Sewer System Management Plan (SSMP)

2025 Update

Sanitary Sewer Collection System

Waste Discharge ID (WDID): # 8SSO10574

City of Garden Grove






REVIEWED AND APPROVED BY:

WILLIAM MURRAY, PUBLIC WORKS DIRECTOR
Legally Responsible Official
Garden Grove Sanitary District

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

PREPARED BY:

FISCHER COMPLIANCE LLC
PRACTICES THAT COMPLY

Date Signed

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Revision Date	SSMP Section	Approval Date	Description of Change/Revision Made	Initials

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City of Garden Grove
Att: William Murray, Public Works Director
Legally Responsible Official (LRO)
11222 Acacia Parkway
Garden Grove, CA 92840

Dear William,

We are pleased to present the new 2025 Sewer System Management Plan (SSMP) Update developed in partnership with the Garden Grove Sanitary District or 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

This Sewer System Management Plan (SSMP) or "Plan" has been prepared for the Garden Grove Sanitary District (hereafter, City) with technical assistance from Fischer Compliance LLC 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 WDR). The City provided all details, information and institutional insights for preparation of the SSMP. The document has been developed to meet the size, scale, and complexity, serving as a "living document" used as a tool for managing and operating the City's sanitary sewer collection system. Additionally, the latest 2024 Sewer System Management Plan Guidance Manual published by the Bay Area Clean Water City (BACWA) was utilized as a model for development of the document to harmonize formatting/content and incorporate recommended suggested guidance wherever possible.

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.

Figure 1 provides key City spill metrics, including data comparing the City's spill record with state and regional system data. The City consistently performs below both statewide and regional spill rate indices and net spill volumes for all categories of spills from its sanitary sewer collection system.

SEARCH CRITERIA: [REFINE SEARCH] [NEW SEARCH] [GLOSSARY]
WDID (**10574**)
Date Range: Start_Date (**04/01/2020**) End_Date (**04/01/2025**)

DRILLDOWN HISTORY: [GO BACK TO LISTING OF COLLECTION SYSTEMS]
Garden Grove City CS
Agency: Garden Grove Sanitary District

General Information

Region	Place ID	Place Name	CS Category	Place Address	Place County
8	256400	Garden Grove City CS	Municipal(Public)	13802 Newhope Garden Grove CA 92843	Orange

Collection System Spill Summary

Operational Indices: Garden Grove City CS

Spill Rate Indice (spills/100mi/yr)							
	Category 1			Category 2		Category 3	
	Main System	Laterals	Other	Main System	Other	Main System	Other
Garden Grove City CS	0.06	N/A	0.0	0.0	0.0	0.72	0.0
State Municipal(Public) Average	1.7	N/A	0.99	0.91	1.5	2.36	0.46
Region Municipal Average	0.32	N/A	0.1	0.4	0.68	0.57	0.38

Net Volume Spills Indice (gallons/1000 Capita/yr)							
	Category 1			Category 2		Category 3	
	Main System	Laterals	Other	Main System	Other	Main System	Other
Garden Grove City CS	0.07	N/A	0.0	0.0	0.0	0.0	0.0
State Municipal(Public) Average	3568.5	N/A	2001.2	170.74	1274.98	47.87	16.65
Region Municipal Average	72.1	N/A	24.18	30.68	103.7	1.12	0.1

Introduction: Figure 1-1 (Collection System Operational Report – SWRCB CIWQS, 04/01/2020 to 04/01/2025)

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[1]

ASM	Administrative Services Manager
BMP	Best Management Practices
CCTV	Closed Circuit Television
CIP	Capital Improvement Program
CIPP	Cured in Place Pipe
CIWQS	California Integrated Water Quality System (State Water Board Online Spill Database)
CMMS	Computerized Maintenance Management System
EPA	US Environmental Protection City
FOG	Fats, Oils and Grease
FSE	Food Service Establishment
GCD	Grease Control Device
GIS	Geographic Information System
GM	General Manager
HCFLS	High Cleaning Frequency Line Segments
I & I	Inflow and Infiltration
LRO	Legally Responsible Official
MRP	Monitoring and Reporting Program
NPDES	National Pollutant Discharge Elimination System
PLCO	Property Line Clean Out
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 issued by the State Water Board (Order No. 2022-0103-DWQ)
SWRCB	State Water Resources Control Board
WDID	Waste Discharge ID Number (CIWQS)

Introduction: Table 1 Abbreviations and Acronyms

[1] *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[2] 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. Moreover, 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, lift station maintenance, root control, source control and pipe repair, 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 with a proven track record of effectively operating its sanitary sewer collection system with the highest levels of service, complying with the WDR, and reducing/eliminating sewage spills.

[2] *State Water Resources Control Board, Statewide Waster Discharge requirements, General Order for Sanitary Sewer Systems*

EFFECTIVENESS

N/A

IMPLEMENTATION PLAN/SCHEDULE

N/A

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 completed for the period 5/2/21 to 5/2/24.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

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?

Sewer System Management Plan & Audit Required Due Dates
Transition from General Order 2006-0003-DWQ to Reissued General Order

Search by Waste Discharge Identification (WDID) Number

Enter your Waste Discharge Identification (WDID) number in the search field to retrieve the required Sewer System Management Plan (SSMP) Update and Audit due dates for your system.

8SSO10574

Show Update/Audit Dates

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*
Garden Grove City CS	8SSO10574	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**
Garden Grove City CS	8SSO10574	5/2/2011	5/2/2013	5/2/2015	5/2/2017	5/2/2019	5/2/2021	5/2/2024

* Per Section 5.5 and Attachment E1, Section 3.11 of the General Order, Plan updates are due within six years after the required due date of the Enrollee's last Plan Update.

** Per Section 5.4 and Attachment E1, Section 3.10 of the General Order, the Audit Report is due within six months after the end of the required 3-year audit period.

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

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Eng	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 5/2/2031	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.*
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

Formed in 1924, the Garden Grove Sanitary District was formed to provide sewer services to the unincorporated areas of Garden Grove. During the 1950's and 1960's, like the rest of western Orange County, the City of Garden Grove underwent a transition from rural agricultural land use to an urban environment of predominantly single-family homes and neighborhood commercial centers. The Sanitary City has played a significant role in the dramatic development of the region, providing vital sanitary services to the residents of Garden Grove. In 1993, the City began the process to consolidate sanitation services of two special Cities, the Garden Grove Sanitary and Midway City Sanitary City, into one provider, the City of Garden Grove. In May of 1997, the City officially consolidated its sewer maintenance, refuse collection, and recycling efforts under one organization, the Garden Grove Sanitary District. The Garden Grove City Council acts as the Board of Directors of the Garden Grove Sanitary District.

The City currently provides collection wastewater services to a service area with a total population of approximately 186,000, including serving parts of other nearby cities City and unincorporated areas of Orange County (see Figure 1, below). The City owns 327 miles of gravity main sewers (diameters ranges from 6 to 24 inches), approximately 37,100 sanitary sewer system connections, and 3 pump stations.

The City has an internal procedure for continuous sewer map updates, completed within 30 days of discovery) using GeoViewer and Nobel mapping software programs. The City does not have any stormwater diversion structures.

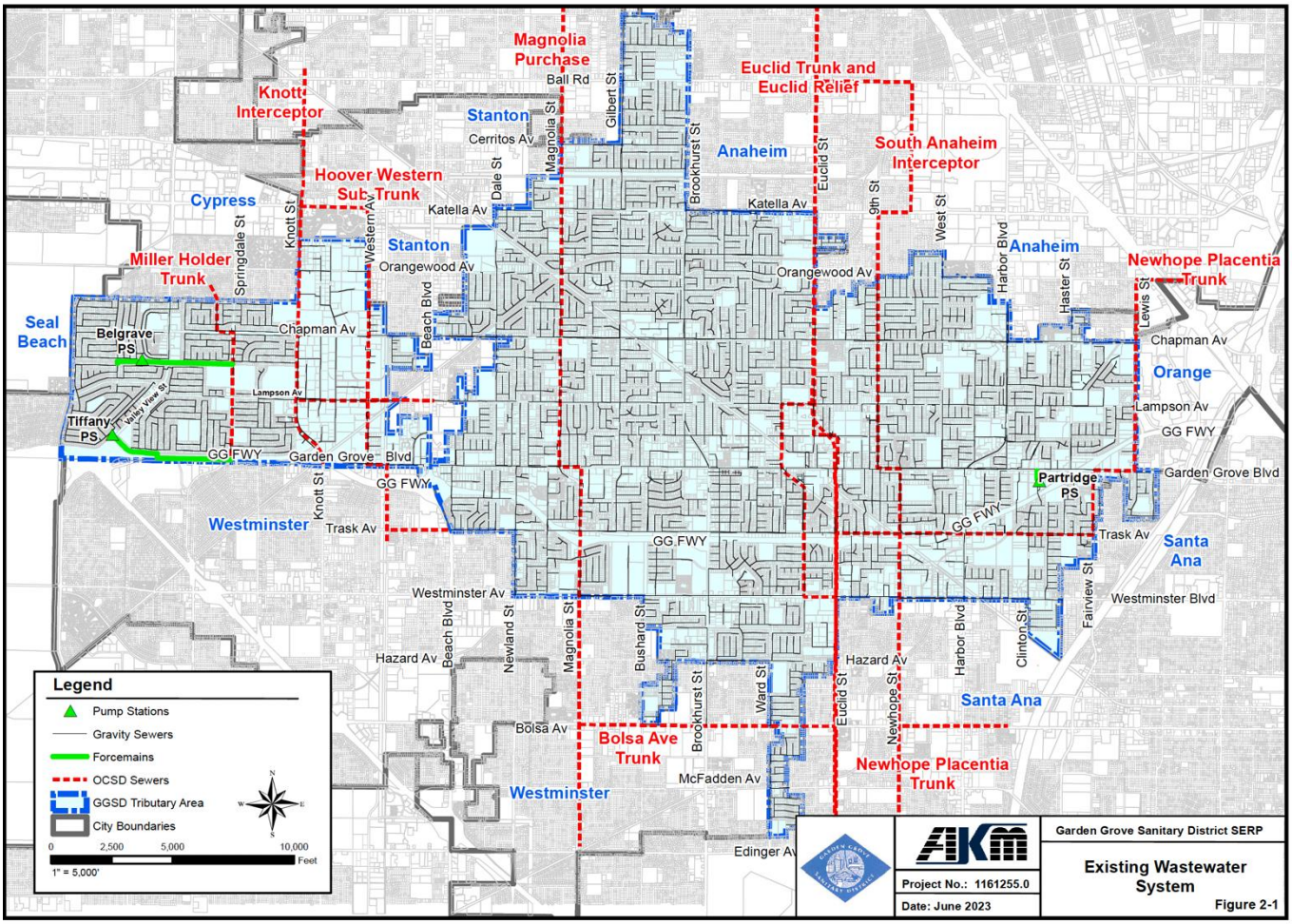

Figure 1-2 – City Vicinity Map and Service Area

Table 1-1 below provides a breakdown of estimated customer connection flow data and number of connections for residential, commercial industrial, and institutional sources.

Use Type	Flow (MG) – Total of 22 MGD	Number of Connections (371,000)
Residential (70%)	15.4	25,970
Commercial (15%)	3.3	5,565
Institutional (19%)	1.1	1,855
Industrial (5%)	2.2	3,710

Table 1-1 – City sewer connection flow classifications and connections data

Overall, the City has put itself in good position to maintain its collection system. There are few service area challenges listed below.

- Force Main sewer routes near flood control channels
- Private property easement challenges for routine cleaning access
- Private property easement authority violations periodically from construction of Accessory Dwelling Units (ADUs) and other structures built over City sanitary sewer mainlines.

System maps, include gravity mains, manholes, lift stations, siphons and other collection system features and are complete, accurate, up-to-date and available to all staff through the CMMS database.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- 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		
			Dir	Eng	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:

1.1. 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 adopted its previous SSMP in 2020 as required by the previous WDR (Order No. 2006-003-DWQ, rescinded. This SSMP has been completed updated to meet the requirements of Order WQ 2022-0103-DWQ and addresses all required Elements and Specifications required by the Reissued WDR (Order No. 2022-0103-DWQ). 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 and 8 and Specifications 5.19 of this SSMP for more details).
The City keeps up with current industry standards, technology and best practices by reviewing industry periodicals, networking and attending industry conferences 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 various revenue sources to maintain financial stability, meet its operational needs and manage all necessary expenditures for its sewer system operation. The primary source of revenue is the annual Sewer Service Rate Charge, which is collected from customers and used for:

- City's share of operation and maintenance for improvements, including equipment replacement, and modification
- Maintenance and operation of City wastewater collection and conveyance system
- Collection system maintenance equipment and construction
- General administrative services
- Extension of service of collection system
- General and unappropriated reserves

The City collects a Connection fee that funds the installation of facilities to areas not yet served and to upsize pipes to ensure adequate capacity. 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 City, and State Office of emergency Services.)*

COMPLIANCE

The above items are addressed in the order below:

Mr. William Murray, Public Works Director is designated as the City's Legally Responsible Official who meets the requirements set forth in Specifications 5.1 of the re-issued Order (WQ-2022 0103-DWQ).

1. Rebecca Li, P.E. (Senior Engineer) is responsible for the development and enforcement of the City's engineering standards, manages the Capital Improvement Plan (CIP), sewer repair programs, flow monitoring, hydraulic modeling and risk assessments.
2. Steven Porras, Public Works Supervisor is responsible for planning, organizing and evaluating the work of operations field staff responsible for all operations and maintenance activities, including spill response activities.

IMPLEMENTATION RESPONSIBILITIES

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

Table 2-1 – Implementation Responsibilities

RESPONSIBLE POSITION CONTACT INFORMATION

Responsible Position Contact Information	Phone	Email
Steve Porras (Public Works Supervisor)	(714) 741-5347	stevepo@ggcity.org
Allen Kirzhner (Public Works Foreman)	(714) 741-5976	allenk@ggcity.org

Table 2-2 – Responsible Position Contact Information

2.1. Organizational Lines of Authority

Task	Board of Directors/ District Manager	Water Services Manager	Sanitation Supervisor	Public Works Foreman	Field Crews
SSMP Development Plan and Schedule	Reviews, Approves				
Legal Authority	Reviews, Approves	Oversees			
Final SSMP Document	Reviews, Approves	Oversees			
Sewer Funding Plan	Reviews, Approves	Oversees			
Goals of SSMP	Implements	Oversees			
Organization of SSMP	Reviews, Approves	Oversees	Participates		
Up to Date Map of Collection System, Pumping Facilities, and Stormwater Conveyances		Oversees	Participates	Participates	
System Evaluation and Capacity Assurance Plan		Oversees	Participates		
Sewer System Rehabilitation Plan		Participates	Oversees	Participates	
FOG Outreach		Participates	Oversees	Participates	
Plan for FOG Disposal		Participates	Oversees	Participates	
FOG Source Control Measures		Participates	Oversees	Participates	
Design and Construction Standards		Oversees	Participates		
Procedures and Standards for Inspection and Testing		Oversees	Participates	Participates	
SSMP Monitoring		Participates	Participates	Participates	
SSMP Internal Audits		Oversees	Participates	Participates	
SSMP Program Updates			Participates	Participates	
SSMP Communication Program		Oversees			
Overflow Emergency Response Plan			Oversees	Participates	Implements
Operation and Maintenance Program		Participates	Oversees	Participates	Implements
CCTV Inspection and Condition Assesment			Oversees	Participates	
SSO Trend Maintenance			Oversees	Participates	
Staff Training Program			Oversees	Participates	
Equipment Inventory			Oversees	Participates	
Sanitary Sewer Overflows			Reports		
CIP Plans, Specifications, and Estimate Standards		Oversees			
Construction Management and Inspection Staff Work		Directs			

Figure 2-3 – Organizational Lines of Authority

2.2. Abbreviated Organizational Chart

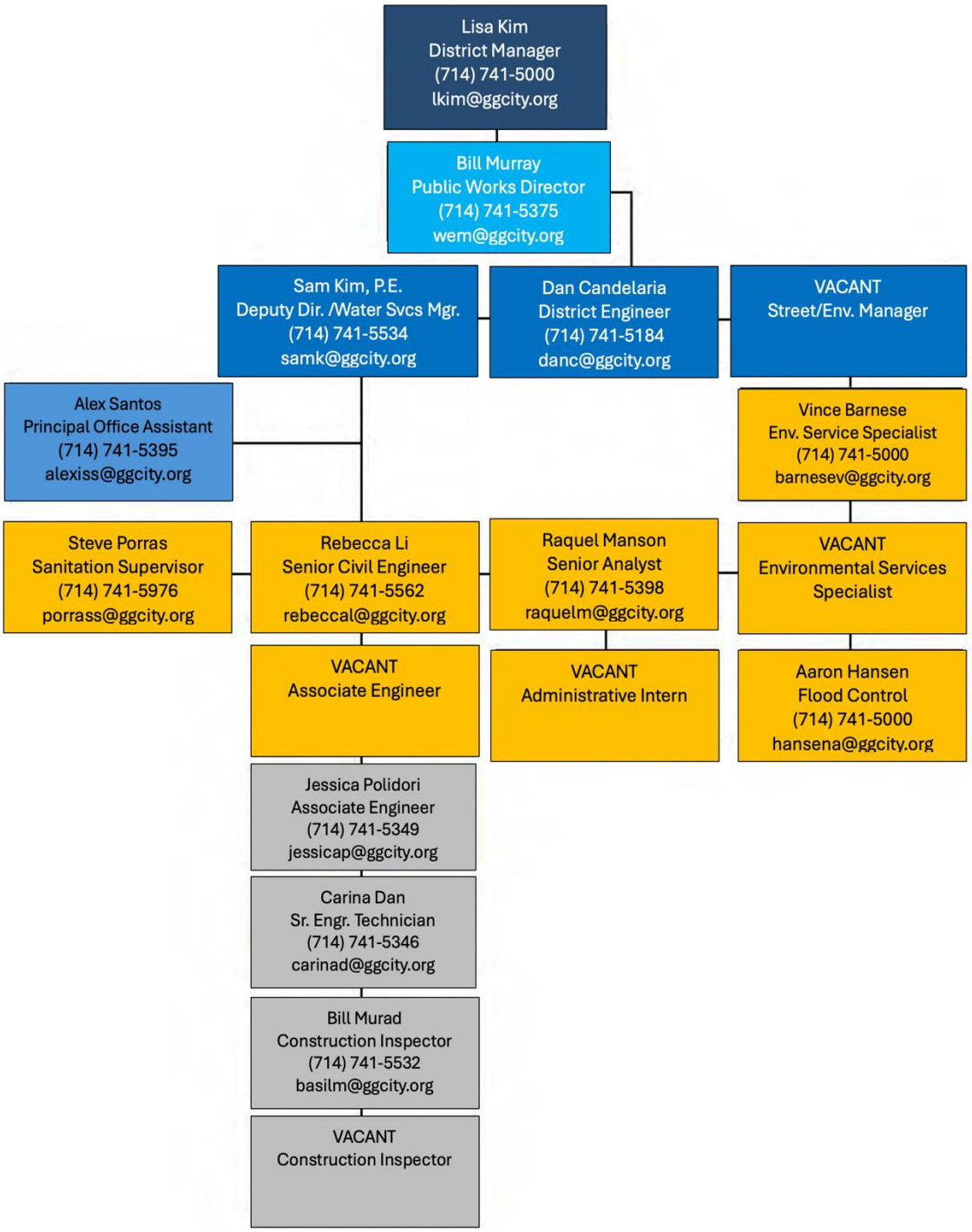

Figure 2-4 – Abbreviated City Organization Chart

2.3. Chain of Communication for Reporting Spills

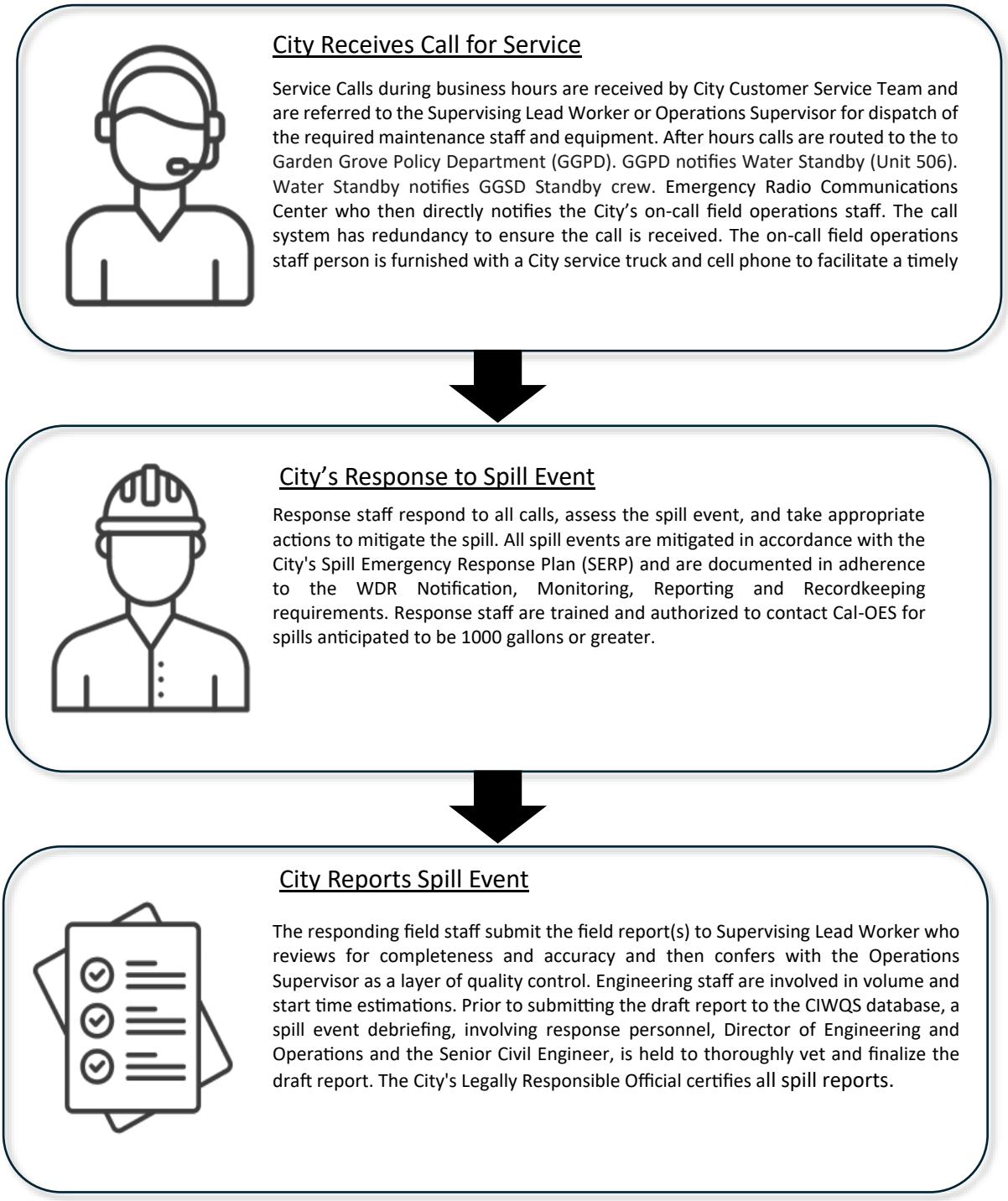

Figure 2-1 – Chain of Communication for Reporting Spills

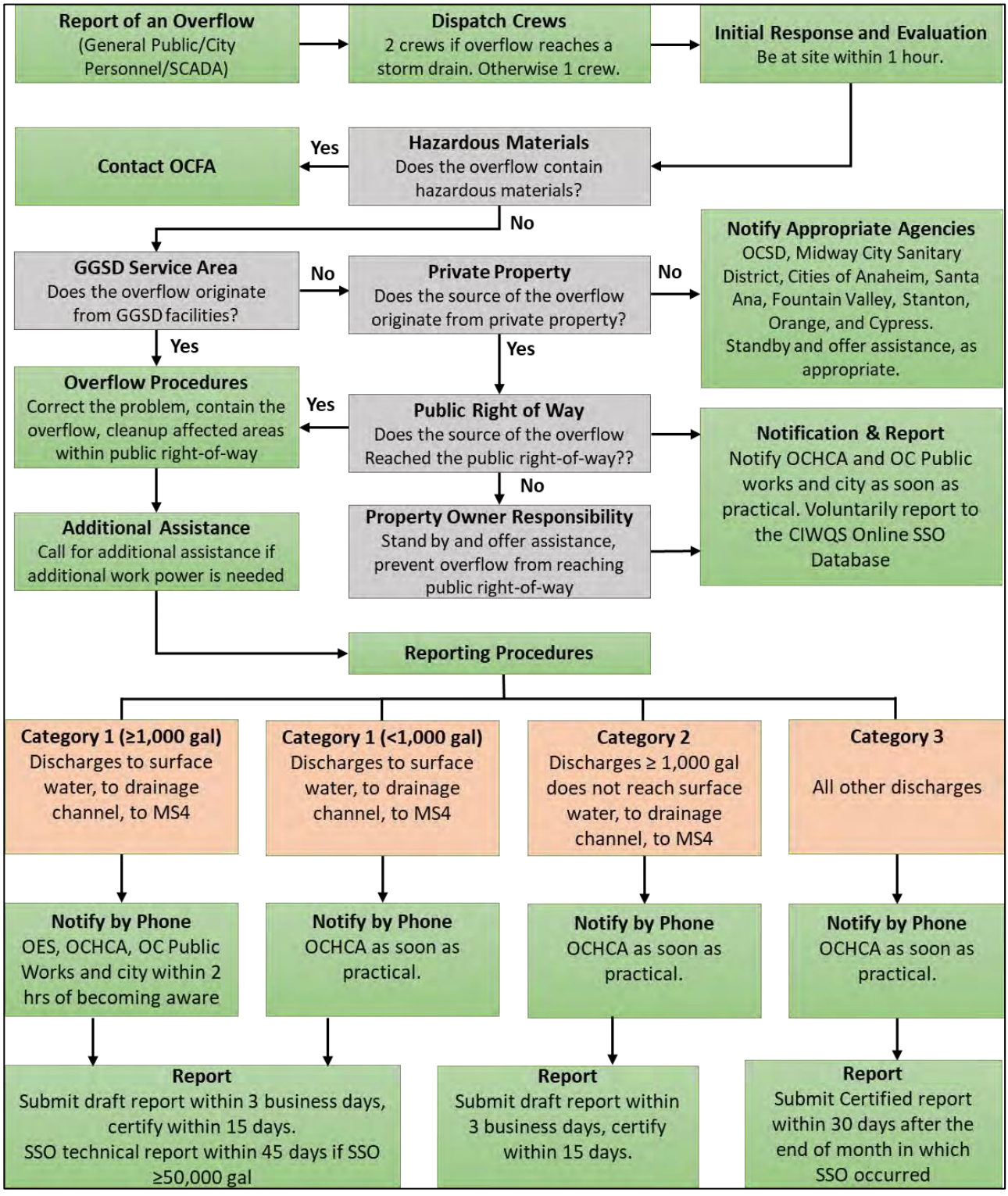

Figure 2-4 - Spill Emergency Response Plan Procedures

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

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		
			Dir	Eng	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 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

Title 4 of the City's Code of Regulations, regulates the disposal of sanitary sewage into the City's sanitary sewer system to protect the proper functioning of the collection system.
Title 4 includes, but is not limited to the following key provisions:

4.010.050-4.10.100	4.10.050 Discharge of objectionable materials - Regulations 4.10.060 Discharge of corrosive harmful wastes 4.10.070 Rain and surface water prohibited 4.10.080 Automobile washing areas regulated 4.10.090 Opening manhole prohibited 4.10.100 Discharge into sewer manholes regulated
Ordinance No. 6	Fats, Oils, and Grease (FOG) requirements

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

Each City served by the City, owns and operates the storm drain systems in their service areas. The City currently can access all storm drain facilities when needed and is working to enter into agreements with each City. The City currently possesses GIS map layers for all storm drain systems, which is available to City staff via phones and tablets. The City also participates in the Orange County WDR Committee and WEROC Committees for improving access to storm drain facilities, emergency resources/coordination, and access to relevant stormwater m maps.

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

Design Criteria for Sewer Facilities, Sewer Standard Drawings, and American Public Works Association Standard Specifications for Public Works Construction (Green Book) establish the standards and criteria to which sewers are to be constructed and connected to the City's wastewater collection system. Design Criteria for Sewer Facilities includes, but is not limited to the following key provisions:

Sections 1-19	Design Criteria for Sewer Facilities (minimum pipe size, depth to diameter ration, design flow criteria, stationing procedure, pipe materials, cleanouts, minimum velocity, maximum slope, standard location and alignment, minimum depth, manhole design requirements, separation requirements between utilities, inspection and testing, standard sewer notes)
Section 13	Cleanouts and Backflow Protective Devices
Section 18	Responsibility for Defects (CCTV inspection requirements)

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

Code of Regulations, Title 4, Chapter 4.10.120	Maintenance of residential connections outlines obligations of property owners regarding maintenance of residential connections.
Code of Regulations, Title 4, Chapter 5.10.230	Sanitary Sewer Maintenance Required
Code of Regulations, Title 4, Chapter 6.20.010	Sanitary Sewer Maintenance Inspections (the code states "The City may inspect as often as it deems necessary…every sewage pumping plant, sewage treatment plant, industrial liquid waste pretreatment plant, residential sewer, grease control device, dilution basin, neutralization basin, backwater trap or valve, or other similar appurtenance to ascertain whether such facilities are maintained and operated in accordance with the provision of this Code").
Ordinance No. 6	Fats, Oils, and Grease (FOG) inspections

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

The following Sections of the City Code of Regulations address enforcement actions for violations.

Code of Regulations, Title 4, Chapter 6.20	Code Enforcement (maintenance inspections, sewage overflow, disconnection authorized, cost recovery for violations, arrest authority, notice of violation, permit suspension/revocation).
Code of Regulations, Title 4, Chapter 6.20	Payment and Enforcement of Fees (bill payment, returned checks, aged overdue payments, service termination authority, notice/hearing, reconnection/reimbursement, habilitation during disconnection declared a public nuisance).
Ordinance No. 6	Spill enforcement (provisions for the issuance of administrative citations and cost recovery procedures to collect payment for resources utilized to contain and clean up areas affected by sewage spills)

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

The City's Design Criteria for Sewer Facilities, Section 7, includes detailed requirements for sewer facilities within easements. The City also maintains agreements with the following sewer agencies (see Appendix 3 for details):

- Anaheim, Orange, Stanton, Midway, Santa Ana

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

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		
			Dir	Eng	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:

- 3.1 – City of Anaheim Agreement
- 3.2 – City of Orange Agreement
- 3.3 – City of Stanton Agreement
- 3.4 – City of Midway Agreement
- 3.5 – City of Santa Ana Agreement

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

The City keeps up-to-date GIS files of its sewer and storm water facilities. The GIS is available on the City's intranet and is maintained by the City's Information Technology Division and the Water Services Division. The Water Services Division catalogues the plans, paper records, and all the database information that needs to be inputted into the GIS. Information for the following items is included in the GIS database:

- Pipes
- Manholes
- Hot Spot Log
- Inverted Siphons
- Pump Stations
- Force mains
- Storm Drains
- Catch Basins
- 5-foot contour data

To comply with the WDR requirements, the City has prepared sewer and storm drain maps which are kept up to date utilizing an internal procedure. Problems discovered are submitted to City GIS staff and are updated timely within problem discovery. Maps include all required pertinent details including but not limited to pipe diameters, gravity sewers, force mains, street flow arrows and a layer in GUS of the storm drains within the City service area.

Maintenance staff can readily locate themselves in the field from phones, tablets and laptops through a GPS feature and can activate drawing layers containing aerial maps, gravity mains, force mains, manholes, pump stations, property boundaries and addresses, creek locations, and storm drain mapping. Other information available to maintenance staff includes work order lists, pipe cleaning history, and pipe asset information (ID number, diameter, flow direction, segment length, material type, and age).

The City will provide State and Regional Water Board staff access to maps upon request.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- 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		
			Dir	Eng	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 City manages its cleaning and maintenance activities through its Computerized Maintenance Management System (CMMS), a GIS Intranet program that tracks the maintenance activities, which includes but are not limited to the following:

- Work Orders
- Routine Cleaning
- Spot Cleaning
- Emergency Repairs
- Manhole Inspections
- CCTV Recording and Inspection Report
- Pest Control
- Sewer Line Foaming
- Root Treatment
- Smart covers/Telog Tracking
- CCTV camera with lateral launch capability
- Food Service Establishments (Grease Control Devices)
- Sewer Spill Locations

The City's current CMMS program was developed by its Information Technology (IT) Department. The database associated with the CMMS was first developed using the Munsys GIS software. The database was converted to Esri-based software in 2017. The CMMS provides the following:

- Automated graphical reporting (Routine Maintenance, Hot Spot Cleaning, CCTV, etc.)
- Automated summary reports (Routine Maintenance, Hot Spot Cleaning, CCTV, etc.)
- Links to CCTV videos and maintenance photos
- Automatic update of CCTV inspection to GIS shapefiles
- Link between sewer repair reports to sewer ID
- Pump Station work order documentation (future improvement)
- Vehicle work order documentation (future improvement)

The City utilizes GeoViewer software for tracking inspection and maintenance activities within the collection system by to help proactively prevent blockages/operational problems or spills. The City uses Geoviewer as its CMMS Computerized Maintenance Management System (CMMS) for work orders and documenting field inspection data and monitoring completed work orders and field production for cleaning and CCTV. The City's current inspection program was developed by its internal Information Technology (IT) Department. The database associated with the CMMS was first developed using the Munsys GIS software. The database was converted to Esri-based software in 2017.

The CMMS provides the following:

- Automated graphical reporting (Routine Maintenance, Hot Spot Cleaning, CCTV, etc.)
- Automated summary reports (Routine Maintenance, Hot Spot Cleaning, CCTV, etc.)
- Links to CCTV videos and maintenance photos
- Automatic update of CCTV inspection to GIS shapefiles
- Link between sewer repair reports to sewer ID
- Pump Station work order documentation (future improvement)
- Vehicle work order documentation (future improvement)

Mapped locations located throughout the sewer service area. Individual problems are addressed with repair and specialized capital projects. Simple spot repairs and completed by City staff with outside contracted services. GeoViewer is used to document specific work activities including cleanings and inspections. 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, pipe cleaning and pump station maintenance activities. In addition, the CMMS is used to plan and schedule higher-frequency inspection and maintenance activities such as Hot Spot cleaning and selective root control activities. Emergency and other reactive activities are documented in work orders as well. The GeoViewer allows staff to put certain activities on a preventive schedule where the CMMS automatically create work orders on a prescribed interval. Work orders are not specifically generated but can be monitored by management for tracking field staff activities on an as-needed basis. City Engineering or outside consultants are utilized to review problem locations (rated in NASCCO PACP rating system).

The City maintains a goal of cleaning the entire collection system every 24 months with a 3,000 ft cleaning goal per day). The City maintains 78 individual "hot spot" locations with targeted cleaning frequencies of 1-month, 3-month, and 6-month intervals. The City established a reduction program in early 2025 to further help reduce the total number of "hot spot" locations throughout the system. Approximately 20 individual locations have been removed and addressed with individual repairs since the program began.

The City has a comprehensive manhole inspection program implemented by CCTV and cleaning crews which include comprehensive data collection.

The City addresses tree root issues with chemical root control on an as-needed basis including easement areas where required.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Is the City maintenance, operations, engineering work orders periodically audited for accuracy and completeness?
- Does the City 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		
			Dir	Eng	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

The City's training program covers several areas involving or associated with wastewater collection systems and serves to develop and maintain highly qualified, knowledgeable, and capable staff. This training is provided through a variety of modes (self-study, seminars, conferences, on-the-job, etc.) and begins from the first day on the job and continues regularly thereafter. The City have established a contract for outside training support to supplement internal efforts.

The City requires its staff members to obtain/maintain California Water Environment Association's (CWEA) certification, which is the current industry standard for training and certifying sewer collection system maintenance staff. Failure to meet these requirements may ultimately be a cause for termination or reassignment. Currently, the City staff members hold the following CWEA certification (shown in Table X below).

The City utilizes the following options to meet the requirements of its validated training program:

- Bi-weekly all hands safety training
- Annual confined space training
- Attendance of training sessions for new equipment and on the latest technologies
- Attendance of seminars and conferences on areas concerning sanitary sewer systems
- Attendance of classes on sanitary sewer systems
- Training on CMMS software

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 CITY staff arrives and relieves them.

Training documentation includes date and time of training, agenda, the instructor, and the list of attendees. The City bi-weekly internal training program includes topics that range from sanitary sewer overflow response to general health and safety to proper maintenance techniques.

The City requires staff to be certified by the California Water Environment Association (CWEA). A list of certified staff are provided below.

Staff	Certification Info.
Stephen Porras, Sanitation Supervisor	Grade III (#90623004)
Allen Kirschner, Sanitation Lead	Grade III (#100522003)
Frank Howenstein Repair/Construction Foreman	Grade III (#90623004)
Jose Gomez Senior Sewer Maintenance Worker	Grade II (#80722112)
Jesse Viramontes Senior Sewer Maintenance Worker	Grade II (#80122007)
John Zavala Heavy Equipment Operator	Grade II (#90623004)
Victor Blas Sewer Maintenance Worker	Grade I (#80721005)
Frank De La Rosa Sewer Maintenance Worker	Grade II
Brandon Nunez Utility Worker	Grade II (#1308216493)
Michael Guerrero	Grade I (#1308220071)

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- 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		
			Dir	Eng	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 City maintains a host of equipment for both routine maintenance and for contingency or emergency operations. In an emergency where sewage bypass pumping is required, the City has several pump options depending upon the particular situation and flow requirements.

The City maintains an inventory of replacement parts which is currently being updated, including those deemed to be critical parts, for each pump station and a modest supply of material for the repair of pipe and manholes.

Repairs to pipelines and manholes, or electrical issues at pump stations, are typically performed by outside contractors that the City currently has ongoing contracts with. These contractors are on an on-call open service contract with the City to provide emergency and routine service when requested. If the need should arise where the magnitude of repair is beyond the capabilities of the service repair contractor, a standing contract is available with a major construction contractor with vast resources. Similarly, the electrical needs of the City's pump stations are met utilizing an on-call electrical contractor. Engineering support or consultation, if needed, is available through existing engineering consultant contracts.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

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

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Eng	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 in training exercises.
- Monitoring equipment and critical spare parts usage for and trends.
- Performing periodic audits of the Vehicle and Equipment Inventory List.

APPENDIX 4 INCLUSIONS:

- 4.1. Equipment and Critical Spare Part Inventory List
- 4.2. Pump Station Inspections and Troubleshooting Checklists

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 sanitary sewer overflows (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.

a. Prioritization and Scheduling

The prioritization and scheduling of the City's preventive maintenance program is enhanced by the capabilities of CMMS, 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 CMMS database. The linking of the City's GIS and CMMS 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, manholes, and pump stations. 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.

b. Pipeline Cleaning

The cleaning of the City's sewer mains constitutes the largest maintenance activity in the City. Based on prior cleaning history and resource capabilities, it was determined that an effective cleaning frequency to be used for routine mainline maintenance is twenty-four (24) months. To increase efficiency and minimize travel time, the City's service area is divided into geographic zones, or Geozones, so that mainline cleaning in a particular zone would generally be cleaned during its designated month, or once every two years.

c. Pipeline Inspections

Inspections of the City's sewer mains are made using the City's CCTV van equipped state-of-the-art motorized cameras, and an easement mainline (push) camera. As part of the inspection process, each pipe is evaluated and assigned a condition rating using the NASSCO PACP rating system. For more detailed

information on this effort, see Element 8 below. Easement area issues with tree roots are also addressed with chemical root control on an as needed basis.

d. Pump Station Maintenance

The City owns and maintains three (3) sewer pump stations: Tiffany Pump Station, Belgrave Pump Station, and Partridge Pump Station. The City eliminated the Harbor- Edinger Pump Station by diverting the flow by gravity to the Orange County Sanitation City's Newhope-Placentia Trunk Sewer on Harbor Boulevard and Heil Avenue. The tributary sewers were annexed to the City of Fountain Valley, who now maintains the service in this area. Pump stations are inspected on a daily, monthly, and semi-annual frequencies. For inspection procedures, see Appendix 4.2.

e. Pipeline Cleaning Equipment/Tools

The City utilizes a variety of tools and equipment to perform the required maintenance for mainlines , depending on the location, expected debris type, and accessibility. The two primary cleaning methods for mainlines are high velocity cleaning (HVC). Performing HVC cleaning requires the use of a Vactor Jetter or Combination (vacuum) unit. HVC trucks are outfitted with a complement of nozzles and cutters that enable the crew to clean a variety of different sizes of pipe as well as remove different types of debris. This method is utilized when truck access is available and where the lines are safe to clean without causing residential backups.

f. Service Call Procedures

The City office is open Monday through Friday from 08:00 to 05:30 pm except for City holidays. All regular business hour service calls are typically received by the administrative staff or the Operations office. If received by the administrative staff, the call is referred directly to the Supervising Lead Worker or Operations Supervisor. All after hour calls are automatically routed to the City Police Department Emergency Radio Communications Center who then directly notifies the City's on-call field operations staff via an assigned mobile phone. The on-call field operations staff is available 24 hours a day during their on-call period and is furnished with a service truck and equipment to facilitate a timely response. A response time goal for the City is to provide a response within 30 minutes for service calls during work hours and within 60 minutes for service calls made after hours.

City service trucks are adequately equipped to manage blockages. These trucks also have spill containment devices to prevent minor spills from entering a storm drain inlet or channel. Should the situation require larger equipment and staffing, the on-call person would contact a secondary on-call staff, and any additional staff as needed. The additional staff would obtain the required equipment from the City yard prior to travelling to the emergency site. Documentation of each callout request is recorded in CMMS and assigned a work order.

Should the service call involve a Category 1 spills, the Operations Supervisor would be contacted to make the necessary notifications to California Office of Emergency Services (CalEMA - OES). For response procedures referenced in the Spill Emergency Response Plan (see Appendix 6.1 for more details).

g. Sewer Rehabilitation

Sewer rehabilitation projects account for a majority of the City's CIP expenditure and requires a significant effort from Engineering Department resources. Most sewer rehabilitation projects typically address the rehabilitation or replacement of miles of sewer main and manholes in a defined area or basin that has been

identified in the City Risk Model as “high risk” to the City. For more detailed information on this effort, see Element 8 below.

Corrective Maintenance and Sewer Repairs

Isolated mainline repairs are addressed through the City’s Capital Improvement Program and ongoing repair funds,

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 documents used for design and performance evaluations include the following:

- Design Criteria for Sewer Facilities
- Sewer Standard Drawings
- Standards Specifications for Public Works Construction (Green Book)

The Design Criteria for Sewer Facilities document and standard plans that are on file at the Municipal Service Center and can be downloaded from the City of Garden Grove's official website:
https://ggcity.org/pdf/pw/landdev/Sewer%20Standard%20Specs.pdf

The Sewer Standard Drawings are on file at the Municipal Service Center and can be downloaded from the City of Garden Grove's official website at:

https://ggcity.org/pdf/pw/landdev/Series%20S.pdf

a. Standards for Installation, Rehabilitation, and Repair

The Reissued WDR requires that the City possess, "Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for rehabilitation and repair of existing sewer systems."

b. Design Criteria for Sewer Facilities

Standards for design and construction of sewer facilities are included in the City's Design Criteria for Sewer Facilities document. Topics covered in this document include, but are not limited to the following:

- Minimum Pipe Size Minimum Velocity
- Pipe Depth to Diameter Ratio Minimum and Maximum Slope
- Design Flow Criteria Standard Location and Alignment
- Stationing Procedure Minimum Depth
- Sewer Pipe Material Manhole Design Requirements
- Clean-Outs Separation Requirements between Utilities
- House Laterals Private Sewer System

- Sewer Pump Station Design Requirements Standard Sewer Notes
- Sewer Standard Drawings

The City's Sewer Standard Drawings include details for manholes, laterals, joints, cleanouts, bedding, concrete encasements, concrete slope anchors, steel casing pipes, wye connections, PVC liner, gas flap installation, grease interceptors, and criteria for separation of water and sewer mains.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

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

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Eng	Sup
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

a. Standards for Inspection and Testing of New and Rehabilitated Facilities

The Reissued WDR requires that the City possess, "Procedures and standards for inspecting and testing the installation of new sewers, pump stations, and other appurtenances and for rehabilitation and repair projects." Standards for the inspection and testing of the City's sewer facilities are included in the Design Criteria for Sewer Facilities document and the American Public Works Association Standard Specification and Drawings for Public Works Construction ("The Greenbook"). The inspection and testing procedures shall adhere to the following:

- CCTV Inspection (Greenbook 306-1.4.1)
- Water Exfiltration Testing (Greenbook 306-1.4.2)
- Water Infiltration Testing (Greenbook 306-1.4.3)
- Air Pressure Test (Greenbook 306-1.4.4)
- Water Pressure Test (Greenbook 306-1.4.5)
- Equipment Installation and Testing (Design Criteria for Sewer Facilities 17.28)

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- 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		
			Dir	Eng	Sup
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 interCity 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 AKM was completed in 2023 (see Appendix 6.1). 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.

The City regularly communicates with its satellite sewer system agencies (see Element 2 above), and routinely participates in the Orange County WDR Committee and WEROC for additional backup emergency support for supplementing emergency operations and resources.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- 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		
			Dir	Eng	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:

- 6.1. Spill Emergency Response Plan (SERP)

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

The City initially completed and certified its FOG Control Program on May 1, 2009. As part of this SSMP report document, the City has provided an updated and expanded FOG Control Program that complies with the aforementioned Waste Discharge Requirements.

a. Public Education/Outreach

The Reissued WDR requires the City to manage "an implementation program and schedule for a public education outreach program that promotes proper disposal of FOG". The City's public education and outreach program includes topics such as proper Fats, Oils, and Grease (FOG) disposal procedures, kitchen best management practices, grease control device maintenance, etc. The City's outreach consists of the following:

- FOG Control Program (document provided to Food Service Establishments (FSEs)
- FOG control and Sanitary Sewer Overflow (SSO) prevention brochures
- Water utility bill inserts
- Grease lids and information for proper disposal for residents that have had a FOG induced spill.
- Public awareness at school outreach events and municipal events
- Outreach media – i.e. rulers, notepads, bracelets, pens and pencils
- Sewer saver display
- Knock the Grease Goblin out of the Sewer game

The public informational material regarding proper FOG disposal is provided in the following languages:

- English, Spanish, Korean, and Vietnamese. The City also posts educational information on the City of Garden Grove's website: https://ggcity.org/environmental-compliance/environmental-compliance-businesses

b. FOG Disposal

A list of liquid waste haulers that are registered with the County of Orange Health Care Agency is provided to the FSEs by the City. The list details waste haulers that are capable of servicing grease interceptors and grease traps. Orange County Sanitation City (OCSD) treatment facilities are the approved locations for disposal of FOG and wash water disposal.

C. Legal Authority and Other Requirements

The City's Code of Regulations and Ordinance No. 6 , FOG Control Regulations Applicable to FSEs, provide the legal authority to regulate the FOG discharges and identify measures to prevent SSOs and blockages caused by FOG. It prohibits FSEs from the following activities:

- Disposing wastewater with FOG concentrations of more than 200 ppm, into the sewer collection
- system (Code of Regulations, Section 4.10.050)
- Using food grinders (Ordinance No. 6, Section 4.30.030A)
- Adding FOG emulsifying agents or biological additives to the system (Ordinance No. 6, Section
- 4.30.030B)
- Discharging cooking wastes to the system (Ordinance No. 6, Section 4.30.030C)
- Discharging wastewater from dishwashers to grease control devices (Ordinance No. 6, Section
- 4.30.030D)
- Discharging wastewater with temperatures greater than 140°F into a grease control device (GCD).

(Ordinance No. 6, Section 4.30.030E)

- Introducing biological additives for grease remediation, without FOG Control Program Manager's approval (Ordinance No. 6, Section 4.30.030F)
- Discharging waste from toilets, urinals, washbasins, and other fixtures that handle fecal material to the sewer system that is attached to the GCD (Ordinance No. 6, Section 4.30.030G)
- Discharging wastes from Grease Control Devices (GCD) into the sewer system (Ordinance No. 6, Section 4.30.030H)
- The City may require the installation of a grease interceptor (Ordinance No. 6, Section 4.30.050A&B).

d. Food Service Establishments (FSEs)

The City requires the FSEs to comply with Best Management Practices including the removal of food grinders, proper employee training, installation of grease traps, use of grease rendering containers, and proper documentation (Ordinance No. 6, Section 4.30.050C). Commercial property owners are responsible for the installation of grease interceptors when multiple food service establishments are located on a single parcel. (Ordinance No. 6, Section 4.30.070). FSEs are required to submit two (2) copies of site, mechanical, and plumbing plans regarding new or existing grease interceptors, grease traps, monitoring facility, and/or metering facility. These drawings may require signature by a civil, chemical,

mechanical, or electrical engineer. (Ordinance No. 6, Section 4.30.090A&B) FSEs with grease interceptors must comply with the City's requirements for sizing, installation, access, and maintenance.

(Ordinance No. 6, Section 4.30.100): Grease traps may be required when excess grease may be introduced into the City's sewer system. FSEs must comply will the City's requirements which include but are not limited to permitting, equipment sizing, maintenance, inspection, and prohibitions. (Ordinance No. 6, Section 4.30.110). As necessary, the City may require FSEs to construct any monitoring and sampling facilities to inspect the efficiency of the FSEs' grease interceptors or grease traps.

(Ordinance No. 6, Section 4.30.120): The City has the legal authority to inspect all FSEs to ensure that they are in compliance with the City's Code of Regulations and Ordinance 6.

(Ordinance No. 6, Section 4.30.130): The City requires FSEs to report the discharge of any material, including FOG, to the sewer system since it may lead to sewer blockages and/or spills. FSEs are required to contact the appropriate local Health Department, City, City, and the FOG Control Program Manager.

(Ordinance No. 6, Section 4.30.140): If the City must respond to a sanitary sewer overflow that originates from FSEs, the property owner will be responsible to pay the cost for the City's containment and clean-up effort.

(Ordinance No. 6, Section 4.30.080): The City has the legal authority to enforce the requirements included in the City's Code of Regulations and Ordinance 6.

e. Grease Removal Devices

Grease Interceptors

Installation Requirement – Grease interceptors are required during the construction of new FSEs. The FOG Program Manager also has the authority to require the installation of grease control devices at FSEs that are responsible or that have contributed to an SSO. Design Standards – Ordinance No.6, states that "Grease interceptor sizing shall conform to the current edition of the California Plumbing code. Grease interceptors shall be constructed in accordance with the design approved by the FOG Control Program Manager and shall have a minimum of two compartments with fittings designed for grease retention." The City has also prepared a standard plan for grease interceptors . All new grease interceptors shall be designed and constructed to these standards.

Maintenance Requirements

FSE's are required to fully pump out and clean their grease interceptors on a schedule approved by the City's FOG Control Manager. Generally, the grease interceptor cleaning should be performed before the FOG and solids exceed 25% of the interceptor capacity. Historical data regarding the grease accumulation time and solids level are used to create the inspection schedule. Interceptors are required to be cleaned every six (6) months, at minimum. Currently, the City monitors the FSE's cleaning logs to verify that the cleaning is performed as scheduled and to make any changes to the cleaning frequency as the City

determines is necessary. If at any time the FOG and solid accumulation within a grease interceptor is greater than 25%, FSEs shall fully pump out and clean the grease interceptor.

Grease Traps (Installation)
Installation Requirement – Where FOG may be introduced into a system, FSEs may be required to install grease traps on fixtures prior to receiving a Garden Grove Plumber's permit.

Grease Traps (Maintenance)
Maintenance Requirements – FSEs are required to maintain their grease traps per a schedule approved by the City's FOG Control Program Manager. Accumulated grease will be removed as part of the maintenance procedures.

Grease Traps (Design Standards)
City Ordinance No.6, states that "Sizing and installation of grease traps shall conform to the current edition of the California Plumbing Code."

Grease Removal Device Requirements
Best Management Practices - Best Management Practices (BMPs) must be implemented to limit the discharge of FOG to the sewer collection system. Kitchen BMPs are detailed in the FOG Control Program for FSEs document maintained by the City. The kitchen BMPs include the requirements regarding drain screens, grease containers, dishwashing, spill prevention, usage of absorbent materials and towels, and food waste disposal.

Record Keeping and Reporting
The City requires all documents be retained for a minimum of 5 years. This includes training records, grease control device maintenance and cleaning records, private spill records, plumbing maintenance records, grease hauling records, and any other information regarding the City's FOG Control Program. FSEs are required to keep records of all maintenance inspections. At minimum, the City requires the FSE's to log the following information on its maintenance logs:

- Date of Inspection
- Company and Person performing inspection
- Type of Service (Pumping/hauling, repairs, etc.)
- Disposal Site
- Estimated Volume Pumped
- Service Comments
- For grease interceptors, the FOG and solid accumulation level shall also be tracked.

f. City Inspections

In addition to the comprehensive initial inspection, the City conducts annual inspections at each FSE. The inspections may be conducted during normal business hours at the consent of the owner or with an administrative inspection warrant. Ordinance No. 6 provides the City the necessary legal authority to inspect FSEs and to enforce any non-compliance to the City's FOG Control Program. FSEs shall provide the City access to all grease control devices, monitoring or metering facilities, and the local stormwater system. The FOG Control Program Manager may require FSEs to construct monitoring or metering facilities, as needed for proper maintenance and inspection.

Authorized inspectors also have complete access to all training records, grease hauler manifests, maintenance records, and any other information relating to the FOG Control Program. The authorized inspector may sample and test any area runoff, groundwater, process discharge, and/or treatment system discharge. The authorized inspector may perform smoke and dye tests or require closed circuit television inspections of the private sewers. Photographs and videos may also be taken during the inspection. During each annual inspection, the authorized inspector will review all maintenance records, conduct visual inspections, and perform any other tests as needed to evaluate the FSEs compliance with the requirements of Ordinance No. 6 and any permits issued to the FSEs. The requirements include but are not limited to:

- Product waste produced by the FSEs meet the current permitting requirements
- Processes conducted by the FSEs meet the current permitting requirements
- Chemicals used and stored on the property meet the current permitting requirements
- Illicit connections to the sewer system and/or grease control devices are prohibited
- Restriction of wastewater with FOG concentrations of more than 200 ppm, into the sewer collection system. Prohibition of cooking waste or wastes from grease control devices to be discharged to the sewer system.
- Prohibition of food grinders
- Restrictions of adding FOG emulsifying agents or biological additives to the system. Prohibition of biological additives added to system for grease remediation, without FOG Control Program Manager's approval.
- Prohibiting the discharge of wastewater from dishwashers to grease control devices and restrictions of wastewaters with temperatures greater than 140°F
- Prohibition of discharging waste from toilets, urinals, washbasins, and other fixtures that handle fecal material to the sewer system that is attached to the grease control devices.
- FSEs do not meet the minimum requirements for proper Kitchen Best Management Practices, as detailed in the FOG Control Program for FSEs

Follow-up inspections may be required when a violation has the potential of resulting in a SSO, such as when a FSE has a history of multiple spills or if a grease control device is in urgent need of cleaning and/or maintenance. The City will notify the FSE in writing, of any violation to Ordinance No. 6 or any permit, and it will include the corrective action to bring the FSE into compliance. Corrective actions typically consist of repairing broken facilities or installing grease control devices. For lesser infractions, such as incomplete maintenance records and logs, the FSEs may be required to fax additional information to the City.

The City performs annual inspections at the FSEs to ensure that they are complying with the regulations of Ordinance No. 6. The City has the power to enforce fines or imprisonment for violations of severe nature.

g. FOG Cleaning and Maintenance Schedule

The City provides additional cleaning for the hot spot reaches on the following interval:

- Monthly (76 Reaches)
- Quarterly (63 Reaches)
- Semiannually (48 Reaches)
- Monthly – Inspection Only (52 Reaches)
- Quarterly – Inspection Only (12 Reaches)
- Semiannually – Inspection Only (11 Reaches)

The City evaluates the inspection reports and SSO history annually to determine if additional FSEs need to install grease control devices, if the Hot Spot cleaning list needs to be updated, or if additional requirements need to be added to the City's FOG Control Program.

h. Source Control Measures

The City has complied with this requirement by:

- Providing public education and outreach programs with regards to FOG control
- Adopting Ordinance No. 6
- Developing and distributing a FOG Control for FSEs document
- Requiring grease interceptors at FSEs
- Inspecting FSEs – BMPs and grease interceptors
- Identifying sewer Hot Spots, including those due to FOG
- Providing frequent cleaning of sewer Hot Spots related to FOG

For ensuring proper disposal of materials from the system, grit and other solids are dumped at Orange County Sanitation District. City staff notify OCSD to schedule dumping. A Drying Bed Authorization form is also submitted at the Orange County facility and safety protocols must be followed.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Have there been any blockages/spills from any identified problem area?
- Is the City receiving feedback on public outreach efforts?
- Is the 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		
			Dir	Eng	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. Pipeline Condition Assessment Program (CCTV)

The assessment of a collection system involves every component of the City collection system, including pipelines, manholes, and pump stations. 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 and have the ability to monitor condition changes over time. The condition rating of a pipeline is one of the key parameters used in the Risk Prioritization Model, which in turn is used to help develop the City's CIP.

The City has divided their system into individual basins 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. Pipes are evaluated and assigned a condition rating utilizing the NASSCO Pipeline Assessment Certification Program (PACP), which is a standardized way of identifying and rating pipe defects. Sewer laterals are not currently inspected or maintained since they are the responsibility of the property owner.

The City owns and operate a CCTV van with video recording equipment, and currently performs the closed circuit television (CCTV) inspections of its collection sewers and manholes, in house. Inspections are currently documented on hard drives, and the condition assessment is performed by contract services.

The CCTV inspections are continuously conducted for the City's Sewer System Rehabilitation Plan (SSRP), and the inspection data reviewed to assess the conditions of the sewers. The City established a program to CCTV inspect its entire gravity sewer system with a target of every 10 years. The City is evaluating its historic cycle for inspections and considering further support of this effort with outside contracted services.

The purpose of CCTV inspections is to determine the condition of the GGSD existing gravity sewers, and formulate a rehabilitation plan for the defective sewers. The rankings provide a good indication as to which pipes are in poor condition, but cannot be relied upon solely to prioritize improvement projects. The priorities are selected primarily with consideration of the health and safety of the public and protection of the environment by minimizing the possibility of sanitary sewer overflows and leakage. The pipe capacity, location of particular defects, and the tributary areas/wastewater flow rates are other considerations used in formulating the final capital improvement project priorities.

The NASSCO PACP condition grading system was used to assign a condition rating for structural defects and operation and maintenance defects for each reach of pipe. The rating provides the ability to quantitatively measure the difference in pipe condition between one inspection and subsequent inspections, and to prioritize among different pipe segments. A grade of 1 to 5 is assigned to each defect based on potential for further deterioration or pipe failure. Pipe failure is defined as when it can no longer convey the design capacity.

The NASSCO PACP grades are as follows:

5 – Immediate Attention Defects requiring immediate attention

4 – Poor Severe defects that will become Grade 5 defects within the foreseeable future

3 – Fair Moderate defects that will continue to deteriorate

2 – Good Defects that have not begun to deteriorate

1 – Excellent Minor defects

CCTV inspections and condition assessment of the City's entire sewer system were performed in five phases by the City staff, Performance Pipeline Technologies, and Empire Pipe. The inspection took place between November 2003 and October 2012. A summary of the CCTV inspection by phase is illustrated on Figure 5-3 and Figure 5-4. A summary of the CCTV inspections is included in Appendix D-3.

Phase 1 of this program was completed in 2004 generally in the central area of the service area. Condition of the CCTV inspected system was evaluated through review of all the written reports developed by the CCTV contractor, and viewing of recordings for 297 reaches of pipe (25 percent of the inspected sewers).

Phase 2 of this program was completed in 2006, generally in the northeast and north central area of the service area. Condition of the CCTV inspected system was evaluated through review of all the written reports developed by the CCTV contractor, and viewing for 548 reaches (37 percent of the inspected sewers). Condition assessment of the inspections performed in Phase 2 was documented in the City's Sewer System Rehabilitation Plan, Phase 2 (dated June 2006).

Phase 3 of the CCTV inspection and condition assessment program includes inspections covering the west area, the south area, and the north central area of the service area. Condition of the CCTV inspected system was evaluated through review of all the written reports developed by the CCTV contractor, and viewing for 332 reaches (13 percent of the inspected sewers). Condition assessment of the inspections performed in Phase 3 was documented in the City's Sewer System Rehabilitation Plan, Phase 3 (dated May 2008).

Phase 4 of the CCTV inspection was completed in 2008 to evaluate the condition of the City's sewers located within the unincorporated Orange County areas, generally north of Katella Avenue, between Magnolia Street and Brookhurst Street.

Phase 5 of the CCTV inspection was completed in 2012 with the intent to complete the condition assessment of the City's gravity sewers and to reevaluate the sewers that were identified to have condition deficiencies from the previous four (4) phases.

The City has completed a second pass in Phases 1 and 2 and is currently completing Phase 3 work. Based on its low spill rates, the City's current goal is being maintained to CCTV all pipes within the system every 10 years, with some individual pipe locations being inspected more frequently as necessary to monitor known locations. Spill trends have been fairly flat in past years which supports this cycle rate.

Inspection Report Database Summary

Initially, an Inspection Report Database Summary was developed utilizing the CCTV inspection written reports. Over the years, there have been updates to the City's sewer naming system, as well as updates to the Inspection Report Database Summary. The attributes from the tables for each phase was compiled into one comprehensive database. This Database Summary contained a tabulation of the deficiencies identified in the written reports, including but not limited to the following information:

- DVD Number/ Tape No.
- Inspection (Run) Number
- Reversal DVD Number
- Reversal Inspection (Run) Number
- Location (Street Name)
- CCTV Date
- Sewer Identification Number (Existing and Previous)

- Upstream Manhole and Downstream Identification Numbers (Existing and Previous)
- Direction of Camera
- Pipe Size and Material
- GIS Length and CCTV Inspected Length of Pipe
- Deficiency Tabulation from Written Reports using PACP codes

The Inspection Report Database Summary was used in selecting the recordings to be reviewed in detail. The pipe reaches selected for detailed review were those that showed the most severe structural problems and multiple deficiencies, as well as severe operation and maintenance issues.

The City experiences period issues with calcium buildup in up to 10% of its clay pipes in the system and has established appropriate mitigation efforts to routinely address these areas.

b. Manhole Inspection Program

The City has a comprehensive manhole inspection program for all assets with inspections being performed during cleaning and CCTV operations. Manholes are not inspected using the Manhole Assessment and Certification Program (MACP). Rather, when manhole inspections are performed it is usually performed as a top-down inspection, without entry, utilizing visual observations and documented in the CMMS.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

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

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Eng	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

The City's initial system evaluation and capacity assurance plan approach was developed in 2005. A hydraulic model of the City's sewer system was developed utilizing the information contained in the City's wastewater collection system GIS, "As constructed" plans, and field surveying.

The City updated its modeling and in July 2006, November 2007, April 2009, April 2012, and ???. As part of this SSMP report, the City has updated its hydraulic model to include all completed improvement projects. All updates since the previous 2012 SECAP was completed are in the City's Capital Improvement Plan (see Element 8.4 below).

The System Evaluation and Capacity Assurance Plan (SECAP) document was developed and is kept up-to date using a calibrated hydraulic model of the City's sewer system. A summary of this approach is summarized below.

a. Model Geometry: All pipes are included in the model except for laterals and private sewer lines. Pipe diameters, lengths, slopes, and roughness coefficients are entered in the model. "As Constructed" plans were used to update the existing model geometry.

b. Unit Flow Factors: Initially, the system-wide unit flow factors developed for the City's 2001 Sewer Master Plan were used to estimate the average dry weather flows. They were then refined with the extensive flow monitoring data developed by City staff. The existing development unit flow factors used

in the current hydraulic model are illustrated in Table 9-1. For future developments with detailed planning information, the factors provided in Table 9-2 were implemented.

c. Neighboring Agencies: Wastewater flows from several neighboring jurisdictional agency territories enter the Garden Grove Sanitary District's collection system. The average dry weather flows for these agencies were estimated based upon the tributary area land uses and the unit flow factors listed in Table 9-1, and input into the model.

d. Future Developments: Since the City's service area is mostly developed, the hydraulic analyses were conducted utilizing fully developed and occupied tributary areas with peak dry weather flows. This included future flows from identified projects, which will increase the wastewater flows above the levels estimated by the unit flow factors. Future Development loads are included in Table 9-3.

e. Peaking Dry Weather Flow Factor: Peak dry weather flow is calculated from average dry weather flow utilizing the following formula:

Qpdw= 2.0 x Qadw 0.92 (cfs) or
Qpdw= 1.9313 x Qadw 0.92 (mgd)
Qadw = average dry weather flow
Qpdw = peak dry weather flow

This formula was developed from an extensive flow monitoring effort throughout the City's service area. It may be modified in the future for specific large single land use areas, such as resort hotels and industrial,
based upon additional flow monitoring results.

f. Peak Wet Weather Flow Factor: Peak wet weather flow (Qpww) is calculated from peak dry weather flow utilizing the following formula:

Qpww= 1.4 x Qpdw

This relationship was developed from the data collected in 2003 during the preparation of the City's Inflow and Infiltration Reduction Plan.

g. Model Results: The capacity deficiencies identified through hydraulic analysis are listed in the master CIP (see Element D-4 below and Appendix 8.1 for more details).

h. Deficiency Verification: Most of the sewers identified as deficient by the model were flow monitored to determine the level of deficiency since the model average and peak dry weather flows are typically higher than the actual flows. Based on the flow monitoring results, the sewers identified as deficient per the hydraulic model were categorized into three categories: verified deficiency (PDWF d/D >0.62), minimal capacity (PDWF d/D between 0.50 and 0.62), calculated deficiency (PDWF d/D <0.50). The category for the associated recommended improvement projects for capacity are provided in the City's master Capital Improvement Plan (CIP). Additionally, some of the sewers will be flow monitored again following the implementation of the diversion projects in order to verify the adequacy of the relief provided.

i. The City has completed a Supervisory Control and Data Acquisition (SCADA) Master Plan including flow monitoring and other studies to evaluate inflow and infiltration (I/I) into the sewer system (see Appendix 8.1 for more information).

The City has periodically experienced periodic power fluctuations which are mitigated with dedicated backup power generators at all pump stations. To provide additional redundancy, all pump stations have bypass ports and redundant pumps. Additional electrical upgrades have also been completed at one lift station to address overheating concerns during continuous operations. The City is also planning to further increase availability of additional pumps for added redundancy due to delays in obtaining pump/parts and completing necessary repairs at certified facilities.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Number of capacity-related spills or surcharge condition during the audit period?
- Has the system responded to rain events as indicated by the hydraulic model?
- Has 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 update the hydraulic model	Per Engineering Department 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 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.

The City addresses "Severe" and "Major" collection system deficiencies and has specific project priorities assigned in its Capital Improvement Program (CIP), based on severity for spills and other data driving project priorities including planning level implementation costs (see Element 8.4 below and Appendix 8.1 for more details including short and long-term schedules for capital improvements).

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- 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	Eng	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 InterCity coordination with other impacted utility agencies.

COMPLIANCE

a. Projects and Schedules

The requirements of the City's System Evaluation and Capacity Assurance Plan and Sewer System Rehabilitation Plan (Section 5 of this report), as well as the operational and maintenance needs of the system were incorporated into a financial plan with recommended annual expenditures. The sewer rate structure prior to September 2005 had flat monthly charges for the two classes of customer including residential and non-residential. The residential charge was $4.64 per month and the non-residential was $5.70 per month. Revenues derived from the existing rate structure could not support the projects that will improve the system's capacity and condition within the recommended schedule.

b. Funding Sources

A pay-as-you-go alternative and a combination pay-as-you-go/pay-as-you use alternative was developed and evaluated to generate the needed revenues. Both alternatives were evaluated with a new rate structure that has a fixed base charge for the various customer classes and a use charge applied to estimated flow to the collection system. The Board of Directors of the Garden Grove Sanitary District considered the new rates, held two public hearings, and adopted the recommendations with minor refinements. The rate structure is capable of implementing approximately $5 million worth of capacity and condition Improvement projects annually. The rates have been adjusted annually to keep up with increases in the construction industry.

The City has completed approximately 80,000 feet of capacity improvements since 2005 when the first SECAP was prepared. Partridge Pump Station was constructed in 2010. Tiffany Pump Station was reconstructed in 2010. The Belgrave Pump Station was reconstructed in 2013. Additional projects have been completed and available in the City's current Capital Improvement Plan (see Appendix 8.1).

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Has the City's capital improvement plan schedule been adhered to?

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			GM	CSM	Coach
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. City 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:

1. 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.

2. 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.

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

4. 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.

5. The City monitors spill trends during required audit periods, utilizing the CMMS database, inspection records and CIWQS data. These resources are helpful in planning and programing work, and adjusting as needed, enabling the City to be adaptive and capitalize on lessons learned.

The City maintains a spill rate and trends supported by its extensive ongoing system maintenance programs.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- Are SSMP Elements being 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	Eng	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 City completed its last audit prior to the required deadline and will complete audits every three (3) years moving forward. The objective of the audit is to evaluate compliance, implementation and effectiveness of the SSMP.

Additionally, 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.

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

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

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 (see Appendix 12). Any deficiencies discovered through the audit process are noted and a plan and schedule to implement corrective measures are established.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

- 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	ENG	SUP
10.1	Schedule audits in advance of due dates to ensure adequate time to complete. City 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:

- 10.1. 2021-2024 SSMP Audit

11. Communication Program

WDR REQUIREMENTS

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

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

The public for:

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

COMPLIANCE

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 stakeholders and 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 Board 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 Board 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.

1. The City regularly communicates with its satellite sewer system agencies (see Element 2 above), and routinely participates in the Orange County WDR Committee and WEROC.

EFFECTIVENESS

The City utilizes the following Key Performance Indicators for measuring effectiveness of this Element:

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

IMPLEMENTATION PLAN/SCHEDULE

No.	Plan	Schedule	Responsible Party		
			Dir	Eng	Sup
11.1	Ensure the Board of Directors 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 City 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 City.

APPENDIX 11 INCLUSIONS

- 11.1 Orange County WEROC Brochure

LIST OF APPENDICIES

APPENDIX 1

None

APPENDIX 2

None

APPENDIX 3

- 3.1 – City of Anaheim Agreement
- 3.2 – City of Orange Agreement
- 3.3 – City of Stanton Agreement
- 3.4 – City of Midway Agreement
- 3.5 – City of Santa Ana Agreement

APPENDIX 4

None

APPENDIX 5

None

APPENDIX 6

6.1. Spill Emergency Response Plan

6.2 Critical Parts Inventory List

APPENDIX 7

None

APPENDIX 8

8.1. City Master Plan and Capital Improvement Program

APPENDIX 9

None

APPENDIX 10

None

APPENDIX 11

11.1 Orange County WEROC Brochure

APPENDIX 12

12.1. SSMP Effectiveness Assessment Worksheet

