notification, monitoring, inspection, entry, reporting, and recordkeeping requirements may subject the Enrollee to administrative civil liabilities of up to $10,000 a day per violation pursuant to Water Code section 13385; up to $1,000 a day per violation pursuant to Water Code section 13268; or referral to the Attorney General for judicial civil enforcement. Discharging waste not in compliance with the requirements of this General Order or the Clean Water Act may subject the Enrollee to administrative civil liabilities up to $10,000 a day per violation and additional liability up to $10 per gallon of discharge not cleaned up after the first 1,000 gallons of discharge; up to $5,000 a day per violation pursuant to Water Code section 13350 or up to $20 per gallon of waste discharged; or referral to the Attorney General for judicial civil enforcement.

Provisions 6.3 Sewer System Management Plan Availability

WDR REQUIREMENTS

Provisions 6.3

"The Enrollee's updated Sewer System Management Plan must be maintained for public inspection at the Enrollee's offices and facilities and must be available to the public through CIWQS and/or on the Enrollee's website, in accordance with section 3.8 (Sewer System Management Plan Reporting Requirements) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order."

COMPLIANCE

The City publishes its SSMP, available for public review, on its website and also maintains a paper copy in its offices which can be made available for inspection during regular business hours.

2. Organization

WDR REQUIREMENTS

Att. D-2 (pg. D-3)

"The Plan must identify organizational staffing responsible and integral for implementing the local Sewer System Management Plan through an organization chart or similar narrative documentation that includes:

- *The name of the Legally Responsible Official as required in section 5.1 (Designation of a Legally Responsible Official) of this General Order.*
- *The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific Sewer System Management Plan Elements.*
- *Organizational lines of authority.*
- *Chain of communication for reporting spills from receipt of complaint or other information, including the person responsible for reporting spills to the State and Regional Water Boards and other agencies, as applicable. (For example, county health officer, county environmental health agency, and State Office of emergency Services.)*

COMPLIANCE

The above items are addressed in the order below:

Stephen Bise and Anthony Reynoso are designated as the City's Legally Responsible Officials. Both meet the requirements set forth in Specifications 5.1 of the re-issued Order (WQ-2022 0103-DWQ).

- Stephen Bise, Public Works Director, oversees all aspects of Public Works.
- Anthony Reynoso, Streets and Sewer Manager, has over 30 years of collection systems operations experience, and oversees the day-to-day maintenance and operations activities.

IMPLEMENTATION RESPONSIBILITIES

Sewer System Management Plan Elements	Responsible Position
1. SSMP Plan, Goal and Introduction	Streets and Sewer Manager
1.1. Regulatory Context	Streets and Sewer Manager
1.2. SSMP Update Schedule	Streets and Sewer Manager
1.3. Sewer System Asset Overview	Streets and Sewer Manager
2. Organization	Director of Public Works
3. Legal Authority	Council
4. Operations and Maintenance Program	
4.1. Updated maps of Sanitary Sewer System	Asset Management Coordinator
4.2. Preventive Operation & Maintenance	Streets and Sewer Manager
4.3. Training	Streets and Sewer Manager
4.4. Equipment Inventory	Streets and Sewer Manager
5. Design/Performance	
5.1. Updated Design Criteria & Construction Standards	City Engineer/Asst. Public Works Director
5.2. Procedures and Standards	Streets and Sewer Manager
6. Spill Emergency Response Plan	Streets and Sewer Manager
7. Sewer Pipe Blockage Program	Streets and Sewer Manager
8. System Eval, Capacity Assurance, Capital Imp.	
8.1. System Evaluation and Condition Assessment	Streets and Sewer Manager
8.2. Capacity Assessment and Design Criteria	City Engineer/Asst. Public Works Director
8.3. Prioritization of Corrective Action	Streets and Sewer Manager
8.4. Capital Improvement Plan	City Engineer/Asst. Public Works Director
9. Monitoring, Measuring & Program Modifications	Streets and Sewer Manager
10. Internal Audits	Streets and Sewer Manager
11. Communication Program	Streets and Sewer Manager

Table 2-1 Implementation Responsibilities

RESPONSIBLE POSITION CONTACT INFORMATION

Responsible Position Contact Information	Phone	Email
Stephen Bise - Public Works Director	714-738-6852	Stephen.Bise@cityoffullerton.com
Anthony Reynoso – Streets and Sewer Manager	714-738-2802	Tony.Reynoso@cityoffullerton.com
Benjamin Perez – Sewer Supervisor	714-738-2810	Benjamin.Perez@cityoffullerton.com
David Grantham – City Engineer	714-738-6853	David.Grantham@cityoffullerton.com

Table 2-2: Responsible Position Contact Information

Organizational Lines of Authority

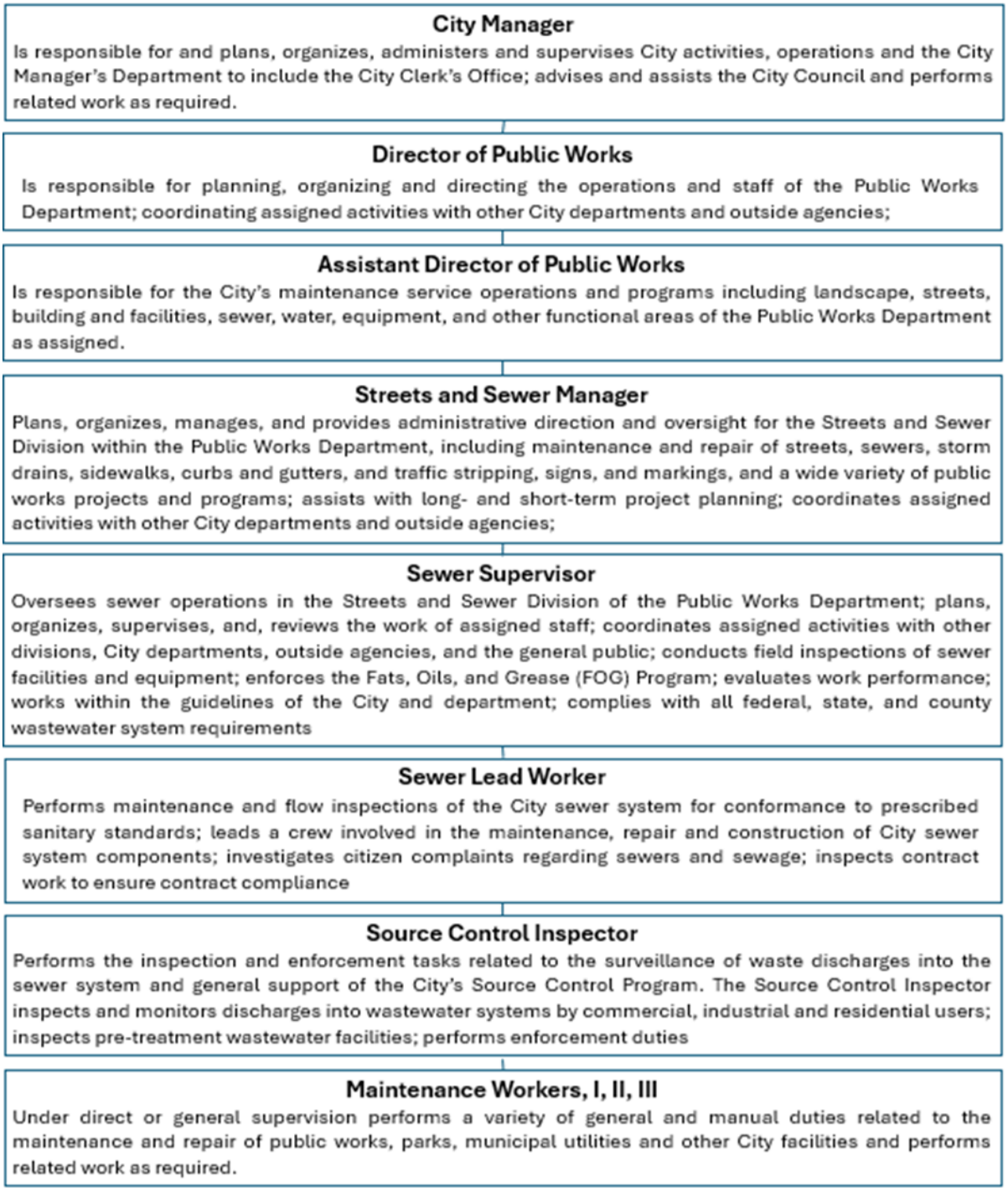

Figure 2-1 Organizational Lines of Authority

Abbreviated Organizational Chart

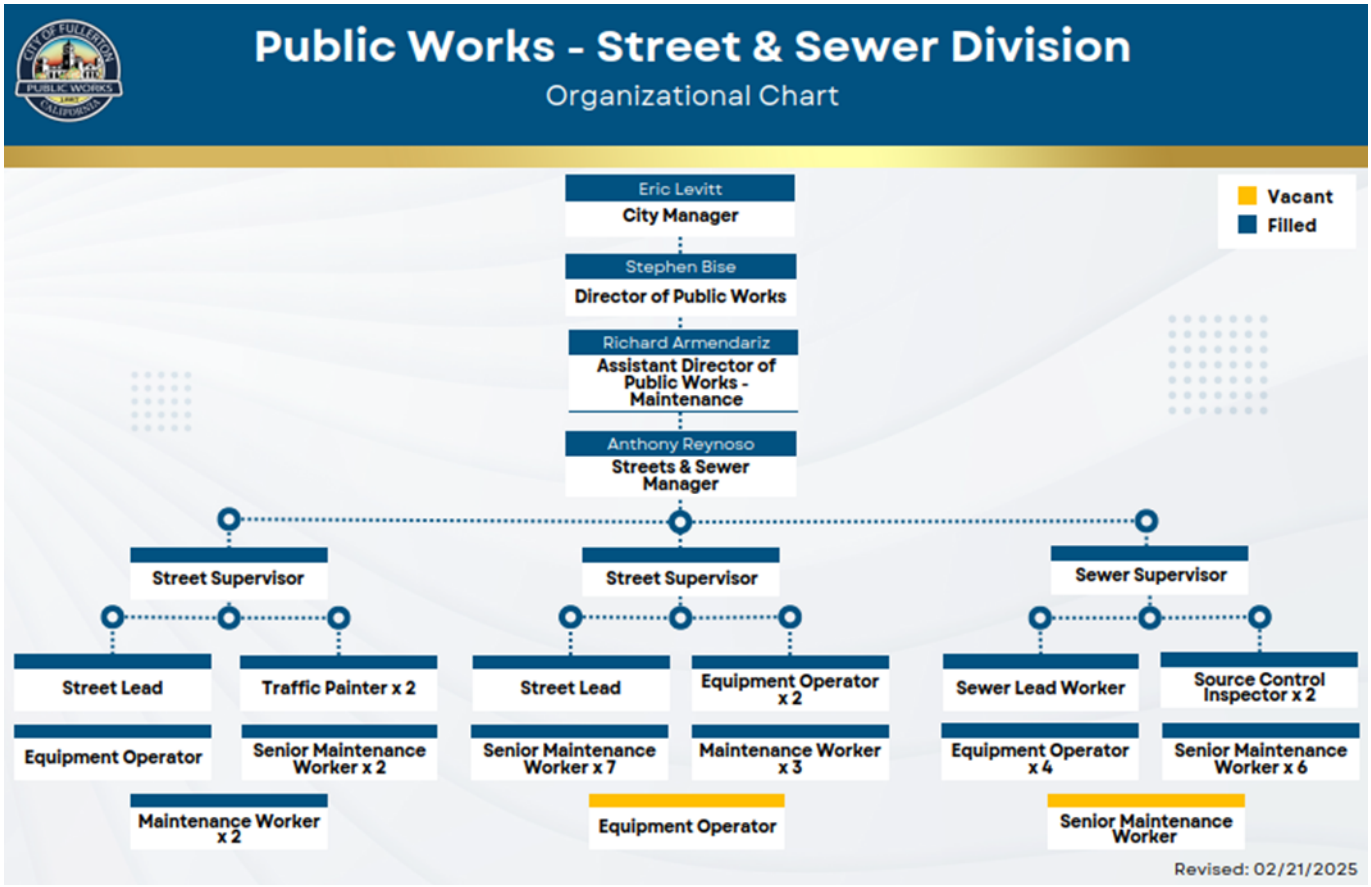

Figure 2-2 Abbreviated Organization Chart

Chain of Communication for Reporting Spills

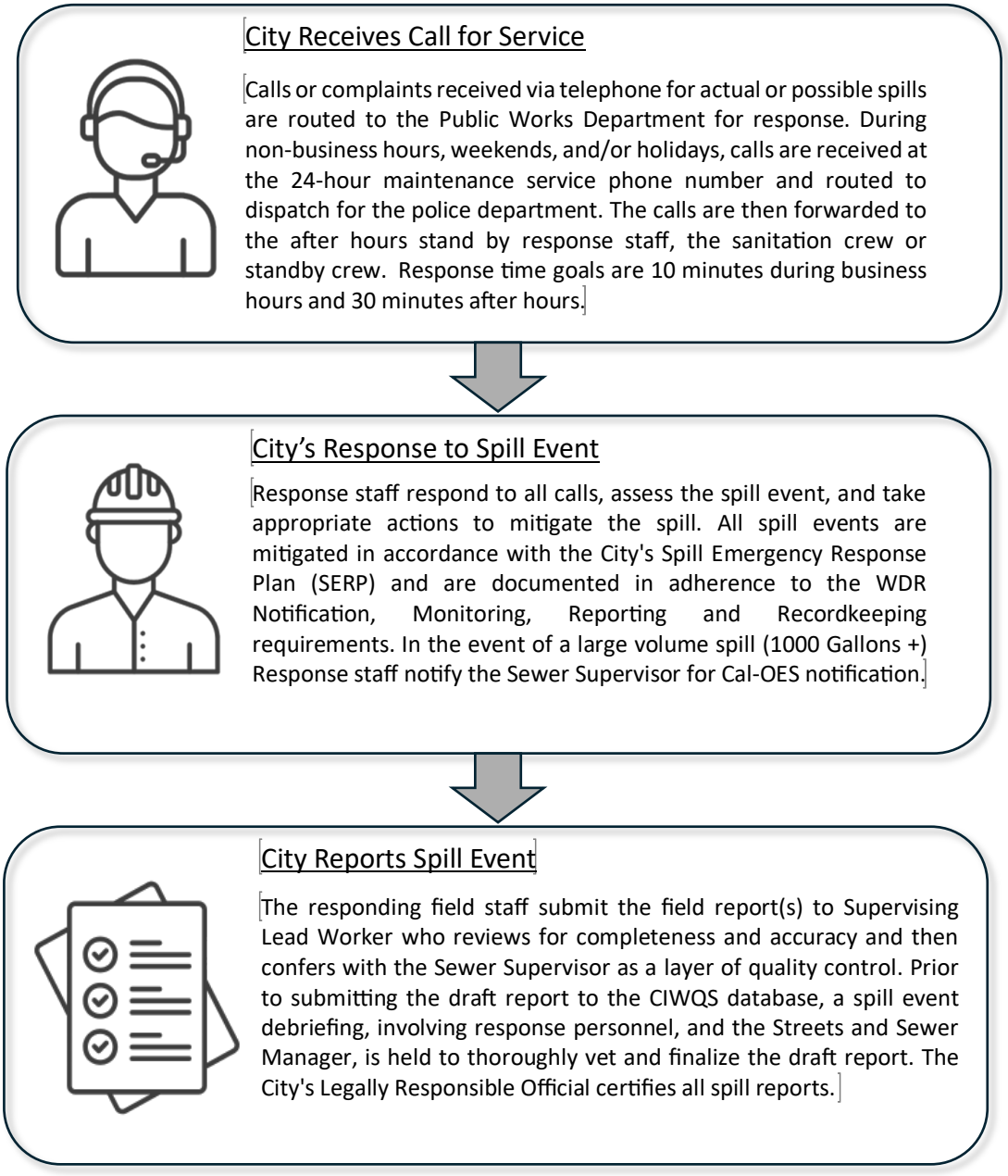

Figure 2-3 Chain of Communication for Reporting Spills

EFFECTIVENESS

Key Performance Indicators:

1. Have there been any changes requiring updates to the Organizational Chart?
2. Have there been instances when a service call for a spill was not properly routed to response personnel?
3. Were all spill response activities documented and forwarded to the LRO?
4. Have there been any changes in assigned responsibilities for implementing the Sewer System Management Plan?
5. Is there a process in place to ensure all contact information remains up to date?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Sup
2.1	Review names, contact information and position responsibilities. Update as necessary.	Semi-Annually		X	X
2.2	Review Chain of Communication outcomes for all spill responses	Each Spill Event		X	X
2.3	Review Organizational Chart for any changes. Update as necessary.	Semi-Annually		X	X

RESILIENCE

Resilience is addressed for Element 2 by:

- Ensuring that more than one person is capable and responsible for specific duties for the Sewer System Management Plan implementation, e.g., back-up personnel.
- Designation of more than one LRO to help ensure full and continuous coverage of duties.
- Testing the phone notification system to ensure calls are received and routed to appropriate personnel.

APPENDIX 2 INCLUSIONS:

- None

3. Legal Authority

WDR REQUIREMENTS

Att. D-3 (pg. D-4)

"The Plan must include copies or an electronic link to the Enrollee's current sewer system use ordinances, service agreements and/or other legally binding procedures to demonstrate the Enrollee possesses the necessary legal authority to:

a. Prevent illicit discharges into its sanitary sewer system from inflow and infiltration (I&I); unauthorized stormwater; chemical dumping; unauthorized debris; roots; fats, oils, and grease; and trash, including rags and other debris that may cause blockages.
b. Collaborate with storm sewer agencies to coordinate emergency spill responses, ensure access to storm sewer systems during spill events, and prevent unintentional cross connections of sanitary sewer infrastructure to storm sewer infrastructure.
c. Require that sewer system components and connections be properly designed and constructed.
d. Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee.
e. Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and
f. Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.

COMPLIANCE

The above items are addressed in order below:

a. Authority to Prevent Illicit Discharges into City's Wastewater Collection System

   Illicit discharges include, but are not limited to, the release of I/I, storm water, chemical dumping, unauthorized debris and constituents, and grease.

   Municipal Code 12.08.070, Sewer Connections, requires that all new connections to the public sewer system be tested specifically for potential infiltration. The testing is performed in accordance with the standards set forth in the latest edition of the Greenbook.

   Municipal Code 12.08.110, Deposit in Sewer Restricted, of Title 12, includes a general description of the various types of substances restricted from being directly or indirectly discharged into the collection system. The restrictions are applicable to all users of the City's system except as permitted by other city ordinances and the OCSD regulations.

b. The City's pre-planned collaboration and coordination with storm drain agencies

   The City owns and operates the storm drain system within the City Limits. Both the sewer and storm drain facilities are within the Streets and Sewer Division. Should sewage discharge to a storm drain facility, City staff has full authority mitigate the impact of the spill.

c. Require that sewer system components and connections be properly designed and constructed.

   Municipal Code 12.08.070 requires that any construction or reconstruction of a lateral sewer service line that is to be connected to the public sewer system within the public streets, alleys,

easements and public rights-of way of the City shall conform to the construction standards set forth in the applicable chapters in Title 16, Subdivisions. 16.05.080

Municipal Code 12.08.120, Sewer Design, requires that all sewer mains, laterals, manholes, and other appurtenances be designed, constructed, and inspected in accordance to the applicable chapters in of the City of Fullerton Municipal Code, including Title 16, Subdivisions, the City of Fullerton standard drawings, the latest edition of the Greenbook, or as approved by the City Engineer.

Municipal Code 16.05.020, City Standards, requires that all public improvements, construction and dedications required and described in Title 16, Subdivisions, conform to the latest editions of the State of California, Department of Transportation "Standard Specifications" and the American Public Works Association "Standard Specifications for Public Works Construction." The chapter also provides ultimate authority to the City Engineer to amend and change such standards and specifications as deemed in the best interest of the public.

Municipal Code 16.05.040, Public Improvements for Sewerage Facilities, requires that sewer mains, manholes, and appurtenances being constructed to serve a subdivision, lot, parcel, building or structure be constructed as approved by the City Engineer and as required in City's Master Sewerage Plan or any applicable element of the City's General Plan.

Municipal Code 16.05.080, Improvement Plans, Drawings and Related Items, includes the requirements for preparing profiles, descriptions, studies, calculations, notes, surveys and drawings for private and public improvement plans and as required by the City Engineer.

Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee.

The Municipal code does not expressly document access requirements for maintenance, inspection, or repair of the wastewater collection system. Instead, accessibility requirements are managed through the plan reviews for new sewer service where City staff can ensure that sewer system facilities are constructed to specific standards within the public right-of-way or within adequate permanent easements. The following includes a summary of municipal codes.

Municipal Code 12.08, Sewer Connections, stipulates the responsibility to properly maintain and repair the sewer lateral that extends from a building on a property to its point of connection with the main sewer, is the responsibility of the property owner or user. The code allows the City to perform maintenance, repair and upkeep on the portion of the lateral sewer located within the public right-of-way in the event the Director of Public Works determines that to do so would mitigate City liability.

Municipal 16.05.070, Inspection of Public Improvements, provides City staff the authority to access the improvements during construction and/or rehabilitation for the purpose of examining and inspecting the construction or condition of the sewer system to ensure compliance with the City standards. This provides ultimate authority to the City Engineer or designated staff to determine whether the improvements comply with City standards and requirements.

The City requires projects to be accompanied with project plan and profile drawings in compliance with Municipal Code 16.05.080. The materials and methods of construction are reviewed and certified by a design engineer to ensure the facilities will perform properly, provide the appropriate service to City, and meet or exceed industry standards. Additionally, all new sewer systems are required to be inspected using Closed Circuit Television (CCTV) by a Construction Inspector and a Maintenance Services Sewer Utility staff person or an acceptable CCTV/Sewer Maintenance Contractor.

Chapter 16.07, Public Works Permits, implies that the City may have some accessibility rights in that it provides the ultimate authority to the City Engineer to issue a permit before a sewer line may be constructed. As such, the City Engineer can ensure that the new sewer lines are accessible. Since this is not an explicit requirement, and it is based on the City Engineer's best engineering abilities, not all new sewer pipes may be designed with proper access to the facilities for maintenance, repair, replacement and/or rehabilitation purposes. Additionally, City crews and authorized representatives may not have the right to access existing City sewer lines located on private property. As such, adding s specific code section or chapter or adopting an ordinance that governs accessibility for maintenance, inspection, and repair efforts will provide the appropriate legal authority for City crews to access the sewer facilities.

d. Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures

The authority for the City to enforce penalties for violations of the City's codes, ordinances, and other adopted policies specific to the wastewater collection system is not explicitly described in the municipal codes. However, it includes a description of the general penalties for violating sections of the code and for continued violations. Individuals convicted of violating a City ordinance or provision may be charged with either an infraction or misdemeanor unless the penalty for violation is specifically stated within the ordinance. Individuals convicted of a violation of the City code that is not specifically declared to be an infraction shall be considered guilty of a misdemeanor and punished with a fine of not more than $1,000 or imprisonment for a term not exceeding 6 months in the Orange County Jail, or by both such fine and imprisonment.

Municipal Code 1.10, Administrative Citations, provides the City the authority to use Administrative Citations, including imposition of administrative fines or penalties as an option to address violations and encourage voluntary and complete compliance with the provisions of the code for the protection and benefit of the community.

Subsection 130 of Municipal Coder 12.08, Penalties, summarizes the general penalties for violating the conditions of Chapter 12, Sewer Connections. The code specifically states that any person who violates any provision or fails to comply with any requirement of the chapter is guilty of a misdemeanor and may be punished by a fine of not more than $1,000 or imprisonment for a term not to exceed 6 months in the Orange County Jail, or both. The City Attorney has the discretion to charge a violation as an infraction while the City shall have the discretion of issuing an administrative citation for violations of the chapter.

Violation enforcement provisions for the FOG Control Program are contained in Municipal Code 12.20.300 through 12.20.400. The subsections include a description of the general penalties for violating various provisions of the chapter and for continued violations. It serves to govern the discharges into the City's system by FSEs. The code provides the FOG Control Program Manager the authority to issue a notice of violation, permit suspension or revocation and/or establish a Compliance Schedule Agreement.

Municipal Code 12.20.390, Civil Penalties, allows the City to require reimbursement for any payment of fines or penalties issued by regulatory or enforcement agencies based on a violation of law, regulation or its permits. Said violation can be established by the City as caused by the discharge by a user of the City's wastewater collection system and that is in violation of any provision of the City's FOG ordinance or permit. Additionally, the code allows the City to issue Administrative Civil Penalties for violation of any provision of the chapter, permit conditions, and/or suspension or revocation order.

Section 12.20.400, Criminal Penalties, describes that any person who violates any provision of the chapter is guilty of a misdemeanor and is punishable by a fine up to $1,000 or imprisonment for up to 6 months, or both.

e. Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.

   Municipal Code 16.05.100 addresses easement requirements for public facilities.

EFFECTIVENESS

Key Performance Indicators:

1. Are the City ordinances and standards adequate for fulfilling the Sewer System Management Plan legal requirements?
2. Does the City have a process in place for periodic review and evaluation of ordinances?
3. Have there been instances when the code or ordinance did not address a need or circumstance?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Sup
3.1	Review Ordinance to confirm all documents provide necessary required legal authority.	Once per 6-year SSMP Update Cycle	X	X	
3.2	Confer with storm drain owners to ensure current practices and contact information are up to date.	Annually		X	
3.3	Monitor and Document occasions when ordinance(s) failed to address issues as intended.	Continuously	X	X	X

RESILIENCE

Resilience is addressed for Element 3 by:

- Keeping abreast of industry trends and local ordinances that may affect operations.

APPENDIX 3 INCLUSIONS:

- None

4. Operation and Maintenance Program

The Plan must include the items listed below that are appropriate and applicable to the Enrollee's system.

4.1. Updated Map of Sewer System

WDR REQUIREMENTS

Att. D-4 (pg. D-4)

"An up-to-date map(s) of the sanitary sewer system, and procedures for maintaining and providing State and Regional Water Board staff access to the map(s). The map(s) must show gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities within the sewer system service area boundaries."

COMPLIANCE

Once capital or new development projects are completed, information obtained from the project specific as-built drawings is used to update the City's GIS. Information including installation date, pipe size, pipe material, manhole location, and any additional pertinent project information is included into GIS and used to update the City's wastewater collection system maps. Additionally, as pipelines are removed or abandoned, the information is archived in the GIS system.

Necessary revisions and/or updates to the GIS information that are identified by the maintenance crews while performing routine operation and maintenance activities are documented for incorporation into the City's GIS. Map updates are made on a continuous basis. Where discrepancies are identified by field crews during the routine maintenance inspections, actual field conditions are documented on the Sewer Maintenance Observation Report. Findings are verified by supervisory personnel before being forwarded to the Asset Manager Coordinator for incorporation into the City's GIS.

EFFECTIVENESS

Key Performance Indicators:

- Were all map updates completed in a timely manner?
- Are all staff trained in the procedure for providing map update information?
- Are newly installed sewer assets incorporated into the system maps?
- Are there terrain features or assets that should be incorporated in future map updates (e.g. exposed pipe, siphons, ARVs, surface water, etc.)?

IMPLEMENTATION PLAN/SCHEDULE

No	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Sup
4.1.1	Review map update procedures with all affected staff.	Annually		X	X
4.1.2	Review/ensure all newly installed facilities have been updated and included in the system maps	Annually		X	X

4.2. Preventive Operation and Maintenance Activities

WDR REQUIREMENTS

Att. D-4 (pgs. D-4/D-5)

A scheduling system and a data collection system for preventive operation and maintenance activities conducted by staff and contractors. The scheduling system must include:

- *Inspection and maintenance activities.*
- *Higher-frequency inspections and maintenance of known problem areas, including areas with tree root problems.*
- *Regular visual and closed-circuit television (CCTV) inspections of manholes and sewer pipes.*

The data collection system must document data from system inspection and maintenance activities, including system areas/components prone to root-intrusion potentially resulting in system backup and/or failure.

COMPLIANCE

The purpose of a work order system is to program and track all required inspection and maintenance activities within the collection system to help proactively prevent blockages/operational problems or spills. The City utilizes the Lucity Computerized Maintenance Management System (CMMS), which allows the City to make informed decisions regarding its assets and infrastructure by using the collected data from field work orders and documented inspections.

The City's CMMS maintains historical data for all maintenance activities and provides a basis for critical analysis and data-driven planning and decision-making today and into the future. This allows for prioritizing and planning routine activities such as CCTV inspections, manhole inspections, pipe repair, and pipe cleaning. In addition, the CMMS is used to plan and schedule higher-frequency inspection and maintenance activities such as Hot Spot cleaning and root control activities. Emergency and other reactive activities are documented in work orders as well.

The City Engineering Division maintains the GIS data that facilitates management of O&M activities, expedites data management and retrieval for scheduling, tracking, reporting, and mapping purposes. Additionally, GIS allows the City to implement an asset management program to facilitate planning and funding for CIPs.

The scheduling system allows staff to put certain activities on a preventive schedule where the CMMS automatically generates work orders on a prescribed interval. Work orders for other activities are generated by supervisory personnel on an as-needed basis.

EFFECTIVENESS

Key Performance Indicators:

- Is the agency's maintenance, operations, engineering work orders periodically audited for accuracy and completeness?
- Does the agency monitor "open," "overdue," or "not yet completed" work orders to ensure completion of tasks?
- Are inspection and maintenance activities reducing the number and volume of spills?
- Is maintenance work being completed as scheduled?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Sup
4.2.1	Monitor "Past Due" work orders to ensure critical work is being completed	Quarterly		X	X
4.2.2	Review scheduled PMs to ensure the prescribed schedule remains appropriate.	Annually		X	X

4.3. Training

WDR REQUIREMENTS

Att. D-4 (pg. D-5)

In-house and external training provided on a regular basis for sanitary sewer system operations and maintenance staff and contractors. The training must cover:

- *The requirements of this General Order.*
- *The Enrollee's Spill Emergency Response Plan procedures and practice drills.*
- *Skilled estimation of spill volume for field operators; and*
- *Electronic CIWQS reporting procedures for staff submitting data.*

COMPLIANCE

Prior to performing any work on City Facilities, City Sewer Maintenance staff are trained on the existence and provisions of the wastewater operations and maintenance policies, procedures, safety policies, and the equipment used. Training for operation of City equipment includes "on-the-job" training in conjunction with bi-weekly "tailgate" meetings to discuss safety issues. For regular meetings, topics are selected and presented. Generally, monthly meetings are conducted by the supervisors on topics selected by the supervisors and are typically relevant to recent activities and/or events and safety issues. As well, staff attends regional meetings on pertinent topics.

Staff involved in responding to customer service calls, including sewage spills, receive annual training on the City's Spill Emergency Response Plan and the SSMP. This training is part classroom and part hands-on exercises and drills for responding to spill events, including volume estimations and spill start time estimations.

Staff designated as Data Submitters are trained on the City's procedures for reporting spills from receipt of call to draft report submittals and certification.

The City has developed spill response procedures for Contract Service personnel who perform work for the City are required to:

- Immediately notify the City of any sewage spill they encounter.
- Make attempts to contain the spill
- Cordon off the area to keep the public safe
- Remain onsite until AGENCY staff arrives and relieves them.

This language is included in service agreements and discussed during pre-job meetings.

EFFECTIVENESS

Key Performance Indicators:

- Has all training been completed as scheduled?
- Have records of training and attendance been documented and maintained?
- Have all staff demonstrated ability and knowledge after each training event?
- Have contractors received, at a minimum, direction for reporting and responding to spills.

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Sup
4.3.1	Review training documentation to ensure all staff have received required training	Quarterly		X	X
4.3.2	Review agreements with contractors and/or Pre-Job meeting minutes to ensure contract personnel have received instruction for responding to sewage spills	Each Contract		X	X

4.4. Equipment Inventory

WDR REQUIREMENTS

Att. D-4 (pg. D-5)

An inventory of sewer system equipment, including the identification of critical replacement and spare parts.

COMPLIANCE

The Sewer Public Works Division maintains an inventory of vehicles and sanitary sewer repair and replacement parts that are maintained in the City's corporation yard. The inventory of vehicles includes the vehicle type currently utilized to perform the necessary operation and maintenance activities of the City's wastewater collection system. Each cleaning trucks is equipped with a fresh supply of high-pressure hose including a supply of repair couplings.

The vehicles and replacement parts are made readily accessible to maintenance staff. The replacement parts maintained in the City yard generally consist of parts necessary for specific types of repairs performed by maintenance staff. Additionally, the City maintains a resource list of contractors and vendors who stock materials and are available for emergency and short notice deliveries. The inventory of repair and replacement parts includes a summary of part size and type and a description and application of its use. The materials and parts inventories have been integrated into the City's CMMS and maintenance services database.

The City's Sewer Division maintains a small supply of VCP pipe and associated materials in stock for performing pipe repairs on their system. Typically, pipe materials include approximately 24 feet of 4, 6, 8, 10, and 12-inch VCP. A supply of couplings and bands are also maintained. These are identified as critical spare parts.

Manhole frames and lids are kept in stock to facilitate quick repairs if necessary. As the City's wastewater collection system does not include lift or pump stations, related items are not maintained in reserves. Other or additional materials identified as necessary are easily obtainable on an as needed basis.

EFFECTIVENESS

Key Performance Indicators:

- Have inventory lists been audited as scheduled?
- Have any inventory deficiencies or omissions been discovered and rectified?
- Has the agency experienced any equipment failure that inhibited a spill response?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Sup
4.4.1	Audit inventory lists to ensure stock is adequate	Annually		X	X
4.4.2	Check with vendors to ensure critical parts lead times are as expected.	Annually		X	X
4.2.3	Ensure contracts with emergency support services are current	Annually			X

RESILIENCE

Resilience is addressed for Element 4 by:

- Developing an SOP for updating maps when errors are discovered.
- Developing and using forms (paper or electronic) for data collection to help ensure all pertinent information is consistently collected.
- Periodically evaluating inspection cycle intervals to help ensure they are optimized.
- Requiring staff to demonstrate ability and/or knowledge for all training activities.
- Monitoring equipment and critical spare parts usage for and trends.
- Performing periodic audits of the Vehicle and Equipment Inventory List.

APPENDIX 4 INCLUSIONS:

- None

Specifications 5.19 - Operations and Maintenance

WDR REQUIREMENTS

Spec. 5.19 (pg. 27)

To prevent discharges to the environment, the Enrollee shall maintain in good working order, and operate as designed, any facility or treatment and control system designed to contain sewage and convey it to a treatment plant.

COMPLIANCE

The City has a very effective preventive maintenance program that maintains the integrity of the sewer system and ensures continuous and safe conveyance of wastewater, resulting in a reduced frequency, number, and volume of spills. The City's preventive maintenance program has evolved into a very proactive program that is designed to locate, identify, and address problems that may exist in the collection system prior to the occurrence of a failure in the system. It is efficient by establishing, where possible, standard cleaning cycles in predetermined geographic areas. By creating large work orders bound within a single geographic area, high productivity is achieved by reducing travel time and utilizing the same work crews for continuity. It should be noted that the City's maintenance program is never static and continues to be re-examined to improve its efficiency and effectiveness.

The prioritization and scheduling of the City's preventive maintenance program is enhanced by the capabilities of Lucity, which is used to electronically store, track, and manage all operations and maintenance activities pertaining to the collection system. Maintenance history information, asset information, service call data, cleaning schedules, and closed-circuit television (CCTV) data are all kept and managed through the Lucity database. The linking of the City's GIS and Lucity database is a powerful feature for field use and provides office staff the ability to graphically represent or tabulate any collection system asset or historical maintenance data to help facilitate its analysis. The primary components of the sewer system receiving preventive maintenance include main lines, lower laterals, and manholes. The City's preventive maintenance program for each component is described below through a discussion of specific maintenance routines, cleaning methods, and service call response procedures.

Hydraulic Cleaning

The City's Public Works Sewer Division staff conducts the routine cleaning of the entire wastewater collection system once every 18 months. The City's wastewater collection system is divided into three districts and 52 sub-basins. Using the three (3) combination hydro-vacuum trucks, the cleaning efforts are focused on cleaning each district concurrently. Each sub-basin in each of the districts is cleaned in the direction of flow to convergence locations.

Three crews consisting of two staff members each are assigned to perform daily routine cleaning task. Cleaning efforts are documented daily. Documentation includes:

- Street name in which the facility is located
- Lineal footage cleaned
- Beginning and ending manhole
- Documented pipe length
- Type and quantity of debris removed
- Names of staff performing the cleaning, and
- Any additional pertinent comments

Once the cleaning of a basin is completed, information pertaining to the cleaning activities and dates are entered into the GIS system for each specific pipeline.

High Frequency Maintenance Locations (HFMLs)

The City has identified locations within the collection system as HFML's. The City's preventative maintenance program includes cleaning of the HFMLs on a regularly scheduled basis. Generally, the HFMLs are referred to as "special projects" are cleaned on a scheduled 1, 3, 6, or 12-month interval. These locations include the City's siphons, pipelines with sags and capacity constraints, and areas identified as having excessive amounts of grease accumulation and/or root concentrations.

Cleanout Lateral Program

The City's Cleanout Lateral Program is available to assist residents with root blockages that are caused in developed areas with large mature trees. The program is limited to residential properties and requires an initial evaluation of the property to be performed to determine if the property qualifies for the program. The evaluation includes:

- confirmation of an existing 4-inch sweep type of clean-out in the front of the property for sewer access,
- verification of tree root problems through video inspection by City crews, and
- verification that no private trees are near the sewer line.

City crews use portable CCTV equipment to inspect laterals and confirm the tree roots are the source of the problem and verify the roots originate from a City owned tree. Where it is determined a City tree is the source of the problem, City crews use mechanical rodding equipment to cut and remove the roots. Upon completing the clearing of the pipeline, crews record the location and footage on daily work reports. The service is generally performed annually, and crews are available to respond to emergency blockages. Where it is determined that tree roots are the source causing excessive infrastructure damage at a specific location, the tree may be scheduled for removal.

Root Treatment

A component of the City's cleaning efforts includes using the City's hydro-vac truck to minimize root intrusion that can damage sewers, cause restricted flow in sewer pipelines, and contribute to the potential for spills. Mechanical root cutting is used in areas where tree root intrusion is the primary cause of sewer line restriction and potential blockages. As necessary, the mechanical Hydro-vac truck is used to clear roots from the wastewater collection system.

The City has increased root-cutting efforts as roots have been identified as being a primary cause of spills. According to the City staff, increasing the root cutting efforts has reduced the number and risk of potential blockages due to roots. In addition, the City has an annual contract to treat sewer mains with chemicals that are in difficult access areas or that have excessive root intrusions.

Manhole Inspections

Manholes are routinely inspected by hydro-cleaning crews and the CCTV crew. A top-down inspection is performed, as the covers are removed for maintenance activities The crews use a “Manhole Inspection Report” to document manhole features and overall conditions.

Based on the defects repair, rehabilitation, or replacement of the manhole is prioritized and scheduled. Defective manhole lids are replaced if damaged and as it is typically not cost-effective to repair manhole lids.

Manhole Treatment

To control infestations of insects and root intrusion to maintain adequate access to the wastewater collection system, the system manholes are systematically treated for the removal of roaches and root intrusion. A treatment program is implemented by City staff as determined necessary.

System Inspection and Assessment

The City employs CCTV technology for the inspection of pipelines. With the use of the City’s one CCTV truck, the City performs inspections of select sewer pipelines of the City’s wastewater collection system. The City’s truck is equipped with Pipeline Observation System Management software that is certified by National Association of Sewer Service Companies and complies with the Pipeline Assessment and Certification Program (PACP). The information obtained and recorded from the CCTV inspections is reviewed as assessed by City staff. Permanent records of the inspections are made by capturing still images of defects and other pertinent observations. The City’s CCTV capability extends to various pipe sizes.

Inspections are performed by a two-person crew and are typically performed after the cleaning of the pipelines to be televised. Daily progress is recorded by the inspection crew and utilized for recording, tracking, and reporting purposes. As the necessity to televise a particular location or portion of the wastewater collection system arises, staff assignments are reorganized, and resources are reallocated to accommodate the requirement. Additionally, the CCTV crews perform inspections to routinely monitor the effectiveness of the cleaning efforts crews.

5. Design and Performance Provisions

5.1. Updated Design Criteria/Construction Standards/Specifications

WDR REQUIREMENTS

Att. D-1.1 (pg. D-5)

Updated design criteria, and construction standards and specifications, for the construction, installation, repair, and rehabilitation of existing and proposed system infrastructure components, including but not limited to pipelines, pump stations, and other system appurtenances. If existing design criteria and construction standards are deficient to address the necessary component-specific hydraulic capacity as specified in section 8 (System Evaluation, Capacity Assurance and Capital Improvements) of this Attachment, the procedures must include component-specific evaluation of the design criteria.

COMPLIANCE

The City has complete standard specifications and drawings that are maintained by the City Engineering Division, which meet or exceed industry standards. These standards are used for guidance to all developers, design engineers, contractors, and City departments.

The City's current design and performance standards are addressed in its municipal codes and permitting procedures that allow the City to require and enforce the proper design, construction, and connections to the City's collection system, and ensure access to the City sewer pipelines for maintaining, inspecting, and repairing the system. Also referenced are the City of Fullerton standard drawings.

To address the requirements as required by the WDR, the following subsections provide a summary of the applicable procedures that are currently being implemented. Further detailed information of the design and performance standards and guidelines are included in Municipal Code of Title 12, Waters and Sewers, and Title 16 Subdivisions

Design and Construction Standards and Specifications

Requirements for the design and construction of new, rehabilitated, and replaced sewer system facilities, including main, tie-ins, service laterals, cleanout, manholes, and other system appurtenances, are necessary to ensure the proper operation of the sewer system.

Section 12.08.120 Sewer design, of the City's Municipal Code requires that all sewer mains, laterals, manholes, and other appurtenances be designed, constructed, and inspected in accordance with all applicable sections of the Fullerton Municipal Code, Title 16 Subdivisions; the City of Fullerton standard drawings; the latest edition of the Greenbook or as required and approved by the City Engineer.

The City of Fullerton Municipal Code 16.05 Public Improvements, Dedications, Performance Agreements, and Improvement Securities, includes that serve to regulate and control the design and improvement of public works facilities.

The City of Fullerton Municipal Code 16.05.020, requires that all wastewater improvements, construction, rehabilitation, and dedications conform to the standards and specifications of the City and the applicable portions of the latest editions of the Greenbook. The title also grants the City Engineer the authority to amend and change such standards and specifications as deemed to be in the best public interest.

Section 16.05.040 Public improvements, includes the standards and criteria that shall apply for the design and construction of all public improvements required under Title 16. Part I, Sewerage Facilities, of Section 16.05.04 requires that sewer mains, manholes, and appurtenances be constructed to the sizes, lines, grades and design as approved by the City Engineer and as required by any Master Plan of Sewer or element of the General Plan in effect.

Design considerations for wastewater facilities that the City considers non-standards, such as pump or lift stations, force mains, siphons, etc., require prior approval from the City before design can begin.

EFFECTIVENESS

Key Performance Indicators:

- Is plan checking QA/QC processes helping to ensure adherence to the standards?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Eng
5.1.1	Ensure all project plans are approved in accordance with the City's Standard Specifications and Details.	Each Project			X
5.1.2	Verify design standards and hydraulic model previously completed are adequate and consistent with current standards of practice.	2025			X

5.2. Procedures and Standards

WDR REQUIREMENTS

Att. D-1.1 (pg. D-5)

Procedures, and standards for the inspection and testing of newly constructed, newly installed, repaired, and rehabilitated system pipelines, pumps, and other equipment and appurtenances.

COMPLIANCE

Inspecting and Testing

Compliance with the sewer Greenbook requires the contractor performing work on the City's sewer facilities to be responsible for conducting a CCTV inspection for all new and rehabilitated sanitary sewer systems and other appurtenances.

The Greenbook includes procedures and standards for inspecting and testing the installation of sewer mains and related appurtenances and for the rehabilitation and repair of existing sanitary sewer systems. Compliance with the Greenbook specifications requires air tests to be performed in accordance with Section 306-1.1.4. Also, it includes inspection and testing criteria for various pipe materials and installation methods. Section 500-1.2.6 requires the Engineer to review pipeline inspection video submitted by the Contractor to verity the pipeline point repair or replacement when retained for construction and installation of wastewater pipelines and manholes prior to backfilling.

Additionally, Section 16.05.070, Inspection of Public Improvements, requires that all improvements under Title 16 be subject to inspection and testing by the City Engineer or his authorized representatives to ensure compliance with the standards and specifications. The section also requires that reasonable access to the construction and work be provided at all time to obtain full knowledge of the progress, workmanship and character of the material used in the work.

EFFECTIVENESS

Key Performance Indicators:

- Were any design or installation deficiencies found during warranty inspections?
- Are deviations from standard procedures and/or specs, testing, etc., justified and documented?
- Does the City stay abreast of industry design standards and technical advances in the industry?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Eng
5.2.1	Verify inspection procedures are adequate and consistent with current standards of practice	2017 (10-year cycle)			X
5.2.2	Verify design standards and hydraulic model previously completed are adequate and consistent with current standards of practice.	2017 (10-year cycle)			X

RESILIENCE

Resilience is addressed for Element 5 by:

- Staying abreast of industry trends and standards.
- Performing warranty inspections of newly installed or repaired assets to evaluate design and installation practices.
- Evaluating as-built changes for trends and areas for design and performance improvements.

APPENDIX 5 INCLUSIONS:

- None

6. Spill Emergency Response Plan

WDR REQUIREMENTS

Att. D-1.1 (pg. D-6)

The Plan must include an up-to-date Spill Emergency Response Plan to ensure prompt detection and response to spills to reduce spill volumes and collect information for prevention of future spills. The Spill Emergency Response Plan must include procedures to:

- *Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner;*
- *Notify other potentially affected entities (for example, health agencies, water suppliers, etc.) of spills that potentially affect public health or reach waters of the State;*
- *Comply with the notification, monitoring and reporting requirements of this General Order, State law and regulations, and applicable Regional Water Board Orders;*
- *Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained;*
- *Address emergency system operations, traffic control and other necessary response activities;*
- *Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system;*
- *Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State;*
- *Remove sewage from the drainage conveyance system;*
- *Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters;*
- *Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery;*
- *Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event;*
- *Conduct post-spill assessments of spill response activities;*
- *Document and report spill events as required in this General Order; and*
- *Annually, review and assess effectiveness of the Spill Emergency Response Plan, and update the Plan as needed.*

COMPLIANCE

The City's Spill Emergency Response Plan (SERP) is a stand-alone document that contains all the key elements necessary for an appropriate Spill response: notification, emergency incident response, reporting, and impact mitigation. The current plan, prepared by Fischer Compliance, LLC, meets the requirements of the State Water Resources Control Board's reissued Waste Discharge Requirements (Order WQ-2022-0103-DWQ), which became effective on June 5, 2023. Initial training has been provided to affected staff and refresher training is conducted annually. A copy of the SERP is available for viewing at the City office upon request.

EFFECTIVENESS

Key Performance Indicators:

- Have staff spill response efforts helped to prevent the discharge of sewage to surface waters?
- Do post-spill assessments indicate staff are following the procedures outlined in the SERP?
- Is SERP training effective and trainees demonstrating adequate knowledge and abilities?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Sup
6.1	Perform SERP training including practice drills.	Annually		X	X
6.2	Review Post Spill Assessments to ensure adherence and to indemnify any trends that should be addressed	Annually		X	X

RESILIENCE

Resilience is addressed for Element 6 by:

- Multiple staff are trained to respond to spill events
- Post-spill assessments are conducted to evaluate staff adherence to the SERP and to identify areas for improvement.
- Data collection forms direct staff to collect all the required data to be submitted to CIWQS and are designed as a guide to a proper spill event response.
- The City employees several different spill volume estimation methods to account for different circumstances.

APPENDIX 6 INCLUSIONS:

- None

7. Sewer Pipe Blockage Program

WDR REQUIREMENTS

Att. D-7 (pg. D-7)

The Sewer System Management Plan must include procedures for the evaluation of the Enrollee's service area to determine whether a sewer pipe blockage control program is needed to control fats, oils, grease, rags and debris. If the Enrollee determines that a program is not needed, the Enrollee shall provide justification in its Plan for why a program is not needed. The procedures must include, at minimum:

a. *An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances;*
b. *A plan and schedule for the disposal of pipe-blocking substances generated within the sanitary sewer system service area. This may include a list of acceptable disposal facilities and/or additional facilities needed to adequately dispose of substances generated within a sanitary sewer system service area;*
c. *The legal authority to prohibit discharges to the system and identify measures to prevent spills and blockages.*
d. *Requirements to install grease removal devices (such as traps or interceptors), design standards for the removal devices, maintenance requirements, best management practices requirements, recordkeeping and reporting requirements;*
e. *Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the fats, oils, and grease ordinance;*
f. *An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and*
g. *Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.*

COMPLIANCE

City's FOG Control Program

The City is committed to complying with the mandates set forth under the WDRs. To comply with the one of the eleven mandatory elements of the SSMP, the City is required to either prepare a FOG Control Program or demonstrate its existing preventative maintenance program effectively reduces the quantity and/or the effects of FOG and other debris discharged to the wastewater collection system that may cause sewerage collection system blockages or spills.

The City retained outside services to prepare the FOG Characterization Study, which was completed in 2004. The primary goal of the FOG Characterization Study was to identify the source and nature of FOG within the City's wastewater collection system and compile and categorize the findings. At that time, the study identified over 400 FSE within the City's service area. A map illustrating the location of the FSEs was developed and allowed the City to identify potential HFMLs and facilitated development of a comprehensive GIS database to allow staff to efficiently monitor FSEs, schedule and perform inspections, and issue permits. Additionally, the study included the inspection of approximately 50 percent of the FSEs during 2003-2004.

The inspections were to determine practices related to the disposal of grease and identify establishments that may discharge FOG into the wastewater collection system and that used the following:

- Kitchen Equipment (deep fryer, wok, grill, etc.)
- Kitchen Drains (sinks, garbage grinders, dishwashers, trashcan wash areas, etc.)
- Grease Removal Equipment and Grease Disposal Practices
- Evidence of Kitchen BMPs
- Trap Maintenance
- Spill Prevention/Clean-up Practices
- Evaluation menu and FOG usage
- Compliance with Uniform Plumbing Code

The City developed and implemented the City of Fullerton Fats, Oils, and Grease Control Plan for the Sanitary Sewer System in 2005. The intent of the plan was to identify the activities necessary to facilitate the maximum beneficial public use of the City's sanitary sewer system while preventing blockages of the sewer lines and reducing the adverse effects on sewage treatment operations resulting from discharges of FOG into the system. The plan served as a basis for developing and implementing the City's FOG Control Program. The City's FOG Control Program summarizes the components of the processes and procedures intended to reduce the quantity of FOG discharged into the City's sanitary sewer system to achieve the goal of minimizing spills due to excessive FOG.

The WDR requirements above are addressed in order below:

a. Public Education and Outreach

The City maintains a presence at community events, such as the Farmer's Market, Airport Days, and the City's On the Go Program to promote best practices to help prevent the disposal of pipe blocking substances (Non-dispersible wipes, grease, etc.) into the collection system. In addition, has developed a flyer to distribute to residents and businesses within the service area that explains responsibilities and promotes kitchen best practices and lists items that should not be disposed of in the sewer system. Field staff have informational doorhangers that are used for targeted outreach when called for.

b. Disposal of Pipe-Blocking Substances

Pipe blocking substances collected during maintenance activities, primarily through hydro-cleaning activities, are collected and disposed of. Each hydro-vac debris tank has the capacity to hold up to 1,200 gallons of water, which is forced through the jetter nozzle at approximately 2,000 pound of pressure per square inch. The sewer mains are typically cleaned by inserting a high-pressure water jetting nozzles in the pipeline and removing the debris from a downstream manhole. The types of nozzles used vary based on the type of cleaning performed including routine cleaning, root removal, or grit removal. The debris that is removed from the sewer mains is separated into solid and liquid waste tanks as it is vacuumed into the truck. Liquids that are re-released back into the system are generally stored in special containers at Basque Yard and once filled, the waste is disposed of at the OCSD in Fountain Valley. Hydro-vac debris tanks are emptied on an as-needed basis.

c. Legal Authority to Prohibit Discharges

The City's current legal authority to limit and prohibit FOG from entering the City's wastewater collection system is established through its existing municipal codes, ordinances, and permitting procedures. Section Chapter 12.20 FOG Control Ordinance of the Fullerton Municipal Code includes

the requirements and prohibitions pertaining to the use of the City's wastewater collection system.

Specifically, Section 12.20.050. Prohibitions, of the City's Municipal Code, includes a general description of the various types of substances restricted by the City from being directly or indirectly discharged into the collection system. The restrictions are applicable to all users of the City's system.

FOG Ordinance No. 3051, which serves to adopt the City's Fats, Oils, and Grease Program, also specifies appropriate FOG discharge requirements, limitations, and prohibitions for FSEs to prevent blockages of sewer lines resulting from discharges of FOG. The key elements of the FOG Control Program include Waste Discharge Permit Requirements; Kitchen BMPs; the installation, operations and maintenance of approved type and adequately sized grease control device(s); and the notification, monitoring, reporting and record keeping conditions.

d. Requirements to Install Grease Removal Devices

The requirement for the installation of a grease control devices is a key component of the City's Municipal Code and FOG Control Program. Section 12.20.210. Grease Interceptor Requirements, and Section 12.20.220, Grease Trap Requirements, includes a description of the requirements for the installation of grease interceptors and grease traps.

The City requires sizing and installation of grease interceptors and grease traps to conform to the applicable sections of the current edition of the California Plumbing Code (CPC) or as required by the FOG Control Manager. FOG Ordinance No 3051 included amendments to various sections of the 2001 CPC. Specifically, Section 14.07.070 and 14.07.080 were added to and serve to amend Sections 1014.1 and 1014.6 of the CPC, respectively.

Section 14.07.070 modifies the CPC to grant the City the administrative authority to require all FSEs to install and operate a grease control device in conformance with Chapter Chapter 12.20 FOG Control Ordinance, of the Municipal Code. Section 14.07.080 establishes more specific maintenance requirements for grease interceptors in accordance with the Chapter Chapter 12.20 FOG Control Ordinance, of the Municipal Code.

Section 12.20.250, Grease Interceptor Maintenance Requirements, of the City's Municipal Code outlines the provisions for maintaining the grease interceptors in proper operational conditions. Additionally, to ensure proper operation and maintenance of the approved grease control devices, the FOG Control Program includes monitoring and reporting conditions that may require the FOG Control Program Manger to identify any deficiencies in meeting the requirements of the permit.

e. Authority to Inspect Grease Producing Facilities

Implementation of the FOG Control Program requires all FSEs to obtain and renew a FOG Waste Discharge Permit. Although the requirements for compliance with the permit may vary among FSEs, generally each permit will require the FSE to meet the requirements for installation of FOG removal devices where required, comply with applicable City policies, and pay all required fees as set forth by the permit fee schedule.

Section 12.20.270. Inspection and Sampling Conditions, allows the FOG Control Manager to enter the premises for purposes of inspecting the grease control devices, reviewing manifests, records, and other applicable documents related to the cleaning, maintenance and inspection of the sewer

conveyance system and grease control devices to determine compliance with the conditions of the Waste Discharge Permit, FOG Control Program, and City ordinances.

Section 12.20.280, Right of Entry requires persons or occupants of FSE to allow the FOG Control Program Manager, or designated City representatives, access to all parts of the wastewater generating and disposal facilities for purposes of inspecting and sampling. Additionally, the section authorizes City representatives attempting to inspect any facility involved directly or indirectly with a discharge of wastewater into the City's sewer system, access to adjoining businesses or properties that share a sewer conveyance system with an FSE in order to prevent or remediate an actual or imminent spill.

Implementation of the City's maintenance procedures has been successful in minimizing the number of spills and addressing the high frequency maintenance locations, the City intends to continue its current FOG Control Program.

f. Identification of FOG in Collection System

The performance and scheduling of preventive, operation and maintenance activities is performed by the City's Source Control Inspectors. The Preventative Maintenance Program includes a cleaning cycle for the areas that have been identified by City staff as "special projects." The City's "special projects" include pipe segments identified as having high FOG, root concentrations, and siphons. The pipe segments within the wastewater collection system identified as "special projects" are routinely cleaned on a 1, 3, 6, or 12-month intervals based on field observations.

g. Implementation of Source Control Measures

The Sewer Division has two Source Control Inspector assigned to the FOG Control Program that is responsible for conducting the scheduled FSE inspections schedule, meeting reporting requirements, adjusting and implementing additions/changes to the inspection schedule as FSEs are established, closed, or where there is a change in ownership or operations. While the existing Source Control Inspector has successfully conducted the timely inspections of restaurants, adding an additional inspector would allow the City to implement the following programs:

- Educational component of the FOG Control Program: As the FOG Control Program is primarily concentrated on educating FSE staff, the additional inspector would be focused on performing the initial educational site visits.
- Inspection of business that include food processing, which create packaged meals or process cooking oil, and determined that these businesses are considered FSE and are inspected for proper grease control programs.
- Commercial and industrial oil/water separator program: Although oil/water separators are installed in non-food service environments such as car washes, loading docks, and service stations, or anywhere where oil and other toxins can mix with runoff water, they operate similar to grease interceptors and are part of the City's overall NPDES compliance efforts.

EFFECTIVENESS

Key Performance Indicators:

- Have there been any blockages/spills from any identified problem area?
- Is the agency receiving feedback on public outreach efforts?
- Are debris and other sewage solids collected during cleaning activities being disposed of appropriately?
- Have there been spills due to excessive fats, oil, grease, roots, or non-dispersible wipes discovered in the sewer system during the audit period?
- Are there repeat offenders among FSEs?
- Are enforcement trends decreasing?
- Are Source Control and Collection staff included in the plan check process?

IMPLEMENTATION PLAN/SCHEDULE

No	Plan	Schedule	Responsible Party		
			DPW	Mgr.	Sup
7.1	Review/evaluate enforcement and inspection findings and implement changes as necessary.	Annually		X	X
7.2	Review spill rates and causes and make changes to maintenance programs, as necessary.	Annually		X	X

RESILIENCE

Resilience is addressed for Element 7 by:

- Inspection of select assets directly downstream of grease producing businesses to ensure source control is effective.
- Residential FOG outreach and education program.
- Performance of regular assessments of system assets to monitor performance.
- QA/QA process for evaluating pipe cleaning effectiveness.
- Daily disposal of pipe blocking materials retrieved during maintenance activities.

APPENDIX 7 INCLUSIONS:

- None

8. System Evaluation, Capacity Assurance, Capital Improvements

WDR REQUIREMENTS

Att. D-8 (pgs. D-7/D-8)

The Plan must include procedures and activities for:

- *Routine evaluation and assessment of system conditions.*
- *Capacity assessment and design criteria.*
- *Prioritization of corrective actions; and*
- *A capital improvement plan.*

8.1. System Evaluation and Condition Assessment

WDR REQUIREMENTS

Att. D-8 (pgs. D-7/D-8)

The City SSMP must include procedures to:

a. *Evaluate the sanitary sewer system assets utilizing the best practices and technologies available.*
b. *Identify and justify the amount (percentage) of its system for its condition to be assessed each year.*
c. *Prioritize the condition assessment of system areas that:*
    - *Hold a high level of environmental consequences if vulnerable to collapse, failure, blockage, capacity issues, or other system deficiencies.*
    - *Are located in or within the vicinity of surface waters, steep terrain, high groundwater elevations, and environmentally sensitive areas;*
    - *Are within the vicinity of a receiving water with a bacterial-related impairment on the most current Clean Water Act section 303(d) List.*
d. *Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods.*
e. *Utilize observations/evidence of system conditions that may contribute to exiting of sewage from the system which can reasonably be expected to discharge into a water of the State.*
f. *Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities; and*
g. *Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: (a) sea level rise, (b) flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; (c) wildfires; and (4) increased power disruptions.*

COMPLIANCE

The above requirements are addressed in order below:

a. Evaluate System Using Best Practices and Technologies

The assessment of a collection system involves every component of the City collection system, including pipelines, manholes, and siphons. The assessment of pipeline condition is the most significant condition assessment responsibility the City has. It is of key importance to regularly perform pipeline condition assessments to initially establish a condition baseline so conditions can be monitored over time. The condition rating of a pipeline is one of the key parameters used prioritizing risk, which in turn is used to help develop the City's CIP.

The City has divided their system into three (3) Districts and 52 sub- basins, allowing for efficient and systematic assessment of the collection system. and field staff inspect the system in a systematic manner, which improves efficiency, allowing to City to achieve the goal of properly maintaining the system.

Field staff monitors easements to help ensure access. There are occasions when activities are performed on or about easements, which can create access concerns, such as the construction of a shed or other outbuildings, installation of a fences, swimming pools (above and below surface), dumping of garbage and trash that blocks drivable easements, to name a few.

City has a manhole inspection program, and inspections are performed during cleaning operations and manholes are inspected employing a visual, top-down approach, without entry, and documented in the Lucity CMMS (every 5 years.)

b. Justify the Amount of Yearly Condition Assessment

Currently the City has one CCTV truck and dedicates two staff to operate it. Staff assesses the condition of the collection system on a five-year interval (+/- 65 miles/year). The City maintains a relatively low spill rate, incurring only 3 spills between 1/1/2018 and 1/1/2025. In addition, the City cleans the system on an 18-month interval, which means the pipes will be cleaned over three (3) times between inspection cycles. Though the current five-year cycle seems appropriate for the City's collection system, staff is evaluating their current practices to help ensure an optimal inspection cycle.

c. Prioritize Condition Assessment

The City CCTV inspects all gravity mains and manholes on a five-year interval and is knowledgeable about the performance of its collection system. Staff believes it is appropriate to address all pipe segments in the same manner as the risk and consequence of a spill from any portion of the collection is essentially the same. Field staff use proffer skids, one size down from the pipe diameter, and monitors debris found during pipe cleaning activities and would recognize if there was a significant failure. As mentioned previously, gravity mains are cleaned every 18 months.

The City performs top-down, visual inspections of manholes and video inspections of gravity mains. Level monitors and flow monitoring devices are utilized to monitor flow conditions, pipe performance and infiltration.

The City is not aware of exfiltration from their collection system. The City has identified all sewage conveyance facilities near surface water. Approximately 6044 feet of gravity main runs parallel to creeks and some have been lined. Other pipes located near surface water are located within the

public right-of-way, in streets and show no evidence of defects that could lead to exfiltration. The City continuously monitors defects such as cracks, separated joints, and infiltration. Significant findings will be addressed in a timely manner.

d. CCTV inspections are documented in the POSM sewer inspection software. The City documents all maintenance activities in the Lucity CMMS. All collected data is used for the purpose of documenting maintenance efforts, evaluating system performance, and making maintenance and corrective action decisions today and into the future.

e. The City, generally its service area and has determined that flooding is the one climate change impact that affects the sewer system. The City has identified areas susceptible to flooding and has implemented a program to seasonally plug the vent and pick holes in manhole covers.

EFFECTIVENESS

Key Performance Indicators:

- Has the City maintained its schedule and is data being reviewed in a timely manner?
- CCTV Gravity Mains
- Laterals
- Manholes
- Are inspection efforts discovering deficiencies in a timely manner?
- Are maintenance and inspection activities properly documented?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Mgr.	Sup
8.1.1	Review/evaluate enforcement and inspection findings and implement changes as necessary.	Annually		X	X
8.1.2	Review spill rates and causes and make changes to maintenance programs, as necessary.	Annually		X	X
8.1.3	Hold meeting to discuss any issues that may result from climate changes	Annually	X	X	X

8.2. Capacity Assessment and Design Criteria

WDR REQUIREMENTS

Att. D-8 (pgs. D-7/D-8)

The Plan must include procedures to identify system components that are experiencing or contributing to spills caused by hydraulic deficiency and/or limited capacity, including procedures to identify the appropriate hydraulic capacity of key system elements for:

- *Dry-weather peak flow conditions that cause or contributes to spill events.*
- *The appropriate design storm(s) or wet weather events that causes or contributes to spill events.*
- *The capacity of key system components; and*
- *Identify the major sources that contribute to the peak flows associated with sewer spills.*

The capacity assessment must consider:

- *Data from existing system condition assessments, system inspections, system audits, spill history, and other available information.*
- *Capacity of flood-prone systems subject to increased infiltration and inflow, under normal local and regional storm conditions.*
- *Capacity of systems subject to increased infiltration and inflow due to larger and/or higher-intensity storm events as a result of climate change.*
- *Increases of erosive forces in canyons and streams near underground and above-ground system components due to larger and/or higher-intensity storm events;*
- *Capacity of major system elements to accommodate dry weather peak flow conditions, and updated design storm and wet weather events; and*
- *Necessary redundancy in pumping and storage capacities.*

COMPLIANCE

In October 2024, the City updated its Sewer System Master Plan. The capacity assessment completed as part of the City's Sewer Master Plans was based on hydraulic modeling of the City's collection system under current and future design flows. The objective of the plan was to:

- Update the City's existing sewer model with system improvements completed since the 2009 Sewer Master Plan.
- Using recent flow monitoring data, allocate dry weather sewer flows throughout the system and calibrate the hydraulic model to existing dry and wet weather flow conditions.
- Evaluate the existing and future capacity of the City's collection system under both dry and wet weather conditions.
- Perform condition assessment of pipelines throughout the collection system.
- Develop a prioritized list of recommended Capital Improvement Program (CIP) projects, with engineer's cost estimates, intended to address anticipated pipeline capacity and/or condition concerns.

Both dry weather and wet weather capacity analyses were performed on the modeled system under Existing,

Near-Term (2030) and Ultimate (2045) loading conditions. The dry weather analysis indicated that no pipeline in the modeled system is anticipated to exceed capacity under dry weather conditions. During peak wet weather flows, which includes a 10-year storm, two deficiencies were identified.

The Master Plan identifies the areas with the highest infiltration and inflow (I/I) based on flow monitoring data. Basins identified with the highest I/I were generally sewered with pipes constructed before 1960 and therefore suggested that the pipes were potentially deteriorated such that high levels of infiltration were entering the system through cracks and other defects. The analysis determined that the wastewater system did not experience a significant amount of ground water infiltration and that elevated levels of infiltration did not persist during the entire wet weather seasons.

Condition assessment reports were reviewed to determine an appropriate rehabilitation or repair method intended to address observed structural and other physical defects. The reports were generated between 2008 and 2024 and used in preparation for this Sewer Master Plan Update.

EFFECTIVENESS

Key Performance Indicators:

- Number of capacity-related spills or surcharge conditions during the audit period?
- Has the system responded to rain events as indicated by the hydraulic model?
- Have there been any changes to zoning designations (residential, commercial, industrial)?

IMPLEMENTATION PLAN/SCHEDULE

No	Plan	Schedule	Responsible Party		
			Dir	Eng	Sup
8.2.1	Monitor/Evaluate significant rain events to see if they exceed the design storm in the hydraulic model.	Each significant rain evet		X	X
8.2.2	Identify and monitor flood-prone areas susceptible to erosion from rain events	After each significant rain event		X	X
8.2.3	Monitor flows in each basin and updates the hydraulic model	Per Engineering Division schedule			X

8.3. Prioritization of Corrective Action

WDR REQUIREMENTS

Att. D-8 (pgs. D-7/D-8)

The findings of the condition assessments and capacity assessments must be used to prioritize corrective actions. Prioritization must consider the severity of the consequences of potential spills.

COMPLIANCE

The determination of repair priority for short-term repair activities and long-term CIP projects can be very challenging due to the complexity in analyzing all the various factors affecting the pipeline's risk of failure.

All defects discovered from CCTV inspections of the gravity system are rated using the PACP defect coding system. Repairs are prioritized by considering the severity of defect, likelihood the defect would cause a spill and the consequence of a spill at that location. Collections staff, in coordination with engineering, evaluates and prioritizes each defect and determines which repairs will be performed in house and which will be performed by contracted services.

Larger, more involved work such as install liners and line replacement or rehabilitation is recommended by collection staff, and engineering designs the project and includes the projects in the CIP. When prioritizing work to be done, staff considers all factors such as location of facility to surface water or other environmentally sensitive areas, difficulty of access and likelihood and consequence of failure or inaction.

As a rule, for identified capacity improvements, any potential capacity deficiencies identified under peak dry weather flows (PDWF) conditions will be prioritized over those anticipated under peak wet weather flow (PWWF) conditions.

EFFECTIVENESS

Key Performance Indicators:

- Has the City adhered to its system evaluation/condition assessment schedule?
- Has the City adhered to its prioritization/corrective procedures for sewer repair and capacity improvement projects?
- Have projects been completed before deficiencies caused failures?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Mgr	Sup
8.3.1	Utilize all available data for prioritizing corrective actions considering severity and consequences of potential spills.	Each CIP Update		X	X
8.3.2	Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities.	Continuously		X	X

8.4. Capital Improvement Plan

WDR REQUIREMENTS

Att. D-8 (pgs. D-7/D-8)

The capital improvement plan must include the following items:

a. Project schedules include completion dates for all portions of the capital improvement program.
b. Internal and external project funding sources for each project; and
c. Joint coordination between operation and maintenance staff, and engineering staff/consultants during planning, design, and construction of capital improvement projects; and Interagency coordination with other impacted utility agencies.

COMPLIANCE

The City's Sewer Master Plan identifies the wastewater collection system CIP short and long-term projects necessary to correct identified system deficiencies.

A comprehensive list of Capital Improvement Program (CIP) projects, including projected costs, for the City's existing collection system was developed based on the results of the capacity analysis and condition assessment.

A total of two gravity main capacity improvements were identified as hydraulically deficient, as well as needing replacement due to poor condition, indicating a high priority.

Repair and Rehabilitation Projects - The City's preventative maintenance program serves as a basis for identifying the repair, replacement, and/or rehabilitation improvements to the collection system and provides for the elimination of high frequency maintenance locations and/or "hot spots" through capital investment in permanent repairs and replacements.

For the implementation of repairs that extend beyond the City's internal resource capabilities, the City retains the services of professional contractors. Repairs that require further prioritization and planning are coordinated and scheduled with the City's CIP.

CIP Development - Using the results of CCTV inspection efforts, crews identify pipeline sections with structural damage, capacity issues, and/or locations where there is potential for a spill occurrence. Where structural defects are noted, numeric values are assigned and using the PISCES software, a risk assessment is performed.

The Sewer Division's management team works with the Engineering Division to identify and prioritize capital improvement and repair projects. The Sewer Division managers provide a report that identifies and summarizes the system deficiencies. The list of priority projects is routinely updated and evaluated by the Engineering Department and the projects are systematically scheduled and incorporated into the City's existing CIP.

Several factors determine the priority of projects identified during the assessment process, although the condition of the pipe is usually the primary factor. Additional factors may include goals to reduce sanitary sewer overflows, providing sufficient system capacity, reducing I/I into pipes located below the water table, or reducing maintenance efforts by improving the pipe condition. Other considerations include coordinating the surface and utility improvements with the other agencies that may be impacted by improvements

2024 Sewer Master Plan, Appendix E, provides a summary of CIP projects, while Appendix F includes project cost details.

Funding for capital improvement and replacement of the sewer system is generated through the Sewer Service Fee.

EFFECTIVENESS

Key Performance Indicators:

- Has the agency's capital improvement plan schedule been adhered to?
- Have there been any instances when a failure or service disruption occurred that would have been prevented if a project been completed?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Eng	Sup
8.4.1	Hold regular coordination meetings, with all parties, to help keep the projects on track and resolve issues that may arise in a timely manner.	Annually		X	X
8.4.2	For schedules that are not kept, justify and document the reason	Each Delayed Project			X

RESILIENCE

Resilience is addressed for Element 7 by:

- Is there an annual review of the Capital Improvement Plan by all appropriate individuals including both Engineering and Operations?

APPENDIX 8 INCLUSIONS

8.1 2024 Sewer Master Plan and Capital Improvement Program.

9. Monitoring, Measurement, and Program Modifications

WDR REQUIREMENTS

Att. D-9 (pg. D-9)

The City SSMP must include an Adaptive Management section that addresses Plan implementation effectiveness and the steps for necessary Plan improvement, including:

a. *Maintaining relevant information, including audit findings, to establish and prioritize appropriate SSMP activities.*
b. *Monitoring the implementation and measuring the effectiveness of each element.*
c. *Assessing the success of the preventive operation and maintenance activities.*
d. *Updating SSMP procedures and activities, as appropriate, based on results of monitoring and performance evaluations; and*
e. *Identifying and illustrating spill trends, including spill frequency, locations, and estimated volumes.*

COMPLIANCE

The above requirements are addressed in order below

a. The City maintains accurate and relevant inspection and maintenance records for the collection system. Much of the documentation today is maintained electronically, which allows for ease of access and analysis. This helps City staff to make sound decisions and prioritize activities when dealing with the routine and the unexpected.

b. Monitoring of the City's SSMP focuses on each element in terms of its implementation and effectiveness. Monitoring the implementation of SSMP elements would achieve the following goals:

   - Stated objectives of each element are valid and achievable
   - Tasks cited in each element leads to reaching these objectives
   - Tasks are being implemented
   - Responsibility for implementation is identified

   By establishing specific performance indicators for each element, an assessment can be made to determine the degree of success achieved. The SSMP has been designed to include key performance indicators (KPIs) for each element, which are used to measure effectiveness.

c. The City Assesses the success of maintenance and operation activities by ensuing activities are being performed as expected by performing quality assurance reviews, monitoring actual outcomes compared to intended outcomes, as well as monitoring spill trends.

d. The City is committed to continuous improvement and monitors and evaluates performance of work programs and SSMP elements to ensure intended outcomes are achieved while looking for areas for improvement. Although the SWRCB requires that the SSMP be updated every six years, the SSMP should be considered as a dynamic document and may require updating on a more frequent basis. Routine changes to administrative information, notwithstanding, minor changes will likely be required to address improvements identified through the SSMP Audit or through modifications required as conditions change.

e. The City monitors and analyzes spill trends, at a minimum every three (3) years during required audits, utilizing the CMMS database, inspection records and CIWQS data. In addition, spill trends are monitored and analyzed annually, when the Annual Report is submitted, by reviewing the Performance Analysis graphs that are required to be produced and submitted in the report. These reviews and analysis are helpful in planning and programing work, and adjusting as needed, enabling the City to be adaptive and capitalize on lessons learned.

EFFECTIVENESS

Key Performance Indicators:

- Are SSMP Elements periodically evaluated for effectiveness?
- Are work activities and spill events being documented?
- Has a plan and schedule been established to address audit findings/deficiencies from the last audit?
- Is Trend Analysis being performed on spill causes?
- Have work programs been assessed and updated as necessary?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Mgr.	Sup
9.1	Assess work programs to ensure outcomes are as intended	Annually		X	X
9.2	Ensure updates to work programs and the SSMP based on assessments.	As Needed		X	X
9.3	Monitor and evaluate spill trends. Document efforts.	Annually		X	X

RESILIENCE

Resilience is addressed for Element 9 by:

- Development of key performance indicators to measure effectiveness of the Sewer System Management Plan.
- Performing periodic reviews of the Sewer System Management Plan to help ensure the plan is being properly implemented.
- Developing and adhering to a timeline to correct deficiencies found during the audit process.
- Periodically evaluating work programs to help ensure effectiveness.

APPENDIX 9 INCLUSIONS:

- None

10. Internal Audits

WDR REQUIREMENTS

Att. D-10 (pg. D-10)

The City SSMP shall include internal audit procedures, appropriate to the size and performance of the system, for the Enrollee to comply with section 5.4 (Sewer System Management Plan Audits) of this General Order.

COMPLIANCE

The above requirements are addressed in order below

a. The City will complete audits every three (3) years moving forward. The objective of the audit is to evaluate compliance, implementation and effectiveness of the SSMP.

b. The SSMP includes a description of how the City will comply with the requirements of each Element. The audit review includes an evaluation to determine if compliance has been met.

c. Implementation is evaluated by determining if the agency is executing the SSMP as stated.

d. Effectiveness is evaluated by using key performance indicators, which have been developed specifically for each element.

e. An additional evaluation is performed to comply with Specifications 5.6 addressing resilience. Resilience indicators have been developed for each element, and they serve to demonstrate how resilience is built into the SSMP and inspection, maintenance and spill response activities.

f. Any deficiencies discovered through the audit process are noted and a plan and schedule to implement corrective measures are established.

EFFECTIVENESS

Key Performance Indicators:

- Have audits been performed as required?
- Have the audits assessed compliance, implementation, and effectiveness?
- Have deficiencies been identified?
- Has a plan and schedule to rectify the deficiencies been established?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			DIR	Mgr	SUP
10.1	Schedule audits in advance of due dates to ensure adequate time to complete. Agency has 6 months to complete the audit from the end of the audit period.	Begin end of audit period		X	X
10.2	Ensure a plan and schedule is developed to address deficiencies.	Once the Audit is completed		X	X

RESILIENCE

Resilience is addressed for Element 10 by:

- Periodically evaluate key performance indicators during the audit period to assess effectiveness and make corrections, if necessary, prior to the audit.
- Evaluate previous audit to ensure deficiencies have been rectified.
- Calendar the audit due dates and complete the audit on time.

APPENDIX 10 INCLUSIONS:

- None

11. Communication Program

WDR REQUIREMENTS

Att. D-11 (pg. D-10)

The Plan must include procedures for the Enrollee to communicate with:

a. The public for:
b. Spills and discharges resulting in closures of public areas, or that enter a source of drinking water, and
c. The development, implementation, and update of its Plan, including opportunities for public input to Plan implementation and updates.
d. Owners/operators of systems that connect into the Enrollee's system, including satellite systems, for:
e. System operation, maintenance, and capital improvement-related activities.

COMPLIANCE

a. When the City experiences a spill, it is standard procedure to secure the affected area and keep the public away. This is generally done using barricades, cones and caution tape. Should the City experience a spill that may require closure of public areas or enter a source drinking of water, signs will be immediately placed indicating the issue and providing contact information. Staff will remain on site to provide an additional safety factor until appropriate authorities respond and direct otherwise. In all cases, the City will follow the advice of higher authorities, such as the local environmental health department and other regulatory authorities.

   There are several opportunities for the public to participate and provide input into the development and update of the City SSMP. During its initial development stage, as with each SSMP Audit and update of the SSMP, the SSMP and related documents are presented to the City Council for review and acceptance. As previously noted, SSMP Audits are performed every two years and re-certification and acceptance of updated SSMPs are required every five years. In addition to the extensive initial development process, to date there have been five updates and re-certifications of the SSMP that have been presented to the Board. Prior to each Council Meeting, these documents are included in Board Agenda packet which are readily available for review on the City's website. The SSMP is posted on the City's website, which provides the public several ways to contact the City, via the "Contact Us" feature.

b. The City does not currently have satellite systems.

EFFECTIVENESS

Key Performance Indicators:

- Does the agency place all Sewer System Management Plan action items on the agenda for regular counsel/board meetings?
- Does the agency have signage, or other means, readily available to notify the public of environmental or public risk factors related to a sewage spill?
- Does the agency perform outreach to residential customers?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Mgr	Sup
11.1	Ensure the City Counsil approves the SSMP per schedule	Every 6 years		X	X
11.2	Ensure the SSMP is posted on the City Website and the link functions properly.	Annually		X	X
11.3	Ensure Sewage Spill Warning signs are readily available to communicate with the public when necessary	Annually			X

RESILIENCE

Resilience is addressed for Element 11 by:

- Use the Sewer System Management Plan as a tool to communicate to the public how the agency is managing the system.
- Maintain a consistent presence in the service area by attending community events or issuing periodic newsletters or other communications to the public.
- Make it clear and easy for the public to contact the agency.

APPENDIX 11 INCLUSIONS

- None

LIST OF APPENDICIES

APPENDIX 1

- None

APPENDIX 2

- None

APPENDIX 3

- None

APPENDIX 4

- None

APPENDIX 5

- None

APPENDIX 6

- None

APPENDIX 7

- None

APPENDIX 8

- 8.1 Capital Improvement Program

APPENDIX 9

- None

APPENDIX 10

- None

APPENDIX 11

- None

APPENDIX 12

- 12.1 SSMP Effectiveness Worksheet

APPENDIX 8

- 8.1 Capital Improvement Program

Sewer CIP Projects Priority List

							GREEN	Design Phase
							RED	Construction Phase
Date Revised:	3/3/25						BLUE	Complete

Priority	Project Name	Planning ID	Atlas Map Area	Scope of Work	CIP Project No.	Engr	Date Completed	Notes
SEWER IMPROVEMENT PROJECTS REQUESTED BY SEWER DIVISION								
Very High	Composite Manhole Covers		Various	Replace/Modify Composite Covers to allow overflow				Sewer Div to lead. Eng to provide project list
Very High	Valley View - Atlas map 45	CIP2427072	45	Replace pipes in private property easement				Sewer Div to lead. Pilot project in one of the three areas.
Very High	Chapman Area - Alley behind commercial center parking lot	CIP2427078	33	Extend laterals to 10" pipe and abandon existing 6". MH 70-31 and MH 23-33. Approx 4-5 laterals				Sewer Div - dye test & locate laterals.
Very High	Chapman-Victoria Area - Alley west of shopping mall		29	Replace 8" steel pipe located adjacent to buildings				Sewer Div - inspect downstream pipes for condition and lateral connection locations. Eng Div - Obtain survey/basemap quote. Confirm alley right of way. Pipe appears to be located on Walgreens property. Recommend getting title report to confirm easement rights.
Very High	Pritchard south of Commonwealth		13	Replace existing 6" MH 71-13 to 40-13. Capacity concerns due to adjacent high density. Consider upsizing 6" north of Commonwealth as part of project				Need to discuss water main replacement with Water Division
Very High	Casa Blanca-Barris-Fern Area	CIP2427021	46	Upgrade 6", redirect flow away from school.	51030	Melissa	Oct 2023	Complete
Very High	Balcom Alley	CIP2427066	27	Phase 1 only-Upsize 6" to 8". Lining. Alley reconstruction		Nick	Oct 2023	Complete
Very High	Kimberly Water Well 1A Site	CIP2427073	30	Replacement of sewer pipe under water well site. Pipe accidently removed during PFAS treatment construction	51031	Nick	Nov 2023	Complete
Very High	Orangethorpe @ State College Intersection - East Side		34	Lining of pipe on Orangethorpe MH 24-34 to MH 30-34	51033	Nick	June 2024	Complete
Very High	Juanita Pl	CIP2427074	93	Lining of pipe in street. MH 80-93 to MH 76-93 minimum	51033	Nick	June 2024	Complete
Very High	Glenview Dr CDS, north of Valencia Mesa	CIP2427075	45	Lining of pipe in easement. MH 81-45 to MH 52-45 minimum		Nick	June 2024	Complete
Very High	Fox Dr CDS, north of Valencia Mesa	CIP2427076	71	Lining of pipe in easement. MH 83-71 to MH 86-71 minimum		Nick	June 2024	Complete
Very High	Commonwealth/Highland intersection	CIP2427077	23	Lining of pipe in street. MH 4-23 to MH 103-23	51033	Nick	June 2024	Complete
Very High	Laguna Terrace	CIP2427079	69	Repair and Lining of pipe in easement. MH 4-69 to MH 13-69 minimum	51033	Nick	June 2024	Complete
High	N Newell Alleys Replacement	CIP2427029	25, 27	Old pipe with multiple fractures.				Sewer Div - inspect pipe conditions and confirm scope of work
High	Euclid siphon at Malvern	CIP2427070	44, 46	Sewer will be routed away from intersection and a new siphon will be installed under channel east of intersection. Need OCFCD permit for work under channel. Consultant RFP				Eng Div - release RFP to consultants for design
High	Orangethorpe from Lemon to Raymond		7, 8, 26, 28	Create separate City of Anaheim and City of Fullerton pipes. Repair/replace manholes				Coordination with Anaheim has stalled.
High	Basque-Commonwealth		17	Connect missing 15" sewer main now that the AT&T ducts have been moved		Nick		Coordinate project with Water project
High	Euclid/Bastanchury at Railroad		69	Upgrade 8" pipe under railroad crossing.	51029	Nick		Improvements needed in conjunction with upstream development. Developer to pay impact fees
High	West Chapman Ave	CIP2427080	17	Lining of pipe in street. MH 2-17 to MH 14-17	51033	Nick	June 2024	Complete
High	Morningside Drive	CIP2427080	78	Lining of Pipe in street. MH 55-78 to MH 56-78	51033	Nick	June 2024	Complete
High	Glenwood/Union/Brookdale	CIP2427023	50	Replace 6" VCP	51028	Melissa	June 2022	Complete
High-Medium	Santa Fe Parking Lot/Lawrence Phase 2	CIP2427027	25	Upsize 6" to 8" VCP. Replace lamphole with manhole. Replace 8" VCP in alley		Joseph		
High-Medium	Alley north of Amerige, west of Lemon		25	Work requires replacement of water main in order to replace sewer pipe				
Medium	S Woods Replacement	CIP2427039	22	Heavy roots causing further damage. Update/Confirm Scope				
Medium	Knepp and Malden Alleys replacement	CIP2427022	24	Replace all lampholes with manholes. Trenchless replacement between 55-24 and 54-24				
Medium	Washington Phase 1	CIP2427019	22	Remove/Replace main adjacent to channel west of Woods. OCFCD permit required	51025	Joseph		Design on hold
Medium	Washington Phase 2	CIP2427019	22	Replace 21/24" with 8". Includes street reconstruction.	51025	Joseph		Design on hold
Medium	Valencia from Gilbert to Magnolia	CIP2427040	13, 14	Downsize pipe due to upstream flow modifications	44058	Melissa	August 2022	Complete
Medium	Ellis Ave 6" Replacement @ Pomona	CIP2427007	50	Replace 6" and add MH at top of line.	51020	Melissa	July 2023	Complete. Phase 1 - Overall project scope revised to coord with Fox Block development
Low	Pomona and Ellis Alley	CIP2427007	50	Replace 6" in Pomona and Ellis Ln alley				Phase 2 improvements
Low	Orangethorpe from Highland to Woods		5, 6	Combine pipes and connect to OCSD at Ray. Study needed for OCSD				
Low	Brookhurst - North of Commonwealth		15	Abandon pipes under railroad				
MISC CIP PROJECTS WITH SEWER IMPROVEMENTS								
	State College Blvd		81,82,100	Point repairs	44068	Nick		
	Maplewood Area (including Valencia Dr)		22	Combine pipes on Ash. Point repairs. Water & Street Improvements planned for area.	53047	Michael		
	Sudene Ave & Santa Fe Ave		27	Replace 6" VCP. Pipe burst between properties. Water & Street Improvements planned for roadway. CDBG street funded project.	53048	Michael		
	Orangethorpe @ State College Intersection - West Side		32, 34	Lining of pipe on Orangethorpe MH 35-32 OCSD Main. MH needed for lining upstream of OCSD main. Street project to construct MH.	44062	Nick		Lining as separate project after MH construction
	Nutwood-Yale-Union	CIP2427062	52	Combine pipes on Nutwood	53013	Michael	April 2022	Complete
	San Juan		95	Sewer main lining. No reconstruction	53014	Gar	June 2022	Complete
	Marion Area		49, 75	Point repairs and install lining in pipes. Some pipes in area have been previously lined	53021	Joseph	July 2023	Complete
	Associated Rd - Bastanchury to Imperial			Point repairs.	44061	Jose	Oct 2023	Complete
	Valencia Mesa Dr Rehab		43	Manhole lining. Frame & cover replacement	44055	Joseph	Aug 2024	Complete
	Costa Court Area Street Rehab		33	Drop manhole reconstruction	44070	Melissa	Aug 2024	Complete
	Hermosa Area Street Rehab		94,95,96,97	Point repairs, brick MH reconst, drop MH const	44075	Joseph	Aug 2024	Complete

APPENDIX 12

- 12.1 SSMP Effectiveness Worksheet

SSMP Effectiveness Worksheet

CONTENTS

ELEMENT 1 – INTRODUCTION AND GOALS

ELEMENT 1			
No.	**Assessment Criteria**	**Yes**	**No**
1.1	None	☐	☐
1.2	Are SSMP Audits and SSMP Updates being performed as scheduled?	☐	☐
1.2	Has the Sewer System Management Plan been approved by the governing board on schedule (every six years)?	☐	☐
1.2	Are specific internally established sewer program milestones being monitored?	☐	☐
1.3	Are asset statistics periodically reviewed and updated as necessary?	☐	☐
1.3	Are corrections addressed in a timely manner?	☐	☐
1.3	Are system maps up to date?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 2 – ORGANIZATION

ELEMENT 3			
No.	**Assessment Criteria**	**Yes**	**No**
2.0	Have there been any changes requiring updates to the Organizational Chart?	☐	☐
2.0	Have there been instances when a service call for a spill was not properly routed to response personnel?	☐	☐
2.0	Were all spill response activities documented and forwarded to the LRO?	☐	☐
2.0	Have there been any changes in assigned responsibilities for implementing the Sewer System Management Plan?	☐	☐
2.0	Is there a process in place to ensure all contact information remains up to date?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 3 – LEGAL AUTHORITY

ELEMENT 3			
No.	**Assessment Criteria**	**Yes**	**No**
3.0	Are the Agency ordinances and standards adequate for fulfilling the Sewer System Management Plan legal requirements?	☐	☐
3.0	Does the Agency have a process in place for periodic review and evaluation of ordinances?	☐	☐
3.0	Have there been instances when the code or ordinance did not address a need or circumstance?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 4 – OPERATIONS AND MAINTENANCE

ELEMENT 4			
No.	**Assessment Criteria**	**Yes**	**No**
4.1	Were all map updates completed in a timely manner?	☐	☐
4.1	Are all staff trained in the procedure for providing map update information?	☐	☐
4.1	Are newly installed sewer assets incorporated into the system maps?	☐	☐
4.1	Are there terrain features or assets that should be incorporated in future map updates (e.g. exposed pipe, siphons, ARVs, surface water, etc.)	☐	☐
4.2	Is the agency's maintenance, operations, engineering work orders periodically audited for accuracy and completeness?	☐	☐
4.2	Does the agency monitor "open," "overdue," or "not yet completed" work orders to ensure completion of tasks?	☐	☐
4.2	Are inspection and maintenance activities reducing the number and volume of spills?	☐	☐
4.2	Is maintenance work being completed as scheduled?	☐	☐
4.3	Has all training been completed as scheduled?	☐	☐
4.3	Have records of training and attendance been documented and maintained?	☐	☐
4.3	Have all staff demonstrated ability and knowledge after each training event?	☐	☐
4.3	Have contractors received, at a minimum, direction for reporting and responding to spills.	☐	☐
4.4	Have inventory lists been audited as scheduled?	☐	☐
4.4	Have any inventory deficiencies or omissions been discovered and rectified?	☐	☐
4.4	Has the agency experienced any equipment failure that inhibited a spill response?	☐	☐
Comments			

ELEMENT 4	
Corrections	
Reviewed By	
Approved By	

ELEMENT 5 – DESIGN AND PERFORMANCE PROVISIONS

ELEMENT 5			
No.	**Assessment Criteria**	**Yes**	**No**
5.1	Are the Agency ordinances and standards adequate for fulfilling the Sewer System Management Plan legal requirements?	☐	☐
5.2	Were any design or installation deficiencies found during warranty inspections?	☐	☐
5.2	Are deviations from standard procedures and/or specs, testing, etc., justified and documented?	☐	☐
5.2	Does the Agency stay abreast of industry design standards and technical advances in the industry?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 6 – ELEMENT 6 – SPILL EMERGENCY RESPONSE PLAN

ELEMENT 6			
No.	**Assessment Criteria**	**Yes**	**No**
6.0	Have staff spill response efforts helped to prevent the discharge of sewage to surface waters?	☐	☐
6.0	Do post-spill assessments indicate staff are following the procedures outlined in the SERP?	☐	☐
6.0	Is SERP training effective and trainees demonstrating adequate knowledge and abilities?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 7 – SEWER PIPE BLOCKAGE PROGRAM

ELEMENT 7			
No.	**Assessment Criteria**	**Yes**	**No**
7.0	Have there been any blockages/spills from any identified problem area?	☐	☐
7.0	Is the agency receiving feedback on public outreach efforts?	☐	☐
7.0	Is the debris and other sewage solids collected during cleaning activities being disposed of appropriately?	☐	☐
7.0	Have there been spills due to excessive fats, oil, grease, roots, or non-dispersible wipes discovered in the sewer system during the audit period?	☐	☐
7.0	Are there repeat offenders among FSEs?	☐	☐
7.0	Are enforcement trends decreasing?	☐	☐
7.0	Are Source Control and Collection staff included in the plan check process?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 8 – SYSTEM EVALUATION, CAPACITY ASSURANCE, CAPTIAL IMPROVEMENTS

ELEMENT 8			
No.	**Assessment Criteria**	**Yes**	**No**
8.1	Has the Agency maintained its schedule for CCTV inspections and is data being reviewed in a timely manner.	☐	☐
8.2	Number of capacity-related spills or surcharge condition during the audit period?	☐	☐
8.2	Has the system responded to rain events as indicated by the hydraulic model?	☐	☐
8.2	Has there been any changes to zoning designations (residential, commercial, industrial)?	☐	☐
8.3	Has the Agency adhered to its system evaluation/condition assessment schedule?	☐	☐
8.3	Has the Agency adhered to its prioritization/corrective procedures for sewer repair and capacity improvement projects?	☐	☐
8.3	Have projects been completed before deficiencies caused failures?	☐	☐
8.4	Has the agency's capital improvement plan schedule been adhered to?	☐	☐
8.4	Have there been any instances when a failure or service disruption occurred that would have been prevented if a project been completed?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

ELEMENT 9			
No.	**Assessment Criteria**	**Yes**	**No**
9.0	Are SSMP Elements being periodically evaluated for effectiveness?	☐	☐
9.0	Are work activities and spill events being documented?	☐	☐
9.0	Has a plan and schedule been established to address audit findings/deficiencies from the last audit?	☐	☐
9.0	Is Trend Analysis being performed on spill causes?	☐	☐
9.0	Have work programs been assessed and updated as necessary?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 10 – INTERNAL AUDITS

ELEMENT 10			
No.	**Assessment Criteria**	**Yes**	**No**
10.0	Have audits been performed as required?	☐	☐
10.0	Have the audits assessed compliance, implementation, and effectiveness?	☐	☐
10.0	Have deficiencies been identified?	☐	☐
10.0	Has a plan and schedule to rectify the deficiencies been established?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

ELEMENT 11 – COMMUNICATIONS PROGRAM

ELEMENT 11			
No.	**Assessment Criteria**	**Yes**	**No**
11.0	Does the agency place all Sewer System Management Plan action items on the agenda for regular counsel/board meetings?	☐	☐
11.0	Does the agency have signage, or other means, readily available to notify the public of environmental or public risk factors related to a sewage spill?	☐	☐
11.0	Does the agency perform outreach to residential customers?	☐	☐
Comments			
Corrections			
Reviewed By			
Approved By			

