SEWER SYSTEM MANAGEMENT PLAN
for
Orange County Sanitation District

Volume I

Updated March 26, 2025

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CONTENTS

ABBREVIATIONS / ACRONYMS i

EXECUTIVE SUMMARY 1

CHAPTER 1 – SEWER SYSTEM MANAGEMENT PLAN GOAL AND INTRODUCTION 1-1

CHAPTER 2 – ORGANIZATION 2-1

CHAPTER 3 – LEGAL AUTHORITY 3-1

CHAPTER 4 – OPERATION AND MAINTENANCE PROGRAM 4-1

CHAPTER 5 – DESIGN AND PERFORMANCE PROVISIONS 5-1

CHAPTER 6 – SPILL EMERGENCY RESPONSE PLAN 6-1

CHAPTER 7 – SEWER PIPE BLOCKAGE CONTROL PROGRAM 7-1

CHAPTER 8 – SYSTEM EVALUATION, CAPACITY ASSURANCE AND CAPITAL IMPROVEMENTS 8-1

CHAPTER 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS 9-1

CHAPTER 10 – INTERNAL AUDITS 10-1

CHAPTER 11 – COMMUNICATION PROGRAM 11-1

NOTE: APPENDICES ARE LOCATED IN VOLUME II OF THIS PLAN.

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ABBREVIATIONS / ACRONYMS

BMP	Best Management Practice
BREA	Business Risk Exposure Analysis
CASC	Countywide Area Spill Control
CCTV	Closed-Circuit Television
CIP	Capital Improvement Plan or Capital Improvement Program
CIWQS	California Integrated Water Quality System
CMMS	Computerized Maintenance Management System
CWEA	California Water Environment Association
ECAP	Environmental Compliance Awareness Program
EDAC	Engineering Department Advisory Council
EDMS	Electronic Document Management System
EMB	Electronic Map Book
EOMM	Electronic Operations and Maintenance Manual
ERP	Emergency Response Plan
FOG	Fats, Oils, and Grease
FSE	Food Service Establishment
FTP	File Transfer Protocol
GIS	Geographical Information Systems
GRD	Grease Removal Device
I/I	Inflow / Infiltration
LRO	Legally Responsible Official
MRP	Monitoring and Reporting Program
NASSCO	National Association of Sewer Service Companies
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
OCHCA	Orange County Health Care Agency
OC San	Orange County Sanitation District
OCSD	Orange County Sanitation District
OMaP	Operations Manuals and Procedures
Order	SWRCB Order No. 2006-0003-DWQ adopted May 2, 2006
PMP	Preventive Maintenance Program
R&R	Rehabilitation and Replacement
RWQCB	Regional Water Quality Control Board
SAWPA	Santa Ana Watershed Project Authority
SERP	Spill Emergency Response Plan
SOP	Standard Operating Procedure
SPU	Strategic Plan Update
SSMP	Sewer System Management Plan
SWRCB	State Water Resources Control Board
WDR	Waste Discharge Requirements also referred to as the General Waste Discharge Requirements of the State of California

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EXECUTIVE SUMMARY

The Orange County Sanitation District (OC San) is required to comply with the State Water Resources Control Board Reissued Order No. 2022-0103-DWQ (Order) adopted December 6, 2022 and is effective on June 4, 2024, entitled Statewide General Waste Discharge Requirements for Sanitary Sewer Systems." Information on the State's Spill Reduction Program can be found at: http://www.waterboards.ca.gov/water_issues/programs/sso/index.shtml.

The purpose of the Order is to prevent sanitary sewer spills (spills) or sewer spills by establishing a statewide Monitoring and Reporting Program (MRP) and requiring each local or regional sewer agency to create and implement their own Sewer System Management Plan (SSMP) based on the mandatory requirements of the Order.

The MRP requires each local or regional sewer agency to appoint a legally responsible official (LRO) and establish a monitoring and reporting organization to monitor and report all spills in accordance with the requirements of the Order and to have the LRO certify the spill report using the California Integrated Water Quality System (CIWQS) website in the timeframe required by the Order. If no spills occur during the course of any given month, the LRO is required to fill out, certify and send via the CIWQS website a "No Spill Certification" documenting that there were no spills for the month reported.

To comply with the essence of this Order:

- OC San has enrolled and applied for coverage and agrees to comply with all conditions and provisions of this Order.
- OC San shall take all feasible steps to eliminate spills. In the event that a spill does occur, OC San shall take all feasible steps to contain and mitigate the impacts of a spill.
- In the event of a spill, OC San shall take all feasible steps to prevent untreated or partially treated wastewater from discharging from storm drains into flood control channels or waters of the United States by blocking the storm drainage system and by removing the wastewater from the storm drains.
- OC San shall report all spills in accordance with Attachment E1 of the WDR.
- OC San shall properly, manage, operate, and maintain all parts of its sanitary sewer system, and shall ensure that the system operators (including employees, contractors, or other agents) are adequately trained and possess adequate knowledge, skills, and abilities.
- OC San shall allocate adequate resources for the operation, maintenance, and repair of its sanitary sewer system, and a proper rate structure, accounting mechanisms, and auditing procedures to ensure an adequate measure of revenues and expenditures. These procedures are in compliance with applicable laws and regulations and comply with generally acceptable accounting practices.

- OC San shall provide adequate capacity to convey base flows and peak flows, including flows related to wet weather events.

This SSMP is organized similarly to Attachment D (SSM Required Elements) of the Order. Each section begins with a summary of the Order requirements, followed by these subsections:

- Compliance Summary – A description of how compliance was achieved;
- Compliance Documents – A listing of source documents that support compliance and the location of these documents; and,
- Roles and Responsibilities – A listing of relevant staff roles and responsibilities.

The SSMP has 11 mandatory elements in chapters 1 through 11. Chapter 1 includes the prohibitions of the WDR.

- **Chapter 1 – Sewer System Management Plan Goal and Introduction**: The goal is to prevent and/or reduce spills and contain and mitigate the effect of any spills that do occur. The goal requires a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer collection system. The introduction of the SSMP provides an update schedule for the SSMP and internal audits, and a sewer system asset overview.
- **Chapter 2 – Organization**: The SSMP must identify the LRO or authorized representative as described in the Order. It must list and identify the organization responsible for operating and maintaining the sanitary sewer collection system including names and telephone numbers for management, administrative and maintenance positions, organizational lines of authorities, and the chain of communication for reporting spills.
- **Chapter 3 – Legal Authority**: Each Enrollee must demonstrate through legally binding procedures such as ordinances, agreements, etc. that it possesses the necessary legal authority to do what is required by the Order.
- **Chapter 4 – Operation and Maintenance Program**: The SSMP must include those elements that are required by the Order that are appropriate and applicable to the sewer agency's system. Minimum requirements for the Operations and Maintenance Program include:
    - Maintaining an updated map of the sanitary sewer system
    - Implementing preventative operations and maintenance activities
    - Conducting training for staff
    - Maintaining an inventory of equipment
- **Chapter 5 – Design and Performance Provisions**: The SSMP must demonstrate that the sewer agency has and appropriately uses design and construction standards and specifications for the installation of new sewer systems, rehabilitation and repair of existing sewer systems and has procedures and standards for inspecting and testing the installation of new sewers, pumps, etc. and for rehabilitation and repair projects.
- **Chapter 6 – Spill Emergency Response Plan**: Each Enrollee shall develop and implement an Spill Emergency Response Plan that identifies measures to protect

public health and the environment and meets the minimum requirements of the Order.

- **Chapter 7 – Sewer Pipe Blockage Control Program**: Each Enrollee shall evaluate its sewer system and determine if a Sewer Pipe Blockage Control Program is needed. The Sewer Pipe Blockage Control Program, if needed, must meet all the requirements of the Order.
- **Chapter 8 – System Evaluation, Capacity Assurance and Capital Improvements**: The Enrollee shall prepare and implement a Plan that will provide adequate hydraulic capacity for the sewer collection system required by the Order. The Plan should include:
  - System Evaluation and Capacity Assessment
  - Capacity Assessment and Design Criteria
  - Prioritization of Corrective actions
  - Capital Improvement Plan (CIP)
- **Chapter 9 – Monitoring, Measurement, and Program Modifications**: The Enrollee shall maintain relevant information to establish and prioritize SSMP activities, monitor the implementation and measure the effectiveness of the SSMP activities, and provide assessment of the performance and/or modification of the SSMP activities as required by the Order. The SSMP must include an Adaptive Management section that addresses Plan implementation effectiveness and the steps for necessary Plan improvement.
- **Chapter 10 – Internal Audits**: The Enrollee shall conduct periodic internal audits appropriate to the size of the sewer system and the number of spills. At a minimum, these audits must occur every three years as required by the Order. The audit at a minimum must include:
  - Evaluation of the implementation and effectiveness of the SSMP in preventing spills
  - Evaluation of the compliance with the Order
  - Identification of SSMP deficiencies in addressing ongoing spills and discharges to waters of the State
  - Identification of necessary modifications to the SSMP to correct deficiencies
- **Chapter 11 – Communication Program**: OC San shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the sewer agency and shall also create a plan of communication with other local sewer agencies that may be tributary or satellite to the sewer agency's sewer collection system. In addition, the communication system should notify the public for any spills that result in closures of public areas or impacts to drinking water.

This revision, which follows an SSMP audit (April 16, 2024), addresses many of the audit findings and recommended changes, as well as modifications to reflect OC San's current organizational practices and structure. Some of the more significant changes include:

- Updated revision log sheets for Volume I and Volume II Appendices,
- Updated program organization (**Appendix C**),
- Revised Asset Management Improvement Program is in progress (**Appendix H**)
- Updated the monitoring and reporting requirements (**Appendices P2 & P3**)
- The addition of 870-GEN-08 (Rev 01)_Spill Response (**Appendix Q2**),
- The addition of the Sewer Spill Estimation Guide to calculate spills (**Appendix R**),
- Clarification of the requirements of the auditor (**Appendix X2**),
- Inclusion of audit closeout memo (**Appendix Y**),
- Procurement of new CCTV software

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CHAPTER 1 – SEWER SYSTEM MANAGEMENT PLAN GOAL AND INTRODUCTION

This chapter describes the goal of the SSMP.

1.1 Introduction

Volume I (this document) provides a general description of how OC San complies with the various provisions of the Order and provides references to supporting documents. Volume II (Appendices to Vol I) contains specific information and supporting documents. Some supporting materials, such as the OC San Electronic Map Book, the electronic OC San Sewer Atlas, the OC San electronic Hydraulic Model, the OC San Design Guidelines, OC San Master Specifications and Standard Drawings, large format drawings, relational databases, and voluminous documents may not be physically included in the SSMP. In these cases, a reference is provided that indicates the type, owner, and location of these supporting materials.

This chapter describes the sewage discharge prohibitions and provisions as stated in the "Statewide General Waste Discharge Requirements for Sanitary Sewer Systems."

1.2 Purpose

The purpose of the Order is to prevent sewer spills. OC San has prepared and will maintain the SSMP to support this purpose.

1.3 Goal

The goal of the SSMP 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.

A copy of the Order and the certified SSMP is available to personnel operating and maintaining the OC San sanitary sewer system. A copy of the Order is also included as **Appendix A** in Volume II of this SSMP. Pursuant to California Water Code Section 13267(b), OC San will also comply with the spill "Notification, Monitoring, Reporting and Recordkeeping Requirements" established in Attachment E1 and E2 of the Order and all future revisions, included by reference in the Order. A copy of Attachment E1 and E2 is included in **Appendix B** of Volume II.

1.4 Sewer System Management Plan Update Schedule

OC San has met all the mandatory elements of the SSMP as specified in the SSMP Time Schedule below.

SSMP Task	Milestone Due/Completion Date
Application for Permit Coverage	Nov. 2, 2006
Reporting Program	Jan. 3, 2007
SSMP Development Plan and Schedule	August 2, 2007

Goal and Organization Structure	November 2, 2007
Overflow Emergency Response Program	November 2, 2008
Legal Authority	November 2, 2008
Operation and Maintenance Program	November 2, 2008
Grease Control Program	November 2, 2008
Design and Performance	May 2, 2009
System Evaluation and Capacity Assurance Plan	May 2, 2009
Final SSMP, incorporating all of the SSMP requirements	May 2, 2009
Audit of OC San's SSMP	October 17, 2010 April 25, 2013 July 31, 2015 May 2, 2017 May 2, 2019 April 13, 2021 April 16, 2024 April, 2027
OC San SSMP Update	May 2, 2017
OC San SSMP Update	March 26, 2025
Next OC San SSMP Update	May 2, 2031

1.5 Sewer System Asset Overview

OC San owns and operates wastewater collection system infrastructure, as well as two resource recovery and wastewater treatment facilities located in Fountain Valley and Huntington Beach. The OC San collection system infrastructure includes over 380 miles of regional trunk sewer pipelines and 15 pump stations throughout the OC San service area. Wastewater is conveyed to Reclamation Plant Number (No.) 1 in Fountain Valley and Reclamation Plant No. 2 in Huntington Beach. These facilities treat an average daily wastewater flow of 185 million gallons per day, serving over 2.6 million people in central and northern Orange County, California. An up-to-date map of the sanitary sewer system is maintained in GIS by OC San. Further descriptions of the mapping system is described in Section 4.1.

The 2023 Asset Management Program further describes the sewer system assets managed by OC San and is provided as **Appendix H** of Volume II.

1.6 Prohibitions

Per Section 4 of the Order, OC San is required to comply with the following prohibitions:

1.6.1 Discharge of Sewage from a Sanitary Sewer System

Any discharge from a sanitary sewer system that has the potential to discharge to surface waters of the State is prohibited unless it is promptly cleaned up and reported as required in this General Order.

1.6.2 Discharge of Sewage to Waters of the State

Any discharge from a sanitary sewer system, discharged directly or indirectly through a drainage conveyance system or other route, to waters of the State is prohibited.

1.6.3 Discharge of Sewage Creating a Nuisance

Any discharge from a sanitary sewer system that creates a nuisance or condition of pollution as defined in Water Code section 13050(m) is prohibited.

1.7 Compliance Documents

The SSMP programs and policies pertaining to this section are included in the following documents:

- SWRCB Order No 2022-0103-DWQ (**Appendix A**)
- SWRCB Order No 2022-0103-DWQ Attachment E1 and E2 (**Appendix B**)
- 2023 Asset Management Program (**Appendix H**)

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CHAPTER 2 –ORGANIZATION

This chapter describes the OC San organizational staffing responsible for implementing the SSMP.

The Order requires that the SSMP include:

(a) The name of the Legally Responsible Official as required in section 5.1 (Designation of a Legally Responsible Official) of this Order;

(b) The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific SSMP elements;

(c) Organizational lines of authority; and

(d) 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.

2.1 Administrative and Maintenance Positions

The manager of the OC San Collection Facilities O&M Divisions is the OC San authorized representative or legally responsible official listed on the Notice of Intent and is responsible for the certification of spill reports involving the OC San sewer collection system.

2.1.1 Compliance Summary

OC San has provided sufficient staffing to operate the sewer system on a sustainable basis, and to comply with all requirements of this Order.

2.1.2 Compliance Documents

OC San has developed a Program Organizational Chart (**Appendix C**). Names with titles, SSMP responsibility, and phone numbers are included in the chart. The Organizational Chart also details the organizational lines of authority for OC San. On a routine basis, the chart is reviewed by OC San stakeholders and updated.

2.1.3 Roles and Responsibilities

Job descriptions for the positions listed in the organizational charts are available from the Human Resources Division. Primary responsibility for the day-to-day management and O&M of the collection facility assets resides within the Operations and Maintenance Department, and the daily field activities are managed by the Collection Facilities O&M Division. In addition, specific SSMP roles and document responsibilities are described in **Appendix C**.

2.2 Chain of Communication.

The Order requires the SSMP to contain a chain of communication for spill reporting, from receipt of a complaint or other information through reporting to the regulatory agencies.

2.2.1 Compliance Summary

OC San has a flow chart, Appendix P1, that shows the chain of communication for reporting spills. It starts with the receipt of a complaint or other information and includes the name and title of the person responsible for reporting spills from receipt at the OC San Control Center to the State of California CIWQS website, the Santa Ana RWQCB, OCHCA, and if required, Office of Emergency Services (OES).

The response flowchart is part of the Spill Reporting Guidelines developed to manage the reporting process and exists as a supplemental guide to be used with the current OC San Spill Emergency Response Plan. This flow chart is also known as the OC San Spill Response Flow Chart.

2.2.2 Compliance Documents

The organizational/procedural flow charts can be found in the following appendices for contacts and information provided in the chain of communication flow chart for reporting spills.

Appendix P1 of the SSMP Volume II includes the OC San Spill Response Flow Chart. This flow chart contains the chain of communication for reporting spills in compliance with the Order.

Appendix Q1 of the SSMP Volume II includes the OC San SERP. This plan is also required in compliance with Section D, paragraph 13 (vi) the Order.

2.2.3 Roles and Responsibilities

The roles and responsibilities of each position are described in detail in the documents listed above as well as in the appendices.

CHAPTER 3 – LEGAL AUTHORITY

This chapter describes the legal authority to implement the SSMP.

OC San must demonstrate, through sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

(a) Prevent illicit discharges into its sanitary sewer system (examples may include infiltration and inflow), unauthorized stormwater, chemical dumping, unauthorized debris and cut roots, etc.).

The inflow sources may include items such as sump pumps, roof leaders, yard and stairwell drains, satellite systems, or any other materials that adversely affect the performance of the collection system and/or the wastewater reclamation plants.

(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 sewers and connections be properly designed and constructed.

(d) Ensure access for maintenance, inspection, or repairs for portions of the service lateral owned or operated by OC San.

(e) Enforce any violation of its sewer ordinance, service agreements, or other legally binding procedures; and

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

3.1 Compliance Summary

This SSMP complies with the Order requirements for legal authority under the following enacted ordinances/resolutions or agency policies.

(a) **Ordinance No. OCSD-53** "Wastewater Discharge Regulations" effective July 1, 2019, replacing "Waste Discharge Regulations" effective July 1, 2016. Article 2 of Ordinance No. OCSD-53 has general prohibitions, limits and requirements for discharge which apply to all users of the OC San sewer collection facilities. This Ordinance complies with and meets the minimum legal authority for OC San required by the General WDR.

(b) **The WDR requires that OC San sewers and connections** be properly designed and constructed. The design and construction requirements for OC San sewers are kept and managed by the OC San Engineering Department. These include the Engineering Design Guidelines, the CAD manual, the Master Specifications, Process Control Software Standards, Standard Drawings, and Instrumentation & Equipment

Tagging Information. The construction, inspection and testing of new lateral connections and bypass piping facilities is governed by the permit and related construction standards, and legally enforced through OC San's connection permit program through the Engineering Department, as authorized by OC San's Charter. Documentation for these requirements is located at the permit counter in the Engineering Department at OC San's Headquarters

OC San's Engineering Department develops and maintains construction standards for OC San pumping stations and collection system. These legally binding documents will also ensure that testing is conducted and baseline condition assessment completed for sewer system construction projects (air test, CCTV, pump station performance, etc.), and that procedures are in place to transfer the resulting test data to the end user. These should also require development and implementation of technical requirements and training standards for construction inspectors.

(c) To ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency OC San adopted Resolution No. OCSD 07-14: "Adopting a Policy Regarding Maintenance of Unobstructed Access to District Easements" on June 27, 2007.

(d) **In accordance with the enforcement provisions of its discharge ordinances, including OCSD-25 and OCSD-53,** OC San established and actively manages the source control function within the Resource Protection Division. This division of the OC San Environmental Services Department also enforces applicable sections of the State of California and United States of America state and federal laws relating to source control and violation of its sewer ordinances, resolutions, service agreements, or other legally binding documents.

3.2 Compliance Documents

The legal authority for enacting the SSMP programs and policies are included in the following documents:

- FOG Ordinance No. OCSD-25 (**Appendix E1**)
- Wastewater Discharge Regulations Ordinance No. OCSD-53 (**Appendix E2**)
- FOG Fee Resolution No. OCSD 05-04 (**Appendix E3**)
- Legal authority, as outlined in OC San's Charter, is on file in the OC San Clerk of the Board's office
- Construction contracts, standard testing and inspection requirements, Master Specifications section 02627 Manhole and Precast Vault Construction, other sections

3.3 Roles and Responsibilities

The roles and responsibilities for enforcement of the legal authority to enact the SSMP programs and policies is derived from acts of OC San's governing Board. Legal interpretation of the enabling state legislation giving authority to OC San is provided by OC San General Counsel.

During the course of implementing the FOG Source Control Program, programmatic changes are anticipated which may necessitate revision of FOG Ordinance No. OCSD-25 and FOG Fee Resolution No. OCSD 05-04. The OC San Resource Protection Division is responsible for periodically reviewing and updating these documents, as the need arises, to ensure that the legal authority is comprehensive and covers all aspects of the FOG Source Control Program.

Wastewater Discharge Regulations Ordinance No. OCSD-53 is OC San's main ordinance for regulating sewer use and wastewater discharges in the satellite cities and sewering agencies that drain to OC San's system. Additionally, there are discharges under contractual agreements, such as from the Santa Ana Watershed Protection Authority (SAWPA) and Los Angeles County Sanitation District (LACSD). Ordinance No. OCSD-53 includes agreements with SAWPA and LACSD and controlling inflow and infiltration and illegal connections to the system. The OC San Resource Protection Division is responsible for maintaining and updating or amending this ordinance.

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CHAPTER 4 – OPERATION AND MAINTENANCE PROGRAM

This chapter describes OC San activities regarding management of engineering data, maps of the sanitary sewer system, operations and preventive maintenance, training programs, and equipment and replacement part inventories. The Operation and Maintenance Program must include the items listed below.

(a) 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.

(b) 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.

(c) 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.

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

4.1 Mapping

OC San maintains electronic models of facilities and assets. The concept with roles and responsibilities is described in Facility Model Maintenance Management Plan (**Appendix K1**).

- OC San Sewer Atlas – This is an electronic facility model that includes all of the sewer lines, manholes, diversion structures, force mains, siphons, force main valves, and pump stations of the OC San collection system. The Sewer Atlas can be viewed through a variety of methods. The sewers and manholes can be viewed with either a plain background or a photographic background with the streets and sewer lines superimposed over the background. Maintenance procedures for the Sewer Atlas are described in **Appendix K2**.

- Engineering Drawings Library and Laserfische – allows access to scanned image file of drawings generated from capital projects from the collection system.
- Enterprise-wide Geographical Information System (GIS) – an on-going program linking various heretofore independent database functions and related information graphically, to more easily find and correlate such things as easement documents with the electronic mapping information and cataloging of useful and connected information.

When discrepancies are identified between the field conditions and electronic records, staff complete the online Map Request Form (**Appendix K3**), and updates are made by the responsible party.

4.1.1 Compliance Summary

The asset inventory of all collection system assets is contained in OC San's GIS, which is maintained as part of OC San's Enterprise Information Management program. A subset of the asset register is contained in IBM Maximo which is a Computerized Maintenance Management System (CMMS). The CMMS-resident assets are those assets that have or may have scheduled maintenance activities associated with them to ensure their performance level is maintained, and that they reach their expected useful lives. The assets contained in the GIS, CMMS, and other asset-based data repositories (such as the Supervisory Control and Data Acquisition) are all connected by the use of unique identifiers known as structure ID's, which are associated with fixed process locations and equipment numbers. The collection system assets contained in the CMMS have various types of scheduled maintenance activities assigned to them; these activities may include any combination of investigation of problem, condition assessment, and preventive maintenance activities necessary to properly maintain the assets.

If necessary, OC San can provide the GIS shape files or access to the public maps to the State and Regional Water Board staff.

Every year OC San issues an updated Asset Management Plan that details asset management activities and identifies asset management improvement strategies and projects being considered by OC San. The current Asset Management Plan is contained in **Appendix H**.

Treatment Plant-related Operation and Maintenance manuals and Equipment Service Manuals have been put into an electronic format. Standard Operating Procedures have been developed and are routinely reviewed and updated. These renewed resources are made available to all OC San employees online through SharePoint and the OMaP system. Under the O&M Director's responsibility, OMaP is updated and expanded to match any changes made to plant processes and equipment.

4.1.2 Compliance Documents

The documents supporting compliance with the requirements for mapping are as follows:

- Integrated Emergency Response Plan (IERP) with copies located in the OC San Headquarters, the Control Centers and Emergency Operations Centers at Reclamation Plant No. 1 and Treatment Plant No. 2

- New Facility Atlas Discrepancy Form
- New Sewer Atlas Discrepancy Form
- Electronic Map Book and OC San Sewer Atlas
- Flow monitoring reports and records

Pump station and ancillary equipment drawings are on file in the Engineering Department. Copies of drawings are available for staff through the Engineering Department library. The Information Technology Department is responsible for maintaining the electronic version of all record drawings, and the Sewer Atlas.

4.1.3 Roles and Responsibilities

The annual budget document contains a chart that identifies the positions in general, and also those positions specifically responsible for OC San's collection system assets. The Enterprise GIS Business Unit is responsible for maintaining the OC San mapping systems. The Engineering Department is responsible for acquiring drawings during capital projects. The Operations and Maintenance Department identifies the management, supervision, and field positions that are responsible for identifying the various tasks required to support the proactive maintenance program for OC San assets. This information is posted on the OC San website and can be accessed at https://www.ocsan.gov/. Program responsibilities are also presented in **Appendix C**.

4.2 Preventive Operation and Maintenance Program

OC San has an on-going preventive and corrective maintenance program and is in the process of developing a comprehensive life-cycle asset management program. OC San has an IERP that includes procurement procedures and inventories for critical equipment under various scenarios. OC San's current reliability shows that the availability and stock levels of spare parts has been sufficient, and no changes are recommended.

OC San has prepared the PMP document, which covers the assets managed in the sanitary sewer system, and is based on an approach that combines predictive, preventive, and corrective maintenance strategies and established BMPs. Copies of the PMP and Collection Facilities O&M Vehicle Inventory are included in Volume II **Appendices I1** and **I2**, respectively.

One component of the PMP development process is the resource gap analysis. OC San continually reviews resource needs through the annual budget process, the asset management program, rehabilitation and replacement program, and capacity evaluations. The PMP also contains a review of existing business and work practices; this review is on-going. The work is focused on validating existing or making improvements to the current data management, data analysis, and supporting decision-making processes. This will ensure that the maintenance divisions provide consistent, effective, and efficient maintenance support for OC San assets. In light of the expanded maintenance program requirements, the current performance management processes will be reviewed to determine continued alignment; maintenance reports will be modified as needed.

4.2.1 Compliance Summary

The Collection Facilities O&M Division conducts various maintenance activities to maintain collection system assets. As part of the work order closeout process, all operational and structural condition information is recorded. This work history documentation is analyzed to identify potential

operational failures which could result in spills. Maintenance tasks might be added, deleted, or altered based on the analysis findings. Tasks might be altered by modifying the task work content, adjusting task intervals and/or adjusting task times to compensate for the adverse conditions found. Work order closeout procedures are in place to ensure that all work history is memorialized. As part of the preventive maintenance program analysis process, observations related to grease build-up within the sewer collection facilities pipelines are reported to the Resource Protection Division. The Resource Protection Division is then responsible for further investigations to determine the cause of the identified grease build-ups, as further addressed in Chapter 8 (Sewer Blockage Control Program).

4.2.2 Compliance Documents

Documents that support compliance of this section include the following:

- Preventive Maintenance Program (**Appendix I1**)
- Collection Facilities O&M Vehicle Inventory (**Appendix I2**)
- CCTV and condition assessment records

4.2.3 Roles and Responsibilities

The annual budget contains the chart that identifies the positions responsible for the Collection Facilities O&M Division program in place to support OC San's collection system assets. The charts for the Collection Facilities O&M Division are updated and published each year as a part of the budget process. The charts for the Collection Facilities O&M Division and the Plant 1 Maintenance Division identify the management, supervision, and field positions that are responsible for identifying the various tasks required to support the proactive maintenance program for OC San assets. The budget information is posted on the OC San website and can be accessed at https://www.ocsan.gov/.

4.3 Training Program

OC San regularly provides training for staff in collection system operations, maintenance, and monitoring, and requires that contractors' staffs are appropriately trained. This training is divided into two general parts: (1) Safety Training and (2) Technical Training. OC San training is documented using the online Cornerstone program.

4.3.1 Compliance Summary

OC San's staff currently participates in the California Water Environment Federation (CWEA) certification program for collection workers, Grades I through IV. OC San also participates in NASSCO certification program for pipeline and manhole assessment. OC San provides on-going in-house technical, job skills, and safety training for its staff.

OC San has an Spill Emergency Response Plan (SERP) Training procedure for all collection system maintenance technologists. This training and the OC San spill response training facility at Reclamation Plant No. 1 are also available for use by our satellite agencies. OC San also has developed training programs and SOPs for line cleaning, vactor truck operation, sewer grit removal and dumping, valve repair and replacement, pump station operation and maintenance, and other related tasks. SOP development and training are ongoing.

4.3.2 Compliance Documents

Technical training and supporting resources are centralized and managed by the Human Resources Employee Development Division for OC San. All records and documentation are available for review in the Human Resources Department.

The Human Resources Department maintains and updates all internal procedures for tracking training needs for CWEA Technical Certification certificate holders for Collection Facilities employees. The Collection Facilities Maintenance Business Unit maintains its SOPs.

4.3.3 Roles and Responsibilities

The OC San Human Resources Employee Development Division is responsible for maintaining and updating all OC San employee training records.

4.4 Equipment Inventory

OC San maintains an inventory of sewer system equipment and necessary replacement and spare parts.

4.4.1 Compliance Summary

The OC San CMMS maintains a list of rotating assets and the necessary replacement and spare parts for the ongoing operations and maintenance of the sewer collection system and assets. Additionally, each vehicle has a tools and parts inventory that is assigned to that specific vehicle. Available inventory is reviewed on a regular basis. In addition to the CCMS inventory, copies of the Collection Facilities O&M Vehicle Inventory are included in Volume II **Appendix I2**, respectively.

4.4.2 Compliance Documents

- Collection Facilities O&M Vehicle Inventory (**Appendix I2**)

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CHAPTER 5 – DESIGN AND PERFORMANCE PROVISIONS

This chapter references the OC San Engineering Design Standards (Guidelines, Master Specifications, Standard Drawings, etc.) for new sanitary sewer systems, pump stations, and other appurtenances, and for the rehabilitation and repair of existing sewer systems.

The OC San Design and Performance Provisions must include the following items as appropriate and applicable to the sewage collection system.

(a) 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.

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

5.1 Compliance Summary

Requirements for design, construction, inspection, quality assurance, and commissioning of new and rehabilitated facilities are available for viewing in SharePoint on the OC San intranet. The sanitary sewer requirements are also available as a standalone document titled OC San Design and Construction Requirement for Sanitary Sewers (an excerpt from the OC San Engineering Design Guidelines). The Standards are updated per the dedicated management of change process that requires each standard to be updated on an on-going basis in regard to best industry practices and/or technology changes applied to a broad spectrum of projects and lessons learned.

5.2 Compliance Documents

Documents used for design and performance evaluations include the following:

- OC San Master Specifications, Design Guidelines, and other OC San Design Standards;
- Standard Specifications for Public Works Construction (Greenbook);
- Codes and Standards of trade organizations (NFPA, ASTM, IEEE, etc.);
- Applicable federal, state and local laws and regulations, e.g.: CA Code of Regulations, Title 8 (Cal/OSHA), Title 24 (California Building Codes);
- Inspection reports, test reports, and contractor certifications

5.3 Roles and Responsibilities

The designated design group supervisor manages the standards update and implementation processes under the general oversight by the Engineering Manager and Construction Manager. Proposed updates to the Standards can be based on recommendations made by OC San Project Managers who submit "lessons learned" during each project and/or are developed by designated editors to reflect the latest technology improvements, industry practices, and federal, state and local laws and regulations. In addition, any OC San employee may propose a change at any time.

Significant proposed changes to the Standards (e.g., new standards, significant philosophy changes, global updates, etc.) are submitted to the Engineering Department Advisory Council (EDAC) for review/comment/approval. The EDAC meets periodically and includes the managers and supervisors of those Engineering Department divisions involved daily in planning, design, and construction, as well as stakeholders from other OC San divisions. Less significant changes do not require EDAC's approval and are published by the Engineering and Construction Division as they are finalized.

CHAPTER 6 – SPILL EMERGENCY RESPONSE PLAN

OC San has developed an Spill Emergency Response Plan (SERP) that identifies measures to protect public health and the environment.

6.1 Compliance Summary

OC San maintains a SERP which is updated as needed by the Collection Facilities O&M Supervisor and reviewed and approved by the division Manager. SOPs are also updated by the Collection Facilities O&M Supervisor for Emergency Response for Spills and Spill Containment. SOPs for notification are updated as needed by the Environmental Compliance staff and approved by their division Manager. The SERP includes, but is not limited to the following items:

(a) Notify primary responders, appropriate local officials, and appropriate regulatory agencies of a spill in a timely manner;

(b) 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;

(c) Comply with the notification, monitoring and reporting requirements of this General Order, State law and regulations, and applicable Regional Water Board Orders;

(d) Ensure that appropriate staff and contractors implement the Spill Emergency Response Plan and are appropriately trained;

(e) Address emergency system operations, traffic control and other necessary response activities;

(e) Contain a spill and prevent/minimize discharge to waters of the State or any drainage conveyance system;

(f) Minimize and remediate public health impacts and adverse impacts on beneficial uses of waters of the State;

(g) Remove sewage from the drainage conveyance system;

(h) Clean the spill area and drainage conveyance system in a manner that does not inadvertently impact beneficial uses in the receiving waters;

(i) Implement technologies, practices, equipment, and interagency coordination to expedite spill containment and recovery;

(j) Implement pre-planned coordination and collaboration with storm drain agencies and other utility agencies/departments prior, during, and after a spill event;

(k) Conduct post-spill assessments of spill response activities;

(l) Document and report spill events as required in this General Order; and

(n) Annually, review and assess effectiveness of the SERP, and update the Plan as needed.

Note: Spill sampling, if conducted, is performed by the OCHCA. In some instances, OCHCA may request that OC San conduct sampling. The first responders from the Collections Division carry equipment to collect samples if necessary. The Environmental Laboratory also provides sample

collection kits, sampling SOPs, and provided training to the Collections Divisions so staff can collect samples when needed.

OC San maintains a spill response training facility that safely simulates (by using potable water) a spill on a typical city street and allows staff to prepare for the real event, from initial notification to spill report documentation. **Appendix R** of Volume II contains guidance for calculating spill volumes and training for the spill simulation. Ongoing training (first responders and shop tailgate meetings) occur monthly, and staff is trained in traffic control every two years. OC San allows its satellite cities and sewer agencies to utilize this training facility.

6.2 Compliance Documents

The compliance documents are as follows:

- Spill Emergency Response Flow Chart (**Appendix P1**);
- Environmental Compliance Spill Response Procedure (**Appendix P2**);
- Spill Notification Procedures (**Appendix P3**);
- Spill Emergency Response Plan (**Appendix Q1**);
- SOPs for Spill Emergency Response and Spill Containment (**Appendix Q2**);
- Risk Management Program (**Appendix S**)

6.3 Roles and Responsibilities

Information on the positions, roles, and responsibilities is included in the documents listed above and **Appendix C**.

CHAPTER 7 – SEWER PIPE BLOCKAGE CONTROL PROGRAM

Prior to implementation of the Sewer Pipe Blockage Control Program, OC San contracted the services of a consultant to conduct a study to establish the building blocks for an effective Fats Oils and Grease (FOG) source control program. The study, known as the Phase I Report (available from OC San's Resource Protection Division) was completed in July 2003 per the Regional Board 8 WDR Order. The report presented twelve potential building blocks along with a draft ordinance which eventually served as the blueprint for OC San's FOG Control Program as well as the countywide FOG control effort executed through OC San's satellite cities and sewer agencies.

To limit the discharge of FOG and other debris that may cause sewer collection system blockages or spills, and in compliance with the SWRCB Order No. 2006-0003-DWQ Order, adopted May 2, 2006, OC San has prepared and implemented the following elements into their Sewer Pipe Blockage Control Program effort:

(a) An implementation plan and schedule for a public education 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 (GRD, such as traps or interceptors), design standards for the GRDs, maintenance requirements, BMP requirements, and record keeping and reporting requirements;

(e) Authority to inspect grease-producing facilities, enforcement authorities, and whether OC San has sufficient staff to inspect and enforce the FOG ordinance;

(f) An identification of sanitary sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section (OC San's Collection Facilities Division of the Operations & Maintenance Department is responsible for maintenance scheduling); and

(g) Development and implementation of source control measures, for all sources of FOG discharged to the sanitary sewer system, for each section identified in (f) above.

7.1 Compliance Summary

To address the WDR Order, OC San passed a FOG Ordinance (**Appendix E1**) to establish the legal authority to prohibit Food Service Establishments from discharging FOG to the sewer system. The Ordinance for Wastewater Discharge Regulations (**Appendix E2**) provides the uniform requirements for users of OC San's facilities. The resolution to establish fees for the FOG Program is included in **Appendix E3**. In addition, OC San assembled a model FOG source control program using the building block components identified in the Phase I Report and developed an enforcement

management system to resolve noncompliance issues in a fair and consistent manner. For a detailed discussion of the program and its development see "Fats, Oils, and Grease Source Control Program and Enforcement Management System," **Appendix F** and "Basis for Program Development, Program Components, and Policies," **Appendix G1** in SSMP Volume II.

To limit the discharge of FOG and other debris that may cause blockages; OC San established two comprehensive policies regarding limitation of the discharge of FOG into the OC San sewer collection facilities. These are: (1) Ordinance No. OCSD-25 "Fats, Oils, and Grease (FOG) Ordinance For Food Service Establishments", effective January 1, 2005; and (2) Resolution No. OCSD 05-04 "Establishing Fats, Oils, and Grease Control Program Fees Applicable To Food Service Establishments", effective May 1, 2005. Together these ordinances and policies provide OC San with the legal authorities necessary to limit FOG and debris entering the OC San sewer collection system.

The majority of the OC San service area is comprised of larger diameter trunk sewer lines that are not typically prone to pipe-blocking substances. Smaller diameter sewer lines are monitored and cleaned on a regular frequency per the Operations and Maintenance Program established schedules. As needed root treatment is used in areas of heavy root growth, and OC San has established an effective What 2 Flush campaign to reduce the accumulation rags and wipes that could block sewer lines or affect sewer lift stations.

As a regional agency with trunklines throughout Orange County, OC San shares overlapping operational authority throughout the cities and sewer agency districts within the county. In general, OC San owns and maintains the larger trunklines while the cities and agencies that form OC San, own and maintain the smaller laterals. OC San relies on the cooperation and resources of the 27 satellite cities and agencies to maintain the smaller laterals and to implement FOG control programs for the FSEs that discharge directly to the local collection systems. Beginning May 2006, each city or sewer agency was required to comply with the statewide WDR Order, and consequently, each agency needed to develop and implement a FOG control program which suited its individual conditions and needs. Though the specifics vary, the programs generally follow the basic approach of prohibiting FOG discharges and mandating the use of kitchen Best Management Practices (BMPs) at the FSEs in their jurisdictions. **Appendix G3** summarizes the program elements implemented by the various satellite cities and sewer agencies and provides a contact list for each agency and city.

In 2005, as the primary owner of both regional and local sewer lines in northwest Tustin, OC San assumed responsibility for initiating the FOG control commercial program and residential outreach in that area. OC San remained the administrating authority until April 13, 2016 when the Orange County Local Agency Formation Commission approved East Orange County Water District's (EOCWD) application to accept the transfer of the sewers within OC San's Service Area 7 and several adjacent unincorporated areas of Orange County. The transfer of all assets was completed in August 2016. This change in ownership affected the responsibility for implementing the FOG control program in the service area. As of the transfer, EOCWD became the administering authority for the FOG control program in the northwest Tustin area. OC San continues to manage a limited FOG control program for approximately 40 food service establishments that discharge directly into OC San-owned trunklines in the City of Orange.

In January of 2006, OC San and 12 other satellite cities and agencies entered an agreement with OCHCA (see SSMP Volume II, **Appendix G2** for a copy of the agreement) to expand the normal FSE health inspection protocols to include FOG control elements. These inspections consist of providing FOG control literature to the FSEs as well as generating a list of noncompliance observations on several program elements including the presence of a garbage disposal, missing drain screens, grease disposal records, missing signage, improper FOG disposal, missing grease recycling container, and lack of BMP training records. OCHCA efforts on behalf of the participants do not include enforcement or follow-up for noncompliance, or grease trap monitoring. In July of 2011, all sewer assets in the City of Yorba Linda were transferred to the Yorba Linda Water District, which assumed the FOG control responsibilities for that city. In July 2013, the Yorba Linda Water District ended their involvement in the OCHCA FSE program. The Sunset Beach Sanitary District and the Midway City Sanitary District ended their involvement in the OCHCA FSE program in February 2019 and February 2020 respectively. As the current administering authority for the northwest Tustin area, EOCWD joined OC San and the 9 other cities and agencies still using OCHCA inspections.

The following table details the eleven cities and agencies that participate in the OCHCA program as part of their FOG control strategy.

Anaheim	Fountain Valley	Placentia
Buena Park	La Habra	Santa Ana
Costa Mesa Sanitary District	Orange	Villa Park
East Orange County Water District	Orange County Sanitation District	

Satellite cities and agencies not shown on this list manage their own FOG programs and are also subject to OC San's Legal Authority provisions.

7.2 Compliance Documents

- FOG Ordinance No OCSD-25 (**Appendix E1**)
- The Ordinance for Wastewater Discharge Regulations (**Appendix E2**)
- The resolution to establish fees for the FOG Program (**Appendix E3**)
- FOG Source Control Program and Enforcement Management System (**Appendix F**)
- FOG Source Control Program, Basis for Program Development, Program Components, and Policies (**Appendix G1**)
- FOG Control Study, Phase I and Phase II Report (located in the Environmental Compliance Division)
- Agreement for Provision of Environmental Health Services Between County of Orange and Orange County Sanitation District (**Appendix G2**)

7.3 Roles and Responsibilities

OC San's Collection Facilities Division of the Operations & Maintenance Department has a program to identify sections of the collection system subject to blockages, and a schedule for trouble-spot cleaning as part of the preventive maintenance program. The review of existing trouble-spot conditions is a continuous process conducted as part of the cleaning program. Trouble-spots that can be attributed to FOG are reported to the Resource Protection Division for investigation and mitigation. The Collection Facilities and Resource Protection staff collaboratively developed procedures to ensure the timely reporting of trouble-spot modifications such as the discovery of a new trouble-spot or a change in the maintenance frequency of an existing site. In turn, the Resource Protection Division forwards information related to the investigation and mitigation of trouble-spots back to the Collections Facilities O&M Division so the appropriate adjustments can be made to the cleaning activities at that location.

OC San's Resource Protection Division is responsible for reviewing and updating the FOG Source Control Program and Enforcement Management System as the program evolves.

The Public Affairs Office creates communication pieces to share the Fats, Oil, and Grease (FOG) program messaging across various communication platforms. Regular updates are included in the OC San Connection newsletter which is distributed electronically to approximately 3,000 subscribers on a quarterly basis. Outreach toolkits that are FOG specific are also created at least once a year and distributed to our member agencies to use in their communication channels such as social media, website, and newsletters. FOG is also routinely featured in our social media posts and discussed during community outreach events throughout our service area.

CHAPTER 8 – SYSTEM EVALUATION, CAPACITY ASSURANCE AND CAPITAL IMPROVEMENTS

OC San has prepared and implemented a Plan that provides hydraulic capacity of key sewer system elements under peak flow conditions, as well as the appropriate design for storm or wet weather events. At a minimum, the Plan includes the following:

(a) **System Evaluation and Condition Assessment:** The Plan must include procedures to:

- Evaluate the sanitary sewer system assets utilizing the best practices and technologies available;
- Identify and justify the amount (percentage) of its system for its condition to be assessed each year;
- 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;
- Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods;
- 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;
- Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities; and
- Identify system assets vulnerable to direct and indirect impacts of climate change, including, but not limited to, the following: sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions.

(b) **Capacity Assessment and Design Criteria:** 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.

(c) **Prioritization of Corrective Action:** 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.

(d) **Capital Improvement Plan:** The capital improvement plan must include the following items:

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

8.1 Compliance Summary

OC San has an established Plan that includes the following:

- **System Evaluation and Condition Assessment:** The portions of the collection system that could experience or contribute to an spill caused by hydraulic deficiency have been identified in the Collections Capacity Evaluation Study's Master Plan Update Report (MPU), completed December 2019. The MPU utilized InfoWorks ICM modelling program to quantify the peak flows associated with conditions that are known to cause overflow events such as inflow and infiltration from storms. The capacity of pump stations and force mains during peak wet weather events were estimated and hydraulic deficiencies of pipelines were identified for further study. Collections Operations and Maintenance implement a CCTV program of pipelines and manholes that is consistent with PACP and MACP standards allowing the condition of the sewer pipes and manholes to be consistently ranked and the necessity of subsequent rehabilitation or replacement efforts to be prioritized.
- **Capacity Assessment and Design Criteria:** OC San has established design documents to ensure adequate capacity. Each of the projects included in OC San's CIP program reference OC San's design documents as a starting point for detailed

design effort. Collectively the design documents are design guidelines, master specifications, and standard drawings. These documents are periodically reviewed and revised as the agency's knowledge base grows. Additionally, the 2019 MPU established the design criteria for capacity deficiencies under dry and wet weather conditions. The MPU also establishes standards for the capacity of pump stations, evaluated low ground elevations and related wet well operating points.

- **Prioritization of Corrective Action:** OC San has established a CIP to prioritize identified hydraulic deficiencies. The CIP includes project cost estimates, project prioritization, alternatives analysis, and construction schedules. The prioritization of corrective actions most importantly considers the severity and consequences of potential spills in areas where projects have been identified.
- **Capital Improvement Plan:** This CIP is updated annually by the Engineering Planning Division. The updates describe any significant changes in proposed actions and/or implementation schedules and will include information on the performance of measures that have been implemented.

OC San's CIP assures that older facilities are upgraded as needed to ensure adequate capacity through the system. These programs are formally addressed and described more extensively in the Capacity Evaluation Plan, which was submitted in December 2019 (amended thereafter; please see date on approved document), and is included as **Appendix M**.

OC San works under annual and long-range plans that have proven effective, and OC San is not currently experiencing capacity-related problems. Indications of possible capacity problems seen by the Collections Facilities O&M Division are brought to the attention of the Engineering Department for further evaluation.

8.2 Compliance Documents

The documents used for system evaluation and capacity assurance are as follows:

- Monthly Spill Reports
- Source Control Annual Report
- Flow Data
- Asset Management Plan
- System Evaluation and Capacity Assurance Plan (**Appendix M**)
- FY2024-25 and 2025-26 Budget, adopted June 26, 2024 (This document contains the sewer system's Capital Improvement Program)
- OC San Collections Capacity Evaluation Study's Master Plan Update, completed December 2019 (This document contains the latest capacity evaluation for the sewer system)
- Computerized Maintenance Management System Database

8.3 Roles and Responsibilities

The CIP development, including capacity assurance, implementation, and update, are the responsibility of various OC San divisions and departments but are headed up by the Engineering Planning Division. Information on the CIP budget process and the roles and responsibilities of each department are included in **Appendix U**.

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CHAPTER 9 – MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

This chapter describes OC San measures and activities.

(a) Maintain relevant information, including audit findings, to establish and prioritize appropriate SSMP activities;

(b) Monitor the implementation and, where appropriate, measure the effectiveness of each SSMP element;

(c) Assess the success of the preventive operation and maintenance activities;

(d) Update program procedures and activities, as appropriate, based on results of monitoring and performance evaluations; and

(e) Identifying and illustrating spill trends, including frequency, location, and estimated volumes.

9.1 Compliance Summary

OC San has been reporting and keeping statistics on all spills for over a decade and has been monitoring some nationwide statistics. Although some elements of the measurement portion of the program have not yet been developed, they will likely include a spill-trending metric in the future.

OC San utilizes the State of California's CIWQS database and mapping to track and illustrate trends of spills. OC San identifies the root cause of a spill, such as structural problems, capacity, type of debris, pumping facility component failure as these and other indicators are of value in monitoring the effectiveness of the program and making improvements. If necessary, projects will be developed to rehabilitate or replace system components based on sound asset management decisions.

OC San has identified desired levels of service in our Board-adopted Strategic Plan related to sewer spills, when they do occur:

- < 2.1 Sanitary sewer spills per 100 miles
- Respond to collection system spills within 1 hour

In addition, Safety goals are established for each division through the use of a Safety Scorecard. The score is determined through staff completion of required training, documentation of safety incidences in a timely manner, inspections of work areas on a quarterly basis, and regular reporting of near-miss incidents. All OC San staff are part of this program, including the Collection Facilities O&M Division. In the event the safety metrics or OC San levels of service are altered, the Collection Facilities O&M Division will utilize the most current goals.

9.2 Adaptive Management

OC San monitors the implementation effectiveness of the SSMP elements through review at OC San stakeholder meetings. OC San will also work to ensure that OC San remains in compliance with the WDR and make changes and updates to its SSMP, as necessary, based on audit evaluations.

9.3 Compliance Documents

The documents used for monitoring, measurement, and program modification requirements are as follows:

- Sewer System Management Plan
- Flow Data
- OC San Asset Management Plan
- Monthly Spill Reports and Maps of Spills
- Current CMMS database showing work planned, completed and findings
- OC San GIS

9.3 Roles and Responsibilities

The Environmental Compliance Division has responsibility for the spill reporting process, record keeping, internal audits, and updating the reporting procedures. Other roles are as follows:

- Sewer Level of Service – Collection Facilities O&M Division
- WDR Stakeholder Team – throughout OC San
- WDR and SSMP Internal Audit Oversight
- OC San Agency-wide Asset Management Team

CHAPTER 10 – INTERNAL AUDITS

The Enrollee shall conduct an internal audit of its Sewer System Management Plan, and implementation of its Plan, at a minimum frequency of once every three years. The audit must be conducted for the period after the end of the Enrollee's last required audit period. **Within six months after the end of the required 3-year audit period**, the Legally Responsible Official shall submit an audit report into the online CIWQS Sanitary Sewer System Database per the requirements in section 3.10 (Sewer System Management Plan Audit Reporting Requirements) of Attachment E1 of the General Order.

Audit reports submitted to the CIWQS Sanitary Sewer System Database will be viewable only to Water Boards staff.

The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. The Enrollee's sewer system operators must be involved in completing the audit. At a minimum, the audit must:

- Evaluate the implementation and effectiveness of the Enrollee's Sewer System Management Plan in preventing spills;
- Evaluate the Enrollee's compliance with this General Order;
- Identify Sewer System Management Plan deficiencies in addressing ongoing spills and discharges to waters of the State; and
- Identify necessary modifications to the Sewer System Management Plan to correct deficiencies.

The Enrollee shall submit a complete audit report that includes:

- Audit findings and recommended corrective actions;
- A statement that sewer system operators' input on the audit findings has been considered; and
- A proposed schedule for the Enrollee to address the identified deficiencies.

10.1 Compliance Summary

OC San has an internal audit program that covers the WDR and its elements. OC San's Environmental Auditing Program Manager hires a third-party auditor to conduct repeating agency-wide audits. Strategies to correct deficiencies, if identified, will be developed by the responsible OC San division with assistance from OC San's WDR stakeholders.

OC San meets with their satellite cities and agencies and discusses collaborative auditing approaches, training, and lessons-learned, pending the availability of resources.

10.2 Compliance Documents

The documents used for audit evaluations include the following:

- OC San Environmental Auditing Program Procedures Manual (**Appendix X1**)
- OC San Internal Audit Finding Forms(**Appendix X2**)

10.3 Roles and Responsibilities

The positions, roles, and responsibilities of the audit staff are as follows:

OC San internal environmental audits are conducted following guidelines established in the "Environmental Audit Program Guidance Manual." Audits are conducted by 1) a certified environmental auditor or 2) an individual who can demonstrate sufficient expertise in the field being audited. The Environmental Auditing Program Manager has the responsibility of hiring a third party to conduct the audits. Deficiencies identified as a result of the audit are brought to the attention of each responsible OC San stakeholder. Deficiencies and suggested corrective actions are identified, verified, and documented by the third-party auditor using the Audit Finding Form and posted on the OC San internal website under Environmental Compliance, ECAP, and Environmental Auditing. The WDR Subject Matter Expert is responsible for following up with WDR stakeholders to close the findings and notifying the Environmental Auditing Program Manager to upload document in the OC San internal website.

CHAPTER 11 – COMMUNICATION PROGRAM

OC San shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to OC San as the program is developed and implemented. The Plan must include procedures for OC San to communicate with:

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

11.1 Compliance Summary

OC San will communicate on a regular basis with interested parties on the implementation and performance of this SSMP. The communication program allows interested parties to provide input as the program is developed and implemented.

OC San has complied with this requirement through hosting numerous meetings, presentations, workshops, utilizing OC San's website and social media tools as a resource for disseminating information. OC San staff and local city/agency staff meet routinely as part of the CA WDR Steering Committee and the SoCal WDR Group.

11.2 Compliance Documents

Information regarding the WDR/SSMP can be found on OC San's website at the following address https://www.ocsan.gov/. The website offers documents available as viewable and/or downloadable files: the entire site is searchable and reports can be accessed by utilizing key words such as "Spill, WDR, SSMP, Sewer System Management Plan." Information can also be accessed via the drop-down menu, section entitled "Public Information" under "Documents and Reports." Sample screens from the website are included as **Appendix V.**

11.3 Roles and Responsibilities

OC San will continue with its commitment to communicate regularly with and allow input from interested parties on the development, implementation, and performance of its SSMP. OC San communicates with its constituents by continually updating and improving the information on the OC San website.

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SEWER SYSTEM MANAGEMENT PLAN
for
Orange County Sanitation District

Volume II

Updated March 26, 2025

Prepared by:

ORANGE COUNTY SANITATION DISTRICT
10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708

APPENDIX LIST & STAKEHOLDER FOR VOLUME II – UPDATED 03/26/25

App.	Document Title	Stakeholder	Updated
A	Order *(SWRCB Order No. 20022-0103 DWQ)*	D. Carrillo	12/21/24
B	SWRCB Order No 2022-0103-DWQ Attachment E1 and E2	D. Carrillo	03/26/25
C	SSMP Organization	J. Gomez	03/12/25
D	*reserved for future use*	----------	----
E1	Ordinance No. OCSD-25 (FOG Control / FSEs)	L. McKinley	09/22/22
E2	Ordinance No. OCSD-53 (Wastewater Discharge Regulations)	L. McKinley	09/22/22
E3	Resolution No. OCSD-05-04 (FOG Program Fees)	L. McKinley	09/22/22
F	Sewer Pipe Blockage Source Control Program and Enforcement Management System	L. McKinley	02/20/25
G1	Sewer Pipe Blockage Control Program	L. McKinley	12/21/24
G2	OCHCA Inspection Agreement	L. McKinley	09/22/22
G3	Orange County FOG Program Survey and Contact List	L. McKinley	09/22/22
H	Asset Management Improvement Program	T. Edwards	09/19/24
I1	Preventative Maintenance Program	P. Navarro	03/11/25
I2	Collection Facilities O&M Vehicle Inventory	S. Fregoso	09/24/24
J	Rehabilitation and Replacement Plan	T. Edwards	03/12/25
K1	Facility Model Maintenance Management Plan	M. Mendez	03/22/23
K2	Sewer Atlas Maintenance	M. Mendez	03/22/23
K3	Field Discrepancy Form	M. Mendez	03/22/23
L	*reserved for future use*	----------	----
M	Sewer System Evaluation and Capacity Assurance Plan	T. Edwards	03/11/25
N	*reserved for future use*	----------	----
O	*reserved for future use*	----------	----
P1	Spill Response Flow Chart	D. Carrillo	03/11/25
P2	LMC Sanitary Sewer Overflow SOP	D. Carrillo	03/11/25
P3	Spill Notification Procedures	D. Carrillo	03/11/25
Q1	Spill Emergency Response Plan	P. Navarro	03/11/25
Q2	870-Gen-08 Spill Response SOP	P. Navarro	03/11/25
R	Sewer Spill Estimation Guide	P. Navarro	03/24/25
S	Risk Management Program	J. Preston	09/11/24
T	*reserved for future use*	----------	----------
U	CIP Budget Process Information	T. Edwards	09/19/22
V	Sample Screen from OCSD Website	K. Newell	03/22/23
W	*reserved for future use*	----------	----------
X1	OCSD Environmental Auditing Program Procedures Manual	T. Meregillano	09/23/24
X2	OCSD Internal Audit Finding Template	T. Meregillano	09/24/21
Y	SSMP Closeout Report for April 13, 2021 Audit	T. Meregillano	12/21/24

APPENDIX A

State Water Resources Control Board (SWRCB)
Order No 2022-0103-DWQ

Statewide General Waste Discharge Requirements for Sanitary Sewer Systems

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	05/02/06	SWRCB	Original
	09/26/19	D. Carrillo	• Reviewed – no changes
1	9/11/23	D. Carrillo	• New SSS WDR Order
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STATE WATER RESOURCES CONTROL BOARD
1001 I Street, Sacramento, California 95814
ORDER WQ 2022-0103-DWQ

STATEWIDE WASTE DISCHARGE REQUIREMENTS

GENERAL ORDER FOR SANITARY SEWER SYSTEMS

This Order was adopted by the State Water Resources Control Board on December 6, 2022.
This Order shall become effective **180 days after the Adoption Date of this General Order,** on June 5, 2023. The Enrollee shall comply with the requirements of this Order upon the Effective Date of this General Order.

This General Order does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to persons or property, protect the Enrollee from liability under federal, state, or local laws, nor create a vested right for the Enrollee to continue the discharge of waste.

CERTIFICATION

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the State Water Board on December 6, 2022.

AYE: Chair E. Joaquin Esquivel
Vice Chair Dorene D'Adamo
Board Member Sean Maguire
Board Member Laurel Firestone
Board Member Nichole Morgan

NAY: None

ABSENT: None

ABSTAIN: None

Courtney Tyler for
Jeanine Townsend
Clerk to the Board

Table of Contents

1. Introduction 4
2. Regulatory Coverage and Application Requirements 5
   2.1. Requirements for Continuation of Existing Regulatory Coverage 5
   2.2. Requirements for New Regulatory Coverage 5
   2.3. Regulatory Coverage Transfer 7
3. Findings 7
   3.1. Legal Authorities 7
   3.2. General 11
   3.3. Water Quality Control Plans, Policies and Resolutions 14
   3.4. California Environmental Quality Act 16
   3.5. State Water Board Funding Assistance for Compliance with Water Board Water Quality Orders 16
   3.6. Notification to Interested Parties 17
4. Prohibitions 17
   4.1 Discharge of Sewage from a Sanitary Sewer System 17
   4.2. Discharge of Sewage to Waters of the State 17
   4.3. Discharge of Sewage Creating a Nuisance 18
5. Specifications 18
   5.1. Designation of a Legally Responsible Official 18
   5.2. Sewer System Management Plan Development and Implementation 18
   5.3. Certification of Sewer System Management Plan and Plan Updates 19
   5.4. Sewer System Management Plan Audits 19
   5.5. Six-Year Sewer System Management Plan Update 21
   5.6. System Resilience 22
   5.7. Allocation of Resources 22
   5.8. Designation of Data Submitters 22
   5.9. Reporting Certification 22
   5.10. System Capacity 23
   5.11. System Performance Analysis 23
   5.12. Spill Emergency Response Plan and Remedial Actions 23
   5.13. Notification, Monitoring, Reporting and Recordkeeping Requirements 24
   5.14. Electronic Sanitary Sewer System Service Area Boundary Map 26
   5.15. Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems 26
   5.16. Voluntary Notification of Spills from Privately-Owned Laterals and/or Systems to the California Office of Emergency Services 27
   5.17. Unintended Failure to Report 27

5.18. Duty to Report to Water Boards 27
5.19. Operation and Maintenance 27
6. Provisions 27
6.1. Enforcement Provisions 27
6.2. Other Regional Water Board Orders 30
6.3. Sewer System Management Plan Availability 31
6.4. Entry and Inspection 31

Table of Attachments

Attachment A – Definitions A-1
Attachment B – Application for Enrollment B-1
Attachment C - Notice of Termination C-1
Attachment D – Sewer System Management Plan – Required Elements D-1
Attachment E1 – Notification, Monitoring, Reporting and Recordkeeping Requirements E1-1
Attachment E2 – Summary of Notification, Monitoring and Reporting Requirements E2-1
Attachment F – Regional Water Quality Control Board Contact Information F-1

1. INTRODUCTION

This General Order regulates sanitary sewer systems designed to convey sewage. For the purpose of this Order, a sanitary sewer system includes, but is not limited to, pipes, valves, pump stations, manholes, siphons, wet wells, diversion structures and/or other pertinent infrastructure, upstream of a wastewater treatment plant headworks. A sanitary sewer system includes:

- Laterals owned and/or operated by the Enrollee;
- Satellite sewer systems; and/or
- Temporary conveyance and storage facilities, including but not limited to temporary piping, vaults, construction trenches, wet wells, impoundments, tanks and diversion structures.

Sewage is untreated or partially treated domestic, municipal, commercial and/or industrial waste (including sewage sludge), and any mixture of these wastes with inflow or infiltration of stormwater or groundwater, conveyed in a sanitary sewer system. Sewage contains high levels of suspended solids, non-digested organic waste, pathogenic bacteria, viruses, toxic pollutants, nutrients, oxygen-demanding organic compounds, oils, grease, pharmaceuticals, and other harmful pollutants.

For the purpose of this General Order, a spill is a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure. Sewage and its associated wastewater spilled from a sanitary sewer system may threaten public health, beneficial uses of waters of the State, and the environment.

This General Order serves as statewide waste discharge requirements and supersedes the previous State Water Resources Control Board (State Water Board) Order 2006-0003-DWQ and amendments thereafter. All sections and attachments of this General Order are enforceable by the State Water Board and Regional Water Quality Control Boards (Regional Water Boards). Through this General Order, the State Water Board requires an Enrollee to:

- Comply with federal and state prohibitions of discharge of sewage to waters of the State, including federal waters of the United States;
- Comply with specifications, and notification, monitoring, reporting and recordkeeping requirements in this General Order that implement the federal Clean Water Act, the California Water Code (Water Code), water quality control plans (including Regional Water Board Basin Plans) and policies;
- Proactively operate and maintain resilient sanitary sewer systems to prevent spills;
- Eliminate discharges of sewage to waters of the State through effective implementation of a Sewer System Management Plan;
- Monitor, track, and analyze spills for ongoing system-specific performance improvements; and
- Report noncompliance with this General Order per reporting requirements.

An Enrollee is a public, private, or other non-governmental entity that has obtained approval for regulatory coverage under this General Order, including:

- A state agency, municipality, special district, or other public entity that owns and/or operates one or more sanitary sewer systems:
  - greater than one (1) mile in length (each individual sanitary sewer system);
  - one (1) mile or less in length where the State Water Board or a Regional Water Board requires regulatory coverage under this Order; or
- A federal agency, private company, or other non-governmental entity that owns and/or operates a sanitary sewer system of any size where the State Water Board or a Regional Water Board requires regulatory coverage under this Order in response to a history of spills, proximity to surface water, or other factors supporting regulatory coverage.

For the purpose of this Order, a sanitary sewer system includes only systems owned and/or operated by the Enrollee.

2. REGULATORY COVERAGE AND APPLICATION REQUIREMENTS

2.1. Requirements for Continuation of Existing Regulatory Coverage

To continue regulatory coverage from previous Order 2006-0003-DWQ under this General Order, **within the 60-days-prior-to the Effective Date of this General Order**, the Legally Responsible Official of an existing Enrollee shall electronically certify the Continuation of Existing Regulatory Coverage form in the online California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database. The Legally Responsible Official will receive an automated CIWQS-issued Notice of Applicability email, confirming continuation of regulatory coverage under this General Order. All regulatory coverage under previous Order 2006-0003-DWQ will cease on the Effective Date of this Order.

An Enrollee continuing existing regulatory coverage is not required to submit a new application package or pay an application fee for enrollment under this General Order. The annual fee due date for continued regulatory coverage from previous Order 2006-0003-DWQ to this General Order remains unchanged.

A previous Enrollee of Order 2006-0003-DWQ that fails to certify the Continuation of Existing Regulatory Coverage form in the online CIWQS database by the Effective Date of this Order is considered a New Applicant, and will not have regulatory coverage for its sanitary sewer system(s) until:

- A new application package for system(s) enrollment is submitted per section 2.2 (Requirements for New Regulatory Coverage) below; and
- The new application package is approved per section 2.2.2 (Approval of Application Package (For New Applicants Only)).

2.2. Requirements for New Regulatory Coverage

No later than 60 days prior to commencing and/or assuming operation and maintenance responsibilities of a sanitary sewer system, a duly authorized representative that

maintains legal authority over the public or private sanitary sewer system is required to enroll under this General Order by submitting a complete application package as specified below and as provided in Attachment B (Application for Enrollment Form) of this General Order.

Unless required by a Regional Water Board, a public agency that owns a combined sewer system subject to the Combined Sewer Overflow Control Policy (33 U.S. Code § 1342(q)), is not required to enroll, under this Order, the portions of its sanitary sewer system(s) that collects combined sanitary wastewater and stormwater.

2.2.1. Application Package Requirements

The Application for Enrollment package for new applicants must include the following items:

- **Application for Enrollment Form**. The form in Attachment B of this General Order must be completed, signed, and certified by a Legally Responsible Official, in accordance with section 5.1 (Designation of a Legally Responsible Official) of this General Order. If an electronic Application for Enrollment form is available at the time of application, a new applicant shall submit its application form electronically; and
- **Application Fee**. A fee payable to the "State Water Resources Control Board" in accordance with the Fee Schedule in the California Code of Regulations, Title 23, section 2200, or subsequent fee regulations updates.

  The application fee for this General Order is based on the sanitary sewer system's threat to water quality and complexity designations of category 2C or 3C, which is assigned based on the population served by the system. The current Fee Schedule for sanitary sewer systems is listed under subdivision (a)(2) at the following website: Fee Schedule (https://www.waterboards.ca.gov/resources/fees/water_quality/).

2.2.2. Approval of Application Package (For New Applicants Only)

The Deputy Director of the State Water Board, Division of Water Quality (Deputy Director) will consider approval of each complete Application for Enrollment package. The Deputy Director will issue a Notice of Applicability letter which serves as approved regulatory coverage for the new Enrollee.

If the submitted application package is not complete in accordance with section 2.2.1 (Application Package Requirements) of this General Order, the Deputy Director will send a response letter to the applicant outlining the application deficiencies. The applicant will have 60 days from the date of the response letter to correct the application deficiencies and submit the identified items necessary to complete the application package to the State Water Board.

2.2.3. Electronic Reporting Account for New Enrollee

Within 30 days after the date of the Approval of Complete Application Package for System Enrollment, a duly authorized representative for the Enrollee shall obtain a CIWQS Sanitary Sewer System Database user account by clicking the "User Registration" button and following the directions on the CIWQS Login Page

(https://ciwqs.waterboards.ca.gov). If additional assistance is needed to establish an online CIWQS user account, contact State Water Board staff by email at CIWQS@waterboards.ca.gov. The online user account will provide the Enrollee secure access to the online CIWQS database for electronic reporting.

2.3. Regulatory Coverage Transfer

Regulatory coverage under this General Order is not transferable to any person or party except after an existing Enrollee submits a written request for a regulatory coverage transfer to the Deputy Director, at least 60 days in advance of any proposed system ownership transfer. The written request must include a written agreement between the existing Enrollee and the new Enrollee containing:

- Acknowledgement that the transfer of ownership is solely of an existing system with an existing waste discharge identification (WDID) number;
- The specific ownership transfer date in which the responsibility and regulatory coverage transfer between the existing Enrollee and the new Enrollee becomes effective; and
- Acknowledgement that the existing Enrollee is liable for violations occurring up to the ownership transfer date and that the new Enrollee is liable for violations occurring on and after the ownership transfer date.

The Deputy Director will consider approval of the written request. If approved, the Deputy Director will issue a Notice of Applicability letter which serves as an approved transfer of regulatory coverage to the new Enrollee.

3. FINDINGS

3.1. Legal Authorities

3.1.1. Federal and State Regulatory Authority

The objective of the Clean Water Act is to restore and maintain the chemical, physical, and biological integrity of the waters of the United States (33 U.S.C. 1251). The Water Code authorizes the State Water Board to implement the Clean Water Act in the State and to protect the quality of all waters of the State (Water Code sections 13000 and 13160).

3.1.2. Discharge of Sewage

A discharge of untreated or partially treated sewage is a discharge of waste as defined in Water Code section 13050(d) that could affect the quality of waters of the State and is subject to regulation by waste discharge requirements issued pursuant to Water Code section 13263 and Chapter 9, Division 3, Title 23 of the California Code of Regulations. A discharge of sewage may pollute and alter the quality of the waters of the State to a degree that unreasonably affects the beneficial uses of the receiving water body or facilities that serve those beneficial uses (Water Code section 13050(l)(1)).

3.1.3 Water Boards Authority to Require Technical Reports, Monitoring, and Reporting

Water Code sections 13267 and 13383 authorize the Regional Water Boards and the State Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. Water Code section 13267(b), authorizes the Regional Water Boards to "require any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region… or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of water within its region shall furnish, under penalty of perjury, technical or monitoring reports which the regional board requires…In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports and shall identify the evidence that supports requiring that person to provide the reports." Water Code section 13267(f) authorizes the State Water Board to require this information if it consults with the Regional Water Boards and determines that it will not duplicate the efforts of the Regional Water Boards. The State Water Board has consulted with the Regional Water Boards and made this determination.

The technical and monitoring reports required by this General Order and Attachment E (Notification, Monitoring, Reporting and Recordkeeping Requirements) are necessary to evaluate and ensure compliance with this General Order. The effort to develop required technical reports will vary depending on the system size and complexity and the needs of the specific technical report. The burden and cost of these reports are reasonable and consistent with the interest of the state in protecting water quality, which is the primary purpose of requiring the reports.

Water Code section 13383(a) authorizes the Water Boards to "establish monitoring, inspection, entry, reporting, and recordkeeping requirements… for any person who discharges, or proposes to discharge, to navigable waters, any person who introduces pollutants into a publicly owned treatment works, any person who owns or operates, or proposes to own or operate, a publicly owned treatment works or other treatment works treating domestic sewage, or any person who uses or disposes, or proposes to use or dispose, of sewage sludge." Section 13383(b) continues, "the state board or the regional boards may require any person subject to this section to establish and maintain monitoring equipment or methods, including, where appropriate, biological monitoring methods, sample effluent as prescribed, and provide other information as may be reasonably required."

Reporting of spills from privately owned sewer laterals and systems pursuant to section 5.15 (Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems) of this General Order is authorized by Water Code section 13225(c) and encouraged by the State Water Board, wherein a local agency may investigate and report on any technical factors involved in water quality control provided the burden including costs of such reports bears a reasonable relationship to the need for the report and the benefits to be obtained therefrom. The burden of reporting private spills under section 5.15 (Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems) is minimal and is outweighed by the benefit of providing Regional Water Boards an opportunity to respond to these spills

when an Enrollee, which in many cases has a contractual relationship with the owner of the private system, has knowledge of the spills.

3.1.4. Water Board Authority to Prescribe General Waste Discharge Requirements

Water Code section 13263(i) provides that the State Water Board may prescribe general waste discharge requirements for a category of discharges if the State Water Board finds or determines that:

- The discharges are produced by the same or similar operations;
- The discharges involve the same or similar types of waste;
- The discharges require the same or similar treatment standards; and
- The discharges are more appropriately regulated under general waste discharge requirements than individual waste discharge requirements.

Since 2006, the State Water Board has been regulating over 1,100 publicly owned sanitary sewer systems (See section 3.1.5 (Previous Statewide General Waste Discharge Requirements) of this General Order). California also has a large unknown number of unregulated privately owned sanitary sewer systems. All waste conveyed in publicly owned and privately owned sanitary sewer systems (as defined in this General Order) is comprised of untreated or partially treated domestic waste and/or industrial waste. Generally, sanitary sewer systems are designed and operated to convey waste by gravity or under pressure; system-specific design elements and system-specific operations do not change the common nature of the waste, the common threat to public health, or the common impacts on water quality. Spills of waste from a sanitary sewer system prior to reaching the ultimate downstream treatment facility are unauthorized and enforceable by the State Water Board and/or a Regional Water Board. Therefore, spills from sanitary sewer systems are more appropriately regulated under general waste discharge requirements.

As specified in Water Code sections 13263(a) and 13241, the implementation of requirements set forth in this Order is for the reasonable protection of past, present, and probable future beneficial uses of water and the prevention of nuisance. The requirements implement the water quality control plans (Basin Plans) for each Regional Water Board and take into account the environmental characteristics of sewer service areas and hydrographic units within the state. Additionally, the State Water Board has considered water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality, costs associated with compliance with these requirements, the need for developing housing within California, and the need to protect sources of drinking water and other water supplies.

3.1.5. Previous Statewide General Waste Discharge Requirements

On May 2, 2006, the State Water Board adopted Order 2006-0003-DWQ serving as Waste Discharge Requirements pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with section 13260) for inadvertent discharges to waters of the State. Order 2006-0003-DWQ prohibited discharges of untreated or partially treated sewage. Order 2006-0003-DWQ also required system-specific management, operation, and maintenance of publicly owned sewer systems greater than one mile in length.

To decrease the impacts on human health and the environment caused by sewage spills, the previous Order required enrollees to develop a rehabilitation and replacement plan that identifies system deficiencies and prioritizes short-term and long-term rehabilitation actions. The previous Order also required enrollees to:

1. Maintain information that can be used to establish and prioritize appropriate Sewer System Management Plan activities; and
2. Implement a proactive approach to reduce spills.

The previous Order required Sewer System Management Plan elements for “the proper and efficient management, operation, and maintenance of sanitary sewer systems, while taking into consideration risk management.”

On July 30, 2013, the State Water Board amended General Order 2006-0003-DWQ with Order WQ 2013-0058-EXEC, Amending Monitoring and Reporting Program for Statewide General Waste Discharge Requirements for Sanitary Sewer Systems.

Many enrollees of Order 2006-0003-DWQ have already implemented proactive measures to reduce sewage spills. Other enrollees, however, still need technical assistance and funding to improve sanitary sewer system operation and maintenance for the reduction of sewage spills.

3.1.6. Existing Memorandum of Agreement with California Water Environment Association

The California Water Environment Association is a nonprofit organization dedicated to providing water industry certifications, training, and networking opportunities. The Association’s Technical Certification Program provides accredited sanitary sewer system operator certification for collection system operators and maintenance workers.

On February 10, 2016, the State Water Board entered into a collaborative agreement with the Association titled *Memorandum of Agreement Between the California State Water Resources Control Board and the California Water Environment Association - Training Regarding Requirements Set Forth in Statewide General Waste Discharge Requirements for Sanitary Sewer Systems*. The Memorandum sets forth collaborative training necessary for regulated sanitary sewer system personnel to operate and maintain a well operating system and ensure full compliance with statewide sewer system regulations.

On March 15, 2018, the State Water Board and the California Water Environment Association amended the existing Memorandum of Agreement to include collaborative outreach and expand training needs associated with further updates to Water Board regulations for sanitary sewer systems. The State Water Board encourages further Agreement updates as necessary to support improved sewer system operations and the professionalism of collection system operators.

3.2. General

3.2.1. Waters of the State

Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state as defined in Water Code section 13050(e), and are inclusive of waters of the United States.

3.2.2. Sanitary Sewer System Spill Threats to Public Health and Beneficial Uses

Sewage contains high levels of suspended solids, pathogenic organisms, toxic pollutants, nutrients, oxygen-demanding organic compounds, oil and grease and other pollutants. Sewage spills may cause a public nuisance, particularly when sewage is discharged to areas with high public exposure such as streets and surface waters used for drinking, irrigation, fishing, recreation, or other public consumption or contact uses.

More specifically, sanitary sewer spills may:

- Adversely affect aquatic life and/or threaten water quality when reaching receiving waters;
- Inadvertently release trash, including plastics;
- Impair the recreational use and aesthetic enjoyment of surface waters by polluting surface water or groundwater;
- Threaten public health through direct public exposure to bacteria, viruses, intestinal parasites, and other microorganisms that can cause serious illness such as gastroenteritis, hepatitis, cryptosporidiosis, and giardiasis;
- Negatively impact ecological receptors and biota within surface waters; and
- Cause nuisance including odors, closure of beaches and recreational areas, and property damage.

Sanitary sewer system spills may pollute receiving waters and threaten beneficial uses of surface water and groundwater. Potentially threatened beneficial uses include, but are not limited to the following (with associated acronym representations as included in statewide water quality control plans and Regional Water Boards' Basin Plans):

- Municipal and Domestic Supply (MUN)
- Water Contact Recreation (REC-1) and Non-Contact Water Recreation (REC-2)
- Cold Freshwater Habitat (COLD)
- Warm Freshwater Habitat (WARM)
- Native American Culture (CUL)
- Wildlife Habitat (WILD)
- Rare, Threatened, or Endangered Species (RARE)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Wetland Habitat (WET)
- Agricultural Supply (AGR)
- Estuarine Habitat (EST)

- Commercial and Sport Fishing (COMM)
- Subsistence Fishing (SUB)
- Tribal Tradition and Culture (CUL)
- Tribal Subsistence Fishing (T-SUB)
- Aquaculture (AQUA)
- Marine Habitat (MAR)
- Preservation of Biological Habitats of Special Significance (BIOL)
- Migration of Aquatic Organisms (MIGR)
- Shellfish Harvesting (SHELL)
- Industrial Process Supply (PROC)
- Industrial Service Supply (IND)
- Hydropower Generation (POW)
- Navigation (NAV)
- Flood Peak Attenuation/Flood Water Storage (FLD)
- Water Quality Enhancement (WQE)
- Fresh Water Replenishment (FRSH)
- Groundwater Recharge (GWR)
- Inland Saline Water Habitat (SAL)

3.2.3. Proactive Sanitary Sewer System Management to Eliminate Spill Causes

Finding 3 of the previous Order, 2006-0003-DWQ, states: “Sanitary sewer systems experience periodic failures resulting in discharges that may affect waters of the state. There are many factors (including factors related to geology, design, construction methods and materials, age of the system, population growth, and system operation and maintenance), which affect the likelihood of an SSO [sanitary sewer overflow]. A proactive approach that requires Enrollees to ensure a system-wide operation, maintenance, and management plan is in place will reduce the number and frequency of SSOs within the state. This approach will in turn decrease the risk to human health and the environment caused by SSOs.”

Many spills are preventable through proactive attention on sanitary sewer system management using the best practices and technologies available to address major causes of spills, including but not limited to:

- Blockages from sources including but not limited to:
  - Fats, oils and grease;
  - Tree roots;
  - Rags, wipes and other paper, cloth and plastic products; and
  - Sediment and debris.
- Sewer system damage and exceedance of sewer system hydraulic capacity from identified <u>system-specific</u> environmental, and climate-change impacts, including but not limited to:

  - Sea level rise impacts including flooding, coastal erosion, seawater intrusion, tidal inundation and submerged lands;
  - Increased surface water flows due to higher intensity rain events;
  - Flooding;
  - Wildfires and wildfire induced impacts;
  - Earthquake induced damage;
  - Landslides; and
  - Subsidence.
- Infrastructure deficiencies and failures, including but not limited to:
  - Pump station mechanical failures;
  - System age;
  - Construction material failures;
  - Manhole cover failures;
  - Structural failures; and
  - Lack of proper operation and maintenance.
- Insufficient system capacity (temporary or sustained), due to factors including but not limited to:
  - Excessive and/or increased storm or groundwater inflow/infiltration;
  - Insufficient capacity due to population increase and/or new connections from industrial, commercial and other system users; and
  - Stormwater capture projects utilizing a sanitary sewer system to convey stormwater to treatment facilities for reuse.
- Community impacts, including but not limited to:
  - Power outages;
  - Vandalism; and
  - Contractor-caused or other third party-caused damages.

3.2.4. Underground Sanitary Sewer System Leakage

Portions of some sanitary sewer systems may leak, causing underground exfiltration (exiting) of sewage from the system. Exfiltrated sewage that remains in the underground infrastructure trench and/or the soil matrix, and that does not discharge into waters of the State (surface water or groundwater) may not threaten beneficial uses.

Underground exfiltrated sewage may threaten beneficial uses if discharged to waters of the State. Exfiltrated sewage that discharges to groundwater may impact beneficial uses of groundwater and pollute groundwater supply. Additionally, if in close proximity, exfiltrated sewage may enter into a compromised underground drainage conveyance system that discharges into a water of the United States, or into groundwater that is hydrologically connected to (feeds into) a water of the United States, thus potentially causing: (1) a Clean Water Act violation, (2) threat and impact to beneficial uses, and/or (3) surface water pollution.

3.2.5. Proactive Sanitary Sewer System Management to Reduce Inflow and Infiltration

Excessive inflow (stormwater entering) and infiltration (groundwater seepage entering) to sanitary sewer systems is preventable through proactive sewer system management using the best practices and technologies available. The efficiency of the downstream wastewater treatment processes is dependent on the performance of the sanitary sewer system. When the structural integrity of a sanitary sewer system deteriorates, high volumes of inflow and infiltration can enter the sewer system. High levels of inflow and infiltration increase the hydraulic load on the downstream treatment plant, which can reduce treatment efficiency, lead to bypassing a portion of the treatment process, cause illegal discharge of partially treated effluent, or in extreme situations make biological treatment facilities inoperable (e.g., wash out the biological organisms that treat the waste).

3.3. Water Quality Control Plans, Policies and Resolutions

The nine Regional Water Boards have adopted region-specific water quality control plans (commonly referred to as Basin Plans) that designate beneficial uses, establish water quality objectives, and contain implementation programs and policies to achieve those objectives. The State Water Board has adopted statewide water quality control plans, policies and resolutions establishing statewide water quality objectives, implementation programs and initiatives.

3.3.1. State Water Board Antidegradation Policy

On October 28, 1968, the State Water Board adopted Resolution 68-16, titled Statement of Policy with Respect to Maintaining High Quality of Waters in California, which incorporates the federal antidegradation policy. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings.

The continued prohibition of sewage discharges from sanitary sewer systems into waters of the State aligns with Resolution 68-16. A sewage discharge from sanitary sewers to waters of the State is prohibited by this Order. Therefore, this Order does not allow degradation of waters of the State. In addition, this Order: (1) further expands the existing prohibition of sewage discharges to include waters of the State, in addition to waters of the United States as provided in previous Order 2006-0003-DWQ, and (2) enhances the ability for Water Board enforcement of violations of the established prohibitions.

3.3.2. State Water Board Sources of Drinking Water Policy

On May 19,1988, the State Water Board adopted Resolution 88-63 (amended on February 1, 2006), titled Sources of Drinking Water, establishing state policy that all waters of the State, with certain exceptions, are suitable or potentially suitable for municipal or domestic supply.

3.3.3. State Water Board Cost of Compliance Resolution

On September 24, 2013, the State Water Board adopted Resolution 2013-0029, titled Directing Actions in Response to Efforts by Stakeholders on Reducing Costs of

Compliance While Maintaining Water Quality Protection. Through this resolution, the State Water Board committed to continued stakeholder engagement in identifying and implementing measures to reduce costs of compliance with regulatory orders while maintaining water quality protection and improving regulatory program outcomes.

3.3.4. State Water Board Human Right to Water Resolution

On February 16, 2016, the State Water Board adopted Resolution 2016-0010, titled Adopting the Human Right to Water as a Core Value and Directing its Implementation in Water Board Programs and Activities, addressing the human right to water as a core value and directing Water Board programs to implement requirements to support safe drinking water for all Californians.

On November 16, 2021, the State Water Board adopted Resolution 2021-0050 titled Condemning Racism, Xenophobia, Bigotry, and Racial Injustice, and Strengthening Commitment to Racial Equity, Diversity, Inclusion, Access, and Anti-racism. Among other actions, through Resolution 2021-0050, the State Water Board, in summary as corresponding to this General Order, reaffirms its commitment to its Human Right to Water resolution, upholding that every human being in California deserves safe, clean, affordable, and accessible water for human consumption, cooking, and sanitation purposes. Resolution 2021-0050 provides the State Water Board commitment to:

- Protect public health and beneficial uses of waterbodies in all communities, including communities disproportionately burdened by wastes discharge of waste to land and surface water;
- Restore impaired surface waterbodies and degraded aquifers; and
- Promote multi-benefit water quality projects.

Through Resolution 2021-0050, the State Water Board also commits to expanding implementation of its Climate Change Resolution to address the disproportionate effects of extreme hydrologic conditions and sea-level rise on Black, Indigenous, and people of color communities, prioritizing:

- The right to safe, clean, affordable, and accessible drinking water and sanitation;
- Sustainable management and protection of local groundwater resources;
- Healthy watersheds; and
- Access to surface waterbodies that support subsistence fishing.

On June 7, 2022, the State Water Board adopted a Resolution, titled Authorizing the Executive Director or Designee to Enter into One or More Multi-Year Contracts Up to a Combined Sum of $4,000,000 for a Statewide Wastewater Needs Assessment, supporting the equitable access to sanitation for all Californians and implementation of Resolutions 2016-0010 and 2021-0050.

This General Order supports the State Water Board priority in collecting a comprehensive set of data for California's wastewater systems, including sanitary sewer systems. Data reported per the requirements of this Order will be used with data from other Water Boards' programs, to further develop criteria and create a statewide risk

framework to prioritize critical funding and infrastructure investments for California's most vulnerable populations, including disadvantaged or severely disadvantaged communities with inadequate or failing sanitation systems and threatened access to healthy drinking water supplies.

3.3.5. State Water Board Open Data Resolution

On July 10, 2018, the State Water Board adopted Resolution 2018-0032, titled Adopting Principles of Open Data as a Core Value and Directing Programs and Activities to Implement Strategic Actions to Improve Data Accessibility and Associated Innovation, directing regulatory programs to assure all monitoring and reporting requirements support the State Water Boards' Open Data Initiative.

3.3.6. State Water Board Response to Climate Change

On March 7, 2017, the State Water Board adopted Resolution 2017-0012, titled Comprehensive Response to Climate Change, requiring a proactive response to climate change in all California Water Board actions, with the intent to embed climate change consideration into all programs and activities.

3.4. California Environmental Quality Act

The adoption of this Order is an action to reissue general waste discharge requirements that is exempt from the California Environmental Quality Act (Public Resources Code section 21000 et seq.) because it is an action taken by a regulatory agency to assure the protection of the environment and the regulatory process involves procedures for protection of the environment (Cal. Code Regs., Title 14, section 15308). In addition, the action to adopt this Order is exempt from CEQA pursuant to Cal. Code Regs., Title 14, section 15301, to the extent that it applies to existing sanitary sewer collection systems that constitute "existing facilities" as that term is used in sections 15301 and 15302, to the extent that it results in the repair or replacement of existing systems involving negligible or no expansion of capacity.

3.5. State Water Board Funding Assistance for Compliance with Water Board Water Quality Orders

The State Water Board, Division of Financial Assistance administers the implementation of the State Water Board financial assistance programs, per Board-adopted funding policies. Among other funding areas, the Division administers loan and grant funding for the planning and construction of wastewater and water recycling facilities per funding program-specific policies and guidelines. Applicants may apply for Clean Water State Revolving Fund low-interest loan, Small Community Wastewater grant funding assistance, and other funding available at the time of application, for some of the costs associated with complying with this General Order.

Funding applicants may obtain further information regarding current funding opportunities, and Division of Financial Assistance staff contact information at the following website: Financial Assistance Funding - Grants and Loans | California State Water Resources Control Board.
(https://www.waterboards.ca.gov/water_issues/programs/grants_loans/)

Section 13477.6 of the Water Code authorizes the Small Community Grant Fund. The Small Community Grant Fund allows the State Water Board to provide grant funding assistance to small, disadvantaged communities and small severely disadvantaged communities that may not otherwise be able to afford a loan or similar financing for projects to comply with requirements of this General Order. The State Water Board also considers loan forgiveness on a disadvantaged community-specific basis.

For disadvantaged communities' wastewater needs, the State Water Board places priority on the funding of projects that address:

- Public health;
- Violations of waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) permits;
- Providing sewer system service to existing septic tank owners; and
- High priority public health and water quality concerns identified by a Regional Water Board.

3.6. Notification to Interested Parties

On January 31, 2022, the State Water Board notified interested parties and persons of its intent to reissue Sanitary Sewer Systems General Order 2006-0003-DWQ by issuing a draft General Order for a 60-day public comment period. State Water Board staff conducted extensive stakeholder outreach and encouraged public participation in the adoption process for this General Order. On March 15, 2022, the State Water Board held a public meeting to hear and consider oral public comments. The State Water Board considered all public comments prior to adopting this General Order.

THEREFORE, IT IS HEREBY ORDERED, that pursuant to Water Code sections 13263, 13267, and 13383 this General Order supersedes Order 2006-0003-DWQ, Order WQ 2013-0058-EXEC, and any amendments made to these Orders thereafter, except for enforcement purposes and to meet the provisions contained in Division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, the Enrollee shall comply with the requirements in this Order.

4. PROHIBITIONS

4.1 Discharge of Sewage from a Sanitary Sewer System

Any discharge from a sanitary sewer system that has the potential to discharge to surface waters of the State is prohibited unless it is promptly cleaned up and reported as required in this General Order.

4.2. Discharge of Sewage to Waters of the State

Any discharge from a sanitary sewer system, discharged directly or indirectly through a drainage conveyance system or other route, to waters of the State is prohibited.

4.3. Discharge of Sewage Creating a Nuisance

Any discharge from a sanitary sewer system that creates a nuisance or condition of pollution as defined in Water Code section 13050(m) is prohibited.

5. SPECIFICATIONS

5.1. Designation of a Legally Responsible Official

The Enrollee shall designate a Legally Responsible Official that has authority to ensure the enrolled sanitary sewer system(s) complies with this Order, and is authorized to serve as a duly authorized representative. The Legally Responsible Official must have responsibility over management of the Enrollee's entire sanitary sewer system, and must be authorized to make managerial decisions that govern the operation of the sanitary sewer system, including having the explicit or implicit duty of making major capital improvement recommendations to ensure long-term environmental compliance. The Legally Responsible Official must have or have direct authority over individuals that:

- Possess a recognized degree or certificate related to operations and maintenance of sanitary sewer systems, and/or
- Have professional training and experience related to the management of sanitary sewer systems, demonstrated through extensive knowledge, training and experience.

For example, a sewer system superintendent or manager, an operations manager, a public utilities manager or director, or a district engineer may be designated as a Legally Responsible Official.

The Legally Responsible Official shall complete the electronic CIWQS "User Registration" form (https://ciwqs.waterboards.ca.gov/ciwqs/newUser.jsp). A Legally Responsible Official that represents multiple enrolled systems shall complete the electronic CIWQS "User Registration" form for each system.

The Enrollee shall submit any change to its Legally Responsible Official, and/or change in contact information, to the State Water Board within 30 calendar days of the change by emailing ciwqs@waterboards.ca.gov and copying the appropriate Regional Water Board as provided in Attachment F (Regional Water Quality Control Board Contact Information) of this General Order.

5.2. Sewer System Management Plan Development and Implementation

To facilitate adequate local funding and management of its sanitary sewer system(s), the Enrollee 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 Plan, 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.

For an existing Enrollee under Order 2006-0003-DWQ that has certified its Continuation of Existing Regulatory Coverage, per section 2.1 (Requirements for Continuation of Existing Regulatory Coverage) of this General Order:

Within six (6) months of the Adoption Date of this General Order:

- The Legally Responsible Official shall upload the Enrollee's existing Sewer System Management Plan to the online CIWQS Sanitary Sewer System Database.

For a new Enrollee:

Within twelve (12) months of the Application for Enrollment approval date:

- The governing entity of the new Enrollee shall approve its Sewer System Management Plan; and
- The Legally Responsible Official shall certify and upload its Sewer System Management Plan to the online CIWQS Sanitary Sewer System Database.

5.3. Certification of Sewer System Management Plan and Plan Updates

The Legally Responsible Official shall certify and upload its Sewer System Management Plan and all subsequent updates to the online CIWQS Sanitary Sewer System Database.

5.4. Sewer System Management Plan Audits

The Enrollee shall conduct an internal audit of its Sewer System Management Plan, and implementation of its Plan, at a minimum frequency of once every three years. The audit must be conducted for the period after the end of the Enrollee's last required audit period. **Within six months after the end of the required 3-year audit period**, the Legally Responsible Official shall submit an audit report into the online CIWQS Sanitary Sewer System Database per the requirements in section 3.10 (Sewer System Management Plan Audit Reporting Requirements) of Attachment E1 of this General Order.

Audit reports submitted to the CIWQS Sanitary Sewer System Database will be viewable only to Water Boards staff.

The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. The Enrollee's sewer system operators must be involved in completing the audit. At minimum, the audit must:

- Evaluate the implementation and effectiveness of the Enrollee's Sewer System Management Plan in preventing spills;
- Evaluate the Enrollee's compliance with this General Order;
- Identify Sewer System Management Plan deficiencies in addressing ongoing spills and discharges to waters of the State; and

- Identify necessary modifications to the Sewer System Management Plan to correct deficiencies.

The Enrollee shall submit a complete audit report that includes:

- Audit findings and recommended corrective actions;
- A statement that sewer system operators' input on the audit findings has been considered; and
- A proposed schedule for the Enrollee to address the identified deficiencies.

A new Enrollee of this General Order (that did not have a sanitary sewer system enrolled in the previous State Water Board Order 2006-0003-DWQ) shall conduct its first internal Sewer System Management Plan audit for the time period between the date of submittal of its certified Sewer System Management Plan and the third subsequent December 31st date. The audit report must be submitted into the online CIWQS Sanitary Sewer System Database **by July 1 of the following calendar year**.

See the following tables for clarification:

Initial Audit Period and Audit Due Date for New Enrollees

	Audit Period	Audit Due Date
New Enrollee	Certified Sewer System Management Plan Submittal Date through the third subsequent December 31st date	July 1st date after audit period
Example	*Certified Sewer System Management Plan Submittal Date of August 2, 2025* *Audit Period of August 2, 2025 through December 31, 2027*	*July 1, 2028*

Initial Audit Period for Transition from 2-Year Audit Required in Previous Order 2006-0003-DWQ to 3-Year Audit Required in this General Order

	Audit Period	Audit Due Date
An Enrollee previously regulated by Order 2006-003-DWQ	A 3-year period starting from the end of last required 2-year Audit Period	Within six months after end of 3-year Audit Period
Example	*Last required Audit Period start date of August 2, 2021;* *Audit Period of August 2, 2021 through August 1, 2024*	*February 1, 2025*

Three-Year Ongoing Audit Period

	Audit Period	Audit Due Date
Each Enrollee	A 3-year period starting from the end of last required Audit Period	Within six months after end of 3-year Audit Period

5.5. Six-Year Sewer System Management Plan Update

At a minimum, the Enrollee shall update its Sewer System Management Plan every six (6) years after the date of its last Plan Update due date. (For an Enrollee previously regulated by Order 2006-0003-DWQ, the six-year period shall commence on the due date identified in section 3.11 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this Order. The Updated Sewer System Management Plan must include:

- Elements required in Attachment D (Sewer System Management Plan – Required Elements) of this Order;
- Summary of revisions included in the Plan update based on internal audit findings; and
- Other sewer system management-related changes.

The Enrollee's governing entity shall approve the updated Plan. The Legally Responsible Official shall upload and certify the approved updated Plan in the online CIWQS Sanitary Sewer System Database in accordance with section 3.11 (Sewer System Management Plan Reporting Requirements) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order. During the time period in between Plan updates, the Enrollee shall continuously document changes to its Sewer System Management Plan in a change log attached to the Plan.

5.6. System Resilience

The Enrollee shall include and implement system-specific procedures in its Sewer System Management Plan to proactively prioritize: (1) operation and maintenance, (2) condition assessments, and (3) repair and rehabilitation, to address ongoing system resilience, as specified in Attachment D (Sewer System Management Plan – Required Elements) of this General Order.

5.7. Allocation of Resources

The Enrollee shall:

- 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:
  - Compliance with this General Order,
  - Full implementation of its updated Sewer System Management Plan,
  - System operation, maintenance, and repair, and
  - Spill responses.

5.8. Designation of Data Submitters

The Legally Responsible Official may designate one or more individuals as a Data Submitter for reporting of spill data. The Legally Responsible Official shall authorize the designation of Data Submitter(s) through the online CIWQS database (https://ciwqs.waterboards.ca.gov) prior to the individuals establishing a CIWQS user account (https://ciwqs.waterboards.ca.gov/ciwqs/newUser.jsp) and entering spill data into the online CIWQS Sanitary Sewer System Database.

The Legally Responsible Official shall submit any change to its Data Submitter(s), and/or change in Data Submitter contact information, to the State Water Board within 30 calendar days of the change, by emailing ciwqs@waterboards.ca.gov and copying the appropriate Regional Water Board as provided in Attachment F (Regional Water Quality Control Board Contact Information) of this General Order.

5.9. Reporting Certification

The Legally Responsible Official shall electronically certify, on the Enrollee's behalf, all applications, reports, the Sewer System Management Plan(s) and corresponding updates, and other information submitted electronically into the online CIWQS Sanitary Sewer System Database, as follows:

"I certify under penalty of perjury under the laws of the State of California that the electronically submitted information was prepared under my direction or supervision. Based on my inquiry of the person(s) directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is true, accurate, and complete, and complies with the Statewide Sanitary Sewer Systems General Order. I am aware that there are significant penalties for submitting false information."

Hardcopy submittals to the State Water Board must be accompanied by the above certification statement.

5.10. System Capacity

The Enrollee shall maintain the system capacity necessary to convey: (1) base flows during dry weather conditions, and (2) wet weather peak flows consistent with designated local historic storms. Design storms must take into account system-specific stormwater contributions via inflow and infiltration, and location-specific depth of groundwater and storm frequencies. The Enrollee shall implement capital improvements to provide adequate hydraulic capacity to:

- Meet or exceed the design criteria as defined in the Enrollee's System Evaluation and Capacity Assurance element of its Sewer System Management Plan; and
- Prevent system capacity-related spills, and adverse impacts to the treatment efficiency of downstream wastewater treatment facilities.

5.11. System Performance Analysis

The Enrollee shall include a running 10-year system performance analysis in its Annual Report. The analysis must include two CIWQS-generated graphs presenting the following information:

Graph 1 – Total Spill Volume per Year:

X axis: A 10-year period which includes the current calendar year and the nine previous calendar years;

Y axis: The total spill volume, per Spill Category, for each calendar year.

Graph 2 – Total Number of Spills per Year:

X axis: A 10-year period which includes the current calendar year and the nine previous calendar years;

Y axis: The total number of spills, per Spill Category, for each calendar year.

The current calendar year is the calendar year covered in the Annual Report.

The Enrollee shall generate the graphs in CIWQS, using the existing data in the online CIWQS Sanitary Sewer System Database at the following graph generation link: (https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_operation_report).

5.12. Spill Emergency Response Plan and Remedial Actions

For Existing Enrollees (with regulatory coverage under Order 2006-0003-DWQ):

Within six (6) months of the Adoption Date of this General Order, the Enrollee shall update and implement its Spill Emergency Response Plan, per Attachment D, section 6 (Spill Emergency Response Plan) of this General Order.

For New Enrollees:

Within six (6) months of the Application for Enrollment approval date, the Enrollee shall develop and implement a Spill Emergency Response Plan, per Attachment D, section 6 (Spill Emergency Response Plan) of this General Order.

The Enrollee shall certify, in its Annual Report, that its Spill Emergency Response Plan is up to date.

The Spill Emergency Response Plan shall include measures to protect public health and the environment. The Enrollee shall respond to spills from its system(s) in a timely manner that minimizes water quality impacts and nuisance by:

- Immediately stopping the spill and preventing/minimizing a discharge to waters of the State;
- Intercepting sewage flows to prevent/minimize spill volume discharged into waters of the State;
- Thoroughly recovering, cleaning up and disposing of sewage and wash down water; and
- Cleaning publicly accessible areas while preventing toxic discharges to waters of the State.

5.13. Notification, Monitoring, Reporting and Recordkeeping Requirements

The Enrollee shall comply with notification, monitoring, reporting, and recordkeeping requirements in Attachment E1 of this General Order.

5.13.1. Spill Categories

Individual spill notification, monitoring and reporting must be in accordance with the following spill categories:

- **Category 1 Spill**

  A Category 1 spill is a spill of any volume of sewage from or caused by a sanitary sewer system regulated under this General Order that results in a discharge to:

  - A surface water, including a surface water body that contains no flow or volume of water; or
  - A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sanitary sewer system or disposed of properly.

    Any spill volume not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility.

A spill from an Enrollee-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the Enrollee shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

- **Category 2 Spill**

  A Category 2 spill is a spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.

  A spill of 1,000 gallons or greater that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system, is a Category 2 spill.

- **Category 3 Spill**

  A Category 3 spill is a spill of equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.

  A spill of equal to or greater than 50 gallons and less than 1,000 gallons, that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.

- **Category 4 Spill**

  A Category 4 spill is a spill of less than 50 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water.

  A spill of less than 50 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 4 spill.

5.13.2. Annual Report

The Enrollee shall submit an Annual Report (previously termed as Collection System Questionnaire in Order 2006-0003-DWQ) as specified in section 3.9 (Annual Report) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

For new Enrollees: Within 30 days of obtaining a CIWQS account, a new Enrollee shall submit its initial Annual Report, as specified in section 3.9 (Annual Report) of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

5.14. Electronic Sanitary Sewer System Service Area Boundary Map

For continuing enrollees, starting on July 1, 2025, and no later than December 31, 2025:

For new enrollees – no earlier than July 1, 2025, or within 12 months of the Application for Enrollment approval date, whichever date is later:

The Legally Responsible Official shall submit, to the State Water Board, geospatial data detailing the locations of the Enrollee's sanitary sewer system service area boundary, per the required content and specifications in section 3.8 (Electronic Sanitary Sewer System Service Area Boundary Map) of Attachment E1 of this General Order, for each system identified by a WDID number.

An Enrollee of a disadvantaged community that may need assistance developing an electronic map to comply with this requirement, may contact State Water Board staff for assistance at SanitarySewer@waterboards.ca.gov.

5.15. Voluntary Reporting of Spills from Privately-Owned Sewer Laterals and/or Private Sanitary Sewer Systems

Within 24 hours of becoming aware of a spill (as described below) from a private sewer lateral or private sanitary sewer system that is not owned/operated by the Enrollee, the Enrollee is encouraged to report the following observations to the online CIWQS Sanitary Sewer System Database at the following link: https://ciwqs.waterboards.ca.gov:

- A spill equal or greater than 1,000 gallons that discharges (or has a potential to discharge) to a water of the State, or a drainage conveyance system that discharges to waters of the State; **or**
- Any volume of sewage that discharges (or has a potential to discharge) to surface waters.

In the CIWQS module, the Enrollee is encouraged to identify:

- Time of observation;
- Description of general spill location (for example, street name and cross street names);
- Estimated volume of spill;
- If known, general description of spill destination (for example, flowing into drainage channel, flowing directly into a creek, etc.); and
- If known, name of private system owner/operator.

The CIWQS database will make the name and contact information of the entity voluntarily reporting a private spill, accessible to State and Regional Water Board staff only. The CIWQS database will only make information regarding the actual spill, accessible to the public.

5.16. Voluntary Notification of Spills from Privately-Owned Laterals and/or Systems to the California Office of Emergency Services

Upon observing or acquiring knowledge of any of the following from a private sewer lateral or private sanitary sewer system that is not owned/operated by the Enrollee, the Enrollee is encouraged to notify the California Office of Emergency Services (as provided by Health and Safety Code section 5410 et. seq. and Water Code section 13271), or inform the responsible party that State law requires such notification to the Office of Emergency Services by any person that causes or allows a sewage discharge to waters of the State:

- A spill equal to 1,000 gallons or more that discharges (or has a potential to discharge) to waters of the State, or a drainage conveyance system that discharges to waters of the State; or
- A spill of any volume to surface waters.

5.17. Unintended Failure to Report

If an Enrollee becomes aware that they unintentionally failed to submit relevant facts in any report required in this General Order, the Enrollee shall promptly notify Regional Water Board and State Water Board staff. Regional Water Board contact information is included in Attachment F of this Order. State Water Board staff shall be contacted by email at SanitarySewer@waterboards.ca.gov for assistance in formally amending the corresponding report(s) in the online CIWQS Sanitary Sewer System Database.

5.18. Duty to Report to Water Boards

In accordance with Water Code section 13267 and/or section 13383, upon request by the State Water Board Executive Director (or designee) or a Regional Water Board Executive Officer (or designee), the Enrollee shall provide the requested information which the State or Regional Water Board deems necessary to determine compliance with this General Order.

5.19. Operation and Maintenance

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.

6. PROVISIONS

6.1. Enforcement Provisions

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.

6.1.1. Enforceability of Clean Water Act and Water Code Violations

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.

6.1.2. Monetary Penalties

The Water Code provides the State and Regional Water Boards the authority to pursue formal enforcement actions, including imposing administrative liability and civil monetary penalties, for non-compliance with the requirements of this General Order and violations of the Clean Water Act.

6.1.3. Falsifying or Failure to Report

The Water Code provides that any person failing or refusing to furnish technical or monitoring program reports, as required under this General Order, or falsifying any information provided in the technical or monitoring reports is subject to administrative liability and civil monetary penalties. Any person who knowingly fails or refuses to furnish technical or monitoring program reports or falsifies any information provided in reports required by this General Order is subject to criminal penalties.

6.1.4. Severability of General Order

The provisions of this General Order are severable; if any provision of this Order, or the application of any provision of this Order to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this Order shall not be affected thereby.

6.1.5. Indirect Discharges

In the event that a spill enters into a drainage conveyance system, the Enrollee shall take all feasible steps to prevent discharge of sewage into waters of the State by blocking or redirecting the flow in the drainage conveyance system, removing the sewage from the drainage conveyance system, and cleaning the system in a manner that does not inadvertently impact beneficial uses of the receiving water body.

6.1.6. Water Boards' Considerations for Discretionary Enforcement

Consistent with the State Water Board Enforcement Policy, when considering Water Code section 13327 factors, the State Water Board or a Regional Water Board may consider the Enrollee's efforts to contain, control, clean up, and mitigate spills. In assessing the factors, the State Water Board or the applicable Regional Water Board will consider:

- The Enrollee's compliance with this General Order with a focus on compliance with reporting requirements;
- The Enrollee's provision of adequate funding to implement the requirements of this General Order;
- The Enrollee's compliance with providing a complete and updated Sewer System Management Plan;
- The Enrollee's compliance with implementing its Sewer System Management Plan;
- The overall effectiveness of the Enrollee's Sewer System Management Plan with respect to:
  - System management, operation, and maintenance,
  - Adequate treatment facilities, sanitary sewer system facilities, and/or components with an appropriate design capacity, to reasonably prevent spills (e.g. adequately enlarging treatment or collection facilities to accommodate growth, infiltration and inflow, etc.),
  - Preventive maintenance (including cleaning, root grinding, and fats, oils, and grease control) and source control measures,
  - Implementation of backup equipment,
  - Inflow and infiltration prevention and control,
  - Appropriate sanitary sewer system capacity to prevent spills, and
  - The Enrollee's responsiveness to stop and mitigate the impact of the discharge;
- The Enrollee's compliance with identifying the cause of the spill;
- The Enrollee's use of available information and observations to accurately estimate the spill volume and identify the affected or potentially affected receiving waters;
- The Enrollee's thoroughness of cleaning up sewage in drainage conveyance systems after the spill(s);
- The Enrollee's use of water quality and biological monitoring and assessment to determine the short-term and long-term impacts to beneficial uses and the environment;
- The Enrollee's follow up actions to improve system performance;
- The Enrollee's implementation of feasible alternatives to prevent spills, such as:
  - Use of temporary storage or waste retention,
  - Reduction of system inflow and infiltration,
  - Collection and hauling of waste to a treatment facility,
  - Prevention of and/ or containment of spills due to a design storm event identified in the Enrollee's Sewer System Management Plan,

  - Implementation of available equipment, technologies, strategies, and recommended industry practices for maintaining and managing sewer systems to prevent spills, and contain and eliminate discharges to waters of the State; and
- The spill duration and factors beyond the reasonable control of the Enrollee causing the event.

6.1.7. Enforcement Discretion Based on Reporting Compliance

Consistent with the State Water Board Enforcement Policy, the State Water Board or a Regional Water Board may consider the Enrollee's efforts to comply with spill reporting requirements when determining compliance with Water Code section 13267 and section 13383. When assessing Water Code section 13227 factors, the State Water Board or the applicable Regional Water Board will consider:

- The Enrollee's diligence to comply with all reporting requirements in this General Order;
- The use of best available information for the Enrollee's reporting of spill start date and start time in which the release of sewage from the sanitary sewer system initiated;
- The Enrollee's reporting of spill end date, and end time to be the date and time in which the release of sewage from the sanitary sewer system was stopped;
- The Enrollee's diligence to accurately estimate and report spill volumes;
- The Enrollee's subsequent verification and/or updates to initial Draft Spill Reports in accordance with this General Order; and
- The Enrollee's timely certification of required spill reports.

Consistent with Water Code section 13267 and section 13383, the State Water Board or a Regional Water Board may require an Enrollee to report the results of a condition assessment of a specified portion of the Enrollee's sanitary sewer system.

6.2. Other Regional Water Board Orders

It is the intent of the State Water Board that sanitary sewer systems be regulated in a manner consistent with federal and state regulations. This Order will not be interpreted or applied:

- In a manner inconsistent with the federal Clean Water Act;
- To authorize a spill or discharge that is illegal under either the Clean Water Act, the Water Code, and/or an applicable Basin Plan prohibition or water quality standard;
- To prohibit a Regional Water Board from issuing an individual National Pollutant Discharge Elimination System (NPDES) permit or individual waste discharge requirements superseding an Enrollee's regulatory coverage under this General Order for a sanitary sewer system authorized under the Clean Water Act or Water Code;

- To supersede any more specific or more stringent waste discharge requirements or enforcement orders issued by a Regional Water Board; or
- To supersede any more specific or more stringent state or federal requirements in existing regulation, an administrative/judicial order, or Consent Decree.

6.3. Sewer System Management Plan Availability

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.

6.4. Entry and Inspection

6.4.1. Entry and Availability of Information

The Enrollee shall allow State and Regional Water Board staff, upon presentation of credentials and other documents as may be required by law, to:

- Enter upon the Enrollee's premises where a regulated facility or activity is located or conducted, or where records are kept under the requirements of this General Order;
- Have access to and reproduce any records required to be maintained by this General Order;
- Inspect any facility and/or equipment (including monitoring and control equipment), practices, or operations required in this General Order; and
- Sample or monitor substances or parameters for assuring compliance with this General Order, or as otherwise authorized by the Water Code.

6.4.2. Pre-Inspection Questionnaire

The Enrollee shall provide pre-inspection information to State and Regional Water Board staff through the completion of a Pre-Inspection Questionnaire provided by Water Board staff.

ATTACHMENT A - DEFINITIONS

Annual Report

An Annual Report (previously termed as Collection System Questionnaire in Order 2006-0003-DWQ) is a mandatory report in which the Enrollee provides a calendar-year update of its efforts to prevent spills.

Basin Plan

A Basin Plan is a water quality control plan specific to a Regional Water Quality Control Board (Regional Water Board), that serves as regulations to: (1) define and designate beneficial uses of surface and groundwaters, (2) establish water quality objectives for protection of beneficial uses, and (3) provide implementation measures.

Beneficial Uses

The term “Beneficial Uses” is a Water Code term, defined as the uses of the waters of the State that may be protected against water quality degradation. Examples of beneficial uses include but are not limited to, municipal, domestic, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

California Integrated Water Quality System (CIWQS)

CIWQS is the statewide database that provides for mandatory electronic reporting as required in State and Regional Water Board-issued waste discharge requirements.

Data Submitter

A Data Submitter is an individual designated and authorized by the Enrollee’s Legally Responsible Official to enter spill data into the online CIWQS Sanitary Sewer System Database. A Data Submitter does not have the authority of a Legally Responsible Official to certify reporting entered into the online CIWQS Sanitary Sewer System Database.

Disadvantaged Community

A disadvantaged community is a community with a median household income of less than eighty percent (80%) of the statewide annual median household income.

For the purpose of this General Order, there is no differentiation between a small and large disadvantaged community.

Drainage Conveyance System

A drainage conveyance system is a publicly- or privately-owned separate storm sewer system, including but not limited to drainage canals, channels, pipelines, pump stations, detention basins, infiltration basins/facilities, or other facilities constructed to transport stormwater and non-stormwater flows.

Enrollee

An Enrollee is a public, private, or other non-governmental entity that has obtained approval for regulatory coverage under this General Order, including:

- A state agency, municipality, special district, or other public entity that owns and/or operates one or more sanitary sewer systems:
  - greater than one (1) mile in length (each individual sanitary sewer system);
  - one mile or less in length where the State Water Resources Control Board or a Regional Water Quality Control Board requires regulatory coverage under this Order, or
- A federal agency, private company, or other non-governmental entity that owns and/or operates a sanitary sewer system of any size where the State Water Resources Control Board or a Regional Water Quality Control Board requires regulatory coverage under this Order in response to a history of spills, proximity to surface water, or other factors supporting regulatory coverage.

Environmentally Sensitive Area

An environmentally sensitive area is a designated agricultural and/or wildlife area identified to need special natural landscape protection due to its wildlife or historical value.

Exfiltration

Exfiltration is the underground exiting of sewage from a sanitary sewer system through cracks, offset or separated joints, or failed infrastructure due to corrosion or other factors.

Flood Control Channel

A flood control channel is a channel used to convey stormwater and non-stormwater flows through and from areas for flood management purposes.

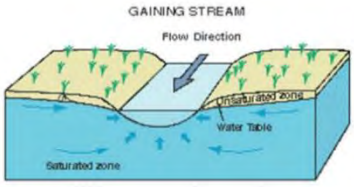
Governing Entity

A governing entity includes but is not limited to the following:

- A publicly elected governing board, council, or commission of a municipal agency;
- A Department or Division director of a federal or state agency that is not governed by a board;
- A governing board or commission of an organization or association; and
- A private system owner/manager that is not governed by a board.

Hydrologically Connected

Two waterbodies are hydrologically connected when one waterbody flows, or has the potential to flow, into the other waterbody. For the purpose of this General Order, groundwater is hydrologically connected to a surface water when the groundwater feeds into the surface water. (The surface waterbody in this example is termed a gaining stream as it gains flow from surrounding groundwater.)



Lateral (including Lower and Upper Lateral)

A lateral is an underground segment of smaller diameter pipe that transports sewage from a customer's building or property (residential, commercial, or industrial) to the Enrollee's main sewer line in a street or easement. Upper and lower lateral boundary definitions are subject to local jurisdictional codes and ordinances, or private system ownership.

A lower lateral is the portion of the lateral located between the sanitary sewer system main, and either the property line, sewer clean out, curb line, established utility easement boundary, or other jurisdictional locations.

An upper lateral is the portion of the lateral from the property line, sewer clean out, curb line, established utility easement boundary, or other jurisdictional locations, to the building or property.

Legally Responsible Official

A Legally Responsible Official is an official representative, designated by the Enrollee, with authority to sign and certify submitted information and documents required by this General Order.

Nuisance

For the purpose of this General Order, a nuisance, as defined in Water Code section 13050(m), is anything that meets all of the following requirements:

- Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property;
- Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; and
- Occurs during, or as a result of, the treatment or disposal of wastes.

Private Sewer Lateral

A private sewer lateral is the privately-owned lateral that transports sewage from private property(ies) into a sanitary sewer system.

Private Sanitary Sewer System

A private sanitary sewer system is a sanitary sewer system of any size that is owned and/or operated by a private individual, company, corporation, or organization. A private sanitary sewer system may or may not connect into a publicly owned sanitary sewer system.

Potential to Discharge, Potential Discharge

Potential to Discharge, or Potential Discharge, means any exiting of sewage from a sanitary sewer system which can reasonably be expected to discharge into a water of the State based on the size of the sewage spill, proximity to a drainage conveyance system, and the nature of the surrounding environment.

Receiving Water

A receiving water is a water of the State that receives a discharge of waste.

Resilience

Resilience is the ability to recover from or adjust to adversity or change, and grow from disruptions. Resilience can be built through planning, preparing for, mitigating, and adapting to changing conditions.

Sanitary Sewer System

A sanitary sewer system is a system that is designed to convey sewage, including but not limited to, pipes, manholes, pump stations, siphons, wet wells, diversion structures and/or other pertinent infrastructure, upstream of a wastewater treatment plant headworks, including:

- Laterals owned and/or operated by the Enrollee;
- Satellite sewer systems; and/or
- Temporary conveyance and storage facilities, including but not limited to temporary piping, vaults, construction trenches, wet wells, impoundments, tanks and diversion structures.

For purpose of this Order, sanitary sewer systems include only systems owned and/or operated by the Enrollee.

Satellite Sewer System

A satellite sewer system is a portion of a sanitary sewer system owned or operated by a different owner than the owner of the downstream wastewater treatment facility ultimately treating the sewage.

Sewer System Management Plan

A sewer system management plan is a living document an Enrollee develops and implements to effectively manage its sanitary sewer system(s) in accordance with this General Order.

Sewage

Sewage, and its associated wastewater, is untreated or partially treated domestic, municipal, commercial and/or industrial waste (including sewage sludge), and any mixture of these wastes with inflow or infiltration of stormwater or groundwater, conveyed in a sanitary sewer system.

Spill

A spill is a discharge of sewage from any portion of a sanitary sewer system due to a sanitary sewer system overflow, operational failure, and/or infrastructure failure. Exfiltration of sewage is not considered to be a spill under this General Order if the exfiltrated sewage remains in the subsurface and does not reach a surface water of the State.

Training

Training is in-house or external education and guidance needed that provides the knowledge, skills, and abilities to comply with this General Order.

Wash Down Water

Wash down water is water used to clean a spill area.

Waste

Waste, as defined in Water Code section 13050(d), includes sewage and any and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Waste Discharge Identification Number (WDID)

A waste discharge identification number (WDID) identifies each individual sanitary sewer system enrolled under this General Order. A WDID number is assigned to each enrolled system upon an Enrollee's approved regulatory coverage.

Waters of the State

Waters of the State are surface waters or groundwater within boundaries of the state as defined in Water Code section 13050(e), in which the State and Regional Water Boards have authority to protect beneficial uses. Waters of the State include, but are not limited to, groundwater aquifers, surface waters, saline waters, natural washes and pools, wetlands, sloughs, and estuaries, regardless of flow or whether water exists during dry conditions. Waters of the State include waters of the United States.

Waters of the United States

Waters of the United States are surface waters or waterbodies that are subject to federal jurisdiction in accordance with the Clean Water Act.

Water Quality Objective

A water quality objective is the limit or maximum amount of pollutant, waste constituent or characteristic, or parameter level established in statewide water quality control plans and Regional Water Boards' Basin Plans, for the reasonable protection of beneficial uses of surface waters and groundwater and the prevention of nuisance.

ATTACHMENT B – APPLICATION FOR ENROLLMENT

1. **Enrollment Status:** (Mark only one item)

   ☐ New Enrollee

   ☐ New Enrollee with previous regulatory coverage under Order 2006-0003-DWQ (that failed to certify continuation of coverage in CIWQS per Order 2022-XXXX-DWQ)
   Existing WDID Number: _____

2. **Applicant Information:**

   Legally Responsible Official Submitting Application

   First and Last Name: _____

   Title: _____

   Phone: _____

   Email: _____

   System Owner/Operator Name: _____

   Mailing Address: _____

   City, State, Zip: _____

   County: _____

   Sanitary Sewer System Name: _____

   Regional Water Quality Control Board(s): _____

   Signature and Date: _____

3. **Applicant Type (Check one):**

   ☐ City ☐ County ☐ State ☐ Federal ☐ Special District

   ☐ Government Combination ☐ Private ☐ Other Non-governmental Entity

4. **Wastewater Treatment Plant Receiving Sanitary Sewer System Waste:**

   Wastewater Treatment Plant Permittee: _____

   WDID No.: _____

5. Billing Information

Billing Address: _____

City, State, Zip: _____

Billing Contact Person and Title: _____

Phone and Email Address: _____

6. Application Fee:

The application fee, as required by Water Code section 13260, is based on the daily population served by the sanitary sewer system. See updated Fee Schedule. (https://www.waterboards.ca.gov/resources/fees/water_quality/)

Check one of the following and enter fee amount:

☐ Population Served < 50,000 – Total Fee submitted: $ _____

☐ Population Served ≥ 50,000 – Total Fee submitted: $ _____

Make the fee payment payable to the State Water Resources Control Board and mail the complete application package to:

State Water Resources Control Board, Accounting Office
P. O. Box 1888
Sacramento, CA 95812-1888

Attention: Statewide Sanitary Sewer System Program

7. Application Submittal Certification

I certify under penalty of perjury under the laws of the State of California that to the best of my knowledge and belief, the information in the submitted application package is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Print Name: _____

Title: _____

Signature: _____Date: _____

ATTACHMENT C - NOTICE OF TERMINATION

1. Enrollee Information

Enrollee Name: _____

WDID No:_____

Legally Responsible Official Requesting Termination of Coverage: _____

First and Last Name: _____

Title: _____

Phone: _____

Email: _____

Mailing Address: _____

City, State, Zip: _____

County: _____

Sanitary Sewer System Name(s) or Unique Identifier(s): _____

Regional Water Quality Control Board(s): _____

Signature and Date:_____

2. Basis of Termination

Explanation of termination, including subsequent regulatory coverage and subsequent owner/operator of enrolled sanitary sewer system, as applicable:

_____

_____

_____

_____

_____

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_____

_____

_____

_____

_____

_____

3. Regulatory Coverage Termination Certification

I certify under penalty of perjury under the laws of the State of California that to the best of my knowledge: 1) the sanitary sewer system I officially represent is not required to be regulated under the Statewide Waste Discharge Requirements for Sanitary Sewer Systems Order 2022-XXXX-DWQ, and 2) the information submitted in this Notice of Termination is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. Additionally, I understand that the submittal of this Notice of Termination does not release sanitary sewer system agencies from liability for any violations of the Clean Water Act.

Print Name: _____

Title: _____

Signature: _____Date: _____

For State Water Board Use Only

☐ Approved for Termination ☐ Denied and Returned to Enrollee

Deputy Director of Water Quality Signature: _____

Date: _____Notice of Termination Effective Date: _____

ATTACHMENT D – SEWER SYSTEM MANAGEMENT PLAN – REQUIRED ELEMENTS

Table of Contents

1. Sewer System Management Plan Goal And Introduction D-2
   - 1.1. Regulatory Context D-2
   - 1.2. Sewer System Management Plan Update Schedule D-3
   - 1.3. Sewer System Asset Overview D-3
2. Organization D-3
3. Legal Authority D-4
4. Operation And Maintenance Program D-4
   - 4.1. Updated Map of Sanitary Sewer System D-4
   - 4.2. Preventive Operation and Maintenance Activities D-4
   - 4.3. Training D-5
   - 4.4. Equipment Inventory D-5
5. Design And Performance Provisions D-5
   - 5.1. Updated Design Criteria and Construction Standards and Specifications D-5
   - 5.2. Procedures and Standards D-5
6. Spill Emergency Response Plan D-6
7. Sewer Pipe Blockage Control Program D-7
8. System Evaluation, Capacity Assurance and Capital Improvements D-7
   - 8.1 System Evaluation and Condition Assessment D-7
   - 8.2. Capacity Assessment and Design Criteria D-8
   - 8.3. Prioritization of Corrective Action D-9
   - 8.4. Capital Improvement Plan D-9
9. Monitoring, Measurement and Program Modifications D-9
10. Internal Audits D-10
11. Communication Program D-10

ATTACHMENT D – SEWER SYSTEM MANAGEMENT PLAN – REQUIRED ELEMENTS

A Sewer System Management Plan (Plan) is a living planning document that documents ongoing local sewer system management program activities, procedures, and decision-making – at the scale necessary to address the size and complexity of the subject sanitary sewer system(s). This Plan may incorporate other programs and other plans by reference, to address short-term and long-term system resilience through:

- Proactive planning and decision-making;
- Local government ordinances;
- Updated operations and maintenance activities and procedures;
- Implementation of capital improvements;
- Sufficient local budget to support staff resources, contractors, equipment, and training; and
- Updated training of staff and contractors.

The Enrollee's development, update, and implementation of a Sewer System Management Plan addressing the requirements of this Attachment is an enforceable component of this General Order. As specified in Provision 6.1 (Enforcement Provisions) of this General Order, consistent with the Water Code and the State Water Board Enforcement Policy, the State Water Board or a Regional Water Board may consider the Enrollee's efforts in implementing an effective Sewer System Management Plan to prevent, contain, control, and mitigate spills when considering Water Code section 13327 factors to determine necessary enforcement of this General Order.

This Attachment includes the following required elements that the Enrollee shall address in its Plan and subsequent updates. The Enrollee shall identify any requirement in this Attachment that is not applicable to the Enrollee's sewer system and shall explain in its Plan why the requirement is not applicable.

1. SEWER SYSTEM MANAGEMENT PLAN GOAL AND INTRODUCTION

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:

1.1. Regulatory Context

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

1.2. Sewer System Management Plan Update Schedule

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.

1.3. Sewer System Asset Overview

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

- Location, including county(ies);
- Service area boundary;
- Population and community served;
- System size, including total length in miles, length of gravity mainlines, length of pressurized (force) mains, and number of pump stations and siphons;
- Structures diverting stormwater to the sewer system;
- Data management systems;
- Sewer system ownership and operation responsibilities between Enrollee and private entities for upper and lower sewer laterals;
- Estimated number or percent of residential, commercial, and industrial service connections; and
- Unique service boundary conditions and challenge(s).

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.

2. ORGANIZATION

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; and
- Chain of communication for reporting spills from receipt of complaint or other information, including the person responsible for reporting spills to the State and Regional Water Boards and other agencies, as applicable. (For example, county

health officer, county environmental health agency, and State Office of Emergency Services.)

3. LEGAL AUTHORITY

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:

- 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;
- 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;
- Require that sewer system components and connections be properly designed and constructed;
- Ensure access for maintenance, inspection, and/or repairs for portions of the service lateral owned and/or operated by the Enrollee;
- Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and
- Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.

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 Sanitary Sewer System

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.

4.2. Preventive Operation and Maintenance Activities

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.

4.3. Training

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.

4.4. Equipment Inventory

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

5. DESIGN AND PERFORMANCE PROVISIONS

The Plan must include the following items as appropriate and applicable to the Enrollee's system:

5.1. Updated Design Criteria and Construction Standards and Specifications

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.

5.2. Procedures and Standards

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

6. SPILL EMERGENCY RESPONSE PLAN

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

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

7. SEWER PIPE BLOCKAGE CONTROL PROGRAM

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:

- An implementation plan and schedule for a public education and outreach program that promotes proper disposal of pipe-blocking substances;
- 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;
- The legal authority to prohibit discharges to the system and identify measures to prevent spills and blockages;
- 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;
- 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;
- An identification of sanitary sewer system sections subject to fats, oils, and grease blockages and establishment of a cleaning schedule for each section; and
- Implementation of source control measures for all sources of fats, oils, and grease reaching the sanitary sewer system for each section identified above.

8. SYSTEM EVALUATION, CAPACITY ASSURANCE AND CAPITAL IMPROVEMENTS

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

The Plan must include procedures to:

- Evaluate the sanitary sewer system assets utilizing the best practices and technologies available;

- Identify and justify the amount (percentage) of its system for its condition to be assessed each year;
- 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;
- Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods;
- 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;
- Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities; and
- Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions.

8.2. Capacity Assessment and Design Criteria

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.

8.3. Prioritization of Corrective Action

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.

8.4. Capital Improvement Plan

The capital improvement plan must include the following items:

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

9. MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

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

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

10. INTERNAL AUDITS

The Plan 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.

11. COMMUNICATION PROGRAM

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

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

ATTACHMENT E1 – NOTIFICATION, MONITORING, REPORTING AND RECORDKEEPING REQUIREMENTS

Table of Contents

1. Notification Requirements E1-3
   - 1.1. Notification of Spills of 1,000 Gallons or Greater to the California Office of Emergency Services E1-3
   - 1.2. Spill Notification Information E1-4
   - 1.3. Notification of Spill Report Updates E1-4
2. Spill-Specific Monitoring Requirements E1-5
   - 2.1 Spill Location and Spread E1-5
   - 2.2 Spill Volume Estimation E1-5
   - 2.3. Receiving Water Monitoring E1-5
   - 2.4. Safety and Access Exceptions E1-8
3. Reporting Requirements E1-8
   - 3.1. Reporting Requirements for Individual Category 1 Spill Reporting E1-8
   - 3.2. Reporting Requirements for Individual Category 2 Spill Reporting E1-12
   - 3.3. Monthly Certified Spill Reporting for Category 3 Spills E1-14
   - 3.4. Monthly Certified Spill Reporting for Category 4 Spills E1-16
   - 3.5. Amended Certified Spill Reports for Category 3 Spills E1-16
   - 3.6. Annual Certified Spill Reporting of Category 4 and/or Lateral Spills E1-16
   - 3.7. Monthly Certification of “No-Spills” or “Category 4 Spills” and/or “Non-Category 1 Lateral Spills” E1-16
   - 3.8. Electronic Sanitary Sewer System Service Area Boundary Map E1-17
   - 3.9. Annual Report (Previously termed as Collection System Questionnaire in General Order 2006-0003-DWQ) E1-17
   - 3.10. Sewer System Management Plan Audit Reporting Requirements E1-19
   - 3.11. Sewer System Management Plan Reporting Requirements E1-19
4. Recordkeeping Requirements E1-20
   - 4.1. Recordkeeping Time Period E1-20
   - 4.2. Availability of Documents E1-20
   - 4.3. Spill Reports E1-20
   - 4.4. Recordkeeping of Category 4 Spills and Non-Category 1 Lateral Spills E1-21
   - 4.5. Sewer System Telemetry Records E1-22
   - 4.6. Sewer System Management Plan Implementation Records E1-22
   - 4.7. Audit Records E1-23

4.8. Equipment Records E1-23
4.9. Work Orders E1-23

ATTACHMENT E1– NOTIFICATION, MONITORING, REPORTING AND RECORDKEEPING REQUIREMENTS

The Notification Requirements (section 1), Spill-specific Monitoring Requirements (section 2), Reporting Requirements (section 3) and Recordkeeping Requirements (section 4) in this Attachment are pursuant to Water Code section 13267 and section 13383, and are an enforceable component of this General Order. For the purpose of this General Order, the term:

- Notification means the notifying of appropriate parties of a spill event or other activity.
- Spill-specific Monitoring means the gathering of information and data for a specific spill event to be reported or kept as records.
- Reporting means the reporting of information and data into the online California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database.
- Recordkeeping means the maintaining of information and data in an official records storage system.

Failure to comply with the notification, monitoring, reporting and recordkeeping requirements in this General Order may subject the Enrollee to 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.

Water Code section 13193 et seq. requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Resources Control Board (State Water Board) to collect sanitary sewer spill information for each spill event and make this information available to the public. Sanitary sewer spill information for each spill event includes but is not limited to: Enrollee contact information for each spill event, spill cause, estimated spill volume and factors used for estimation, location, date, time, duration, amount discharged to waters of the State, response and corrective action(s) taken.

1. NOTIFICATION REQUIREMENTS

1.1. Notification of Spills of 1,000 Gallons or Greater to the California Office of Emergency Services

Per Water Code section 13271, for a spill that discharges in or on any waters of the State, or discharges or is deposited where it is, or probably will be, discharged in or on any waters of the State, the Enrollee shall notify the California Office of Emergency Services and obtain a California Office of Emergency Services Control Number as soon as possible **but no later than two (2) hours** after:

- The Enrollee has knowledge of the spill; and
- Notification can be provided without substantially impeding cleanup or other emergency measures.

The notification requirements in this section apply to individual spills of 1,000 gallons or greater, from an Enrollee-owned and/or operated laterals, to a water of the State.

1.2. Spill Notification Information

The Enrollee shall provide the following spill information to the California Office of Emergency Services before receiving a Control Number, as applicable:

- Name and phone number of the person notifying the California Office of Emergency Services;
- Estimated spill volume (gallons);
- Estimated spill rate from the system (gallons per minute);
- Estimated discharge rate (gallons per minute) directly into waters of the State or indirectly into a drainage conveyance system;
- Spill incident description:
  - Brief narrative of the spill event, and
  - Spill incident location (address, city, and zip code) and closest cross streets and/or landmarks;
- Name and phone number of contact person on-scene;
- Date and time the Enrollee was informed of the spill event;
- Name of sanitary sewer system causing the spill;
- Spill cause or suspected cause (if known);
- Amount of spill contained;
- Name of receiving water body receiving or potentially receiving discharge; and
- Description of water body impact and/ or potential impact to beneficial uses.

1.3. Notification of Spill Report Updates

Following the initial notification to the California Office of Emergency Services and until such time that the Enrollee certifies the spill report in the online CIWQS Sanitary Sewer System Database, the Enrollee shall provide updates to the California Office of Emergency Services regarding substantial changes to:

- Estimated spill volume (increase or decrease in gallons initially estimated);
- Estimated discharge volume discharged directly into waters of the State or indirectly into a drainage conveyance system (increase or decrease in gallons initially estimated); and
- Additional impact(s) to the receiving water(s) and beneficial uses.

2. SPILL-SPECIFIC MONITORING REQUIREMENTS

2.1 Spill Location and Spread

The Enrollee shall visually assess the spill location(s) and spread using photography, global positioning system (GPS), and other best available tools. The Enrollee shall document the critical spill locations, including:

- Photography and GPS coordinates for:
  - The system location where spill originated.

    For multiple appearance points of a single spill event, the points closest to the spill origin.
- Photography for:
  - Drainage conveyance system entry locations,
  - The location(s) of discharge into surface waters, as applicable,
  - Extent of spill spread, and
  - The location(s) of clean up.

2.2 Spill Volume Estimation

To assess the approximate spill magnitude and spread, the Enrollee shall estimate the total spill volume using updated volume estimation techniques, calculations, and documentation for electronic reporting. The Enrollee shall update its notification and reporting of estimated spill volume (which includes spill volume recovered) as further information is gathered during and after a spill event.

2.3. Receiving Water Monitoring

2.3.1. Receiving Water Visual Observations

Through visual observations and use of best available spill volume-estimating techniques and field calculation techniques, the Enrollee shall gather and document the following information for spills discharging to surface waters:

- Estimated spill travel time to the receiving water;
- For spills entering a drainage conveyance system, estimated spill travel time from the point of entry into the drainage conveyance system to the point of discharge into the receiving water;
- Estimated spill volume entering the receiving water; and
- Photography of:
  - Waterbody bank erosion,
  - Floating matter,
  - Water surface sheen (potentially from oil and grease),

- Discoloration of receiving water, and
- Impact to the receiving water.

2.3.2. Receiving Water – Water Quality Sampling and Analysis

For sewage spills in which an estimated 50,000 gallons or greater are discharged into a surface water, the Enrollee shall conduct the following water quality sampling no later than **18 hours** after the Enrollee's knowledge of a potential discharge to a surface water:

- Collect one water sample, each day of the duration of the spill, at:
  - The DCS-001 location as described in section 2.3.4 (Receiving Water Sampling Locations) of this Attachment, if sewage discharges to a surface water via a drainage conveyance system; and/or
  - Each of the three receiving water sampling locations in section 2.3.4 (Receiving Water Sampling Locations) of this Attachment;

    If the receiving water has no flow during the duration of the spill, the Enrollee must report "No Sampling Due To No Flow" for its receiving water sampling locations.

The Enrollee shall analyze the collected receiving water samples for the following constituents per section 2.3.3 (Water Quality Analysis Specifications) of this Attachment:

- Ammonia, and
- Appropriate bacterial indicator(s) per the applicable Basin Plan water quality objectives, including one or more of the following, unless directed otherwise by the Regional Water Board:
  - Total Coliform Bacteria
  - Fecal Coliform Bacteria
  - *E-coli*
  - Enterococcus

  Dependent on the receiving water(s), sampling of bacterial indicators shall be sufficient to determine post-spill (after the spill) compliance with the water quality objectives and bacterial standards of the California Ocean Plan or the California Inland Surface Water Enclosed Bays, and Estuaries Plan, including the frequency and/or number of post-spill receiving water samples as may be specified in the applicable plans.

The Enrollee shall collect and analyze additional samples as required by the applicable Regional Water Board Executive Officer or designee.

2.3.3. Water Quality Analysis Specifications

Spill monitoring must be representative of the monitored activity (40 Code of Federal Regulations section 122.41(j)(1)).

Sufficiently Sensitive Methods

Sample analysis must be conducted according to sufficiently sensitive test methods approved under 40 Code of Federal Regulations Part 136 for the sample analysis of pollutants. For the purposes of this General Order, a method is sufficiently sensitive when the minimum level of the analytical method approved under 40 Code of Federal Regulations Part 136 is at or below the receiving water pollutant criteria.

Environmental Laboratory Accreditation Program-Accredited Laboratories

The analysis of water quality samples required per this General Order must be performed by a laboratory that has accreditation pursuant to Article 3 (commencing with section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code. (Water Code section 13176(a).) The State Water Board accredits laboratories through its Environmental Laboratory Accreditation Program (ELAP).

2.3.4. Receiving Water Sampling Locations

The Enrollee shall collect receiving water samples at the following locations.

Sampling of Flow in Drainage Conveyance System (DCS) Prior to Discharge

Sampling Location	Sampling Location Description
DCS-001	A point in a drainage conveyance system before the drainage conveyance system flow discharges into a receiving water.

Receiving Surface Water Sampling (RSW)[1]

Sampling Location	Sampling Location Description
RSW-001 Point of Discharge	A point in the receiving water where sewage initially enters the receiving water.
RSW-001U: Upstream of Point of Discharge	A point in the receiving water, upstream of the point of sewage discharge, to capture ambient conditions absent of sewage discharge impacts.

Sampling Location	Sampling Location Description
RSW-001D: Downstream of Point of Discharge	A point in the receiving water, downstream of the point of sewage discharge, where the spill material is fully mixed with the receiving water.

[1] The Enrollee must use its best professional judgment to determine the upstream and downstream distances based on receiving water flow, accessibility to upstream/downstream waterbody banks, and size of visible sewage plume.

2.4. Safety and Access Exceptions

If the Enrollee encounters access restrictions or unsafe conditions that prevents its compliance with spill response requirements or monitoring requirements in this General Order, the Enrollee shall provide documentation of access restrictions and/or safety hazards in the corresponding required report.

3. REPORTING REQUIREMENTS

All reporting required in this General Order must be submitted electronically to the online CIWQS Sanitary Sewer System Database (https://ciwqs.waterboards.ca.gov), unless specified otherwise in this General Order. Electronic reporting may solely be conducted by a Legally Responsible Official or Data Submitter(s) previously designated by the Legally Responsible Official, as required in section 5.8 (Designation of Data Submitters) of this General Order.

The Enrollee shall report any information that is protected by the Homeland Security Act, by email to SanitarySewer@waterboards.ca.gov, with a brief explanation of the protection provided by the Homeland Security Act for the subject report to be protected from unauthorized disclosure and/or public access, and for official Water Board regulatory purposes only.

3.1. Reporting Requirements for Individual Category 1 Spill Reporting

3.1.1. Draft Spill Report for Category 1 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 1 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;

5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;
    - If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);
    - Estimated spill volume fully recovered from the drainage conveyance system;
    - Estimated spill volume remaining within the drainage conveyance system;
11. Description and photographs of all discharge point(s) into the surface water;
12. Estimated spill volume that discharged to surface waters; and
13. Estimated total spill volume recovered.

3.1.2. Certified Spill Report for Category 1 Spills

Within 15 calendar days of the spill end date, the Enrollee shall submit a Certified Spill Report for Category 1 spills, to the online CIWQS Sanitary Sewer System Database. Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number.

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report per section 3.1.1 (Draft Spill Report for Category 1 Spills) above:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
    - The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
    - The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;

4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, lateral, pump station, etc.);
6. Description of the pipe material, and estimated age of the pipe material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion;
14. Name and type of receiving water body(s);
15. Description of the water body(s), including but not limited to:
    - Observed impacts on aquatic life,
    - Public closure, restricted public access, temporary restricted use, and/or posted health warnings due to spill,
    - Responsible entity for closing/restricting use of water body, and
    - Number of days closed/restricted as a result of the spill.
16. Whether or not the spill was located within 1,000 feet of a municipal surface water intake; and
17. If water quality samples were collected, identify sample locations and the parameters the water quality samples were analyzed for. If no samples were taken, Not Applicable shall be selected.

3.1.3. Spill Technical Report for Individual Category 1 Spill in which 50,000 Gallons or Greater Discharged into a Surface Water

For any spill in which 50,000 gallons or greater discharged into a surface water, **within 45 calendar days** of the spill end date, the Enrollee shall submit a Spill Technical Report to the online CIWQS Sanitary Sewer System Database. The Spill Technical Report, at minimum, must include the following information:

1. Spill causes and circumstances, including at minimum:
    - Complete and detailed explanation of how and when the spill was discovered;

- Photographs illustrating the spill origin, the extent and reach of the spill, drainage conveyance system entrance and exit, receiving water, and post-cleanup site conditions;
- Diagram showing the spill failure point, appearance point(s), the spill flow path, and ultimate destinations;
- Detailed description of the methodology employed, and available data used to calculate the discharge volume and, if applicable, the recovered spill volume;
- Detailed description of the spill cause(s);
- Description of the pipe material, and estimated age of the pipe material, at the failure location;
- Description of the impact of the spill;
- Copy of original field crew records used to document the spill; and
- Historical maintenance records for the failure location.

2. Enrollee's response to the spill:
   - Chronological narrative description of all actions taken by the Enrollee to terminate the spill;
   - Explanation of how the Sewer System Management Plan Spill Emergency Response Plan was implemented to respond to and mitigate the spill; and
   - Final corrective action(s) completed and a schedule for planned corrective actions, including:
     - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable,
     - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences, and
     - Necessary modifications to the Emergency Spill Response Plan to incorporate lessons learned in responding to and mitigating the spill.
3. Water Quality Monitoring, including at minimum:
   - Description of all water quality sampling activities conducted;
   - List of pollutant and parameters monitored, sampled and analyzed; as required in section 2.3 (Receiving Water Monitoring) of this Attachment;
   - Laboratory results, including laboratory reports;
   - Detailed location map illustrating all water quality sampling points; and
   - Other regulatory agencies receiving sample results (if applicable).
4. Evaluation of spill impact(s), including a description of short-term and long-term impact(s) to beneficial uses of the surface water.

3.1.4. Amended Certified Spill Reports for Individual Category 1 Spills

The Enrollee shall update or add additional information to a Certified Spill Report within **90 calendar days** of the spill end date by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After **90 calendar days**, the Enrollee shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

3.2. Reporting Requirements for Individual Category 2 Spill Reporting

3.2.1. Draft Spill Report for Category 2 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 2 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;

   If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);
    - Estimated spill volume fully recovered from the drainage conveyance system;
    - Estimated spill volume remaining within the drainage conveyance system;

- Estimated spill volume discharged to a groundwater infiltration basin or facility, if applicable; and

11. Estimated total spill volume recovered.

3.2.2. Certified Spill Report for Category 2 Spills

Within 15 calendar days of the spill end date, the Enrollee shall submit a Certified Spill Report for the Category 2 spill, to the online CIWQS Sanitary Sewer System Database (https://ciwqs.waterboards.ca.gov). Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number.

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report per section 3.2.1 (Draft Spill Report for Category 2 Spills) above:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
   - The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
   - The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, pump station, etc.);
6. Description of the pipe/infrastructure material, and estimated age of the pipe material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion; and

14. Whether or not the spill was located within 1,000 feet of a municipal surface water intake.

3.2.3. Amended Certified Spill Reports for Individual Category 2 Spills

The Enrollee shall update or add additional information to a Certified Spill Report within **90 calendar days** of the spill end date by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After **90 calendar days**, the Enrollee shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

3.3. Monthly Certified Spill Reporting for Category 3 Spills

The Enrollee shall report and certify all Category 3 spills to the online CIWQS Sanitary Sewer System Database within 30 calendar days after the end of the month in which the spills occurred. (For example, all Category 3 spills occurring in the month of February shall be reported and certified by March 30th). After the Legally Responsible Official certifies the spills, the online CIWQS Sanitary Sewer System Database will issue a spill event identification number for each spill.

The monthly reporting of all Category 3 spills must include the following items for each spill:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Description, photographs, and GPS coordinates where the spill originated:
   - If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
7. Estimated total spill volume exiting the system;
8. Description and photographs of the extent of the spill and spill boundaries;
9. Did the spill reach a drainage conveyance system? If Yes:
   - Description of the drainage conveyance system transporting the spill;
   - Photographs of the drainage conveyance system entry locations(s);
   - Estimated spill volume fully recovered from the drainage conveyance system; and

- Estimated spill volume discharged to a groundwater infiltration basis or facility, if applicable.

10. Estimated total spill volume recovered;
11. Description of the spill event destination(s), including GPS coordinates, if available, that represent the full spread and reaches of the spill;
12. Spill end date and time;
13. Description of how the spill volume estimations were calculated, including, at minimum:
    - The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
    - The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;
14. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
15. System failure location (for example, main, pump station, etc.);
16. Description of the pipe/infrastructure material, and estimated age of the pipe/infrastructure material, at the failure location;
17. Description of the impact of the spill;
18. Whether or not the spill was associated with a storm event;
19. Description of spill response activities including description of immediate spill containment and cleanup efforts;
20. Description of spill corrective actions, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of the major milestones for those steps; including, at minimum:
    - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable, and
    - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences at the same spill event location, including:
        - Adjusted schedule/method of preventive maintenance,
        - Planned rehabilitation or replacement of sanitary sewer asset,
        - Inspected, repaired asset(s), or replaced defective asset(s),
        - Capital improvements,
        - Documentation verifying immediately implemented system modifications and operating/maintenance modifications,
        - Description of spill response activities,

- Spill response completion date, and
- Ongoing investigation efforts, and expected completion date of investigation to determine the full cause of spill;

21. Detailed narrative of investigation and investigation findings of cause of spill.

3.4. Monthly Certified Spill Reporting for Category 4 Spills

The Enrollee shall report and certify the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, within 30 calendar days after the end of the month in which the spills occurred.

3.5. Amended Certified Spill Reports for Category 3 Spills

Within 90 calendar days of the certified Spill Report due date, the Enrollee may update or add additional information to a certified Spill Report by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After 90 calendar days, the Legally Responsible Official shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a certified Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the 90-day timeframe for amending the certified Spill Report, as provided above.

3.6. Annual Certified Spill Reporting of Category 4 and/or Lateral Spills

For all Category 4 spills and spills from its owned and/or operated laterals that are caused by a failure or blockage in the lateral and that do not discharge to a surface water, the Enrollee shall:

- Maintain records per section 4.4. of this Attachment;

  The Enrollee shall provide records upon request by State Water Board or Regional Water Board staff.

- Annually upload and certify a report, in an appropriate digital format, of all recordkeeping of spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occurred.

A spill from an Enrollee-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the Enrollee shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

3.7. Monthly Certification of “No-Spills” or “Category 4 Spills” and/or “Non-Category 1 Lateral Spills”

If either (1) no spills occur during a calendar month or (2) only Category 4, and/or Enrollee-owned and/or operated lateral spills (that do not discharge to a surface water) occur during a calendar month, the Enrollee shall certify, within 30 calendar days after

the end of each calendar month, either a “No-Spill” certification statement, or a “Category 4 Spills” and/or “Non-Category 1 Lateral Spills” certification statement, in the online CIWQS Sanitary Sewer System Database, certifying that there were either no spills, or Category 4 and/or Non-Category 1 Lateral Spills that will be reported annually (per section 3.6 of this Attachment) for the designated month.

If a spill starts in one calendar month and ends in a subsequent calendar month, and the Enrollee has no further spills of any category, in the subsequent calendar month, the Enrollee shall certify “no-spills” for the subsequent calendar month.

If the Enrollee has no spills from its systems during a calendar month, but the Enrollee voluntarily reported a spill from a private lateral or a private system, the Enrollee shall certify “no-spills” for that calendar month.

If the Enrollees has spills from its owned and/or operated laterals during a calendar month, the Enrollee shall not certify “no spills” for that calendar month.

3.8. Electronic Sanitary Sewer System Service Area Boundary Map

The Legally Responsible Official shall submit, to the State Water Board, an up-to-date electronic spatial map of its sewer system service area boundaries. The map must be in accordance with section 5.14 (Electronic Sanitary Sewer System Service Area Boundary Map) of this General Order and the specification provided on the statewide Sanitary Sewer Systems program website. The map must include the location of wastewater treatment facility(ies) that treats the sewer system waste, if in the same sewer service boundary.

By the Effective Date of this General Order, specifications for the electronic sanitary sewer service area boundary map format will be provided on the statewide Sanitary Sewer Systems Order program website.

3.9. Annual Report (Previously termed as Collection System Questionnaire in General Order 2006-0003-DWQ)

A new Enrollee shall complete and submit its first certified Annual Report into the online CIWQS Sanitary Sewer System Database, **within 30 days of obtaining a CIWQS account**; Subsequent Annual Reports are due by April 1 of each year.

All enrollees shall update their previous year’s Annual Report, **by April 1 of each year after the Effective Date of this General Order,** for each calendar year (January 1 through December 31)**.**

The Annual Report must be entered directly into the online CIWQS Sanitary Sewer System Database. The Enrollee’s Legally Responsible Official shall certify the Annual Report as instructed in CIWQS;

The Annual Report must address, and update as applicable, the following items:

- Population served;

- Updated sewer system service area boundary map, if service area boundary has changed from original map submitted per section 5.14 (Electronic Sanitary Sewer System Service Area Boundary Map) of this General Order;
- Number of system operation and maintenance staff:
  - Entry level (less than two years of experience),
  - Journey level (greater than two years of experience),
  - Supervisory level, and
  - Managerial level;
- Number of operation and maintenance staff certified as a certified collection system operator by the California Water Environmental Association (CWEA), with:
  - Corresponding number of certified collection system operator grade levels (Grade I, II, III, IV, and V);
- System information:
  - Miles of system gravity and force mains,
  - Number of upper and lower service laterals connected to system,
  - Estimated number of upper and lower laterals owned and/or operated by the Enrollee,
  - Portion of laterals that is Enrollee's responsibility,
  - Average age the major components of system infrastructure,
  - Number and age of pump stations, and
  - Estimated total miles of the system pipeline not accessible for maintenance;
- Name and location of the treatment plant(s) receiving sanitary sewer system's waste;
- Name of satellite sewer system tributaries;
- Number of system's gravity sewer above or underground crossings of water bodies throughout system;
- Number of force main (pressurized pipe) above or underground crossings of water bodies throughout system;
- Number of siphons used to convey waste throughout the sewer system;
- Miles of sewer system cleaned;
- Miles of sewer system video inspected, or comparable (i.e., video closed-circuit television or alternative inspection methods);
- System Performance Evaluation as specified in section 5.11 (System Performance Analysis) of this General Order;
- Major spill causes (for example, root intrusion, grease deposition);

- System infrastructure failure points (for example, main, pump station, lateral, etc.);
- Ongoing spill investigations; and
- Actions taken to address system deficiencies.

3.10. Sewer System Management Plan Audit Reporting Requirements

The Enrollee shall submit its Sewer System Management Plan Audit and other pertinent audit information, in accordance with section 5.4 (Sewer System Management Plan Audits) of this General Order, to the online CIWQS Sanitary Sewer System Database **by six (6) months after the end of the 3-year audit period**.

<u>If a Sewer System Management Plan Audit is not conducted as required:</u> the Enrollee shall:

- Update the online CIWQS Sanitary Sewer System Database and select the justification for not conducting the Audit; and
- Notify its corresponding Regional Water Board (see Attachment F (Regional Water Quality Control Board Contact Information)) of the justification for the lapsed requirements.

The Enrollee's reporting of a justification for not conducting a timely Audit does not justify non-compliance with this General Order. The Enrollee shall:

- Submit the late Audit as required in this General Order; and
- Comply with subsequent Audit requirements and due dates corresponding with the original audit cycle.

3.11. Sewer System Management Plan Reporting Requirements

<u>For an Existing Enrollee previously regulated by Order 2006-0003-DWQ</u>: **Within every six (6) years after the required due date of its last Plan Update**, the Legally Responsible Official shall upload and certify a local governing entity-approved Sewer System Management Plan Update to the online CIWQS Sanitary Sewer System Database. If the electronic document format or size capacity prevents the electronic upload of the Plan, the Legally Responsible Official shall report an electronic link to its updated Sewer System Management Plan posted on its own website.

Order 2006-0003-DWQ required each enrollee to develop its initial Sewer System Management Plan per the following schedule, with required Plan updates at a frequency of 5-years thereafter:

Systems serving populations: Greater than 100,000: May 2, 2009

Between 100,000 and 10,000: August 2, 2009

Between 10,000 and 2,500: May 2, 2010

Less than 2,500: August 2, 2010

This Order carries forth the previously-required Plan Update schedule per Order 2006-0003-DWQ. Per the six-year Plan Update frequency required in this Order, the Enrollee shall upload and certify its first Plan Update, to the online CIWQS Sanitary Sewer System Database by the following due dates, with subsequent Plan Updates at the frequency of six years thereafter:

Systems serving populations: Greater than 100,000: May 2, 2025

Between 100,000 and 10,000: August 2, 2025

Between 10,000 and 2,500: May 2, 2026

Less than 2,500: August 2, 2026

For a New Enrollee: **Within twelve (12) months of its Application for Enrollment Approval date**, the Legally Responsible Official of a new Enrollee shall upload and certify a local governing entity-approved Sewer System Management Plan to the online CIWQS Sanitary Sewer System Database. If electronic document format or size capacity prevents the electronic upload of the Plan, the Legally Responsible Official shall report an electronic link to its Sewer System Management Plan posted on its own website. The due date for subsequent 6-year Plan updates, is six (6) years from the submittal due date of the new Enrollee's first Sewer System Management Plan.

4. RECORDKEEPING REQUIREMENTS

The Enrollee shall maintain records to document compliance with the provisions of this General Order, and previous General Order 2006-0003-DWQ as applicable, for each sanitary sewer system owned, including any required records generated by an Enrollee's contractor(s).

4.1. Recordkeeping Time Period

The Enrollee shall maintain records of documents required in this Attachment, including records collected for compliance with this General Order, and records collected in accordance with previous General Order 2006-0003-DWQ, for five (5) years.

4.2. Availability of Documents

The Enrollee shall make the records required in this General Order readily available, either electronic or hard copies, for review by Water Board staff during onsite inspections or through an information request.

4.3. Spill Reports

The Enrollee shall maintain records for each of the following spill-related events and activities:

- Spill event complaint, including but not limited to records documenting how the Enrollee responded to notifications of spills. Each complaint record must, at a minimum, include the following information:
    - Date, time, and method of notification,

  - Date and time the complainant first noticed the spill, if available,
  - Narrative description of the complaint, including any information the caller provided regarding whether the spill has reached surface waters or a drainage conveyance system, if available,
  - Complainant's contact information, if available, and
  - Final resolution of the complaint;
- Records documenting the steps and/or remedial action(s) undertaken by the Enrollee, using all available information, to comply with this General Order, and previous General Order 2006-0003-DWQ as applicable;
- Records documenting how estimate(s) of volume(s) and, if applicable, volume(s) of spill recovered were calculated;
- All California Office of Emergency Services notification records, as applicable; and
- Records, in accordance with the Monitoring Requirements in this Attachment.

4.4. Recordkeeping of Category 4 Spills and Non-Category 1 Lateral Spills

An Enrollee must maintain the following records for each individual Category 4 spill and for each individual non-Category 1 Enrollee-owned and/or operated lateral spill, and report in accordance to section 3.6 (Annual Certified Spill Reporting of Category 4 and/or Lateral Spills) of this Attachment.

Recordkeeping of Individual Category 4 Spill Information:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Description and GPS coordinates for the system location where the spill originated;
4. Did the spill reach a drainage conveyance system? If Yes:
   - Description of drainage conveyance system location,
   - Estimated spill volume fully recovered within the drainage conveyance system, and
   - Estimated spill volume remaining within the drainage conveyance system;
5. Estimated total spill volume exiting the sanitary sewer system;
6. Spill date and start time;
7. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
8. System failure location (for example, main, pump station, etc.);
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of how the volume estimation was calculated, including, at minimum:

- The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
- The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;

11. Description of implemented system modifications and operating/maintenance modifications.

Recordkeeping of Individual Lateral Spill Information:

1. Date and time the Enrollee was notified of, or self-discovered, the spill;
2. Location of individual spill;
3. Estimated individual spill volume;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.); and
5. Description of how the volume estimations were calculated.

Total Annual Spill Information:

1. Estimated total annual spill volume;
2. Description of spill corrective actions, including at minimum:
   - Local regulatory enforcement action taken against the sewer lateral owner in response to a spill, as applicable, and
   - System operation, maintenance and program modifications implemented to prevent repeated spill occurrences at the same spill location.

4.5. Sewer System Telemetry Records

The Enrollee shall maintain the following sewer system telemetry records if used to document compliance with this General Order, and previous General Order 2006-0003-DWQ as applicable, including spill volume estimates:

- Supervisory control and data acquisition (SCADA) system(s);
- Alarm system(s);
- Flow monitoring device(s) or other instrument(s) used to estimate sewage flow rates, and/or volumes;
- Computerized maintenance management system records; and
- Asset management-related records.

4.6. Sewer System Management Plan Implementation Records

The Enrollee shall maintain records documenting the Enrollee's implementation of its Sewer System Management Plan, including documents supporting its Sewer System Management Plan audits, corrections, modifications, and updates to the Sewer System Management Plan.

4.7. Audit Records

The Enrollee shall maintain, at minimum, the following records pertaining to its Sewer System Management Plan audits, and other internal audits:

- Completed audit documents and findings;
- Name and contact information of staff and/or consultants that conducted or involved in the audit; and
- Follow-up actions based on audit findings.

4.8. Equipment Records

The Enrollee shall maintain a log of all owned and leased sewer system cleaning, operational, maintenance, construction, and rehabilitation equipment.

4.9. Work Orders

The Enrollee shall maintain record of work orders for operations and maintenance projects.

ATTACHMENT E2 – SUMMARY OF NOTIFICATION, MONITORING AND REPORTING REQUIREMENTS

This Attachment provides a summary of notification, monitoring and reporting requirements, by spill category, and for Enrollee-owned and/or operated laterals as required in Attachment E1 of this General Order, for quick reference purposes only.

Table E2-1

Spill Category 1: Spills to Surface Waters

Spill Requirement	Due	Method
Notification	**Within two (2) hours** of the Enrollee's knowledge of a Category 1 spill of 1,000 gallons or greater, discharging or threatening to discharge to surface waters: Notify the California Office of Emergency Services and obtain a notification control number.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1)
Monitoring	• Conduct spill-specific monitoring; • Conduct water quality sampling of the receiving water within **18 hours** of initial knowledge of spill of 50,000 gallons or greater to surface waters.	(Section 2 of Attachment E1)
Reporting	• Submit Draft Spill Report **within three (3) business days** of the Enrollee's knowledge of the spill; • Submit Certified Spill Report **within 15 calendar days** of the spill end date; • Submit Technical Report **within 45 calendar days** after the spill end date for a Category 1 spill in which **50,000 gallons or greater** discharged to surface waters; and • Submit Amended Spill Report **within 90 calendar days** after the spill end date.	(Section 3.1 of Attachment E1)

Table E2-2
Spill Category 2: **Spills of 1,000 Gallons or Greater That Do Not Discharge to Surface Waters**

Spill Requirements	Due	Method
Notification	**Within two (2) hours** of the Enrollee's knowledge of a Category 2 spill of 1,000 gallons or greater, discharging or threatening to discharge to waters of the State: Notify California Office of Emergency Services and obtain a notification control number.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1)
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	• Submit Draft Spill Report **within three (3) business days** of the Enrollee's knowledge of the spill; • Submit Certified Spill Report **within 15 calendar days** of the spill end date; and • Submit Amended Spill Report **within 90 calendar days** after the spill end date.	(Section 3.2 of Attachment E1)

Table E2-3
Spill Category 3: Spills of Equal or Greater than 50 Gallons and Less than 1,000 Gallons That Does Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	Not Applicable	Not Applicable
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	• Submit monthly Certified Spill Report to the online CIWQS Sanitary Sewer System Database within **30 calendars days** after the end of the month in which the spills occur; and • Submit Amended Spill Reports **within 90 calendar days** after the Certified Spill Report due date.	(Section 3.3 and 3.5 of Attachment E1)

Table E2-4
Spill Category 4: Spills Less Than 50 Gallons That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	Not Applicable	Not Applicable
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	• If, during any calendar month, Category 4 spills occur, certify monthly, the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database, within 30 days after the end of the calendar month in which the spills occurred. • Upload and certify a report, in an acceptable digital format, of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur.	(Section 3.4, 3.6, 3.7 and 4.4 of Attachment E1)

Table E2-5
Enrollee Owned and/or Operated Lateral Spills That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	**Within two (2) hours** of the Enrollee's knowledge of a spill of 1,000 gallons or greater, from an enrollee-owned and/or operated lateral, discharging or threatening to discharge to waters of the State: Notify California Office of Emergency Services and obtain a notification control number. Not applicable to a spill of less than 1,000 gallons.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1)
Monitoring	Conduct visual monitoring.	(Section 2 of Attachment E1)
Reporting	• Upload and certify a report, in an acceptable digital format, of all lateral spills (that do not discharge to a surface water) to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur. • Report a lateral spill of any volume that discharges to a surface water as a Category 1 spill.	(Sections 3.6, 3.7 and 4.4 of Attachment E1)

ATTACHMENT F – REGIONAL WATER QUALITY CONTROL BOARD CONTACT INFORMATION

This Attachment provides a map, list of counties, and contact information to assist the Enrollee in identifying the corresponding Regional Water Quality Control Board office, for all Regional Water Board notification requirements in this General Order.

Region 1 -- North Coast Regional Water Quality Control Board:
Del Norte, Glenn, Humboldt, Lake, Marin, Mendocino, Modoc, Siskiyou, Sonoma, and Trinity counties.

RB1SpillReporting@waterboards.ca.gov or (707) 576-2220

Region 2 -- San Francisco Bay Regional Water Quality Control Board:
Alameda, Contra Costa, San Francisco, Santa Clara (Northern most part of Morgan Hill), San Mateo, Marin, Sonoma, Napa, Solano counties.

RB2SpillReports@waterboards.ca.gov or (510) 622-2369

Region 3 -- Central Coast Regional Water Quality Control Board:
Santa Clara (most of Morgan Hill), San Mateo (Southern portion), Santa Cruz, San Benito, Monterey, Kern (small portions), San Luis Obispo, Santa Barbara, Ventura (Northern portion) counties.

CentralCoast@waterboards.ca.gov or (805) 549-3147

Region 4 -- Los Angeles Regional Water Quality Control Board:
Los Angeles, Ventura counties (small portions of Kern and Santa Barbara counties).

rb4-ssswdr@waterboards.ca.gov or (213) 576-6600

Region 5 -- Central Valley Regional Water Quality Control Board:

Rancho Cordova (Sacramento) Office: Colusa, Lake, Sutter, Yuba, Sierra, Nevada, Placer, Yolo, Napa, (North East), Solano (West), Sacramento, El Dorado, Amador, Calaveras, San Joaquin, Contra Costa (East), Stanislaus, Tuolumne counties.

RB5sSpillReporting@waterboards.ca.gov or (916) 464-3291

Fresno Office: Fresno, Kern, Kings, Madera, Mariposa, Merced, and Tulare counties, and small portions of San Benito and San Luis Obispo counties.

RB5fSpillReporting@waterboards.ca.gov or (559) 445-5116

Redding Office: Butte, Glen, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Tehama counties.

RB5rSpillReporting@waterboards.ca.gov or (530) 224-4845

Region 6 -- Lahontan Regional Water Quality Control Board:
Lake Tahoe Office: Alpine, Modoc (East), Lassen (East side and Eagle Lake), Sierra, Nevada, Placer, El Dorado counties.

RB6sSpillReporting@waterboards.ca.gov or (530) 542-5400

Victorville Office: Mono, Inyo, Kern (East), San Bernardino, Los Angeles (North East corner) counties.

RB6vSpillReporting@waterboards.ca.gov or (760) 241-6583

Region 7 -- Colorado River Basin Regional Water Quality Control Board:
Imperial county and portions of San Bernardino, Riverside, San Diego counties.

RB7SpillReporting@waterboards.ca.gov or (760) 346-7491

Region 8 -- Santa Ana Regional Water Quality Control Board:
Orange, Riverside, San Bernardino counties.

RB8SpillReporting@waterboards.ca.gov or (951) 782-4130

Region 9 -- San Diego Regional Water Quality Control Board:
San Diego county and portions of Orange and Riverside counties.

RB9Spill_Report@waterboards.ca.gov or (619) 516-1990

End of Order 2022-0103-DWQ

APPENDIX B

State Water Resources Control Board (SWRCB) Attachments E1 and E2

Statewide General Waste Discharge Requirements for Sanitary Sewers

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/16/13		Original
	09/26/19	D. Carrillo	• Reviewed – no changes
1	9/11/23	D. Carrillo	• New MRP
2	3/26/25	D. Carrillo	• Replace MRP with Attachment E1 and E2
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ATTACHMENT E1 – NOTIFICATION, MONITORING, REPORTING AND RECORDKEEPING REQUIREMENTS

Table of Contents

1. Notification Requirements E1-3
   - 1.1. Notification of Spills of 1,000 Gallons or Greater to the California Office of Emergency Services E1-3
   - 1.2. Spill Notification Information E1-4
   - 1.3. Notification of Spill Report Updates E1-4
2. Spill-Specific Monitoring Requirements E1-5
   - 2.1 Spill Location and Spread E1-5
   - 2.2 Spill Volume Estimation E1-5
   - 2.3. Receiving Water Monitoring E1-5
   - 2.4. Safety and Access Exceptions E1-8
3. Reporting Requirements E1-8
   - 3.1. Reporting Requirements for Individual Category 1 Spill Reporting E1-8
   - 3.2. Reporting Requirements for Individual Category 2 Spill Reporting E1-12
   - 3.3. Monthly Certified Spill Reporting for Category 3 Spills E1-14
   - 3.4. Monthly Certified Spill Reporting for Category 4 Spills E1-16
   - 3.5. Amended Certified Spill Reports for Category 3 Spills E1-16
   - 3.6. Annual Certified Spill Reporting of Category 4 and/or Lateral Spills E1-16
   - 3.7. Monthly Certification of “No-Spills” or “Category 4 Spills” and/or “Non-Category 1 Lateral Spills” E1-16
   - 3.8. Electronic Sanitary Sewer System Service Area Boundary Map E1-17
   - 3.9. Annual Report (Previously termed as Collection System Questionnaire in General Order 2006-0003-DWQ) E1-17
   - 3.10. Sewer System Management Plan Audit Reporting Requirements E1-19
   - 3.11. Sewer System Management Plan Reporting Requirements E1-19
4. Recordkeeping Requirements E1-20
   - 4.1. Recordkeeping Time Period E1-20
   - 4.2. Availability of Documents E1-20
   - 4.3. Spill Reports E1-20
   - 4.4. Recordkeeping of Category 4 Spills and Non-Category 1 Lateral Spills E1-21
   - 4.5. Sewer System Telemetry Records E1-22
   - 4.6. Sewer System Management Plan Implementation Records E1-22
   - 4.7. Audit Records E1-23

4.8. Equipment Records E1-23
4.9. Work Orders E1-23

ATTACHMENT E1– NOTIFICATION, MONITORING, REPORTING AND RECORDKEEPING REQUIREMENTS

The Notification Requirements (section 1), Spill-specific Monitoring Requirements (section 2), Reporting Requirements (section 3) and Recordkeeping Requirements (section 4) in this Attachment are pursuant to Water Code section 13267 and section 13383, and are an enforceable component of this General Order. For the purpose of this General Order, the term:

- Notification means the notifying of appropriate parties of a spill event or other activity.
- Spill-specific Monitoring means the gathering of information and data for a specific spill event to be reported or kept as records.
- Reporting means the reporting of information and data into the online California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database.
- Recordkeeping means the maintaining of information and data in an official records storage system.

Failure to comply with the notification, monitoring, reporting and recordkeeping requirements in this General Order may subject the Enrollee to 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.

Water Code section 13193 et seq. requires the Regional Water Quality Control Boards (Regional Water Boards) and the State Water Resources Control Board (State Water Board) to collect sanitary sewer spill information for each spill event and make this information available to the public. Sanitary sewer spill information for each spill event includes but is not limited to: Enrollee contact information for each spill event, spill cause, estimated spill volume and factors used for estimation, location, date, time, duration, amount discharged to waters of the State, response and corrective action(s) taken.

1. NOTIFICATION REQUIREMENTS

1.1. Notification of Spills of 1,000 Gallons or Greater to the California Office of Emergency Services

Per Water Code section 13271, for a spill that discharges in or on any waters of the State, or discharges or is deposited where it is, or probably will be, discharged in or on any waters of the State, the Enrollee shall notify the California Office of Emergency Services and obtain a California Office of Emergency Services Control Number as soon as possible **but no later than two (2) hours** after:

- The Enrollee has knowledge of the spill; and
- Notification can be provided without substantially impeding cleanup or other emergency measures.

The notification requirements in this section apply to individual spills of 1,000 gallons or greater, from an Enrollee-owned and/or operated laterals, to a water of the State.

1.2. Spill Notification Information

The Enrollee shall provide the following spill information to the California Office of Emergency Services before receiving a Control Number, as applicable:

- Name and phone number of the person notifying the California Office of Emergency Services;
- Estimated spill volume (gallons);
- Estimated spill rate from the system (gallons per minute);
- Estimated discharge rate (gallons per minute) directly into waters of the State or indirectly into a drainage conveyance system;
- Spill incident description:
  - Brief narrative of the spill event, and
  - Spill incident location (address, city, and zip code) and closest cross streets and/or landmarks;
- Name and phone number of contact person on-scene;
- Date and time the Enrollee was informed of the spill event;
- Name of sanitary sewer system causing the spill;
- Spill cause or suspected cause (if known);
- Amount of spill contained;
- Name of receiving water body receiving or potentially receiving discharge; and
- Description of water body impact and/ or potential impact to beneficial uses.

1.3. Notification of Spill Report Updates

Following the initial notification to the California Office of Emergency Services and until such time that the Enrollee certifies the spill report in the online CIWQS Sanitary Sewer System Database, the Enrollee shall provide updates to the California Office of Emergency Services regarding substantial changes to:

- Estimated spill volume (increase or decrease in gallons initially estimated);
- Estimated discharge volume discharged directly into waters of the State or indirectly into a drainage conveyance system (increase or decrease in gallons initially estimated); and
- Additional impact(s) to the receiving water(s) and beneficial uses.

2. SPILL-SPECIFIC MONITORING REQUIREMENTS

2.1 Spill Location and Spread

The Enrollee shall visually assess the spill location(s) and spread using photography, global positioning system (GPS), and other best available tools. The Enrollee shall document the critical spill locations, including:

- Photography and GPS coordinates for:
  - The system location where spill originated.

    For multiple appearance points of a single spill event, the points closest to the spill origin.
- Photography for:
  - Drainage conveyance system entry locations,
  - The location(s) of discharge into surface waters, as applicable,
  - Extent of spill spread, and
  - The location(s) of clean up.

2.2 Spill Volume Estimation

To assess the approximate spill magnitude and spread, the Enrollee shall estimate the total spill volume using updated volume estimation techniques, calculations, and documentation for electronic reporting. The Enrollee shall update its notification and reporting of estimated spill volume (which includes spill volume recovered) as further information is gathered during and after a spill event.

2.3. Receiving Water Monitoring

2.3.1. Receiving Water Visual Observations

Through visual observations and use of best available spill volume-estimating techniques and field calculation techniques, the Enrollee shall gather and document the following information for spills discharging to surface waters:

- Estimated spill travel time to the receiving water;
- For spills entering a drainage conveyance system, estimated spill travel time from the point of entry into the drainage conveyance system to the point of discharge into the receiving water;
- Estimated spill volume entering the receiving water; and
- Photography of:
  - Waterbody bank erosion,
  - Floating matter,
  - Water surface sheen (potentially from oil and grease),

- Discoloration of receiving water, and
- Impact to the receiving water.

2.3.2. Receiving Water – Water Quality Sampling and Analysis

For sewage spills in which an estimated 50,000 gallons or greater are discharged into a surface water, the Enrollee shall conduct the following water quality sampling no later than **18 hours** after the Enrollee's knowledge of a potential discharge to a surface water:

- Collect one water sample, each day of the duration of the spill, at:
  - The DCS-001 location as described in section 2.3.4 (Receiving Water Sampling Locations) of this Attachment, if sewage discharges to a surface water via a drainage conveyance system; and/or
  - Each of the three receiving water sampling locations in section 2.3.4 (Receiving Water Sampling Locations) of this Attachment;

    If the receiving water has no flow during the duration of the spill, the Enrollee must report "No Sampling Due To No Flow" for its receiving water sampling locations.

The Enrollee shall analyze the collected receiving water samples for the following constituents per section 2.3.3 (Water Quality Analysis Specifications) of this Attachment:

- Ammonia, and
- Appropriate bacterial indicator(s) per the applicable Basin Plan water quality objectives, including one or more of the following, unless directed otherwise by the Regional Water Board:
  - Total Coliform Bacteria
  - Fecal Coliform Bacteria
  - *E-coli*
  - Enterococcus

  Dependent on the receiving water(s), sampling of bacterial indicators shall be sufficient to determine post-spill (after the spill) compliance with the water quality objectives and bacterial standards of the California Ocean Plan or the California Inland Surface Water Enclosed Bays, and Estuaries Plan, including the frequency and/or number of post-spill receiving water samples as may be specified in the applicable plans.

The Enrollee shall collect and analyze additional samples as required by the applicable Regional Water Board Executive Officer or designee.

2.3.3. Water Quality Analysis Specifications

Spill monitoring must be representative of the monitored activity (40 Code of Federal Regulations section 122.41(j)(1)).

Sufficiently Sensitive Methods

Sample analysis must be conducted according to sufficiently sensitive test methods approved under 40 Code of Federal Regulations Part 136 for the sample analysis of pollutants. For the purposes of this General Order, a method is sufficiently sensitive when the minimum level of the analytical method approved under 40 Code of Federal Regulations Part 136 is at or below the receiving water pollutant criteria.

Environmental Laboratory Accreditation Program-Accredited Laboratories

The analysis of water quality samples required per this General Order must be performed by a laboratory that has accreditation pursuant to Article 3 (commencing with section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code. (Water Code section 13176(a).) The State Water Board accredits laboratories through its Environmental Laboratory Accreditation Program (ELAP).

2.3.4. Receiving Water Sampling Locations

The Enrollee shall collect receiving water samples at the following locations.

Sampling of Flow in Drainage Conveyance System (DCS) Prior to Discharge

Sampling Location	Sampling Location Description
DCS-001	A point in a drainage conveyance system before the drainage conveyance system flow discharges into a receiving water.

Receiving Surface Water Sampling (RSW)[1]

Sampling Location	Sampling Location Description
RSW-001 Point of Discharge	A point in the receiving water where sewage initially enters the receiving water.
RSW-001U: Upstream of Point of Discharge	A point in the receiving water, upstream of the point of sewage discharge, to capture ambient conditions absent of sewage discharge impacts.

Sampling Location	Sampling Location Description
RSW-001D: Downstream of Point of Discharge	A point in the receiving water, downstream of the point of sewage discharge, where the spill material is fully mixed with the receiving water.

[1] The Enrollee must use its best professional judgment to determine the upstream and downstream distances based on receiving water flow, accessibility to upstream/downstream waterbody banks, and size of visible sewage plume.

2.4. Safety and Access Exceptions

If the Enrollee encounters access restrictions or unsafe conditions that prevents its compliance with spill response requirements or monitoring requirements in this General Order, the Enrollee shall provide documentation of access restrictions and/or safety hazards in the corresponding required report.

3. REPORTING REQUIREMENTS

All reporting required in this General Order must be submitted electronically to the online CIWQS Sanitary Sewer System Database (https://ciwqs.waterboards.ca.gov), unless specified otherwise in this General Order. Electronic reporting may solely be conducted by a Legally Responsible Official or Data Submitter(s) previously designated by the Legally Responsible Official, as required in section 5.8 (Designation of Data Submitters) of this General Order.

The Enrollee shall report any information that is protected by the Homeland Security Act, by email to SanitarySewer@waterboards.ca.gov, with a brief explanation of the protection provided by the Homeland Security Act for the subject report to be protected from unauthorized disclosure and/or public access, and for official Water Board regulatory purposes only.

3.1. Reporting Requirements for Individual Category 1 Spill Reporting

3.1.1. Draft Spill Report for Category 1 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 1 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;

5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;
    - If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);
    - Estimated spill volume fully recovered from the drainage conveyance system;
    - Estimated spill volume remaining within the drainage conveyance system;
11. Description and photographs of all discharge point(s) into the surface water;
12. Estimated spill volume that discharged to surface waters; and
13. Estimated total spill volume recovered.

3.1.2. Certified Spill Report for Category 1 Spills

Within 15 calendar days of the spill end date, the Enrollee shall submit a Certified Spill Report for Category 1 spills, to the online CIWQS Sanitary Sewer System Database. Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number.

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report per section 3.1.1 (Draft Spill Report for Category 1 Spills) above:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
    - The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
    - The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;

4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, lateral, pump station, etc.);
6. Description of the pipe material, and estimated age of the pipe material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion;
14. Name and type of receiving water body(s);
15. Description of the water body(s), including but not limited to:
    - Observed impacts on aquatic life,
    - Public closure, restricted public access, temporary restricted use, and/or posted health warnings due to spill,
    - Responsible entity for closing/restricting use of water body, and
    - Number of days closed/restricted as a result of the spill.
16. Whether or not the spill was located within 1,000 feet of a municipal surface water intake; and
17. If water quality samples were collected, identify sample locations and the parameters the water quality samples were analyzed for. If no samples were taken, Not Applicable shall be selected.

3.1.3. Spill Technical Report for Individual Category 1 Spill in which 50,000 Gallons or Greater Discharged into a Surface Water

For any spill in which 50,000 gallons or greater discharged into a surface water, **within 45 calendar days** of the spill end date, the Enrollee shall submit a Spill Technical Report to the online CIWQS Sanitary Sewer System Database. The Spill Technical Report, at minimum, must include the following information:

1. Spill causes and circumstances, including at minimum:
    - Complete and detailed explanation of how and when the spill was discovered;

- Photographs illustrating the spill origin, the extent and reach of the spill, drainage conveyance system entrance and exit, receiving water, and post-cleanup site conditions;
- Diagram showing the spill failure point, appearance point(s), the spill flow path, and ultimate destinations;
- Detailed description of the methodology employed, and available data used to calculate the discharge volume and, if applicable, the recovered spill volume;
- Detailed description of the spill cause(s);
- Description of the pipe material, and estimated age of the pipe material, at the failure location;
- Description of the impact of the spill;
- Copy of original field crew records used to document the spill; and
- Historical maintenance records for the failure location.

2. Enrollee's response to the spill:
   - Chronological narrative description of all actions taken by the Enrollee to terminate the spill;
   - Explanation of how the Sewer System Management Plan Spill Emergency Response Plan was implemented to respond to and mitigate the spill; and
   - Final corrective action(s) completed and a schedule for planned corrective actions, including:
     - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable,
     - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences, and
     - Necessary modifications to the Emergency Spill Response Plan to incorporate lessons learned in responding to and mitigating the spill.
3. Water Quality Monitoring, including at minimum:
   - Description of all water quality sampling activities conducted;
   - List of pollutant and parameters monitored, sampled and analyzed; as required in section 2.3 (Receiving Water Monitoring) of this Attachment;
   - Laboratory results, including laboratory reports;
   - Detailed location map illustrating all water quality sampling points; and
   - Other regulatory agencies receiving sample results (if applicable).
4. Evaluation of spill impact(s), including a description of short-term and long-term impact(s) to beneficial uses of the surface water.

3.1.4. Amended Certified Spill Reports for Individual Category 1 Spills

The Enrollee shall update or add additional information to a Certified Spill Report within **90 calendar days** of the spill end date by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After **90 calendar days**, the Enrollee shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

3.2. Reporting Requirements for Individual Category 2 Spill Reporting

3.2.1. Draft Spill Report for Category 2 Spills

Within three (3) business days of the Enrollee's knowledge of a Category 2 spill, the Enrollee shall submit a Draft Spill Report to the online CIWQS Sanitary Sewer System Database.

The Draft Spill Report must, at minimum, include the following items:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Date and time the Enrollee notified the California Office of Emergency Services, and the assigned control number;
7. Description, photographs, and GPS coordinates of the system location where the spill originated;

   If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
8. Estimated total spill volume exiting the system;
9. Description and photographs of the extent of the spill and spill boundaries;
10. Did the spill reach a drainage conveyance system? If Yes:
    - Description of the drainage conveyance system transporting the spill;
    - Photographs of the drainage conveyance system entry location(s);
    - Estimated spill volume fully recovered from the drainage conveyance system;
    - Estimated spill volume remaining within the drainage conveyance system;

- Estimated spill volume discharged to a groundwater infiltration basin or facility, if applicable; and

11. Estimated total spill volume recovered.

3.2.2. Certified Spill Report for Category 2 Spills

Within 15 calendar days of the spill end date, the Enrollee shall submit a Certified Spill Report for the Category 2 spill, to the online CIWQS Sanitary Sewer System Database (https://ciwqs.waterboards.ca.gov). Upon completion of the Certified Spill Report, the online CIWQS Sanitary Sewer System Database will issue a final spill event identification number.

The Certified Spill Report must, at minimum, include the following mandatory information in addition to all information in the Draft Spill Report per section 3.2.1 (Draft Spill Report for Category 2 Spills) above:

1. Description of the spill event destination(s), including GPS coordinates if available, that represent the full spread and reach of the spill;
2. Spill end date and time;
3. Description of how the spill volume estimations were calculated, including at a minimum:
   - The methodology, assumptions and type of data relied upon, such as supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
   - The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
5. System failure location (for example, main, pump station, etc.);
6. Description of the pipe/infrastructure material, and estimated age of the pipe material, at the failure location;
7. Description of the impact of the spill;
8. Whether or not the spill was associated with a storm event;
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of spill corrective action, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of major milestones for those steps;
11. Spill response completion date;
12. Detailed narrative of investigation and investigation findings of cause of spill;
13. Reasons for an ongoing investigation (as applicable) and the expected date of completion; and

14. Whether or not the spill was located within 1,000 feet of a municipal surface water intake.

3.2.3. Amended Certified Spill Reports for Individual Category 2 Spills

The Enrollee shall update or add additional information to a Certified Spill Report within **90 calendar days** of the spill end date by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After **90 calendar days**, the Enrollee shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the Amended Spill Report due date.

3.3. Monthly Certified Spill Reporting for Category 3 Spills

The Enrollee shall report and certify all Category 3 spills to the online CIWQS Sanitary Sewer System Database within 30 calendar days after the end of the month in which the spills occurred. (For example, all Category 3 spills occurring in the month of February shall be reported and certified by March 30th). After the Legally Responsible Official certifies the spills, the online CIWQS Sanitary Sewer System Database will issue a spill event identification number for each spill.

The monthly reporting of all Category 3 spills must include the following items for each spill:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Date and time the Enrollee was notified of, or self-discovered, the spill;
4. Operator arrival time;
5. Estimated spill start date and time;
6. Description, photographs, and GPS coordinates where the spill originated:
   - If a single spill event results in multiple appearance points, provide GPS coordinates for the appearance point closest to the failure point and describe each additional appearance point in the spill appearance point explanation field;
7. Estimated total spill volume exiting the system;
8. Description and photographs of the extent of the spill and spill boundaries;
9. Did the spill reach a drainage conveyance system? If Yes:
   - Description of the drainage conveyance system transporting the spill;
   - Photographs of the drainage conveyance system entry locations(s);
   - Estimated spill volume fully recovered from the drainage conveyance system; and

- Estimated spill volume discharged to a groundwater infiltration basis or facility, if applicable.

10. Estimated total spill volume recovered;
11. Description of the spill event destination(s), including GPS coordinates, if available, that represent the full spread and reaches of the spill;
12. Spill end date and time;
13. Description of how the spill volume estimations were calculated, including, at minimum:
    - The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
    - The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;
14. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
15. System failure location (for example, main, pump station, etc.);
16. Description of the pipe/infrastructure material, and estimated age of the pipe/infrastructure material, at the failure location;
17. Description of the impact of the spill;
18. Whether or not the spill was associated with a storm event;
19. Description of spill response activities including description of immediate spill containment and cleanup efforts;
20. Description of spill corrective actions, including steps planned or taken to reduce, eliminate, and prevent reoccurrence of the spill, and a schedule of the major milestones for those steps; including, at minimum:
    - Local regulatory enforcement action taken against an illicit discharge in response to this spill, as applicable, and
    - Identifiable system modifications, and operation and maintenance program modifications needed to prevent repeated spill occurrences at the same spill event location, including:
        - Adjusted schedule/method of preventive maintenance,
        - Planned rehabilitation or replacement of sanitary sewer asset,
        - Inspected, repaired asset(s), or replaced defective asset(s),
        - Capital improvements,
        - Documentation verifying immediately implemented system modifications and operating/maintenance modifications,
        - Description of spill response activities,

- Spill response completion date, and
- Ongoing investigation efforts, and expected completion date of investigation to determine the full cause of spill;

21. Detailed narrative of investigation and investigation findings of cause of spill.

3.4. Monthly Certified Spill Reporting for Category 4 Spills

The Enrollee shall report and certify the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, within 30 calendar days after the end of the month in which the spills occurred.

3.5. Amended Certified Spill Reports for Category 3 Spills

Within 90 calendar days of the certified Spill Report due date, the Enrollee may update or add additional information to a certified Spill Report by amending the report or by adding an attachment to the Spill Report in the online CIWQS Sanitary Sewer System Database. The Enrollee shall certify the amended report.

After 90 calendar days, the Legally Responsible Official shall contact the State Water Board at SanitarySewer@waterboards.ca.gov to request to amend a certified Spill Report. The Legally Responsible Official shall submit justification for why the additional information was not reported within the 90-day timeframe for amending the certified Spill Report, as provided above.

3.6. Annual Certified Spill Reporting of Category 4 and/or Lateral Spills

For all Category 4 spills and spills from its owned and/or operated laterals that are caused by a failure or blockage in the lateral and that do not discharge to a surface water, the Enrollee shall:

- Maintain records per section 4.4. of this Attachment;

  The Enrollee shall provide records upon request by State Water Board or Regional Water Board staff.

- Annually upload and certify a report, in an appropriate digital format, of all recordkeeping of spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occurred.

A spill from an Enrollee-owned and/or operated lateral that discharges to a surface water is a Category 1 spill; the Enrollee shall report all Category 1 spills per section 3.1 of Attachment E1 (Notification, Monitoring, Reporting and Recordkeeping Requirements) of this General Order.

3.7. Monthly Certification of “No-Spills” or “Category 4 Spills” and/or “Non-Category 1 Lateral Spills”

If either (1) no spills occur during a calendar month or (2) only Category 4, and/or Enrollee-owned and/or operated lateral spills (that do not discharge to a surface water) occur during a calendar month, the Enrollee shall certify, within 30 calendar days after

the end of each calendar month, either a “No-Spill” certification statement, or a “Category 4 Spills” and/or “Non-Category 1 Lateral Spills” certification statement, in the online CIWQS Sanitary Sewer System Database, certifying that there were either no spills, or Category 4 and/or Non-Category 1 Lateral Spills that will be reported annually (per section 3.6 of this Attachment) for the designated month.

If a spill starts in one calendar month and ends in a subsequent calendar month, and the Enrollee has no further spills of any category, in the subsequent calendar month, the Enrollee shall certify “no-spills” for the subsequent calendar month.

If the Enrollee has no spills from its systems during a calendar month, but the Enrollee voluntarily reported a spill from a private lateral or a private system, the Enrollee shall certify “no-spills” for that calendar month.

If the Enrollees has spills from its owned and/or operated laterals during a calendar month, the Enrollee shall not certify “no spills” for that calendar month.

3.8. Electronic Sanitary Sewer System Service Area Boundary Map

The Legally Responsible Official shall submit, to the State Water Board, an up-to-date electronic spatial map of its sewer system service area boundaries. The map must be in accordance with section 5.14 (Electronic Sanitary Sewer System Service Area Boundary Map) of this General Order and the specification provided on the statewide Sanitary Sewer Systems program website. The map must include the location of wastewater treatment facility(ies) that treats the sewer system waste, if in the same sewer service boundary.

By the Effective Date of this General Order, specifications for the electronic sanitary sewer service area boundary map format will be provided on the statewide Sanitary Sewer Systems Order program website.

3.9. Annual Report (Previously termed as Collection System Questionnaire in General Order 2006-0003-DWQ)

A new Enrollee shall complete and submit its first certified Annual Report into the online CIWQS Sanitary Sewer System Database, **within 30 days of obtaining a CIWQS account**; Subsequent Annual Reports are due by April 1 of each year.

All enrollees shall update their previous year’s Annual Report, **by April 1 of each year after the Effective Date of this General Order,** for each calendar year (January 1 through December 31)**.**

The Annual Report must be entered directly into the online CIWQS Sanitary Sewer System Database. The Enrollee’s Legally Responsible Official shall certify the Annual Report as instructed in CIWQS;

The Annual Report must address, and update as applicable, the following items:

- Population served;

- Updated sewer system service area boundary map, if service area boundary has changed from original map submitted per section 5.14 (Electronic Sanitary Sewer System Service Area Boundary Map) of this General Order;
- Number of system operation and maintenance staff:
  - Entry level (less than two years of experience),
  - Journey level (greater than two years of experience),
  - Supervisory level, and
  - Managerial level;
- Number of operation and maintenance staff certified as a certified collection system operator by the California Water Environmental Association (CWEA), with:
  - Corresponding number of certified collection system operator grade levels (Grade I, II, III, IV, and V);
- System information:
  - Miles of system gravity and force mains,
  - Number of upper and lower service laterals connected to system,
  - Estimated number of upper and lower laterals owned and/or operated by the Enrollee,
  - Portion of laterals that is Enrollee's responsibility,
  - Average age the major components of system infrastructure,
  - Number and age of pump stations, and
  - Estimated total miles of the system pipeline not accessible for maintenance;
- Name and location of the treatment plant(s) receiving sanitary sewer system's waste;
- Name of satellite sewer system tributaries;
- Number of system's gravity sewer above or underground crossings of water bodies throughout system;
- Number of force main (pressurized pipe) above or underground crossings of water bodies throughout system;
- Number of siphons used to convey waste throughout the sewer system;
- Miles of sewer system cleaned;
- Miles of sewer system video inspected, or comparable (i.e., video closed-circuit television or alternative inspection methods);
- System Performance Evaluation as specified in section 5.11 (System Performance Analysis) of this General Order;
- Major spill causes (for example, root intrusion, grease deposition);

- System infrastructure failure points (for example, main, pump station, lateral, etc.);
- Ongoing spill investigations; and
- Actions taken to address system deficiencies.

3.10. Sewer System Management Plan Audit Reporting Requirements

The Enrollee shall submit its Sewer System Management Plan Audit and other pertinent audit information, in accordance with section 5.4 (Sewer System Management Plan Audits) of this General Order, to the online CIWQS Sanitary Sewer System Database **by six (6) months after the end of the 3-year audit period**.

<u>If a Sewer System Management Plan Audit is not conducted as required:</u> the Enrollee shall:

- Update the online CIWQS Sanitary Sewer System Database and select the justification for not conducting the Audit; and
- Notify its corresponding Regional Water Board (see Attachment F (Regional Water Quality Control Board Contact Information)) of the justification for the lapsed requirements.

The Enrollee's reporting of a justification for not conducting a timely Audit does not justify non-compliance with this General Order. The Enrollee shall:

- Submit the late Audit as required in this General Order; and
- Comply with subsequent Audit requirements and due dates corresponding with the original audit cycle.

3.11. Sewer System Management Plan Reporting Requirements

<u>For an Existing Enrollee previously regulated by Order 2006-0003-DWQ</u>: **Within every six (6) years after the required due date of its last Plan Update**, the Legally Responsible Official shall upload and certify a local governing entity-approved Sewer System Management Plan Update to the online CIWQS Sanitary Sewer System Database. If the electronic document format or size capacity prevents the electronic upload of the Plan, the Legally Responsible Official shall report an electronic link to its updated Sewer System Management Plan posted on its own website.

Order 2006-0003-DWQ required each enrollee to develop its initial Sewer System Management Plan per the following schedule, with required Plan updates at a frequency of 5-years thereafter:

Systems serving populations: Greater than 100,000: May 2, 2009

Between 100,000 and 10,000: August 2, 2009

Between 10,000 and 2,500: May 2, 2010

Less than 2,500: August 2, 2010

This Order carries forth the previously-required Plan Update schedule per Order 2006-0003-DWQ. Per the six-year Plan Update frequency required in this Order, the Enrollee shall upload and certify its first Plan Update, to the online CIWQS Sanitary Sewer System Database by the following due dates, with subsequent Plan Updates at the frequency of six years thereafter:

Systems serving populations: Greater than 100,000: May 2, 2025

Between 100,000 and 10,000: August 2, 2025

Between 10,000 and 2,500: May 2, 2026

Less than 2,500: August 2, 2026

For a New Enrollee: **Within twelve (12) months of its Application for Enrollment Approval date**, the Legally Responsible Official of a new Enrollee shall upload and certify a local governing entity-approved Sewer System Management Plan to the online CIWQS Sanitary Sewer System Database. If electronic document format or size capacity prevents the electronic upload of the Plan, the Legally Responsible Official shall report an electronic link to its Sewer System Management Plan posted on its own website. The due date for subsequent 6-year Plan updates, is six (6) years from the submittal due date of the new Enrollee's first Sewer System Management Plan.

4. RECORDKEEPING REQUIREMENTS

The Enrollee shall maintain records to document compliance with the provisions of this General Order, and previous General Order 2006-0003-DWQ as applicable, for each sanitary sewer system owned, including any required records generated by an Enrollee's contractor(s).

4.1. Recordkeeping Time Period

The Enrollee shall maintain records of documents required in this Attachment, including records collected for compliance with this General Order, and records collected in accordance with previous General Order 2006-0003-DWQ, for five (5) years.

4.2. Availability of Documents

The Enrollee shall make the records required in this General Order readily available, either electronic or hard copies, for review by Water Board staff during onsite inspections or through an information request.

4.3. Spill Reports

The Enrollee shall maintain records for each of the following spill-related events and activities:

- Spill event complaint, including but not limited to records documenting how the Enrollee responded to notifications of spills. Each complaint record must, at a minimum, include the following information:
    - Date, time, and method of notification,

  - Date and time the complainant first noticed the spill, if available,
  - Narrative description of the complaint, including any information the caller provided regarding whether the spill has reached surface waters or a drainage conveyance system, if available,
  - Complainant's contact information, if available, and
  - Final resolution of the complaint;
- Records documenting the steps and/or remedial action(s) undertaken by the Enrollee, using all available information, to comply with this General Order, and previous General Order 2006-0003-DWQ as applicable;
- Records documenting how estimate(s) of volume(s) and, if applicable, volume(s) of spill recovered were calculated;
- All California Office of Emergency Services notification records, as applicable; and
- Records, in accordance with the Monitoring Requirements in this Attachment.

4.4. Recordkeeping of Category 4 Spills and Non-Category 1 Lateral Spills

An Enrollee must maintain the following records for each individual Category 4 spill and for each individual non-Category 1 Enrollee-owned and/or operated lateral spill, and report in accordance to section 3.6 (Annual Certified Spill Reporting of Category 4 and/or Lateral Spills) of this Attachment.

Recordkeeping of Individual Category 4 Spill Information:

1. Contact information: Name and telephone number of Enrollee contact person to respond to spill-specific questions;
2. Spill location name;
3. Description and GPS coordinates for the system location where the spill originated;
4. Did the spill reach a drainage conveyance system? If Yes:
   - Description of drainage conveyance system location,
   - Estimated spill volume fully recovered within the drainage conveyance system, and
   - Estimated spill volume remaining within the drainage conveyance system;
5. Estimated total spill volume exiting the sanitary sewer system;
6. Spill date and start time;
7. Spill cause(s) (for example, root intrusion, grease deposition, etc.);
8. System failure location (for example, main, pump station, etc.);
9. Description of spill response activities including description of immediate spill containment and cleanup efforts;
10. Description of how the volume estimation was calculated, including, at minimum:

- The methodology and type of data relied upon, including supervisory control and data acquisition (SCADA) records, flow monitoring or other telemetry information used to estimate the volume of the spill discharged, and the volume of the spill recovered (if any volume of the spill was recovered), and
- The methodology and type of data relied upon to estimate the spill start time, on-going spill rate at time of arrival (if applicable), and the spill end time;

11. Description of implemented system modifications and operating/maintenance modifications.

Recordkeeping of Individual Lateral Spill Information:

1. Date and time the Enrollee was notified of, or self-discovered, the spill;
2. Location of individual spill;
3. Estimated individual spill volume;
4. Spill cause(s) (for example, root intrusion, grease deposition, etc.); and
5. Description of how the volume estimations were calculated.

Total Annual Spill Information:

1. Estimated total annual spill volume;
2. Description of spill corrective actions, including at minimum:
   - Local regulatory enforcement action taken against the sewer lateral owner in response to a spill, as applicable, and
   - System operation, maintenance and program modifications implemented to prevent repeated spill occurrences at the same spill location.

4.5. Sewer System Telemetry Records

The Enrollee shall maintain the following sewer system telemetry records if used to document compliance with this General Order, and previous General Order 2006-0003-DWQ as applicable, including spill volume estimates:

- Supervisory control and data acquisition (SCADA) system(s);
- Alarm system(s);
- Flow monitoring device(s) or other instrument(s) used to estimate sewage flow rates, and/or volumes;
- Computerized maintenance management system records; and
- Asset management-related records.

4.6. Sewer System Management Plan Implementation Records

The Enrollee shall maintain records documenting the Enrollee's implementation of its Sewer System Management Plan, including documents supporting its Sewer System Management Plan audits, corrections, modifications, and updates to the Sewer System Management Plan.

4.7. Audit Records

The Enrollee shall maintain, at minimum, the following records pertaining to its Sewer System Management Plan audits, and other internal audits:

- Completed audit documents and findings;
- Name and contact information of staff and/or consultants that conducted or involved in the audit; and
- Follow-up actions based on audit findings.

4.8. Equipment Records

The Enrollee shall maintain a log of all owned and leased sewer system cleaning, operational, maintenance, construction, and rehabilitation equipment.

4.9. Work Orders

The Enrollee shall maintain record of work orders for operations and maintenance projects.

ATTACHMENT E2 – SUMMARY OF NOTIFICATION, MONITORING AND REPORTING REQUIREMENTS

This Attachment provides a summary of notification, monitoring and reporting requirements, by spill category, and for Enrollee-owned and/or operated laterals as required in Attachment E1 of this General Order, for quick reference purposes only.

Table E2-1

Spill Category 1: Spills to Surface Waters

Spill Requirement	Due	Method
Notification	**Within two (2) hours** of the Enrollee's knowledge of a Category 1 spill of 1,000 gallons or greater, discharging or threatening to discharge to surface waters: Notify the California Office of Emergency Services and obtain a notification control number.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1)
Monitoring	• Conduct spill-specific monitoring; • Conduct water quality sampling of the receiving water within **18 hours** of initial knowledge of spill of 50,000 gallons or greater to surface waters.	(Section 2 of Attachment E1)
Reporting	• Submit Draft Spill Report **within three (3) business days** of the Enrollee's knowledge of the spill; • Submit Certified Spill Report **within 15 calendar days** of the spill end date; • Submit Technical Report **within 45 calendar days** after the spill end date for a Category 1 spill in which **50,000 gallons or greater** discharged to surface waters; and • Submit Amended Spill Report **within 90 calendar days** after the spill end date.	(Section 3.1 of Attachment E1)

Table E2-2
Spill Category 2: **Spills of 1,000 Gallons or Greater That Do Not Discharge to Surface Waters**

Spill Requirements	Due	Method
Notification	**Within two (2) hours** of the Enrollee's knowledge of a Category 2 spill of 1,000 gallons or greater, discharging or threatening to discharge to waters of the State: Notify California Office of Emergency Services and obtain a notification control number.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1)
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	• Submit Draft Spill Report **within three (3) business days** of the Enrollee's knowledge of the spill; • Submit Certified Spill Report **within 15 calendar days** of the spill end date; and • Submit Amended Spill Report **within 90 calendar days** after the spill end date.	(Section 3.2 of Attachment E1)

Table E2-3
Spill Category 3: Spills of Equal or Greater than 50 Gallons and Less than 1,000 Gallons That Does Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	Not Applicable	Not Applicable
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	• Submit monthly Certified Spill Report to the online CIWQS Sanitary Sewer System Database within **30 calendars days** after the end of the month in which the spills occur; and • Submit Amended Spill Reports **within 90 calendar days** after the Certified Spill Report due date.	(Section 3.3 and 3.5 of Attachment E1)

Table E2-4
Spill Category 4: Spills Less Than 50 Gallons That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	Not Applicable	Not Applicable
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	• If, during any calendar month, Category 4 spills occur, certify monthly, the estimated total spill volume exiting the sanitary sewer system, and the total number of all Category 4 spills into the online CIWQS Sanitary Sewer System Database, within 30 days after the end of the calendar month in which the spills occurred. • Upload and certify a report, in an acceptable digital format, of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur.	(Section 3.4, 3.6, 3.7 and 4.4 of Attachment E1)

Table E2-5
Enrollee Owned and/or Operated Lateral Spills That Do Not Discharge to Surface Waters

Spill Requirements	Due	Method
Notification	**Within two (2) hours** of the Enrollee's knowledge of a spill of 1,000 gallons or greater, from an enrollee-owned and/or operated lateral, discharging or threatening to discharge to waters of the State: Notify California Office of Emergency Services and obtain a notification control number. Not applicable to a spill of less than 1,000 gallons.	California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1)
Monitoring	Conduct visual monitoring.	(Section 2 of Attachment E1)
Reporting	• Upload and certify a report, in an acceptable digital format, of all lateral spills (that do not discharge to a surface water) to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur. • Report a lateral spill of any volume that discharges to a surface water as a Category 1 spill.	(Sections 3.6, 3.7 and 4.4 of Attachment E1)

APPENDIX C

SSMP Organization

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	06/25/08		▪
2	12/19/11		▪
3	09/12/12		▪
4	01/09/13		▪
5	11/27/13		▪ Updated org chart, Appendix list (App B, C, P1)
6	01/08/14		▪ Updated org chart and Appendix list (App C)
7	04/04/14		▪ Updated org chart; Appendix list (App C, H, U))
8	06/16/14		▪ Updated org chart, Appendix list (App C)
9	08/18/14		▪ Updated Appendix list (App I2)
10	12/16/14		▪ Updated Appendix list (App C)
11	03/12/15		▪ Updated Appendix list (App C)
12	08/11/15		▪ Updated Appendix list (App P2 & P3)
13	09/22/15		▪ Updated Appendix list (App G3)
14	12/02/15		▪ Updated Appendix list (App G3)
15	12/11/15		▪ Updated Appendix list (App G3)
16	03/23/16		▪ Updated org chart & Appendix (App P2 & P3)
17	06/09/16	M. Esquer	▪ Updated narrative, org chart & appendix list
18	01/11/17	P. Echavarria	▪ Updated org chart, narrative and appendix list
19	01/20/17	L. Frigo	▪ Updated narrative and appendix list; replaced M. Esquer with R. Coss for ES, Chapters 1, 2 and 10
20	05/09/17	P. Echavarria	▪ Updated Pr. PA Specialist to PA Supervisor
21	05/19/17	P. Echavarria	▪ Updated org chart - DREAM Team designation
22	09/26/17	P. Echavarria	▪ Updated org chart – removed Sr. IT Analyst, moved Mapping task to IT Supervisor; Updated Narrative and App R task owner.
23	02/28/18	P. Echavarria	▪ Updated org chart – replaced Eng. Mgr with O&M Ops Mgr. – I/E Support; Updated narrative; replaced Eng. Mgr.-I/E Div. with Ops Mgr.
24	10/17/18	P. Echavarria	▪ Updated org chart & narrative – Updated: HR Mgr.; IT Supv (Maximo); updated Eng. Supervisors (pipelines & pump stations)
25	01/04/19	P. Echavarria	▪ Updated org chart to reflect vacant positions
26	03/04/19	P. Echavarria	▪ Updated org chart – Pr Staff Analyst (HR); Env Svcs Dir; Eng Dir; Eng Mgr (Pln); Maint Supv (O&M)
27	03/25/19	P. Echavarria	▪ Updated org chart – Eng Mgr (Collections); Appendix list (App P2 & P3)
28	05/14/19	P. Echavarria	▪ Updated org chart & narrative (Maint. Mgr-Collections)
29	07/16/19	P. Echavarria	▪ Updated org chart & narrative
30	07/22/19	P. Echavarria	▪ Updated org chart & narrative
31	09/09/19	P. Echavarria	▪ Updated org chart & narrative

APPENDIX C

SSMP Organization

Revision History			
Revision	**Date**	**Approval**	**Reason**
32	12/19/19	P. Echavarria	▪ Updated List Owner
33	03/31/20	P. Echavarria	▪ Updated org chart & narrative
34	05/18/20	P. Echavarria	▪ Updated org chart
35	09/21/20	P. Echavarria	▪ Updated org chart & narrative
36	11/17/20	P. Echavarria	▪ Updated chapter list
37	02/03/21	P. Echavarria	▪ Updated org chart, narrative &chapter list
38	03/26/21	P. Echavarria	▪ Updated org chart, narrative & chapter list
39	05/21/21	P. Echavarria	▪ Updated org chart, chapter list
40	06/29/21	P. Echavarria	▪ Updated narrative, chapter list
41	07/16/21	P. Echavarria	▪ Updated org chart
42	09/14/21	P. Echavarria	▪ Updated org chart
43	03/23/22	P. Echavarria	▪ Updated org chart, narrative & chapter list
44	04/22/22	P. Echavarria	▪ Updated org chart, narrative & chapter list
45	07/11/22	P. Echavarria	▪ Updated org chart, narrative & chapter list
46	07/18/22	P. Echavarria	▪ Updated org chart, narrative & chapter list
46	09/22/22	P. Echavarria	▪ Updated org chart
47	12/21/22	P. Echavarria	▪ Updated org chart, narrative & chapter list
48	03/10/23	D. Carrillo	▪ Updated org chart, and chapter list
49	9/15/23	D. Carrillo	▪ Updated org chart
50	3/13/24	D. Carrillo	▪ Updated org, narrative & chapter list
51	9/11/24	D. Carrillo	▪ Update org, narrative and chapter list
52	3/12/25	D. Carrillo	▪ Updated org, narrative and chapter list
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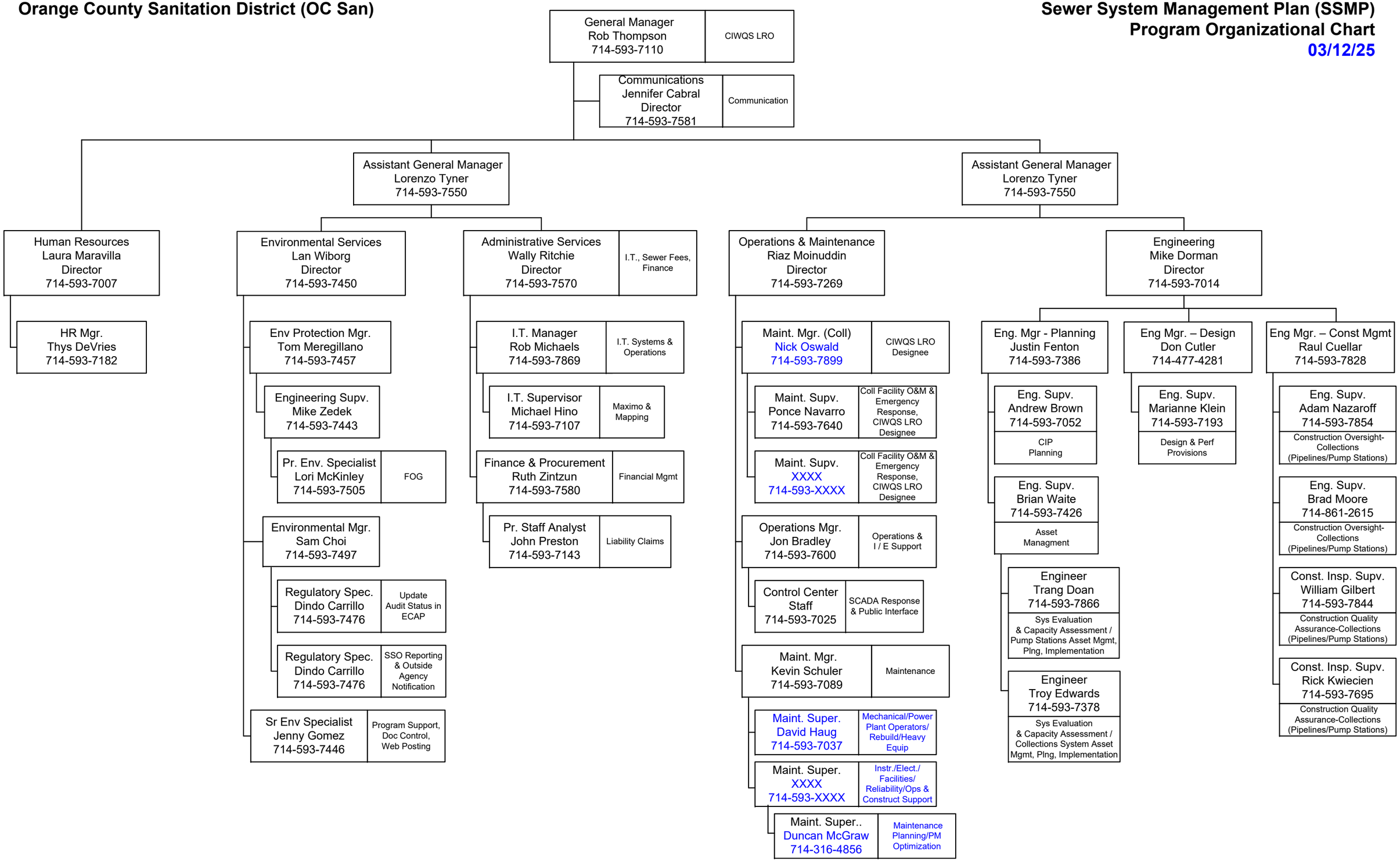
Orange County Sanitation District (OC San)

Sewer System Management Plan (SSMP)
Program Organizational Chart
03/12/25



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Organizational Narrative – 03/12/25

Job descriptions for the positions listed in the organizational chart are available from the Human Resources Division. Primary responsibility for the day-to-day management and operations & maintenance of the collection facility assets resides within the O&M Department, and the daily field activities are managed by the Collection Facilities Division. Specific roles are described below:

OCSD Position	SSMP Responsibility
General Manager	CIWQS Legally Responsible Official (LRO)
Administration Manager – Communication	Ensures OC San's SSMP is available to the public and the public has input
Maint. Manager – Collection Facilities Div.	Legally Responsible Official (LRO) Designee – certify SSOs
Eng. Supv. – Collection Facilities Div.	Collection Facilities Operations and Maintenance, Emergency Response, CIWQS LRO Designee to certify SSOs
Maint. Supv., Collection Facilities Div.	Collection Facilities Operations and Maintenance, Emergency Response, CIWQS LRO Designee to certify SSOs
Operations Manager – Ops Division	Designate resources for Plants 1 & 2 operations
Control Center Staff – Ops Division	SCADA Response, Public interface
Eng. Manager –Maintenance & Instrumentation and Electrical Div.	Designate resources for maintenance, and repairs of electrical systems throughout the OCSD Collection System
Maint. Super. – Maintenance Division	Designate resources for maintenance reliability and PM optimization activities
Maint. Super. – Maintenance Division	Electrical/Instrumentation/Mechanical
Maint. Supv – Maintenance Division	Designate resources for maintenance planning activities
Director of Environmental Services	Overall responsibility for the SSMP; SSMP budgeting and staffing to comply with the Order; Lead OC San stakeholder meetings, Audit Closure
Env. Protection Manager – Resource Protection Division (RPD)	Overall responsibility for the FOG Program
Eng. Supervisor – Non-Industrial Source Control (NISC)	FOG Program
Pr. Environmental Specialist – Resource Protection Division	FOG Program
Supervisor – Regulatory Compliance	SSS WDR Order and audits.
Pr. Environmental Specialist – Regulatory Compliance	Responsible for updating the status of the SSMP audit in ECAP, Approves third-party invoices for audits.
Regulatory Specialist - Regulatory Compliance	SSO reporting and outside agency notification, Legislative tracking
Sr Environmental Specialist – Environmental Services Department	Program support, Update SSMP documents and implement document control, SSMP web posting
Director of Administrative Services	Sewer Fees and Finance
I.T. Manager	I.T. Systems & Operations
I.T. Supervisor	OC San Mapping Tools to support the SSMP; Maximo
Controller	Financial Management
Principal Staff Analyst – Finance	Liability Claims
Eng. Mgr. – Eng. Dept., Planning Div.	Overall responsibility for Planning
Eng. Supv. – Eng. Dept., Planning Div.	CIP Planning

Organizational Narrative – 03/12/25

OCSD Position	SSMP Responsibility
Eng. Supv. – Eng. Dept., Planning Div.	Asset Management
Eng. – Eng. Dept. Planning Div.	Sys Evaluation & Capacity Assessment / Collections System Asset Mgmt, Plng, Implementation
Eng. – Eng. Dept. Planning Div.	Sys Evaluation & Capacity Assessment / Pump Stations Asset Mgmt, Plng, Implementation
Eng. Mgr. – Eng. Dept., Design Division	Overall responsibility for Design & Perf; Construction Oversight; and Construction QA
Eng. Supv. – Eng. Dept., Design Division	Design & Perf Provisions
Eng Mgr. – Eng Dept., Construction Mgmt. Division	Overall responsibility for Construction Management
Eng. Supv. – Eng. Dept., Construction Mgmt. Division	Construction Oversight (Pump Stations)
Eng. Supv. – Eng. Dept., Construction Mgmt. Div.	Construction Oversight (Pipelines)
Construction Insp. Supv. – Eng. Dept., Construction Mgmt. Division	Construction Quality Assurance (Pump Stations)
Construction Insp. Supv. – Eng. Dept., Construction Mgmt. Division	Construction Quality Assurance (Pipelines)

CHAPTER LIST & APPENDICES 03/12/25

Chapter/Section & Stakeholder		Title	Referenced Appendix & Stakeholder	
Front matter	J. Gomez	Table of Contents, Acronyms	----	----
ES	S. Choi	Executive Summary	Y	S. Choi
1	S. Choi	Prohibitions and Provisions	----	----
2	S. Choi	Goal	A & B	D. Carrillo
3	D. Carrillo	Description of Organization	P1	D. Carrillo
			C	D. Carrillo
			Q1	P. Navarro
4	L. McKinley	Legal Authority	E1, E2, E3	L. McKinley
5.1	M. Mendez	Mapping	K1, K2, K3	M. Mendez
			H	T. Edwards
5.2	N. Oswald	Preventive Maintenance	I1-I2	P. Navarro
5.3	J. Fenton	Rehabilitation and Replacement	J	T. Edwards
5.4	P. Navarro	Training	----	----
6	M. Klein	Design and Performance	----	----
7	P. Navarro	Overflow Emergency Response Plan	R	N. Oswald
			P1, P2, P3	D. Carrillo
			Q1 & Q2	P. Navarro
			S	Finance
			C	D. Carrillo
8	L. McKinley	Fats, Oils, and Grease Control Program	E1,E2,E3, F, G1,G2,G3	L. McKinley
9	J. Fenton	System Evaluation and Capacity Assurance Plan	M, U	T. Edwards
10	S. Choi	Monitoring, Measurement, and Program Modifications	----	----
11	S. Choi	Program Audits	X1	D. Carrillo
			X2	D. Carrillo
12	J. Cabral	Communication Plan	V	K. Newell

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APPENDIX E1

Ordinance No. OCSD-25

FOG Control / FSEs

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
	09/26/19	M. Seiler	• Reviewed – no changes
	09/24/20	L. McKinley	• Reviewed – no changes
	09/19/21	L. McKinley	• Reviewed – no changes
	09/22/22	L. McKinley	• Reviewed – no changes
	09/20/23	L. McKinley	• Reviewed – no changes
	09/17/24	L. McKinley	• Reviewed – no changes
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ORDINANCE NO. OCSD-25

ADOPTING FATS, OILS AND GREASE CONTROL REGULATIONS APPLICABLE TO FOOD SERVICE ESTABLISHMENTS

AN ORDINANCE OF THE BOARD OF DIRECTORS OF ORANGE COUNTY SANITATION DISTRICT ADOPTING FATS, OILS AND GREASE CONTROL REGULATIONS APPLICABLE TO FOOD SERVICE ESTABLISHMENTS

WHEREAS, pursuant to the County Sanitation District Act, Health & Safety Code §§4700 et seq., the Orange County Sanitation District ("District") has the authority to adopt ordinances relating to the provision of sewer services and facilities, and regulations of those services and facilities; and

WHEREAS, the Regional Water Quality Control Board ("RWQCB") for the Santa Ana Region adopted Order R8-2002-0014, which prescribes general waste discharge requirements prohibiting sanitary sewer overflows ("SSOs") by sewer collection agencies; and

WHEREAS, in Order R8-2002-0014, the RWQCB found that one of the leading causes of SSOs within the Santa Ana Region, which encompasses the District's service area is "grease blockages;" and

WHEREAS, SSOs often caused by discharge of wastewater containing high levels of fat, oils and grease ('FOG"), suspended solids, pathogenic organisms, and other pollutants, may cause temporary exceedances of applicable water quality objectives, pose a threat to the public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters within the District's service area; and

WHEREAS, the 2000-2001 Orange County Grand Jury ("Grand Jury") conducted a survey among 35 wastewater collection and treatment agencies in Orange County and concluded that one of the leading causes of SSOs and sewage spills is sewer lines clogged from the accumulation of FOG discharged from Food Service Establishments; and

WHEREAS, the Grand Jury further concluded that more effective methods of minimizing grease discharges into the sewer system must be developed and implemented to reduce the discharge of FOG to the sewer system in order to prevent sewer blockages and SSOs; and

WHEREAS, Order No. R8-2002-0014 requires the District to monitor and control SSOs and to develop a FOG Control Program by December 30, 2004; and

WHEREAS, in light of the overwhelming evidence that FOG is a primary cause of SSOs, the District desires to implement a FOG Control Program to prevent SSOs; and

WHEREAS, Section 1014 of the 2001 California Plumbing Code, applicable to all occupancies in the State pursuant to the California Building Standards Law, requires the installation of grease traps or interceptors when in the opinion of the Building Official waste pretreatment is required; and

WHEREAS, the foregoing findings indicate that a FOG Control Program is required for Food Service Establishments within the District's jurisdiction to comply with waste discharge regulations and prevent the harmful effects of SSOs; and

WHEREAS, the regulations adopted herein will require existing Food Service Establishments to install grease control devices or interceptors no later than three years from the effective date of this Ordinance, and the Board finds that three years is a reasonable amortization period for existing Food Service Establishments that are operating without a grease control device or grease interceptor; and

WHEREAS, the Board of Directors finds that specific enforcement provisions must be adopted to govern discharges of wastewater to the District's system by Food Service Establishments.

NOW, THEREFORE, the Board of Directors does hereby ordain as follows:

ARTICLE 1 - GENERAL PROVISIONS

1.1 PURPOSE AND POLICY

A. The purpose of this Ordinance is to facilitate the maximum beneficial public use of the District's sewer services and facilities while preventing blockages of the sewer lines resulting from discharges of FOG to the sewer facilities, and to specify appropriate FOG discharge requirements for Food Service Establishments.

B. This Ordinance shall be interpreted in accordance with the definitions set forth in Section 1.2. The provisions of this Ordinance shall apply to the direct or indirect discharge of all wastewater or waste containing FOG carried to the sewer facilities of the District.

C. To comply with Federal, State, and local policies and to allow the District to meet applicable standards, provisions are made in this Ordinance for the regulations of wastewater or waste containing FOG discharges to the sewer facilities.

D. This Ordinance establishes quantity and quality standards on all wastewater and/or waste discharges containing FOG, which may alone or collectively cause or contribute to FOG accumulation in the sewer facilities causing or potentially causing or contributing to the occurrence of SSOs.

1.2 DEFINITIONS

A. Unless otherwise defined herein, terms related to water quality shall be as adopted in the latest edition of Standard Methods for Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association and the Water Environment Federation. The testing procedures for waste constituents and characteristics shall be as provided in 40 CFR 136 (Code of Federal Regulations).

B. Other terms not herein defined are defined as being the same as set forth in the latest adopted applicable editions of the California Codes applicable to building construction adopted pursuant to the California Building Standards Law.

C. Subject to the foregoing provisions, the following definitions shall apply in this Ordinance:

Best Management Practices	Schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the introduction of FOG to the sewer facilities.
Board	The Board of Directors of the District.
Change in Operations	Any change in the ownership, food types, or operational procedures that have the potential to increase the amount of FOG generated and/or discharged by Food Service Establishments in an amount that alone or collectively causes or creates a potential for SSOs to occur.
Composite Sample	A collection of individual samples obtained at selected intervals based on an increment of either flow or time. The resulting mixture (composite sample) forms a representative sample of the wastestream discharged during the sample period. Samples will be collected when a wastewater discharge occurs.
Discharger	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer. Discharger shall mean the same as User.
District	The Orange County Sanitation District.
Sewer Facility or System	Any property belonging to the District used in the treatment, reclamation, reuse, transportation, or disposal of wastewater, or sludge.
Effluent	Any liquid outflow from the Food Service Establishment that is discharged to the sewer.
Fats, Oils, and Grease ("FOG")	Any substance such as a vegetable or animal product that is used in, or is a by product of, the cooking or food preparation process, and that turns or may turn viscous or solidifies with a change in temperature or other conditions.
FOG Control Program	The FOG Control Program required by and developed pursuant to RWQCB Order No. R8-2002-0014, Section (c)(12)(viii).

FOG Control Program Manager	The individual designated by the District to administer the FOG Control Program. The FOG Control Program Manager is responsible for all determinations of compliance with the program, including approval of discretionary variances and waivers.
FOG Wastewater Discharge Permit	A permit issued by the District subject to the requirements and conditions established by the District authorizing the permittee or discharger to discharge wastewater into the District's facilities or into sewer facilities which ultimately discharge into a District facility.
Food Service Establishment	Facilities defined in California Uniform Retail Food Service Establishments Law (CURFFL) Section 113785, and any commercial entity within the boundaries of the District, operating in a permanently constructed structure such as a room, building, or place, or portion thereof, maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to be removed by a Type I or Type II hood, as defined in CURFFL Section 113785. A limited food preparation establishment is not considered a Food Service Establishment when engaged only in reheating, hot holding or assembly of ready to eat food products and as a result, there is no wastewater discharge containing a significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.
Food Grinder	Any device installed in the plumbing or sewage system for the purpose of grinding food waste or food preparation by products for the purpose of disposing it in the sewer system.
Grease Control Device	Any grease interceptor, grease trap or other mechanism, device, or process, which attaches to, or is applied to, wastewater plumbing fixtures and lines, the purpose of which is to trap or collect or treat FOG prior to it being discharged into the sewer system. "Grease control device" may also include any other proven method to reduce FOG subject to the approval of the District.

Grease Disposal Mitigation Fee	A fee charged to an Owner/Operator of a Food Service Establishment when there are physical limitations to the property that make the installation of the usual and customary grease interceptor or grease control device for the Food Service Establishment under consideration, impossible or impracticable. The Grease Disposal Mitigation Fee is intended to cover the costs of increased maintenance of the sewer system for inspection and cleaning of FOG and other viscous or solidifying agents that a properly employed grease control device would otherwise prevent from entering the sewer system.
Grease Interceptor	A multi-compartment device that is constructed in different sizes and is generally required to be located, according to the California Plumbing Code, underground between a Food Service Establishment and the connection to the sewer system. These devices primarily use gravity to separate FOG from the wastewater as it moves from one compartment to the next. These devices must be cleaned, maintained, and have the FOG removed and disposed of in a proper manner on regular intervals to be effective.
Grease Trap	A grease control device that is used to serve individual fixtures and have limited effect and should only be used in those cases where the use of a grease interceptor or other grease control device is determined to be impossible or impracticable.
General Manager	The individual duly designated by the Board of Directors of the District to administer this Ordinance.
Grab Sample	A sample taken from a waste stream on a one-time basis without regard to the flow in the waste stream and without consideration of time.
Hot Spots	Areas in sewer lines that have experienced sanitary sewer overflows or that must be cleaned or maintained frequently to avoid blockages of sewer system.
Inflow	Water entering a sewer system through a direct stormwater/ runoff connection to the sanitary sewer, which may cause an almost immediate increase in wastewater flows.
Infiltration	Water entering a sewer system, including sewer service connections, from the ground through such means as defective pipes, pipe joints, connections, or manhole walls.

Inspector	A person authorized by the District to inspect any existing or proposed wastewater generation, conveyance, processing, and disposal facilities.
Interceptor	A grease interceptor.
Interference	Any discharge which, alone or in conjunction with discharges from other sources, inhibits or disrupts the District's sewer system, treatment processes or operations; or is a cause of violation of the District's NPDES or Waste Discharge Requirements or prevents lawful sludge use or disposal.
Local Sewering Agency	Any public agency or private entity responsible for the collection and disposal of wastewater to the District's sewer facilities duly authorized under the laws of the State of California to construct and/or maintain public sewers.
NPDES	The National Pollutant Discharge Elimination System; the permit issued to control the discharge of liquids or other substances or solids to surface waters of the United States as detailed in Public Law 92-500, Section 402.
New Construction	Any structure planned or under construction for which a sewer connection permit has not been issued.
Permittee	A person who has received a permit to discharge wastewater into the District's sewer facilities subject to the requirements and conditions established by the District.
Person	Any individual, partnership, firm, association, corporation or public agency, including the State of California and the United States of America.
Public Agency	The State of California and/or any city, county, special district, other local governmental authority or public body of or within this State.
Public Sewer	A sewer owned and operated by the District, or other local Public Agency, which is tributary to the District's sewer facilities.

Regulatory Agencies Regulatory Agencies shall mean those agencies having regulatory jurisdiction over the operations of the District, including, but not limited to:

a) United States Environmental Protection Agency, Region IX, San Francisco and Washington, DC (EPA).

b) California State Water Resources Control Board (SWRCB).

c) California Regional Water Quality Control Board, Santa Ana Region (RWQCB).

d) South Coast Air Quality Management District (SCAQMD).

e) California Department of Health Services (DOHS).

Remodeling A physical change or operational change causing generation of the amount of FOG that exceed the current amount of FOG discharge to the sewer system by the Food Service Establishment in an amount that alone or collectively causes or create a potential for SSOs to occur; or exceeding a cost of $50,000 to a Food Service Establishment that requires a building permit, and involves any one or combination of the following: (1) Under slab plumbing in the food processing area, (2) a 30% increase in the net public seating area, (3) a 30% increase in the size of the kitchen area, or (4) any change in the size or type of food preparation equipment.

Sample Point A location approved by the District, from which wastewater can be collected that is representative in content and consistency of the entire flow of wastewater being sampled.

Sampling Facilities Structure(s) provided at the user's expense for the District or user to measure and record wastewater constituent mass, concentrations, collect a representative sample, or provide access to plug or terminate the discharge.

Sewage Wastewater.

Sewer Facilities or System Any and all facilities used for collecting, conveying, pumping, treating, and disposing of wastewater and sludge.

Sewer Lateral	A building sewer as defined in the latest edition of the California Plumbing Code. It is the wastewater connection between the building's wastewater facilities and a public sewer system.
Sludge	Any solid, semi-solid or liquid decant, subnate or supernate from a manufacturing process, utility service, or pretreatment facility.
Twenty-five percent (25%) Rule	Requirement for grease interceptors to be maintained such that the combined FOG and solids accumulation does not exceed 25% of the design hydraulic depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume is maintained to effectively intercept and retain FOG discharged to the sewer system.
User	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer system. User shall mean the same as Discharger.
Waste	Sewage and any and all other waste substances, liquid, solid, gaseous or radioactive, associated with human habitation or of human or animal nature, including such wastes placed within containers of whatever nature prior to and for the purpose of disposal.
Manifest	That receipt which is retained by the generator of wastes for disposing recyclable wastes or liquid wastes as required by the District.
Waste Minimization Practices	Plans or programs intended to reduce or eliminate discharges to the sewer system or to conserve water, including, but not limited to, product substitutions, housekeeping practices, inventory control, employee education, and other steps as necessary to minimize wastewater produced.
Wastehauler	Any person carrying on or engaging in vehicular transport of waste as part of, or incidental to, any business for that purpose.
Wastewater	The liquid and water-carried wastes of the community and all constituents thereof, whether treated or untreated, discharged into or permitted to enter a public sewer.

Wastewater Constituents and Characteristics	The individual chemical, physical, bacteriological, and other parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the quality and quantity of wastewater.

D. Words used in this Ordinance in the singular may include the plural and the plural the singular. Use of masculine shall mean feminine and use of feminine shall mean masculine. Shall is mandatory; may is permissive or discretionary.

ARTICLE 2 - GENERAL LIMITATIONS, PROHIBITIONS, AND REQUIREMENTS ON FATS, OILS, AND GREASE ("FOG") DISCHARGES

2.1 FOG DISCHARGE REQUIREMENT

No Food Service establishment shall discharge or cause to be discharged into the sewer system FOG that exceeds a concentration level adopted by the Board or that may accumulate and/or cause or contribute to blockages in the sewer system or at the sewer system lateral which connects the Food Service Establishment to the sewer system.

2.2 PROHIBITIONS

The following prohibitions shall apply to all Food Service Establishments:

A. Installation of food grinders in the plumbing system of new constructions of Food Service Establishments shall be prohibited. Furthermore, all food grinders shall be removed from all existing Food Service Establishments within 180 days of the effective date of this Ordinance, except when expressly allowed by the FOG Control Program Manager.

B. Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying FOG or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance, unless a specific written authorization from the FOG Control Program Manager is obtained.

C. Disposal of waste cooking oil into drainage pipes is prohibited. All waste cooking oils shall be collected and stored properly in receptacles such as barrels or drums for recycling or other acceptable methods of disposal.

D. Discharge of wastewater from dishwashers to any grease trap or grease interceptor is prohibited.

E. Discharge of wastewater with temperatures in excess of 140°F to any grease control device, including grease traps and grease interceptors, is prohibited.

F. Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service, or vice versa, is prohibited.

G. Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system is prohibited. Grease removed from grease interceptors shall be wastehauled periodically as part of the operation and maintenance requirements for grease interceptors.

H. Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the design hydraulic depth of the grease interceptor (25% Rule)

2.3 FOG WASTEWATER DISCHARGE PERMIT REQUIRED

No person shall discharge, or cause to be discharged any wastewater from Food Service Establishments directly or indirectly into the sewer system without first obtaining a FOG Wastewater Discharge Permit pursuant to this Ordinance.

2.4 BEST MANAGEMENT PRACTICES REQUIRED

All Food Services Establishments shall implement Best Management Practices in its operation to minimize the discharge of FOG to the sewer system. Detailed requirements for Best Management Practices shall be specified in the permit. This may include kitchen practices and employee training that are essential in minimizing FOG discharge.

2.5 FOG PRETREATMENT REQUIRED

Food Service Establishments are required to install, operate and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of this Ordinance, subject to the variance and waiver provisions of Section 2.6. The grease interceptor shall be adequate to separate and remove FOG contained in wastewater discharges from Food Service Establishments prior to discharge to the sewer system. Fixtures, equipment, and drain lines located in the food preparation and clean up areas of Food Service Establishments that are sources of FOG discharges shall be connected to the grease interceptor. Compliance shall be established as follows:

A. New Construction of Food Service Establishments

New construction of Food Service Establishments shall include and install grease interceptors prior to commencing discharges of wastewater to the sewer system.

B. Existing Food Service Establishments

1. For existing Food Service Establishments, the requirement to install and to properly operate and maintain a grease interceptor may be conditionally stayed, that is, delayed in its implementation by the FOG Control Program Manager for a maximum period of three years from the effective date of this Ordinance (3-year Amortization Period). Terms and conditions for application of a stay to a Food Service Establishment shall be set forth in the permit. The Board finds that three years is a reasonable amortization period for existing Food Service Establishments that are operating without a grease interceptor.

2. Existing Food Service Establishments, which have caused or contributed to grease-related blockage in the sewer system, or which have sewer laterals connected to hot spots, or which have been determined to contribute significant FOG to the sewer system by the FOG Control Program Manager based on inspection or sampling, shall be deemed to have reasonable potential to adversely impact the sewer system, and shall install grease interceptors within 180 days upon notification by the District.

3. Existing Food Service Establishments or Food Service Establishments that change ownership, that undergo remodeling or a change in operations as defined in Section 1.2 of this Ordinance, shall be required to install a grease interceptor.

2.6 VARIANCE AND WAIVER OF GREASE INTERCEPTOR REQUIREMENT

A. Variance from Grease Interceptor Requirements

An existing Food Service Establishment may obtain a variance from the grease interceptor requirement to allow alternative pretreatment technology that is, at least, equally effective in controlling the FOG discharge in lieu of a grease interceptor, if the Food Service Establishment demonstrates that it is impossible or impracticable to install, operate or maintain a grease interceptor. The FOG Control Program Manager's determination to grant a variance will be based upon, but not limited to, evaluation of the following conditions:

1. There is no adequate space for installation and/or maintenance of a grease interceptor.

2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.

3. The Food Service Establishment can justify that the alternative pretreatment technology is equivalent or better than a grease interceptor in controlling its FOG discharge. In addition, the Food Service Establishment must be able to demonstrate, after installation of the proposed alternative pretreatment, its effectiveness to control FOG discharge through downstream visual monitoring of the sewer system, for at least three months, at its own expense. A Variance may be granted if the results show no visible accumulation of FOG in its lateral and/or tributary downstream sewer lines.

B. Conditional Waiver from Installation of Grease Interceptor

An existing Food Service Establishment may obtain a conditional waiver from installation of a grease interceptor, if the Food Service

Establishment demonstrates that it has negligible FOG discharge and insignificant impact to the sewer system. Although a waiver from installation of grease interceptor may be granted, the Food Service Establishment may be required to provide space and plumbing segregation for future installation of grease interceptor. The FOG Control Program Manager's determination to grant or revoke a conditional waiver shall be based upon, but not limited to, evaluation of the following conditions:

1. Quantity of FOG discharge as measured or as indicated by the size of Food Service Establishment based on seating capacity, number of meals served, menu, water usage, amount of on-site consumption of prepared food and other conditions that may reasonably be shown to contribute to FOG discharges.

2. Adequacy of implementation of Best Management Practices and compliance history.

3. Sewer size, grade, condition based on visual information, FOG deposition in the sewer by the Food Service Establishment, and history of maintenance and sewage spills in the receiving sewer system.

4. Changes in operations that significantly affect FOG discharge.

5. Any other condition deemed reasonably related to the generation of FOG discharges by the FOG Control Program Manager.

C. Waiver from Grease Interceptor Installation with a Grease Disposal Mitigation Fee

For Food Service Establishments where the installation of grease interceptor is not feasible and no equivalent alternative pretreatment can be installed, a waiver from the grease interceptor requirement may be granted with the imposition of a Grease Disposal Mitigation Fee as described in Section 2.8. Additional requirements may be imposed to mitigate the discharge of FOG into the sewer system. The FOG Control Program Manager's determination to grant the waiver with a Grease Disposal Mitigation Fee will be based upon, but not limited to, evaluation of the following conditions:

1. There is no adequate space for installation and/or maintenance of a grease interceptor.

2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.

3. A variance from grease interceptor installation to allow alternative pretreatment technology cannot be granted.

D. Application for Waiver or Variance of Requirement for Grease Interceptor

A Food Service Establishment may submit an application for waiver or variance from the grease interceptor requirement to the FOG Control Program Manager. The Food Service Establishment bears the burden of demonstrating, to the FOG Control Program Manager's reasonable satisfaction, that the installation of a grease interceptor is not feasible or applicable. Upon determination by the FOG Control Program Manager that reasons are sufficient to justify a variance or waiver, the permit will be issued or revised to include the variance or waiver and relieve the Food Service Establishment from the requirement.

E. Terms and conditions

A variance or waiver shall contain terms and conditions that serve as basis for its issuance. A waiver or variance may be revoked at any time when any of the terms and conditions for its issuance is not satisfied or if the conditions upon which the waiver was based change so that the justification for the waiver no longer exists. The waiver or variance shall be valid so long as the Food Service Establishment remains in compliance with their terms and conditions until the expiration date specified in the variance or waiver.

2.7 COMMERCIAL PROPERTIES

Property owners of commercial properties or their official designee(s) shall be responsible for the installation and maintenance of the grease interceptor serving multiple Food Service Establishments that are located on a single parcel.

2.8 GREASE DISPOSAL MITIGATION FEE

Food Service Establishments that operate without a grease control interceptor may be required to pay an annual Grease Disposal Mitigation Fee to equitably cover the costs of increased maintenance of the sewer system as a result of the Food Service Establishments' inability to adequately remove FOG from its wastewater discharge. This Section shall not be interpreted to allow the new construction of, or existing Food Service Establishments undergoing remodeling or change in operations to operate without an approved grease interceptor unless the District has determined that it is impossible or impracticable to install or operate a grease control interceptor for the subject facility under the provisions of Section 2.6 of this Ordinance.

A. The Grease Disposal Mitigation Fee shall be established by ordinance or resolution of the Board of Directors, and shall be based on the estimated annual increased cost of maintaining the sewer system for inspection and removal of FOG and other viscous or solidifying agents attributable to the Food Service Establishment resulting from the lack of a grease interceptor or grease control device.

B. The Grease Disposal Mitigation Fee may be waived or reduced on a no less than an annual basis when the discharger demonstrates to the reasonable satisfaction of the FOG Control Program Manager that they had used best management and waste minimization practices on a regular basis that has significantly reduced the introduction of FOG into the sewer system.

C. The Grease Disposal Mitigation Fee may not be waived or reduced when the Food Service Establishment does not comply with the minimum requirements of this Ordinance and/or its discharge into the sewer system in the preceding 12 months has caused or potentially caused or contributed alone or collectively, in sewer blockage or SSO in the sewer downstream, or surrounding the Food Service Establishment prior to the waiver request.

2.9 SEWER SYSTEM OVERFLOWS, PUBLIC NUISANCE, ABATEMENT ORDERS AND CLEANUP COSTS

Notwithstanding the three-year amortization period established in Section 2.5, Food Service Establishments found to have contributed to a sewer blockage, SSOs or any sewer system interferences resulting from the discharge of wastewater or waste containing FOG, shall be ordered to install and maintain a grease interceptor, and may be subject to a plan to abate the nuisance and prevent any future health hazards created by sewer line failures and blockages, SSOs or any other sewer system interferences. SSOs may cause threat and injury to public health, safety, and welfare of life and property and are hereby declared public nuisances. Furthermore, sewer lateral failures and SSOs caused by Food Service Establishments alone or collectively, are the responsibility of the private property owner or Food Service Establishment, and individual(s) as a responsible officer or owner of the Food Service Establishment. If the District must act immediately to contain and clean up an SSO caused by blockage of a private or public sewer lateral or system serving a Food Service Establishment , or at the request of the property owner or operator of the Food Service Establishment, or because of the failure of the property owner or Food Service Establishment to abate the condition causing immediate threat of injury to the health, safety, welfare, or property of the public, the District's costs for such abatement may be entirely borne by the property owner or operator of the Food Service Establishment, and individual(s) as a responsible officer or owner of the Food Service Establishment(s) and may constitute a debt to the District and become due and payable upon the District's request for reimbursement of such costs.

ARTICLE 3 - FOG WASTEWATER DISCHARGE PERMITS FOR FOOD SERVICE ESTABLISHMENTS

3.1 FOG WASTEWATER DISCHARGE PERMIT REQUIRED

A. Food Service Establishments proposing to discharge or currently discharging wastewater containing FOG into the District's sewer system shall obtain a FOG Wastewater Discharge Permit from the District.

B. FOG Wastewater Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by the District. The conditions of FOG Wastewater Discharge Permits shall be enforced by the District in accordance with this Ordinance and applicable State and Federal Regulations.

3.2 FOG WASTEWATER DISCHARGE PERMIT APPLICATION

A. Any person required to obtain a FOG Wastewater Discharge Permit shall complete and file with the District prior to commencing or continuing discharges, an application in a form prescribed by the District. The applicable fees shall accompany this application. The applicant shall submit, in units and terms appropriate for evaluation, the following information at a minimum:

1. Name, address, telephone number, assessor's parcel number(s), description of the Food Service Establishment, operation, cuisine, service activities, or clients using the applicant's services.

2. (Whichever is applicable) Name, address of any and all principals/owners/major shareholders of the Food Service Establishment; Articles of Incorporation; most recent Report of the Secretary of State; Business License.

3. Name and address of property owner or lessor and the property manager where the Food Service Establishment is located.

4. Any other information as specified in the application form.

B. Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, FOG control device, grease interceptor or other pretreatment equipment and appurtenances by size, location, and elevation for evaluation.

C. Other information related to the applicant's business operations and potential discharge may be requested to properly evaluate the permit application.

D. After evaluation of the data furnished, the District may issue a FOG Wastewater Discharge Permit, subject to terms and conditions set forth in

this Ordinance and as otherwise determined by the FOG Control Program Manager to be appropriate to protect the District's sewer system.

3.3 FOG WASTEWATER DISCHARGE PERMIT CONDITIONS

The issuance of a FOG Wastewater Discharge Permit may contain any of the following conditions or limits:

A. Limits on discharge of FOG and other priority pollutants.

B. Requirements for proper operation and maintenance of grease interceptors and other grease control devices.

C. Grease interceptor maintenance frequency and schedule.

D. Requirements for implementation of Best Management Practices and installation of adequate grease interceptor and/or grease control device.

E. Requirements for maintaining and reporting status of Best Management Practices

F. Requirements for maintaining and submitting logs and records, including wastehauling records and waste manifests.

G. Requirements to self-monitor.

H. Requirements for the Food Service Establishment to construct, operate and maintain, at its own expense, FOG control device and sampling facilities.

I. Additional requirements as otherwise determined to be reasonably appropriate by the FOG Control Program Manager to protect the District's system or as specified by other Regulatory Agencies.

J. Other terms and conditions, which may be reasonably applicable to ensure compliance with this Ordinance.

3.4 FOG WASTEWATER DISCHARGE PERMIT APPLICATION FEE

The FOG Wastewater Discharge Permit Application fee shall be paid by the applicant in an amount adopted by ordinance or resolution of the Board of Directors of the District. Payment of permit application fee must be received by the District upon submission of the permit application. A permittee shall also pay any delinquent invoices in full prior to permit renewal.

3.5 FOG WASTEWATER DISCHARGE PERMIT MODIFICATION OF TERMS AND CONDITIONS

A. The terms and conditions of an issued permit may be subject to modification and change by the sole determination of the FOG Control Program Manager during the life of the permit based on:

1. The discharger's current or anticipated operating data;

2. The District's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect the District; or

4. A determination by the FOG Control Program Manager that such modification is appropriate to further the objectives of this Ordinance.

B. The Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. The FOG Control Program Manager shall review the request, make a determination on the request, and respond in writing.

C. The Permittee shall be informed of any change in the permit limits, conditions, or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

3.6 FOG WASTEWATER DISCHARGE PERMIT DURATION AND RENEWAL

FOG Wastewater Discharge Permits shall be issued for a period not to exceed four (4) years. At least 60 days prior to the expiration of the permit, the user shall apply for renewal of the permit in accordance with the provisions of this Article 3.

3.7 EXEMPTION FROM FOG WASTEWATER DISCHARGE PERMIT

A limited food preparation establishment is not considered a Food Service Establishment and is exempt from obtaining a FOG Wastewater Discharge Permit. Exempted establishments shall be engaged only in reheating, hot holding or assembly of ready to eat food products and as a result, there is no wastewater discharge containing significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.

3.8 NON-TRANSFERABILITY OF PERMITS

FOG Wastewater Discharge Permits issued under this Ordinance are for a specific Food Service Establishment, for a specific operation and create no vested rights.

A. No permit holder shall assign, transfer, sell any FOG Wastewater Discharge Permit issued under this Ordinance nor use any such permit for or on any premises or for facilities or operations or discharges not expressly encompassed within the underlying permit.

B. Any permit which is transferred to a new owner or operator or to a new facility is void.

3.9 FOG WASTEWATER DISCHARGE PERMIT CHARGE FOR USE

A charge to cover all costs of the District for providing the sewer service and monitoring shall be established by Ordinance or Resolution of the Board of Directors of the District.

ARTICLE 4 - FACILITIES REQUIREMENTS

4.1 DRAWING SUBMITTAL REQUIREMENTS

Upon request by the District:

A. Food Service Establishments may be required to submit two copies of facility site plans, mechanical and plumbing plans, and details to show all sewer locations and connections. The submittal shall be in a form and content acceptable to the District for review of existing or proposed grease control device, grease interceptor, monitoring facilities, metering facilities, and operating procedures. The review of the plans and procedures shall in no way relieve the Food Service Establishments of the responsibility of modifying the facilities or procedures in the future, as necessary to produce an acceptable discharge, and to meet the requirements of this Ordinance or any requirements of other Regulatory Agencies.

B. Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, FOG control device, grease interceptor or other pretreatment equipment and appurtenances by size, location, and elevation for evaluation.

C. Food Service Establishments may be required to submit a schematic drawing of the FOG control device, grease interceptor or other pretreatment equipment, piping and instrumentation diagram, and wastewater characterization report.

D. The District may require the drawings be prepared by a California Registered Civil, Chemical, Mechanical, or Electrical Engineer.

4.2 GREASE INTERCEPTOR REQUIREMENTS

A. All Food Service Establishments shall provide wastewater acceptable to the District, under the requirements and standards established herein before discharging to any public sewer. Any Food Service Establishment required to provide FOG pretreatment shall install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of this Ordinance.

B. Grease interceptor sizing and installation shall conform to the current edition of the Uniform 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.

C. The grease interceptor shall be installed at a location where it shall be at all times easily accessible for inspection, cleaning, and removal of accumulated grease.

D. Access manholes, with a minimum diameter of 24 inches, shall be provided over each grease interceptor chamber and sanitary tee. The access manholes shall extend at least to finished grade and be designed and maintained to prevent water inflow or infiltration. The manholes shall also have readily removable covers to facilitate inspection, grease removal, and wastewater sampling activities.

4.3 GREASE TRAP REQUIREMENTS

A. Food Service Establishments may be required to install grease traps in the waste line leading from drains, sink, and other fixtures or equipment where grease may be introduced into the sewer system in quantities that can cause blockage.

B. Sizing and installation of grease traps shall conform to the current edition of the California Plumbing Code.

C. Grease traps shall be maintained in efficient operating conditions by removing accumulated grease on a daily basis.

D. Grease traps shall be maintained free of all food residues and any FOG waste removed during the cleaning and scraping process.

E. Grease traps shall be inspected periodically to check for leaking seams and pipes, and for effective operation of the baffles and flow regulating device. Grease traps and their baffles shall be maintained free of all caked-on FOG and waste. Removable baffles shall be removed and cleaned during the maintenance process.

F. Dishwashers and food waste disposal units shall not be connected to or discharged into any grease trap.

4.4 MONITORING FACILITIES REQUIREMENTS

A. The District may require the Food Service Establishments to construct and maintain in proper operating condition at the Food Service Establishment's sole expense, flow monitoring, constituent monitoring and/or sampling facilities.

B. The location of the monitoring or metering facilities shall be subject to approval by the FOG Control Program Manager.

C. Food Service Establishments may be required to provide immediate, clear, safe and uninterrupted access to the FOG Control Program Manager or inspectors to the Food Service Establishment's monitoring and metering facilities.

D. Food Service Establishments may also be required by the FOG Control Program Manager to submit waste analysis plans, contingency plans, and meet other necessary requirements to ensure proper operation and

maintenance of the grease control device or grease interceptor and compliance with this Ordinance.

E. No Food Service Establishment shall increase the use of water or in any other manner attempt to dilute a discharge as a partial or complete substitute for treatment to achieve compliance with this Ordinance and the FOG Wastewater Discharge Permit.

4.5 REQUIREMENTS FOR BEST MANAGEMENT PRACTICES

A. All Food Service Establishments shall implement best management practices in accordance with the requirements and guidelines established by the District under its FOG Control Program in an effort to minimize the discharge of FOG to the sewer system.

B. All Food Service Establishments shall be required, at a minimum, to comply with the following Best Management Practices, when applicable:

1. Installation of drain screens. Drain screens shall be installed on all drainage pipes in food preparation areas.

2. Segregation and collection of waste cooking oil. All waste cooking oil shall be collected and stored properly in recycling receptacles such as barrels or drums. Such recycling receptacles shall be maintained properly to ensure that they do not leak. Licensed wastehaulers or an approved recycling facility must be used to dispose of waste cooking oil.

3. Disposal of food waste. All food waste shall be disposed of directly into the trash or garbage, and not in sinks. Double-bagging food wastes that have the potential to leak in trash bins is highly recommended.

4. Employee training. Employees of the food service establishment shall be trained by ownership/management periodically as specified in the permit, on the following subjects:

a) How to "dry wipe" pots, pans, dishware and work areas before washing to remove grease.

b) How to properly dispose of food waste and solids in enclosed plastic bags prior to disposal in trash bins or containers to prevent leaking and odors.

c) The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.

d) How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.

Training shall be documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time by the FOG Control Program Manager or an inspector.

5. Maintenance of kitchen exhaust filters. Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed properly.

6. Kitchen signage. Best management and waste minimization practices shall be posted conspicuously in the food preparation and dishwashing areas at all times.

4.6 GREASE INTERCEPTOR MAINTENANCE REQUIREMENTS

A. Grease Interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor which includes wastewater, accumulated FOG, floating materials, sludge and solids.

B. All existing and newly installed grease interceptors shall be maintained in a manner consistent with a maintenance frequency approved by the FOG Control Program Manager pursuant to this section.

C. No FOG that has accumulated in a grease interceptor shall be allowed to pass into any sewer lateral, sewer system, storm drain, or public right of way during maintenance activities.

D. Food Service Establishments with grease interceptors may be required to submit data and information necessary to establish the maintenance frequency grease interceptors.

E. The maintenance frequency for all Food Service Establishments with a grease interceptor shall be determined in one of the following methods:

1. Grease interceptors shall be fully pumped out and cleaned at a frequency such that the combined FOG and solids accumulation does not exceed 25% of the total design hydraulic depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume is maintained to effectively intercept and retain FOG discharged to the sewer system.

2. All Food Service Establishments with a Grease Interceptor shall maintain their grease interceptor not less than every 6 months.

3. Grease interceptors shall be fully pumped out and cleaned quarterly when the frequency described in (1) has not been established. The maintenance frequency shall be adjusted when sufficient data have been obtained to establish an average frequency based on the requirements described in (1) and guidelines adopted pursuant to the FOG Control Program. The District may change the maintenance frequency at any time to reflect changes in actual operating conditions in accordance with the FOG Control Program. Based on the actual generation of FOG from the Food Service Establishment, the maintenance frequency may increase or decrease.

4. The owner/operator of a Food Service Establishment may submit a request to the FOG Control Program Manager requesting a change in the maintenance frequency at any time. The Food Service Establishment has the burden of responsibility to demonstrate that the requested change in frequency reflects actual operating conditions based on the average FOG accumulation over time and meets the requirements described in (1), and that it is in full compliance with the conditions of its permit and this Ordinance. Upon determination by the FOG Control Program Manager that requested revision is justified, the permit shall be revised accordingly to reflect the change in maintenance frequency.

5. If the grease interceptor, at any time, contains FOG and solids accumulation that does not meet the requirements described in (1), the Food Service Establishment shall be required to have the grease interceptor serviced immediately such that all fats, oils, grease, sludge, and other materials are completely removed from the grease interceptor. If deemed necessary, the FOG Control Program Manager may also increase the maintenance frequency of the grease interceptor from the current frequency.

F. Wastewater, accumulated FOG, floating materials, sludge/solids, and other materials removed from the grease interceptor shall be disposed off site properly by wastehaulers in accordance with federal, state and/or local laws.

ARTICLE 5 - MONITORING, REPORTING, NOTIFICATION, AND INSPECTION REQUIREMENTS

5.1 MONITORING AND REPORTING CONDITIONS

A. Monitoring for Compliance with Permit Conditions and Reporting Requirements

1. The FOG Control Program Manager may require periodic reporting of the status of implementation of Best Management Practices, in accordance with the FOG Control Program.

2. The FOG Control Program Manager may require visual monitoring at the sole expense of the Permittee to observe the actual conditions of the Food Service Establishment's sewer lateral and sewer lines downstream.

3. The FOG Control Program Manager may require reports for self-monitoring of wastewater constituents and FOG characteristics of the Permittee needed for determining compliance with any conditions or requirements as specified in the FOG Wastewater Discharge Permit or this Ordinance. Monitoring reports of the analyses of wastewater constituents and FOG characteristics shall be in a manner and form approved by the FOG Control Program Manager and shall be submitted upon request of the FOG Control Program Manager. Failure by the Permittee to perform any required monitoring, or to submit monitoring reports required by the FOG Control Program Manager constitutes a violation of this Ordinance and be cause for the District to initiate all necessary tasks and analyses to determine the wastewater constituents and FOG characteristics for compliance with any conditions and requirements specified in the FOG Wastewater Discharge Permit or in this Ordinance. The Permittee shall be responsible for any and all expenses of the District in undertaking such monitoring analyses and preparation of reports.

4. Other reports may be required such as compliance schedule progress reports, FOG control monitoring reports, and any other reports deemed reasonably appropriate by the FOG Control Program Manager to ensure compliance with this Ordinance.

B. Record Keeping Requirements

The Permittee shall be required to keep all manifests, receipts and invoices of all cleaning, maintenance, grease removal of/from the grease control device, disposal carrier and disposal site location for no less than two years. The Permittee shall, upon request, make the manifests,

receipts and invoices available to any District representative, or inspector. These records may include:

1. A logbook of grease interceptor, grease trap or grease control device cleaning and maintenance practices.

2. A record of Best Management Practices being implemented including employee training.

3. Copies of records and manifests of wastehauling interceptor contents.

4. Records of sampling data and sludge height monitoring for FOG and solids accumulation in the grease interceptors.

5. Records of any spills and/or cleaning of the lateral or sewer system.

6. Any other information deemed appropriate by the FOG Control Program Manager to ensure compliance with this Ordinance.

C. Falsifying Information or Tampering with Process

It shall be unlawful to make any false statement, representation, record, report, plan or other document that is filed with the District, or to tamper with or knowingly render inoperable any grease control device, monitoring device or method or access point required under this Ordinance.

5.2 INSPECTION AND SAMPLING CONDITIONS

A. The FOG Control Program Manager may inspect or order the inspection and sample the wastewater discharges of any Food Service Establishment to ascertain whether the intent of this Ordinance is being met and the Permittee is complying with all requirements. The Permittee shall allow the District access to the Food Service Establishment premises, during normal business hours, for purposes of inspecting the Food Service Establishment's grease control devices or interceptor, reviewing the manifests, receipts and invoices relating to the cleaning, maintenance and inspection of the grease control devices or interceptor.

B. The FOG Control Program Manager shall have the right to place or order the placement on the Food Service Establishment's property or other locations as determined by the FOG Control Program Manager, such devices as are necessary to conduct sampling or metering operations. Where a Food Service Establishment has security measures in force, the Permittee shall make necessary arrangements so that representatives of the District shall be permitted to enter without delay for the purpose of performing their specific responsibilities.

C. In order for the FOG Control Program Manager to determine the wastewater characteristics of the discharger for purposes of determining the annual use charge and for compliance with permit requirements, the Permittee shall make available for inspection and copying by the District all notices, monitoring reports, waste manifests, and records including, but not limited to, those related to wastewater generation, and wastewater disposal without restriction but subject to the confidentiality provision set forth in this Ordinance. All such records shall be kept by the Permittee a minimum of two (2) years.

5.3 RIGHT OF ENTRY

Persons or occupants of premises where wastewater is created or discharged shall allow the FOG Control Program Manager, or District representatives, reasonable access to all parts of the wastewater generating and disposal facilities for the purposes of inspection and sampling during all times the discharger's facility is open, operating, or any other reasonable time. No person shall interfere with, delay, resist or refuse entrance to District representatives attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to the District's sewer system. In the event of an emergency involving actual or imminent sanitary sewer overflow, District's representatives may access adjoining businesses or properties which share a sewer system with a Food Service Establishment in order to prevent or remediate an actual or imminent sanitary overflow.

5.4 NOTIFICATION OF SPILL

A. In the event a permittee is unable to comply with any permit condition due to a breakdown of equipment, accidents, or human error or the Permittee has reasonable opportunity to know that his/her/its discharge will exceed the discharge provisions of the FOG Wastewater Discharge Permit or this Ordinance, the discharger shall immediately notify the District by telephone at the number specified in the Permit. If the material discharged to the sewer has the potential to cause or result in sewer blockages or SSOs, the discharger shall immediately notify the local Health Department, City or County, and the District.

B. Confirmation of this notification shall be made in writing to the FOG Control Program Manager at the address specified in the Permit no later than five (5) working days from the date of the incident. The written notification shall state the date of the incident, the reasons for the discharge or spill, what steps were taken to immediately correct the problem, and what steps are being taken to prevent the problem from recurring.

C. Such notification shall not relieve the Permittee of any expense, loss, damage or other liability which may be incurred as a result of damage or loss to the District or any other damage or loss to person or property; nor shall such notification relieve the Permittee of any fees or other liability which may be imposed by this Ordinance or other applicable law.

5.5 NOTIFICATION OF PLANNED CHANGES

Permittee shall notify the District at least 60 days in advance prior to any facility expansion/remodeling, or process modifications that may result in new or substantially increased FOG discharges or a change in the nature of the discharge. Permittee shall notify the District in writing of the proposed expansion or remodeling and shall submit any information requested by the District for evaluation of the effect of such expansion on Permittee's FOG discharge to the sewer system.

ARTICLE 6 - ENFORCEMENT

6.1 PURPOSES AND SCOPE

A. The Board of Directors finds that in order for the District to comply with the laws, regulations, and rules imposed upon it by Regulatory Agencies and to ensure that the District's sewer facilities are protected and are able to operate with the highest degree of efficiency, and to protect the public health and environment, specific enforcement provisions must be adopted to govern the discharges to the District's system by Food Service Establishments.

B. To ensure that all interested parties are afforded due process of law and that violations are resolved as soon as possible, the general policy of the District is that:

1. Any determination relating to a notice of violation and Compliance Schedule Agreement (CSA) will be made by the FOG Control Program Manager, with a right of appeal by the permittee to the General Manager pursuant to the procedures set forth in Section 6.12.

2. A permittee, or applicant for a permit may request the Board of Directors of the District to hear an appeal of the General Manager's decision pursuant to Section 6.13. Such request may be granted or denied by the Board of Directors.

3. Any permit suspension or revocation recommended by the FOG Control Program Manager will be heard and a recommendation made to the General Manager or other person designated by the General Manager with a right of appeal of the General Manager's order by the permittee to the Board of Directors pursuant to the provisions of Section 6.13.

C. The District, at its discretion, may utilize any one, combination, or all enforcement remedies provided in Article 6 in response to any permit or Ordinance violations.

6.2 DETERMINATION OF NONCOMPLIANCE WITH FOG WASTEWATER DISCHARGE PERMIT CONDITIONS

A. Inspection Procedures

1. Inspection of Food Service Establishments shall be conducted in the time, place, manner, and frequency determined at the sole discretion of the FOG Control Program Manager.

2. Noncompliance with Best Management Practices, 25% Rule for grease interceptors, maintenance frequency requirements for

grease interceptors, permit discharge conditions, or any discharge provisions of this Ordinance may be determined by an inspection of the Food Service Establishment.

B. Sampling Procedures

1. Sampling of Food Service Establishments shall be conducted in the time, place, manner, and frequency determined at the sole discretion of the District.

2. Non-compliance with mass emission rate limits, concentration limits, permit discharge conditions, or any discharge provision of this Ordinance may be determined by an analysis of a grab or composite sample of the effluent of a user. Non-compliance with mass emission rate limits shall be determined by an analysis of a composite sample of the user's effluent, except that a grab sample may be used to determine compliance with mass emission rate limits when the discharge is from a closed (batch) treatment system in which there is no wastewater flow into the system when the discharge is occurring, the volume of wastewater contained in the batch system is known, the time interval of discharge is known, and the grab sample is homogeneous and representative of the discharge.

3. Any sample taken from a sample point is considered to be representative of the discharge to the public sewer.

C. Noncompliance Fees

Any permittee determined to be in noncompliance with the terms and conditions specified in its permit or with any provision of this Ordinance shall pay a noncompliance fee. The purpose of the noncompliance fee is to compensate the District for costs of additional inspection and follow-up, sampling, monitoring, laboratory analysis, treatment, disposal, and administrative processing incurred as a result of the noncompliance, and shall be in addition to and not in lieu of any penalties as may be assessed pursuant to Sections 6.10 and 6.11. Noncompliance fees shall be in the amount adopted by ordinance or resolution by the District's Board of Directors.

6.3 COMPLIANCE SCHEDULE AGREEMENT (CSA)

A. Upon determination that a permittee is in noncompliance with the terms and conditions specified in its permit or any provision of this Ordinance, or needs to construct and/or acquire and install a grease control device or grease interceptor, the FOG Control Program Manager may require the permittee to enter into a CSA.

B. The issuance of a CSA may contain terms and conditions including but not limited to requirements for installation of a grease control device,

grease interceptor and facilities, submittal of drawings or reports, audit of waste hauling records, best management and waste minimization practices, payment of fees, or other provisions to ensure compliance with this Ordinance.

C. The FOG Control Program Manager shall not enter into a CSA until such time as all amounts owed to the District, including user fees, noncompliance sampling fees, or other amounts due are paid in full, or an agreement for deferred payment secured by collateral or a third party, is approved by the FOG Control Program Manager.

D. If compliance is not achieved in accordance with the terms and conditions of a CSA during its term, the FOG Control Program Manager may issue an order suspending or revoking the discharge permit pursuant to Section 6.4 or 6.5 of this Ordinance.

6.4 PERMIT SUSPENSION

A. The General Manager may suspend any permit when it is determined that a permittee:

1. Fails to comply with the terms and conditions of a CSA order.

2. Knowingly provides a false statement, representation, record, report, or other document to the District.

3. Refuses to provide records, reports, plans, or other documents required by the District to determine permit terms or conditions, discharge compliance, or compliance with this Ordinance.

4. Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method.

5. Refuses reasonable access to the permittee's premises for the purpose of inspection and monitoring.

6. Does not make timely payment of all amounts owed to the District for user charges, permit fees, or any other fees imposed pursuant to this Ordinance.

7. Causes interference, sewer blockages, or SSOs with the District's collection, treatment, or disposal system.

8. Violates grease interceptor maintenance requirements, any condition or limit of its discharge permit or any provision of the District's Ordinance.

B. When the FOG Control Program Manager has reason to believe that grounds exist for permit suspension, he/she shall give written notice thereof by certified mail to the permittee setting forth a statement of the facts and grounds deemed to exist, together with the time and place

where the charges shall be heard by the General Manager or his/her designee. The hearing date shall be not less than fifteen (15) calendar days nor more than forty-five (45) calendar days after the mailing of such notice.

1. At the suspension hearing, the permittee shall have an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by the District's General Counsel.

2. If the General Manager designated a hearing officer, after the conclusion of the hearing, the hearing officer shall submit a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

3. Upon receipt of the written report of a hearing officer or conclusion of the hearing, if the General Manager conducted the hearing, the General Manager shall make his/her determination and should he/she find that grounds exist for suspension of the permit, he/she shall issue his/her decision and order in writing within thirty (30) calendar days after the conclusion of the hearing. The written decision and order of the General Manager shall be sent by certified mail to the permittee or its legal counsel/representative at the permittee's business address.

C. Effect

1. Upon an order of suspension by the General Manager becoming final, the permittee shall immediately cease and desist its discharge and shall have no right to discharge any wastewater containing FOG directly or indirectly to the District's system for the duration of the suspension. All costs for physically terminating and reinstating service shall be paid by the permittee.

2. Any owner or responsible management employee of the permittee shall be bound by the order of suspension.

3. An order of permit suspension issued by the General Manager shall be final in all respects on the sixteenth (16th) day after it is mailed to the permittee unless a request for hearing is filed with the Board of Directors of the District pursuant to Section 6.13. no later than 5:00 p.m. on the fifteenth (15th) day following such mailing.

6.5 PERMIT REVOCATION

A. The General Manager may revoke any permit when it is determined that a permittee:

1. Knowingly provides a false statement, representation, record, report, or other document to the District.

2. Refuses to provide records, reports, plans, or other documents required by the District to determine permit terms, conditions, discharge compliance, or compliance with this Ordinance.

3. Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method.

4. Fails to comply with the terms and conditions of permit suspension or CSA.

5. Discharges effluent to the District's sewer system while its permit is suspended.

6. Refuses reasonable access to the permittee's premises for the purpose of inspection and monitoring.

7. Does not make timely payment of all amounts owed to the District for user charges, permit fees, or any other fees imposed pursuant to this Ordinance.

8. Causes interference, sewer blockages, or SSOs with the District collection, treatment, or disposal system.

9. Violates grease interceptor maintenance requirements, any condition or limit of its discharge permit or any provision of the District's Ordinance.

B. Approval. When the FOG Control Program Manager has reason to believe that grounds exist for the revocation of a permit, he/she shall give written notice by certified mail thereof to the permittee setting forth a statement of the facts and grounds deemed to exist together with the time and place where the charges shall be heard by the General Manager or his/her designee. The hearing date shall be not less than fifteen (15) calendar days nor more than forty-five (45) calendar days after the mailing of such notice.

1. At the hearing, the permittee shall have an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. The revocation hearing shall be conducted in accordance with the procedures established by the General Manager and approved by the District's General Counsel.

2. If the General Manager designated a hearing officer, after the conclusion of the hearing, the hearing officer shall submit a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

3. Upon receipt of the written report by the hearing officer, or conclusion of the hearing, if the General Manager conducted the hearing, the General Manager shall make his/her determination and should he/she find that grounds exist for permanent revocation of the permit, he/she shall issue his/her decision and order in writing within thirty (30) calendar days after the conclusion of the hearing. The written decision and order of the General Manager shall be sent by certified mail to the permittee or its legal counsel/representative at the permittee's business address.

   In the event the General Manager determines to not revoke the permit, he/she may order other enforcement actions, including, but not limited to, a temporary suspension of the permit, under terms and conditions that he/she deems appropriate.

C. Effect

1. Upon an order of revocation by the General Manager becoming final, the permittee shall permanently lose all rights to discharge any wastewater containing FOG directly or indirectly to the District's system. All costs for physical termination shall be paid by the permittee.

2. Any owner or responsible management employee of the permittee shall be bound by the order of revocation.

3. Any future application for a permit at any location within the District by any person associated with an order of revocation will be considered by the District after fully reviewing the records of the revoked permit, which records may be the basis for denial of a new permit.

4. An order of permit revocation issued by the General Manager shall be final in all respects on the sixteenth (16th) day after it is mailed to the permittee unless a request for hearing is filed with the Board of Directors pursuant to Section 6.13 no later than 5:00 p.m. on the fifteenth (15th) day following such mailing.

6.6 DAMAGE TO FACILITIES OR INTERRUPTION OF NORMAL OPERATIONS

A. Any person who discharges any waste which causes or contributes to any sewer blockage, SSOs, obstruction, interference, damage, or any other impairment to the District's sewer facilities or to the operation of those facilities shall be liable for all costs required to clean or repair the facilities together with expenses incurred by the District to resume normal operations. A service charge of twenty-five percent (25%) of District's costs shall be added to the costs and charges to reimburse the District for miscellaneous overhead, including administrative personnel and record keeping. The total amount shall be payable within forty five (45) days of invoicing by the District.

B. Any person who discharges a waste which causes or contributes to the District violating its discharge requirements established by any Regulatory Agency incurring additional expenses or suffering losses or damage to the facilities, shall be liable for any costs or expenses incurred by the District, including regulatory fines, penalties, and assessments made by other agencies or a court.

6.7 PUBLIC NUISANCE

Discharge of wastewater in any manner in violation of this Ordinance or of any order issued by the FOG Control Program Manager or General Manager, as authorized by this Ordinance, is hereby declared a public nuisance and shall be corrected or abated as directed by the FOG Control Program Manager or General Manager. Any person creating a public nuisance is guilty of a misdemeanor.

6.8 TERMINATION OF SERVICE

A. The District, by order of the General Manager, may physically terminate sewer service to any property as follows:

1. On a term of any order of suspension or revocation of a permit; or

2. Upon the failure of a person not holding a valid FOG Wastewater Discharge Permit to immediately cease the discharge, whether direct or indirect, to the District's sewer facilities after the notice and process in Section 6.5 herein.

B. All costs for physical termination shall be paid by the owner or operator of the Food Service Establishment or permittee as well as all costs for reinstating service.

6.9 EMERGENCY SUSPENSION ORDER

A. The District may, by order of the General Manager, suspend sewer service when the General Manager determines that such suspension is necessary in order to stop an actual or impending discharge which presents or may present an imminent or substantial endangerment to the health and welfare of persons, or to the environment, or may cause SSOs, sewer blockages, interference to the District's sewer facilities, or may cause the District to violate any State or Federal Law or Regulation. Any discharger notified of and subject to an Emergency Suspension Order shall immediately cease and desist the discharge of all wastewater containing FOG to the sewer system.

B. As soon as reasonably practicable following the issuance of an Emergency Suspension Order, but in no event more than five (5) business days following the issuance of such order, the General Manager shall hold a hearing to provide the Food Service Establishment or Permittee the opportunity to present information in opposition to the issuance of the Emergency Suspension Order. Such a hearing shall not

stay the effect of the Emergency Suspension Order. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by the District's General Counsel. The General Manager shall issue a written decision and order within two (2) business days following the hearing, which decision shall be sent by certified mail to the Food Service Establishment or its legal counsel/representative at that Food Service Establishment's business address. The decision of the General Manager following the hearing shall be final and not appealable to the Board, but may be subject to judicial review pursuant to Section 6.16.

6.10 CIVIL PENALTIES

A. All users of the District's system and facilities are subject to enforcement actions administratively or judicially by the District, U.S. EPA, State of California Regional Water Quality Control Board, the County of Orange or District Attorney. Said actions may be taken pursuant to the authority and provisions of several laws, including but not limited to: (1) Federal Water Pollution Control Act, commonly known as the Clean Water Act (33 U.S.C.A. Section 1251 et seq.); (2) California Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.); (3) California Hazardous Waste Control Law (California Health & Safety Code Sections 25100 to 25250); (4) Resource Conservation and Recovery Act of 1976 (42 U.S.C.A Section 6901 et seq.); and (5) California Government Code, Sections 54739-54740.

B. In the event the District is subject to the payment of fines or penalties pursuant to the legal authority and actions of other regulatory or enforcement agencies based on a violation of law or regulation or its permits, and said violation can be established by the District, as caused by the discharge of any user of the District's system which is in violation of any provision of the District's Ordinance or the user's permit, the District shall be entitled to recover from the user all costs and expenses, including, but not limited to, the full amount of said fines or penalties to which it has been subjected.

C. Pursuant to the authority of California Government Code Sections 54739 - 54740, any person who violates any provision of this Ordinance; any permit condition, prohibition or effluent limit; or any suspension or revocation order shall be liable civilly for a sum not to exceed $25,000.00 per violation for each day in which such violation occurs. Pursuant to the authority of the Clean Water Act, 33 U.S.C. Section 1251 et seq., any person who violates any provision of this Ordinance, or any permit condition, prohibition, or effluent limit shall be liable civilly for a sum not to exceed $25,000.00 per violation for each day in which such violation occurs. The General Counsel of the District, upon request of the General Manager, shall petition the Superior Court to impose, assess, and recover such penalties, or such other penalties as the District may impose, assess, and recover pursuant to Federal and/or State legislative authorization.

D. Administrative Civil Penalties

1. Pursuant to the authority of California Government Code Sections 54740.5 and 54740.6, the District may issue an administrative complaint to any person who violates:

   a) any provision of this Ordinance;

   b) any permit condition, prohibition, or effluent limit; or

   c) any suspension or revocation order.

2. The administrative complaint shall be served by personal delivery or certified mail on the person and shall inform the person that a hearing will be conducted, and shall specify a hearing date within sixty (60) days following service. The administrative complaint will allege the act or failure to act that constitutes the violation of the District's regulations, the provisions of law authorizing civil liability to be imposed, and the proposed civil penalty. The matter shall be heard by the General Manager or his/her designee. The person to whom an administrative complaint has been issued may waive the right to a hearing, in which case a hearing will not be conducted.

3. At the hearing, the person shall have an opportunity to respond to the allegations set forth in the administrative complaint by presenting written or oral evidence. The hearing shall be conducted in accordance with the procedures established by the General Manager and approved by the District's General Counsel.

4. If the General Manager designated a hearing officer, after the conclusion of the hearing, the hearing officer shall submit a written report to the General Manager setting forth a brief statement of the facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

5. Upon receipt of the written report by the hearing officer, or conclusion of the hearing if the General Manager conducted the hearing, the General Manager shall make his/her determination and should he/she find that grounds exist for assessment of a civil penalty against the person, he/she shall issue his/her decision and order in writing within thirty (30) calendar days after the conclusion of the hearing .

6. If, after the hearing or appeal, if any, it is found that the person has violated reporting or discharge requirements, the General Manager or Board of Directors may assess a civil penalty against that person. In determining the amount of the civil penalty, the General Manager or Board of Directors may take into consideration all relevant circumstances, including but not limited to the extent of harm caused by the violation, the economic benefit

derived through any non-compliance, the nature and persistence of the violation, the length of time over which the violation occurs, and corrective action, if any, attempted or taken by the person involved.

7. Civil penalties may be assessed as follows:

   a) In an amount which shall not exceed two thousand dollars ($2,000.00) for each day for failing or refusing to furnish required reports;

   b) In an amount which shall not exceed three thousand dollars ($3,000.00) for each day for failing or refusing to timely comply with any compliance schedules established by the District;

   c) In an amount which shall not exceed five thousand dollars ($5,000.00) per violation for each day of discharge in violation of any waste discharge limit, permit condition, or requirement issued, reissued, or adopted by the District;

   d) In any amount which does not exceed ten dollars ($10.00) per gallon for discharges in violation of any suspension, revocation, cease and desist order or other orders, or prohibition issued, reissued, or adopted by the District;

8. An order assessing administrative civil penalties issued by the General Manager shall be final in all respects on the thirty-first (31st) day after it is served on the person unless an appeal and request for hearing is filed with the Board of Directors pursuant to Section 6.13 no later than the thirtieth (30th) day following such mailing. An order assessing administrative civil penalties issued by the Board of Directors shall be final upon issuance.

9. Copies of the administrative order shall be served on the party served with the administrative complaint, either by personal service or by registered mail to the person at his/her/its business or residence address, and upon other persons who appeared at the hearing and requested a copy of the order.

10. Any person aggrieved by a final order issued by the Board of Directors, after granting review of the order of the General Manager, may obtain review of the order of the Board of Directors in the superior court, pursuant to Government Code Section 54740.6, by filing in the court a petition for writ of mandate within thirty (30) days following the service of a copy of the decision or order issued by the Board of Directors.

11. Payment of any order setting administrative civil penalties shall be made within thirty (30) days of the date the order becomes final.

The amount of any administrative civil penalties imposed shall constitute a debt to the District.

12. No administrative civil penalties shall be recoverable for any violation for which the District has recovered civil penalties through a judicial proceeding filed pursuant to Government Code Section 54740.

6.11 CRIMINAL PENALTIES

Any person who violates any provision of this Ordinance is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed $1,000.00, or imprisonment for not more than 6 months, or both. Each violation and each day in which a violation occurs may constitute a new and separate violation of this Ordinance and shall be subject to the penalties contained herein.

6.12 APPEALS TO GENERAL MANAGER

A. Any Food Service Establishment, permit applicant or permittee affected by any decision, action or determination made by the FOG Control Program Manager or notice of violation issued by any District inspector may file with the General Manager a written request for an appeal hearing. The request must be received by the District within fifteen (15) days of mailing of notice of the decision, action, or determination of the FOG Control Program Manager to the appellant. The request for hearing shall set forth in detail all facts supporting the appellant's request.

B. The General Manager shall, within fifteen (15) days of receiving the request for appeal, designate a Department Head or other person to hear the appeal and provide written notice to the appellant of the hearing date, time and place. The hearing date shall not be more than thirty (30) days from the mailing of such notice by certified mail to the appellant unless a later date is agreed to by the appellant. If the hearing is not held within said time due to actions or inactions of the appellant, then the staff decision shall be deemed final.

C. At the hearing, the appellant shall have the opportunity to present information supporting its position concerning the FOG Control Program Manager's decision, action or determination. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by the District's General Counsel.

D. After the conclusion of the hearing, the Department Head (or other designee) shall submit a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation whether to uphold, modify or reverse the FOG Control Program Manager's original decision, action or determination. Upon receipt of the written report, the General Manager shall make his/her determination and shall issue his/her decision and order within thirty (30) calendar days of the hearing by his/her designee. The written decision and order of the General Manager

shall be sent by certified mail to the appellant or its legal counsel/representative at the appellant's business address.

The order of the General/City Manager shall be final in all respects on the sixteenth (16th) day after it is mailed to the appellant unless a request for hearing is filed with the Board of Directors pursuant to Section 6.13, no later than 5:00 p.m. on the fifteenth day following such mailing.

6.13 APPEALS TO THE BOARD OF DIRECTORS

A. Any Food Service Establishment, permit applicant, or permittee adversely affected by a decision, action, or determination made by the General Manager may, prior to the date that the General Manager's order becomes final, file a written request for hearing before the Board of Directors accompanied by an appeal fee in the amount established by a separate resolution of the District's Board of Directors. The request for hearing shall set forth in detail all the issues in dispute for which the appellant seeks determination and all facts supporting appellant's request.

No later than sixty (60) days after receipt of the request for hearing, the Board of Directors shall either set the matter for a hearing, or deny the request for a hearing.

A hearing shall be held by the Board of Directors within sixty-five (65) days from the date of determination granting a hearing, unless a later date is agreed to by the appellant and the Board of Directors. If the matter is not heard within the required time, due to actions or inactions of the appellant, the General Manager's order shall be deemed final.

B. The Board of Directors shall grant all requests for a hearing on appeals concerning permit suspension, revocation, or denial. Whether to grant or deny the request for a hearing on appeals of other decisions of the General Manager shall be within the sole discretion of the Board of Directors.

C. The appeal fee shall be refunded if the Board of Directors denies a hearing or reverses or modifies, in favor of the appellant, the order of the General Manager. The fee shall not be refunded if the Board of Directors denies the appeal.

D. After the hearing, the Board of Directors shall make a determination whether to uphold, modify, or reverse the decision, action, or determination made by the General Manager.

The decision of the Board of Directors shall be set forth in writing within sixty-five (65) days after the close of the hearing and shall contain a finding of the facts found to be true, the determination of issues presented, and the conclusions. The written decision and order of the Board of Directors shall be sent by certified mail to the appellant or its legal counsel/representative at the appellant's business address.

The order of the Board of Directors shall be final upon its adoption. In the event the Board of Directors fails to reverse or modify the General Manager's order, it shall be deemed affirmed.

6.14 PAYMENT OF CHARGES

A. Except as otherwise provided, all fees, charges and penalties established by this Ordinance are due and payable upon receipt of notice thereof. All such amounts are delinquent if unpaid forty-five (45) days after date of invoice.

B. Any charge that becomes delinquent shall have added to it a penalty in accordance with the following:

1. Forty-six (46) days after date of invoice, a basic penalty of ten percent (10%) of the base invoice amount, not to exceed a maximum of $1,000.00; and

2. A penalty of one and one-half percent (1.5%) per month of the base invoice amount and basic penalty shall accrue from and after the forty-sixth (46th) day after date of invoice.

C. Any invoice outstanding and unpaid after ninety (90) days shall be cause for immediate initiation of permit revocation proceedings or immediate suspension of the permit.

D. Penalties charged under this Section shall not accrue to those invoices successfully appealed, provided the District receives written notification of said appeal prior to the payment due date.

E. Payment of disputed charges is still required by the due date during District review of any appeal submitted by permittees.

Collection of Delinquent Accounts

Collection of delinquent accounts shall be in accordance with the District's policy resolution establishing procedures for collection of delinquent obligations owed to the District, as amended from time to time by the Board of Directors. Any such action for collection may include an application for an injunction to prevent repeated and recurring violations of this Ordinance.

6.15 FINANCIAL SECURITY/AMENDMENTS TO PERMIT

A. Delinquent Accounts

The District may require an amendment to the permit of any Permittee who fails to make payment in full of all fees and charges assessed by the District, including reconciliation amounts, delinquency penalties, and other costs or fees incurred by the Permittee.

B. Bankruptcy

Every Permittee filing any legal action in any court of competent jurisdiction, including the United States Bankruptcy Court, for purposes of discharging its financial debts or obligations or seeking court-ordered, protection from its creditors, shall, within ten (10) days of filing such action, apply for and obtain the issuance of an amendment to its permit.

C. Security

An amendment to a waste discharge permit issued, may be conditioned upon the Permittee depositing financial security in an amount equal to the average total fees and charges for two (2) calendar quarters during the preceding year. Said deposit shall be used to guarantee payment of all fees and charges incurred for future services and facilities furnished by District and shall not be used by the District to recover outstanding fees and charges incurred prior to the Permittee filing and receiving protection from creditors in the United States Bankruptcy Court.

D. Return of Security

In the event the Permittee makes payment in full within the time prescribed by this Ordinance of all fees and charges incurred over a period of two (2) years following the issuance of an amendment to the permit, the District shall either return the security deposit posted by the Permittee or credit their account.

6.16 JUDICIAL REVIEW

A. Pursuant to Section 1094.6 of the California Code of Civil Procedure, the District hereby enacts this part to limit to ninety (90) days following final decisions in adjudicatory administrative hearings the time within which an action can be brought to review such decisions by means of administrative mandamus.

B. Definitions

As used in this Section, the following terms and words shall have the following meanings:

1. Decision shall mean and include adjudicatory administrative decisions that are made after hearing, or after revoking, suspending, or denying an application for a permit.

2. Complete Record shall mean and include the transcript, if any exists, of the proceedings, all pleadings, all notices and orders, any proposed decision by the District's officers, agents, or employees, the final decision, all admitted exhibits, all rejected exhibits in the possession of the District or its officers, agents or employees, all written evidence, and any other papers in the case.

C. Time Limit for Judicial Review. Judicial review of any decision of the District or its officer or agent may be made pursuant to Section 1094.5 of the Code of Civil Procedure only if the petition for writ of mandate is filed not later than the ninetieth (90th) day following the date on which the decision becomes final. If there is no provision for reconsideration in the procedures governing the proceedings or if the date is not otherwise specified, the decision is final on the date it is made. If there is provision for reconsideration, the decision is final upon the expiration of the period during which such reconsideration can be sought; provided that if reconsideration is sought pursuant to such provision the decision is final for the purposes of this Section on the date that reconsideration is rejected.

D. The complete record of the proceedings shall be prepared by the District officer or agent who made the decision and shall be delivered to the petitioner within ninety (90) days after he/she has filed written request therefor. The District may recover from the petitioner its actual costs for transcribing or otherwise preparing the record.

E. If the petitioner files a request for the record within ten (10) days after the date the decision becomes final, the time within which a petition, pursuant to Section 1094.5 of the Code of Civil Procedure, may be filed shall be extended to not later than the thirtieth (30th) day following the date on which the record is either personally delivered or mailed to the petitioner or the petitioner's attorney of record, if appropriate.

F. In making a final decision, the District shall provide notice to the party that Section 1094.6 of the Code of Civil Procedure governs the time within which judicial review must be sought.

G. Notwithstanding the foregoing in this Section 6.16, and pursuant to Government Code Section 54740.6, judicial review of an order of the Board of Directors imposing administrative civil penalties pursuant to Section 6.10.D may be made only if the petition for writ of mandate is filed not later than the thirtieth (30th) day following the day on which the order of the Board of Directors becomes final.

ARTICLE 7 - SEVERABILITY

If any section, subsection, subdivision, sentence, clause or phrase of this Ordinance is for any reason held to be unconstitutional or otherwise invalid, such invalidity shall not affect the validity of this entire Ordinance or any of the remaining portions hereof. The Board of Directors hereby declares that it would have passed this Ordinance, and each section, subsection, subdivision, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, subdivisions, sees, clauses or phrases be declared unconstitutional or otherwise invalid.

ARTICLE 8 - EFFECTIVE DATE

This Ordinance shall take effect January 1, 2005, and a summary shall be published in a newspaper of general circulation as provided by law.

PASSED AND ADOPTED by the Board of Directors of Orange County Sanitation District this 17th day of November, 2004.

Vice Chair, Board of Directors
Orange County Sanitation District

Attest:

Secretary of the Board of Directors
Orange County Sanitation District

Thomas L. Woodruff, General Counsel
Orange County Sanitation District

STATE OF CALIFORNIA)
)SS.
COUNTY OF ORANGE)

I, PENNY M. KYLE, Secretary of the Board of Directors of Orange County Sanitation District, do hereby certify that the above and foregoing Ordinance No. OCSD-25 was passed and adopted at a regular meeting of said Board on the 17th day of November, 2004, by the following vote, to wit:

AYES: James M. Ferryman, Board Vice Chair; Don Bankhead; Patricia Bortle; Carolyn Cavecche; Alberta Christy; John Collins; Doug Davert; Mike Duvall; Norm Eckenrode; Cathy Green; Alice Jempsa; Beth Krom; Shirley McCracken; Darryl Miller; Roy Moore; Joy L. Neugebauer; Anna Piercy; Tod Ridgeway; Jim Silva; Paul Walker; Paul Yost

NOES: None

ABSENT: Steve Anderson, Board Chair; Bill Dalton; Brian Donahue; Patsy Marshall

IN WITNESS WHEREOF, I have hereunto set my hand this 17th day of November, 2004.

Penny M. Kyle

Penny M. Kyle
Secretary of the Board of Directors
Orange County Sanitation District

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APPENDIX E2

Ordinance No. OCSD-53

Establishing Wastewater Discharge Regulations

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	05/23/08		•
2	09/23/09		•
3	07/01/16	M. Seiler	• Ordinance No 48 replaces Ordinance No 39
4	09/26/19	M. Seiler	• Ordinance No 53 replaces Ordinance No 48
	09/24/20	L. McKinley	• Reviewed – no changes
	09/19/21	L. McKinley	• Reviewed – no changes
	09/22/22	L. McKinley	• Reviewed – no changes
	09/20/23	L. McKinley	• Reviewed – no changes
	09/17/24	L. McKinley	• Reviewed – no changes
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ORDINANCE NO. OCSD-53

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE ORANGE COUNTY SANITATION DISTRICT AMENDING WASTEWATER DISCHARGE REGULATIONS, AND REPEALING ORDINANCE NO. OCSD-48

CONTENTS

ARTICLE 1. GENERAL PROVISIONS 5
101. PURPOSE AND POLICY 5
102. DEFINITIONS 7
103. CONFIDENTIAL INFORMATION 21
104. SALE OR CHANGE OF OWNERSHIP 21
105. RESERVED 22
106. AUTHORITY 22
107. DELEGATION OF AUTHORITY 23
108. SIGNATORY REQUIREMENTS 23
109. RECORD KEEPING REQUIREMENTS 23
ARTICLE 2. GENERAL PROHIBITIONS, LIMITS AND REQUIREMENTS FOR DISCHARGE 25
201. PROHIBITED DISCHARGES 25
202. PROHIBITION ON DILUTION 27
203. PROHIBITION ON SURFACE RUNOFF AND GROUNDWATER 27
204. PROHIBITION ON NON-DOMESTIC SURFACE AND FLOOR DRAINS 27
205. PROHIBITION ON UNPOLLUTED WATER 28
206. PROHIBITION ON SLUG DISCHARGES AND NOTIFICATION REQUIREMENT 28
207. PROHIBITION ON THE USE OF GRINDERS 28
208. PROHIBITION ON POINT OF DISCHARGE 28
209. HAZARDOUS WASTE DISCHARGE NOTIFICATION REQUIREMENT 29
210. PROHIBITION AND REQUIREMENTS FOR WASTEHAULER DISCHARGES TO THE OCSD SEWERAGE SYSTEM AND WASTEHAULER STATION ... 29
211. PROHIBITION ON MEDICAL WASTE 30
212. PROHIBITION ON DISPOSAL OF SPENT SOLUTIONS AND SLUDGES... 31
213. PROHIBITION ON HYDROLYSATE 31
214. BEST MANAGEMENT PRACTICES 31
215 MASS EMISSION RATE DETERMINATION 31
216. MAXIMUM ALLOWABLE LOCAL DISCHARGE LIMITS 33
ARTICLE 3. DISCHARGE PERMITS, CERTIFICATIONS, CHARGES, AND FEES 34
301. INTRODUCTION 34
302. CLASS I WASTEWATER DISCHARGE PERMITS 34
303. CLASS II WASTEWATER DISCHARGE PERMITS 41

304. DRY WEATHER URBAN RUNOFF DISCHARGE PERMITS 48
305. SPECIAL PURPOSE DISCHARGE PERMITS 50
306. WASTEHAULER DISCHARGE PERMIT 53
307. DISCHARGE CERTIFICATIONS 55
308. OUT OF DISTRICT PERMITS/DISCHARGERS 57
309. RESERVED 57
310. RESERVED 57
ARTICLE 4. FACILITIES REQUIREMENTS 58
401. DRAWING SUBMITTAL REQUIREMENTS 58
402. PRETREATMENT FACILITIES 58
403. SPILL CONTAINMENT FACILITIES/ACCIDENTAL SLUG CONTROL PLANS..... 59
404. MONITORING/METERING FACILITIES 60
405. WASTE MINIMIZATION REQUIREMENTS 60
ARTICLE 5. MONITORING, REPORTING, NOTIFICATION, AND INSPECTION REQUIREMENTS 61
501. MONITORING AND REPORTING CONDITIONS 61
ARTICLE 6. ENFORCEMENT 72
601. PURPOSE AND SCOPE 72
602. DETERMINATION OF NON COMPLIANCE WITH DISCHARGE LIMITS 73
603. ENFORCEMENT PROCEDURES AND APPLICABLE FEES 73
604. REGULATORY COMPLIANCE SCHEDULE AGREEMENT (RCSA) 76
605. PERMIT SUSPENSION 77
606. PERMIT REVOCATION 79
607. WASTEHAULER NON-COMPLIANCE WITH PERMIT CONDITIONS 81
608. DAMAGE TO FACILITIES OR INTERRUPTION OF NORMAL OPERATIONS 82
609. INDUSTRIAL WASTEWATER PASS THROUGH 83
610. PUBLICATION OF VIOLATION 83
611. PUBLISHED NOTICES FOR SIGNIFICANT NON-COMPLIANCE 83
612. PUBLIC NUISANCE 83
613. TERMINATION OF SERVICE 83
614. EMERGENCY SUSPENSION ORDER 84
615. INJUNCTION 84
616. CIVIL PENALTIES 85

617. CRIMINAL PENALTIES 88
618. APPEALS TO GENERAL MANAGER 88
619. PAYMENT OF CHARGES 89
620. COLLECTION OF DELINQUENT ACCOUNTS 90
621. APPEAL OF CHARGES AND FEES 90
622. RECOVERY OF COSTS INCURRED BY OCSD 90
623. FINANCIAL SECURITY/AMENDMENTS TO PERMIT 91
624. JUDICIAL REVIEW 92
ARTICLE 7. SEWER SERVICE CHARGES – CAPITAL FACILITY CAPACITY CHARGES 94
701. SANITARY SEWER SERVICE CHARGE 94
702. CAPITAL FACILITIES CAPACITY CHARGE 94
ARTICLE 8. SEVERABILITY 95
801. SEVERABILITY 95
802. GENERAL APPLICATION 95

The Board of Directors of the Orange County Sanitation District (OCSD) does hereby FIND:

A. That OCSD is required by federal and state law, including the Clean Water Act (33 U.S.C. 1251, et seq.), the General Pretreatment Regulations (40 CFR 403), and the Porter-Cologne Water Quality Control Act (Water Code § 13000, et seq.), to implement and enforce a program for the regulation of Wastewater discharges to OCSD's sewers; and

B. That OCSD is required by federal, state, and local law to meet applicable standards of treatment plant effluent quality; and

C. That the adoption of this Ordinance is statutorily exempt under the California Environmental Quality Act pursuant to the provisions of Public Resources Code Section 21080(b)(8) and California Code of Regulations Section 15273(a) and categorically exempt pursuant to California Code of Regulations Sections 15307 and 15308.

D. That OCSD operates and maintains a separate sewer system of pipes, pumps stations, intercepting sewer lines, and other conveyances upstream of its wastewater treatment plant headworks to collect and convey domestic, commercial and industrial wastewater, and is not designed to collect large amounts of storm water runoff from precipitation events.

E. That OCSD implements a system-specific Sewer System Management Plan which includes provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems in compliance with the California Statewide General Waste Discharge Requirements, Systems, Water Quality Order No. 2006-0003-DWQ For Wastewater Collection Agencies.

NOW, THEREFORE, the Board of Directors of the Orange County Sanitation District does ORDAIN:

Section I: Wastewater Discharge Regulations governing the use of OCSD's Sewerage Facilities are hereby restated and amended to provide as follows:

ARTICLE 1. GENERAL PROVISIONS

101. PURPOSE AND POLICY

This ordinance sets uniform requirements for Users of OCSD's Sewerage Facilities and enables OCSD to comply with all applicable state and federal laws, including the Clean Water Act (33 United States Code [U.S.C.] 1251, et seq.) and the General Pretreatment Regulations (Title 40 of the Code of Federal Regulations [CFR] Part 403). This Ordinance

shall be interpreted in accordance with the definitions set forth in Section 102. The provisions of the Ordinance shall apply to the direct or indirect discharge of all liquid wastes carried to facilities of OCSD.

A. The purpose of this Ordinance is to provide for the maximum public benefit from the use of OCSD's Sewerage Facilities. This shall be accomplished by regulating sewer use and Wastewater discharges; by providing equitable distribution of costs, in compliance with applicable federal, state, and local regulations; and by supporting the proper disposal of Prescription Drugs as noted in the guidelines published by the Office of National Drug Control Policy. The revenues to be derived from the application of this Ordinance shall be used to defray all costs of providing sewerage service by OCSD, including, but not limited to, administration, operation, monitoring, maintenance, financing, capital construction, replacement and recovery, and provisions for necessary reserves;

B. This ordinance is meant to protect both OCSD personnel who may be affected by Wastewater, sludge, and biosolids in the course of their employment and the general public.

C. To comply with federal, state, and local policies and to allow OCSD to meet applicable standards of treatment plant effluent quality, biosolids quality, and air quality, provisions are made in this Ordinance for the regulation of Wastewater discharges to the public sewer. This Ordinance establishes quantity and quality limits on all Wastewater discharges which may adversely affect OCSD's Sewerage System, processes, effluent quality, biosolids quality, air emission characteristics, or inhibit OCSD's ability to beneficially reuse or dispose of its treated Wastewater, biosolids or meet biosolids discharge criteria.

D. It is the intent of these limits to improve the quality of Wastewater being received for treatment and to encourage water conservation and Wastewater minimization by all Users connected to a public sewer. This Ordinance also provides for regulation of the degree of Wastewater Pretreatment required, the issuance of permits for Wastewater discharge and connections and other miscellaneous permits, and establishes penalties for violation of the Ordinance.

E. OCSD is committed to: 1) a policy of Wastewater reclamation and reuse to provide alternate sources of water supply for OCSD and agencies with which OCSD has agreements for Wastewater reclamation; and 2) a policy for the protection of groundwater. OCSD is also committed to help protect groundwater goals as established by various water quality and water purveyor agencies. To fulfill these commitments, OCSD may implement more stringent quality requirements on Wastewater discharges through regulation, including revisions to this Ordinance.

F. OCSD is committed to a policy for the beneficial use of biosolids, the implementation of programs to land-apply or provide for the marketing and distribution of biosolids, which may necessitate more stringent quality requirements on Wastewater discharges.

G. OCSD is also committed to meet applicable air quality goals established by the South Coast Air Quality Management District, which may further necessitate more stringent quality requirements on Wastewater discharges.

102. DEFINITIONS

A. Unless otherwise defined herein, terms related to water quality shall be as adopted in the latest edition of *Standard Methods for the Examination of Water and Wastewater*, published by the American Public Health Association, the American Water Works Association, and the Water Environment Federation.

The testing procedures for Wastewater constituents and characteristics shall be as provided in 40 CFR 136 (Code of Federal Regulations; Title 40; Protection of Environment; Chapter I, Environmental Protection Agency; Part 136, Guidelines Establishing Test Procedures for the Analyses of Pollutants), or as specified.

Other terms not herein defined shall have the same meaning as defined in the latest California Building and Construction Codes, Title 24, California Code of Regulations.

1. Act or "the Act" shall mean the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. section 1251, et seq.

2. Approved POTW Pretreatment Program or Program or POTW Pretreatment Program shall mean a program administered by a POTW that meets the criteria established in 40 CFR 403.8 and 403.9 and which has been approved by a Regional Administrator or State Director in accordance with 40 CFR 403.11.

3. Authorized Representative or Designated Signatory shall mean:

   a) A Responsible Officer, as that term is defined in this Ordinance and 40 CFR 403.12(l); or

   b) A person that is responsible for the overall operation of the facility from which the discharge originates and that a

Responsible Officer has designated, in writing and submitted to OCSD, an Authorized Representative; or

c) A person that has overall responsibility for environmental matters for the facility from which the discharge originates and that a Responsible Officer has designated, in writing and submitted to OCSD, an Authorized Representative; or

d) If the applicant or User is a federal, state, or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or the designee.

4. Best Management Practices (BMPs) shall mean management practices to prevent or reduce pollution or to meet Article 2 standards. Such BMPs shall be considered Local Limits and Pretreatment Standards as stated in 40 CFR 403.5(c)(4).

5. Biochemical Oxygen Demand (BOD) shall mean a measurement of oxygen utilized by the decomposition of organic material, over a specified time period (usually 5 days) in a Wastewater sample. It is used as a measurement of the readily decomposable organic content of Wastewater.

6. Board shall mean the Board of Directors of the Orange County Sanitation District.

7. Bypass shall mean the intentional diversion of wastestreams from any portion of a User's treatment facility.

8. Capital Facilities Capacity Charge shall mean the payment of a fee, imposed by the governing Board of OCSD, to pay for the future costs of constructing new sewerage collection, treatment, and disposal facilities; and as a contributive share of the cost of the existing facilities. This charge shall be paid by all property owners at the time they develop the property and connect directly or indirectly to OCSD's Sewerage Facilities as a new system User. This charge, which rates are set forth in a separate Ordinance, is expressly authorized by the provisions of California Health & Safety Code Sections 5471 and 5474.

9. Charge For Use shall mean OCSD's sanitary sewer service charge, a charge established and levied by OCSD upon residential, commercial, and industrial Users of OCSD's Sewerage System, pursuant to Sections 302.6(F), or 303.6(E) of this Ordinance, in proportion to the use of the treatment works by their respective class,

that provides for the recovery of the costs of operation and maintenance expenses, capital facilities rehabilitation or replacement, and adequate reserves for the POTW. The minimum charge for use is the Annual Sewer Service Fee Residential Users.

10. Chemical Oxygen Demand (COD) shall mean a measure of the oxygen required to oxidize all compounds, both organic and inorganic, in Wastewater.

11. Class I User shall mean any User who discharges Wastewater that:

    a) is a Significant Industrial User; or

    b) Is determined to have a reasonable potential for adversely affecting OCSD's operation or for violating any Pretreatment Standard, Local Limit, or discharge requirement, or may cause Pass Through affecting OCSD's ability to comply with its NPDES Permit or other regulations and standards; or

    c) may cause pass through or Interference with OCSD's Sewerage Facilities.

12. Class II User shall mean any User whose charge for use is greater than the special assessment "OCSD Sewer User Fee" included on the County of Orange secured property tax bill exclusive of debt service, that discharges wastes other than sanitary, and that is not otherwise required to obtain a Class I permit.

13. Code of Federal Regulations (CFR) shall mean the codification of the general and permanent regulations published in the Federal Register by the executive departments and agencies of the federal government.

14. Compatible Pollutant shall mean a combination of biochemical oxygen demand, suspended solids, pH, fecal coliform bacteria, plus other Pollutants that OCSD's treatment facilities are designed to accept and/or remove. Compatible Pollutants are non-compatible when discharged in quantities that have an adverse effect on OCSD's Sewerage System or NPDES permit, or when discharged in qualities or quantities violating any Federal Categorical Pretreatment Standards, Local Limit, or other discharge requirement.

15. Composite Sample shall mean a collection of individual samples obtained at selected intervals based on an increment of either flow or time. The resulting mixture (composite sample) forms a representative sample of the wastestream discharged during the

sample period.

16. Connection Permit shall mean a permit issued by OCSD, upon payment of a capital facilities capacity charge, authorizing the Permittee to connect directly to an OCSD's Sewerage Facilities or to a sewer which ultimately discharges into an OCSD's Sewerage Facilities.

17. Department Head shall mean that person duly designated by the General Manager to perform those delegated duties as specified in this Ordinance.

18. Discharger shall mean any Person who discharges or causes a discharge of Wastewater directly or indirectly to a public sewer. Discharger shall mean the same as User.

19. District shall mean the Orange County Sanitation District or OCSD.

20. Division Head shall mean that person duly designated by the General Manager to implement the OCSD Pretreatment Program and perform the duties as specified in this Ordinance.

21. Domestic Septage shall mean the liquid and solid material removed from food service establishments, or a septic tank, cesspool, portable toilet, or similar treatment works that receives only domestic Wastewater.

22. Domestic Wastewater shall mean the liquid and solid waterborne wastes derived from the ordinary living processes of humans of such character as to permit satisfactory disposal, without special treatment, into the public sewer or by means of a private disposal system.

23. Downstream Sampling or Monitoring shall mean sampling or monitoring usually conducted in a city or agency owned sewer for the purpose of determining the compliance status of an industrial or commercial Discharger.

24. Dry Weather Urban Runoff shall mean surface runoff flow that is generated from any drainage area within OCSD's service area during a period that does not fall within the definition of Wet Weather. It is surface runoff that contains Pollutants that interfere with or prohibit the recreational use and enjoyment of public beaches or cause an environmental risk or health hazard.

25. Enforcement Compliance Schedule Agreement (ECSA) shall mean

a mutual agreement between OCSD and Permittee requiring implementation of necessary Pretreatment practices and/or installation of equipment to ensure permit compliance.

26. Enforcement Response Plan shall mean a plan containing detailed procedures indicating how OCSD will investigate and respond to instances of Industrial User non-compliance in accordance with 40 CFR 403.8(f)(1) or other Users in accordance with OCSD non-compliance procedures.

27. Federal Categorical Pretreatment Standards shall mean any regulation containing Pollutant discharge limits promulgated by the U.S. EPA in accordance with Sections 307(b) and (c) of the Clean Water Act (33 U.S.C. 1317) which apply to a specific category of Industrial Users and which appear in 40 CFR Chapter I, Subchapter N, Parts 405-471.

28. Federal Regulations shall mean any applicable provision of the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, Title 33, United States Code, Section 1251 and following, and any regulation promulgated by the United States Environmental Protection Agency under Title 40 CFR implementing that act.

29. Flow Monitoring Facilities shall mean equipment and structures provided at a User's expense to measure, totalize, and/or record, the incoming water to the facility or the Wastewater discharged to the sewer.

30. General Manager shall mean the individual duly designated by the Board of Directors of OCSD to administer this Ordinance (see also Section 107).

31. Grab Sample shall mean a sample taken from a wastestream on a one-time basis without regard to the flow in the wastestream and without consideration of time.

32. Hydrolysate shall mean the resultant liquid from the hydrolysis of human remains.

33. Hydrolysis shall mean the process by which the body of a deceased person is chemically reduced to its essential organic components and bone fragments either before or after processing of the remains after removal from the hydrolysis chamber.

34. Indirect Discharge or Discharge shall mean the introduction of

Pollutants into a POTW from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act [33 U.S.C. 1317(b)-(d)].

35. Industrial User shall mean any User that discharges Industrial Wastewater.

36. Industrial Wastewater shall mean all liquid carried wastes and Wastewater of the community, excluding domestic Wastewater and domestic septage, and shall include all Wastewater from any producing, manufacturing, processing, agricultural, or other operation.

37. Inspector shall mean a person authorized by the General Manager to inspect any existing or proposed Wastewater generation, conveyance, processing, and disposal facilities.

38. Instantaneous Limit (see the Maximum Allowable Discharge Limit)

39. Interference shall mean any discharge which, alone or in conjunction with a discharge or discharges from other sources, either:

    a) inhibits or disrupts OCSD, its treatment processes or operations, or its biosolids processes, use, or disposal; or

    b) is a cause of a violation of any requirement of OCSD's NPDES permit or prevents lawful biosolids or treated effluent use or disposal.

40. LEL (Lower Explosive Limit) shall mean the minimum concentration of a combustible gas or vapor in air (usually expressed in percent by volume at sea level) which will ignite if an ignition source (sufficient ignition energy) is present.

41. Letter to Discharge shall mean a letter authorizing a User to discharge to the sewer without having to obtain a Special Purpose Discharge Permit. The discharge volume is generally limited to less than 1 million gallons.

42. Local Limit shall mean specific discharge limits developed pursuant to 40 CFR 403.5(c) and enforced by OCSD upon industrial or commercial facilities to implement the general and specific discharge prohibitions listed in 40 CFR 403.5(a)(1) and (b).

43. Local Sewering Agency shall mean any public agency or private corporation responsible for the collection and disposal of Wastewater to OCSD's Sewerage Facilities and duly authorized under the laws

of the State of California to construct and/or maintain public sewers.

44. Major Violation shall mean a discharge over the permitted discharge limit, as determined by the result of a sample analysis, as follows:

    a) a discharge exceeding a Mass Emission Rate limit by 20% or more, or

    b) a discharge exceeding a concentration limit by 20% or more, or

    c) a pH discharge less than 5.0.

45. Mass Emission Rate shall mean the weight of material discharged to the sewer system during a given time interval. Unless otherwise specified, the mass emission rate shall mean pounds per day of a particular constituent or combination of constituents.

46. Maximum Allowable Discharge Limit shall mean the maximum quantity or concentration of a Pollutant allowed to be discharged at any period of time, determined from the analysis of any discrete or composited sample collected, independent of the industrial flow rate and the duration of the sampling event.

47. Medical Waste shall mean the discharge of isolation wastes, infectious agents, human blood and blood byproducts, pathological wastes, sharps, body parts, fomites, etiologic agents, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

48. Milligrams Per Liter (mg/L or mg/l) shall mean a unit of the concentration of a constituent or compound that is found in water or Wastewater. It is 1 milligram of the constituent or compound in 1 liter of water or Wastewater.

49. Minor Violation shall mean a discharge over the permitted discharge limit as determined by the result of a sample analysis, as follows:

    a) a discharge exceeding a Mass Emission Rate limit by less than 20%, or

    b) a discharge exceeding a concentration limit by less than 20%, or.

    c) a pH discharge equal to or greater than 5.0, but less than 6.0, or

d) a pH discharge greater than 12.0.

50. National Pretreatment Standard, Pretreatment Standard, or Standard shall mean any regulation containing Pollutant discharge limits promulgated by the EPA in accordance with section 307 (b) and (c) of the Act, which applies to Industrial Users. This term includes prohibitive discharges and categorical standards established pursuant to 40 CFR 403.5 and 403.6.

51. North American Industry Classification System (NAICS) shall mean an industry classification system that groups establishments into industries based on the activities in which they are primarily engaged.

52. National Pollutant Discharge Elimination System Permit (NPDES Permit) shall mean the permit issued to control the discharge to surface waters of the United States as detailed in Section 402 of the Act (33 U.S.C. 1342).

53. New Source shall mean those sources that are new as defined by 40 CFR 403.3(m) as revised.

54. Non-compatible Pollutant shall mean any Pollutant which is not a Compatible Pollutant as defined herein.

55. OCSD shall mean Orange County Sanitation District.

56. OCSD's Sewerage Facilities or System shall mean any property belonging to OCSD used in the treatment, reclamation, reuse, transportation, or disposal of Wastewater, or biosolids.

57. Ordinance shall mean that document entitled "Wastewater Discharge Regulations" containing OCSD requirements, conditions, and limits for connecting and discharging to the sewer system, as may be amended and modified.

58. pH shall mean both acidity and alkalinity on a scale ranging from 0 to 14 where 7 represents neutrality, numbers less than 7 increasing acidity, and more than 7 increasing alkalinity, and is the logarithm of the reciprocal of the quantity of hydrogen ions in moles per liter of solution.

59. Pass Through shall mean discharge through OCSD's Sewerage Facilities to Waters of the U.S. which, alone or in conjunction with discharges from other sources, is a cause of a violation of OCSD's

NPDES permit.

60. Permittee shall mean a Person who has received a permit to discharge Wastewater into OCSD's Sewerage Facilities subject to the requirements and conditions established by OCSD.

61. Person shall mean any individual, partnership, copartnership, company, firm, association, corporation or public agency, joint stock company, trust, estate, or any other legal entity; or their legal representatives, responsible corporate officers, agents, assigns, including all federal, state, and local governmental entities.

62. Pesticides shall mean those compounds classified as such under federal or state law or regulations including, but not limited to DDT (dichlorodiphenyltrichloro-ethane, both isomers); DDE (dichlorodiphenyl-ethylene); DDD (dichlorodiphenyldichloroethane); aldrin, benzene hexachloride (alpha [α], beta [β], and gamma [γ] isomers); chlordane; endrin; endrin aldehyde; 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD); toxaphene; α-endosulfan; β-endosulfan; endosulfan sulfate; heptachlor; heptachlor epoxide; dieldrin; demeton; guthion; malathion; methoxychlor; mirex; and parathion.

63. Pollutant shall mean any constituent, compound, or characteristic of Wastewaters on which a discharge limit or requirement may be imposed either by OCSD or the regulatory bodies empowered to regulate OCSD.

64. Polychlorinated Biphenyls (PCB) shall mean those compounds classified as such under federal or state law including, but not limited to Aroclors 1016, 1221, 1228, 1232, 1242, 1248, 1254, 1260, and 1262.

65. Pretreatment shall mean the reduction of the amount of Pollutants, the elimination of Pollutants, or the alteration of the nature of Pollutant properties in Wastewater to a level authorized by OCSD prior to, or in lieu of, discharge of the Wastewater into OCSD's Sewerage System. The reduction or alteration can be obtained by physical, chemical or biological processes, by process changes, or by other means.

66. Pretreatment Facility shall mean any works or devices that the General Manager determines are appropriate to treat, restrict, or prevent the flow of Industrial Wastewater prior to discharge into a public sewer.

67. Pretreatment Requirements shall mean any substantive or procedural requirement related to Pretreatment, other than a National Pretreatment Standard, imposed on an Industrial User.

68. Priority Pollutants shall mean the most recently adopted list of toxic Pollutants identified and listed by EPA as having the greatest environmental impact. They are classified as Non-compatible Pollutants and may require Pretreatment prior to discharge to prevent:

    a) Interference with OCSD's operation; or

    b) biosolids contamination; or

    c) Pass Through into receiving waters or into the atmosphere.

69. Public Agency shall mean the State of California and any city, county, district, other local authority or public body of or within this state.

70. Public Sewer shall mean a sewer owned and operated by OCSD, a city or other local sewering Public Agency which is tributary to OCSD's Sewerage Facilities.

71. Publicly Owned Treatment Works or POTW shall mean a treatment works as defined by section 212 of the Act (33 U.S.C. 1292), which is owned by a state or municipality (as defined by section 502(4) of the Act [33 U.S.C. 1362(4)]). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal Sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey Wastewater to a POTW Treatment Plant. The term also means the municipality, as defined in section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

72. RCRA shall mean Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901, et seq.) and as amended.

73. Regulatory Agencies shall mean those agencies having jurisdiction over the operation of OCSD including, but not limited to, the following:

    a) United States Environmental Protection Agency, Region IX, San Francisco and Washington, DC (EPA).

    b) California State Water Resources Control Board (SWRCB).

c) California Regional Water Quality Control Board, Santa Ana Region (RWQCB).

d) South Coast Air Quality Management District (SCAQMD).

e) California Environmental Protection Agency (Cal-EPA).

74. Regulatory Compliance Schedule Agreement (RCSA) shall mean an agreement between OCSD and Permittee requiring the Permittee to implement Pretreatment practices and/or install equipment to ensure compliance with future revised categorical Pretreatment Standards or revised discharge limits.

75. Responsible Officer shall mean:

a) As defined in 40 CFR 403.12(l), if the applicant or User is a corporation:

(1) The president, secretary, treasurer, or a vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

(2) The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for individual Wastewater discharge permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b) As defined in 40 CFR 403.12(l), if the applicant or User is a partnership or sole proprietorship: a general partner or proprietor, respectively.

c) If the applicant or User is a federal, state, or local

governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or the designee.

d) An applicant or User not falling within one of the above categories must designate as the Responsible Officer an individual responsible for the overall operation of the facility.

76. Sample Point shall mean a location accepted by OCSD, from which Wastewater can be collected that is representative in content and consistency of the entire flow of Wastewater being sampled.

77. Sampling Facilities shall mean structure(s) provided at a User's expense for OCSD or User to measure and record Wastewater constituent mass, concentrations, collect a representative sample, or provide access to plug or terminate the discharge.

78. Sanitary Waste shall mean domestic Wastewater, human excrement, and gray water (e.g., water from household showers, dishwashing operations, etc.).

79. Septic Waste shall mean any Sewage from holding tanks such as vessels, chemical toilets, and septic tanks.

80. Service Area shall mean an area for which OCSD has agreed to either provide sewer service, or Wastewater treatment, or Wastewater disposal.

81. Sewage shall mean Wastewater.

82. Sewerage Facilities or System shall mean any and all facilities used for collecting, conveying, pumping, treating, and disposing of Wastewater or sludge or biosolids.

83. Significant Industrial User, except as provided in 40 CFR 403.3 (v)(2) and (v)(3), shall mean: (i) All Industrial Users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and/or 40 CFR Chapter I, Subchapter N; and (ii) Any other Industrial User that, pursuant to 40 CFR 403.3(v)(1): discharges an average of 25,000 gallons per day or more of process Wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown Wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW Treatment plant; or is designated as such by OCSD on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's operation or for violating

any Pretreatment Standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

84. Significant Non-Compliance (SNC) shall mean the compliance status of an Industrial User who is in violation of one or more of the criteria as described in 40 CFR 403.8(f)(2)(viii).

85. Slug Load or Slug Discharge shall mean any discharge at a flow rate or concentration, which could cause a violation of the prohibited discharge standards in Section 201 of this Ordinance. A Slug Discharge is any Discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, Local Limits, or Permit conditions.

86. Sludge shall mean any solid, semi-solid or liquid decant, subnate or supernate from a manufacturing process, utility service, or Pretreatment Facility.

87. Special Assessment Credit shall mean the portion of the secured property tax bill that represents the regional special assessment sewer User fee as defined by OCSD.

88. Special Purpose User shall mean any Discharger who is granted a Special Purpose Discharge Permit by OCSD to discharge unpolluted water, storm runoff, or groundwater to OCSD's Sewerage Facilities.

89. Spent Solutions shall mean any concentrated Industrial Wastewater or Wastewater that is not authorized to be discharged to a Sewage facility until appropriately treated.

90. Spill Containment shall mean a protection system installed by the Permittee to prohibit the discharge to the sewer of non-compatible Pollutants.

91. Standard Methods shall mean procedures described in the current edition of *Standard Methods for the Examination of Water and Wastewater*, as published by the American Public Health Association, the American Water Works Association and Water Pollution Control Federation.

92. Suspended Solids or Total Suspended Solids (TSS) shall mean any insoluble material contained as a component of Wastewater and capable of separation from the liquid portion of said Wastewater by laboratory filtration as determined by the appropriate testing procedure and expressed in terms of milligrams per liter.

93. Total Organic Carbon (TOC) shall mean the measure of total organic carbon in mg/L using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two significant figures. As such, Total Toxic Organics is a subset of TOC.

94. Total Toxic Organics (TTO) shall mean the summation of all quantifiable values greater than 0.01 milligrams per liter for the organics regulated by the EPA or OCSD for a specific industrial category.

95. Unpolluted Water shall mean water to which no Pollutant has been added either intentionally or accidentally.

96. User shall mean any Person who discharges or causes a discharge of Wastewater directly or indirectly to a public sewer. User shall mean the same as Discharger. User includes Industrial Users as a type of User.

97. Waste-Tracking Form shall mean that receipt which is retained by the generator of hazardous wastes as required by the State of California or the United States Government pursuant to RCRA, or the California Hazardous Materials Act, or that receipt which is retained by the generator for recyclable wastes or liquid non-hazardous wastes as required by OCSD. The Waste-Tracking Form is typically known as a "waste manifest."

98. Wastehauler shall mean any Person carrying on or engaging in vehicular transport of brine, domestic septage (except the SAWPA Sewer Service Area in compliance with the 1996 OCSD/SAWPA Agreement), or Wastewater as part of, or incidental to, any business for the purpose of discharging directly or indirectly said Wastewater into OCSD's Sewerage System.

99. Wastewater shall mean the liquid and water-carried wastes of the community and all constituents thereof, whether treated or untreated, discharged into or permitted to enter a public sewer.

100. Wastewater Constituents and Characteristics shall mean the individual chemical, physical, bacteriological, and radiological parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the quality and quantity of Wastewater.

101. Wet Weather shall mean any period of time during which measurable

rainfall occurs within OCSD's service area. This period shall include the time following the cessation of rainfall until OCSD determines that the wet weather event is no longer impacting OCSD's Sewerage System.

102. Working Day shall mean the period of time during which production or operation is taking place or any period during which discharge to the sewer is occurring.

103. Zero Discharge Certification shall mean a control mechanism that is issued by OCSD to ensure that specific facilities are not discharging a Pollutant(s) that may otherwise qualify the facility for a discharge permit.

B. Words used in this Ordinance in the singular may include the plural and the plural the singular. Terms used in the masculine form shall include feminine, and terms used in the feminine form shall include masculine.

103. CONFIDENTIAL INFORMATION

All user information and data on file with OCSD is presumed to be available to the public and governmental agencies without restriction unless the User specifically requests and is able to demonstrate to the satisfaction of OCSD that the release of such information would divulge information, processes or methods which would be detrimental to the User's competitive position. The demonstration of the need for confidentiality made by the Permittee must meet the burden necessary for withholding such information from the general public under applicable state and federal law. Any such claim must be made at the time of submittal of the information by marking the submittal "Confidential Business Information" on each page containing such information.

Information which is demonstrated to be confidential shall not be transmitted to anyone other than a governmental agency without prior notification to the User. Wastewater constituents and characteristics and other effluent data, as defined in 40 CFR 2.302, shall not be recognized as confidential information and shall be available to the public.

104. SALE OR CHANGE OF OWNERSHIP

A. Permits issued under this Ordinance are for a specific User, for a specific operation at a specific location or for a specific Wastehauler, and create no vested rights. Notwithstanding 104.C, the existing permit will be terminated upon sale or change of ownership.

B. No permit may be transferred to allow a discharge to a public sewer from a point other than the location for which the permit was originally issued.

C. When the permittee is a legal entity (such as a corporation, partnership, limited liability company, or other legal entity), the permittee is deemed to have undergone a change of ownership when any other legal entity or person acquires direct or indirect ownership or control of more than fifty percent (50%) of the total ownership interest in the permittee.

D. At least thirty (30) calendar days prior to the sale or change of ownership of any business operating under a permit issued by OCSD, the Permittee shall notify OCSD in writing of the proposed sale or change of ownership. The successor owner shall apply to OCSD for a new permit at least thirty (30) calendar days prior to the sale or change of ownership in accordance with the provisions of this Ordinance. A successor owner shall not discharge any Wastewater for which a permit is required by this Ordinance until a new permit is issued by OCSD to the successor owner.

E. The written notification of intended sale or change of ownership shall be in a form approved by OCSD and shall include a written certification by the new owner or Authorized Representative, which shall include as a minimum:

1. the specific date on which the sale or change of ownership is to occur; and

2. an acknowledgement to comply fully with all the terms, conditions, limits, and provisions of this Ordinance and the new permit.

105. RESERVED

106. AUTHORITY

A. OCSD is regulated by several agencies of the United States Government and the State of California, pursuant to the provisions of federal and state Law. Federal and state laws grant to OCSD the authority to regulate and/or prohibit, by the adoption of ordinances or resolutions, and by issuance of discharge certifications, or discharge permits, the discharge of any Wastewater, directly or indirectly, to OCSD's Sewerage Facilities. Said authority includes the right to establish limits, conditions, and prohibitions; to establish flow rates or prohibit flows discharged to OCSD's Sewerage Facilities; to require the development of compliance schedules for the installation of equipment systems and materials by all Users; and to take all actions necessary to enforce its authority including implementation of the Enforcement Response Plan, whether within or outside OCSD's boundaries, including those Users that are tributary to OCSD or within areas for which OCSD has contracted to provide sewerage services.

B. Four jurisdictions contribute to and are under the purview of OCSD's

Pretreatment program: a section of the Irvine Ranch Water District; a section of the Sanitation Districts of Los Angeles County, which has several Dischargers at the county border; the South Orange County Wastewater Authority, and the Santa Ana Watershed Project Authority (SAWPA), whose discharge is delivered via the Santa Ana River Interceptor (SARI) and is comprised of mostly Wastewater brines. Nothing in this Ordinance is intended to preclude the discharge from SAWPA's SARI Service Area of discharges consisting solely of Wastewater brines that are compliant with all regulations and agreements.

C. OCSD has the authority pursuant to California Health and Safety Code Sections 5471 and 5474 to prescribe, revise, and collect all fees and charges for services and facilities furnished by OCSD either within or without its territorial limits.

107. DELEGATION OF AUTHORITY

Whenever any power is granted to or a duty is imposed upon the General Manager, the power may be exercised or the duty may be performed by any person so authorized by the General Manager.

108. SIGNATORY REQUIREMENTS

Reports and permit applications required by this Ordinance shall contain the following certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

The statement shall be signed by a Responsible Officer (or his/her Authorized Representative) of the Industrial User as defined in 40 CFR 403.12(l), or as defined and designated by OCSD.

109. RECORD KEEPING REQUIREMENTS

Any User subject to OCSD's reporting requirements shall maintain and make available for inspection and copying records of all information obtained pursuant to, or resulting from, any monitoring activities required by OCSD, including documentation associated with Best Management Practices, and any additional records or information obtained pursuant to monitoring activities undertaken by the User independent of such

requirements. Such records shall include information as described in 40 CFR 403.12(o)(1) and (2). These records shall remain available for a period of at least three (3) years. This period shall be automatically extended for the duration of any litigation concerning the User or OCSD, or where the User has been specifically notified of a longer retention period by the General Manager.

ARTICLE 2. GENERAL PROHIBITIONS, LIMITS AND REQUIREMENTS FOR DISCHARGE

201. PROHIBITED DISCHARGES

These prohibitions apply to all Users of OCSD's Sewerage Facilities whether or not they are subject to Federal Categorical Pretreatment Standards or any other national, state, or local Pretreatment Standards or requirements.

A. General Prohibitions.

1. No User shall introduce or cause to be introduced into OCSD's Sewerage Facilities any Pollutant, Wastewater, or flow which causes Pass Through or Interference or would cause OCSD to violate any federal, state, or local regulatory requirement.

2. No User shall increase the contribution of flow, Pollutants, or change the nature of Pollutants where such contribution or change does not meet applicable standards and requirements or where such contribution would cause OCSD to violate any federal, state, or local regulatory permit.

3. No Person shall transport Wastewater from one location or facility to another for the purpose of treating or discharging it directly or indirectly to OCSD's Sewerage Facilities without written permission from OCSD.

4. No Person shall deliver by vehicular transport, rail car, or dedicated pipeline, directly or indirectly to OCSD's Sewerage Facilities, Wastewater which contains any substance that is defined as a hazardous waste by the Regulatory Agencies.

5. No Person shall discharge or cause to be discharged any non-domestic water directly or indirectly to any OCSD Sewerage Facilities without prior authorization.

B. Specific Prohibitions. No User shall introduce or cause to be introduced into the Sewerage Facilities, any Pollutant, substance, or Wastewater which:

1. Creates a fire or explosive hazard in the Sewerage Facilities including, but not limited to, wastestreams with a closed-cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Centigrade) using any of the test methods specified in 40 CFR 261.21; or produces a gaseous mixture that is 10% or greater of the lower explosive limit (LEL).

2. Causes obstruction to the flow in the Sewerage Facilities resulting in interference or damage to the Sewerage Facilities.

3. Produces noxious or malodorous liquids, gases, solids, or other Wastewater which, either singly or by interaction with other Wastes, is sufficient to create a public nuisance or a hazard to life, or to prevent entry into the Sewerage Facilities for maintenance or repair.

4. Results in toxic gases, vapors, or fumes within the Sewerage Facilities in a quantity that may cause acute worker health and safety problems.

5. Contains any radioactive Wastes or isotopes except in compliance with applicable regulations from other governmental agencies empowered to regulate the use of radioactive materials.

6. Causes, alone or in conjunction with other sources, OCSD's treatment plant effluent to fail a toxicity test.

7. Causes OCSD's effluent or any other product of the treatment process, residues, biosolids, or scums, to be unsuitable for reclamation, reuse or disposal. Examples of items which may cause these conditions include, but are not limited, to food packaging, product containers, and non-dispersible products.

8. Causes discoloration or any other condition which affects the quality of OCSD's influent or effluent in such a manner that inhibits OCSD's ability to meet receiving water quality, biosolids quality, or air quality requirements established by Regulatory Agencies.

9. Creates excessive foaming in the Sewerage Facilities.

10. Violates any applicable Federal Categorical Pretreatment Standards, statute, regulation, or ordinance of any public agency or Regulatory Agency having jurisdiction over the operation of or discharge of Wastewater through the Sewerage Facilities.

11. Has a temperature higher than 140 degrees Fahrenheit, (60 degrees Centigrade), or which causes the temperature at the treatment plant to exceed 104 degrees Fahrenheit (40 degrees Centigrade).

12. Has a pH less than 6.0 or greater than 12.0.

13. Causes corrosion, fouling, occlusion, or damage to the POTW beyond normal wear and tear.

14. Is released in a discharge at a flow rate and/or Pollutant concentration (including oxygen-demanding Pollutant (BOD, etc.)) which will cause interference with OCSD's Sewerage Facilities.

15. Is in excess of the permitted Mass Emission Rates established in accordance with Section 213 of this Ordinance, or the concentration limits set forth in Table 1, or the discharge permit.

16. Contains material which will readily settle or cause an obstruction to flow in the Sewerage Facilities resulting in interference, such as, but not limited to, sand, mud, glass, metal filings, diatomaceous earth, cat litter, asphalt, wood, bones, hair, fleshings, food packaging, product containers, and non-dispersible products.

17. Includes petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or Pass Through.

18. Causes the Orange County Water District Groundwater Replenishment System product water to exceed its TOC limit of 0.5 mg/L.

202. PROHIBITION ON DILUTION

No User shall increase the use of water or in any other manner attempt to dilute a discharge as a partial or complete substitute for treatment to achieve compliance with this Ordinance and the User's permit or to establish an artificially high flow rate for permit Mass Emission Rates.

203. PROHIBITION ON SURFACE RUNOFF AND GROUNDWATER

No Person shall discharge groundwater, storm water, surface runoff, or subsurface drainage directly or indirectly to OCSD's Sewerage Facilities except as provided herein. Pursuant to Section 304 or 305, et seq., OCSD may approve the discharge of such water only when no alternate method of disposal is reasonably available or to mitigate an environmental risk or health hazard. The discharge of such waters shall require a Dry Weather Urban Runoff Discharge Permit, a Special Purpose Discharge Permit, or written authorization from OCSD. If a permit is granted for the discharge of such water into a Public Sewer, the User shall pay all applicable charges and shall meet such other conditions as required by OCSD.

204. PROHIBITION ON NON-DOMESTIC SURFACE AND FLOOR DRAINS

No Person shall discharge non-domestic water via a surface or floor drain directly or indirectly to OCSD's Sewerage Facilities except as provided herein. OCSD may approve

the discharge of such water at its sole discretion. The discharge of such waters shall require written authorization from OCSD and shall meet other such conditions as required by OCSD and this Ordinance.

205. PROHIBITION ON UNPOLLUTED WATER

A. No Person shall discharge unpolluted water such as single pass cooling water directly or indirectly to OCSD's Sewerage Facilities except as provided herein. Pursuant to Section 305, et seq., OCSD may approve the discharge of such water only when no alternate method of disposal or reuse is reasonably available or to mitigate an environmental risk or health hazard.

B. The discharge of such waters shall require a Special Purpose Discharge Permit from OCSD.

C. If a permit is granted for the discharge of such water into a public sewer, the User shall pay all applicable charges and shall meet such other conditions as required by OCSD.

206. PROHIBITION ON SLUG DISCHARGES AND NOTIFICATION REQUIREMENT

OCSD has the right to control slug discharges, if it is determined to be necessary. All Significant Industrial Users are required to notify OCSD immediately of any changes at their facilities that could affect the potential for a slug discharge.

207. PROHIBITION ON THE USE OF GRINDERS

A. Waste from industrial or commercial grinders shall not be discharged into a Public Sewer, except wastes generated in packing or preparing food or food products. Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the Public Sewer.

B. Waste from Food Service Establishments operating a grinder is prohibited and shall not be discharged into a Public Sewer unless written authorization from the General Manager is obtained.

208. PROHIBITION ON POINT OF DISCHARGE

No Person, except Local Sewering Agencies involved in maintenance functions of sanitary sewer facilities, shall discharge any Wastewater directly into a manhole or other opening in a sewer other than through an approved building sewer, unless approved by OCSD upon written application by the User and payment of the applicable fees and charges established therefor.

209. HAZARDOUS WASTE DISCHARGE NOTIFICATION REQUIREMENT

Any User that discharges any hazardous waste into the Sewerage System shall notify OCSD immediately as required by 40 CFR 403.12(p).

210. PROHIBITION AND REQUIREMENTS FOR WASTEHAULER DISCHARGES TO OCSD'S SEWERAGE SYSTEM AND WASTEHAULER STATION

A. No Wastehauler shall discharge to OCSD's Sewerage System, domestic septage or other approved waste or wastewater from a vacuum pumping truck or other liquid waste transport vehicle, without first obtaining both a valid Orange County Health Care Agency (OCHCA) registration or other control mechanism (where applicable), and a OCSD Wastehauler Permit as required by Section 306. Such Wastewaters shall be discharged only at locations designated by OCSD, and at such times as established by OCSD. OCSD may collect samples of each hauled load to ensure compliance with applicable standards.

B. No Wastehauler shall discharge domestic septage or other approved Waste or Wastewater constituents in excess of Limits in Table 1.

C. The discharge of industrial Wastewater by any Wastehauler is prohibited unless written permission of the General Manager has been obtained, the proper permits have been obtained, and the Industrial Wastewater meets federal and state limits applicable to the User or generator from which the Industrial Wastewater was obtained; or the Maximum Local Discharge Limits as specified in Table 1, whichever are more stringent. The discharge of hauled Industrial Wastewater is subject to all other requirements of this Ordinance.

D. No Wastehauler shall discharge or deliver Wastewater to a Sewerage System that is tributary to OCSD's Sewerage Facilities that are from a source that is not within OCSD's service area unless prior authorization for such Wastewater is granted by the General Manager.

E. No Wastehauler shall deliver directly to OCSD's Sewerage Facilities any Wastewater originating within OCSD's boundaries, from an industrial user subject to categorical Pretreatment Standards, and is greater than the categorical Pretreatment Standards, OCSD's Local Limits, or hazardous waste levels defined by RCRA (40 U.S.C. § 6901, et seq.) or 40 CFR 261.

F. Notwithstanding E above, no Wastehauler shall deliver directly to OCSD's Sewerage Facilities any Wastewater originating within OCSD's boundaries, from a commercial or an industrial user not subject to categorical Pretreatment Standards, and is greater than OCSD Local Limits or hazardous Waste levels defined by RCRA or 40 CFR 261.

G. No Wastehauler shall add chemicals into Wastehauler trucks while on OCSD premises before discharging to the OCSD Wastehauler Station unless approved by OCSD.

H. No Wastehauler shall discharge Wastewater to the OCSD Wastehauler Station, which contains mixed load types, i.e., domestic septage, brine, etc.

I. Wastehaulers shall provide a Waste-Tracking Form for every load. This form shall include, at a minimum, the name and address of the Wastehauler, permit number, truck identification, names and addresses of all sources of Wastewater, and volume and characteristics of Wastewater.

J. Discharge at the OCSD Wastehauler Station shall be through an appropriate hose and connection to the discharge port. Discharging Wastewater directly to the surface area of the Wastehauler Station is prohibited.

K. Wastehauler hoses must be connected to the Wastehauler Station discharge port when being cleaned.

L. Transferring loads between trucks or from portable toilets to trucks on OCSD property is prohibited unless permission from OCSD is obtained.

M. Wastehaulers discharging Food Service Establishment grease waste into OCSD's Wastehauler Station must have a valid California Department of Food and Agriculture (CDFA) permit, if required by law. Wastehaulers must have all necessary permits, or copies thereof, in their possession at the time of discharge to the OCSD Wastehauler station and must present copies for inspection by OCSD personnel upon request

211. PROHIBITION ON MEDICAL WASTE

A. No solid Wastes consisting of, but not limited to, hypodermic needles, syringes, instruments, utensils or other paper and plastic items from hospitals, clinics, offices of medical doctors, convalescent homes, medical laboratories or other medical facilities shall be discharged to the Sewerage System, unless prior written approval for such discharges has been granted by the General Manager.

B. OCSD shall have the authority to require that any discharge of etiologic agents or infectious agents or substances to the Sewerage System be rendered inactive and noninfectious prior to discharge if the infectious Waste is deemed to pose a threat to the public health and safety, or can become an etiologic agent subsequent to discharge to the Sewerage

System, or will result in any violation of applicable Wastewater discharge requirements.

C. No unused, unwanted, or expired pharmaceuticals (both over the counter and prescription-only medications) shall be disposed of in the Sewerage System, except in accordance with federal and state regulations, or in the absence of such regulations, using Best Management Practices.

212. PROHIBITION ON DISPOSAL OF SPENT SOLUTIONS AND SLUDGES

Spent solutions, sludges, and materials of quantity or quality in violation of, or prohibited by this Ordinance, or any permit issued under this Ordinance must be disposed of in compliance with all regulatory requirements at a permitted point of disposal as defined by OCSD or Regulatory Agency with jurisdiction thereof.

If the point of disposal is at an OCSD-permitted treatment facility, all Waste-Tracking Forms shall be retained for a minimum of three years by the facility and Wastehauler of said Wastewater and made available for copying for review upon request.

213. PROHIBITION ON HYDROLYSATE

No Person shall discharge Hydrolysate, Wastes, or Wastewater resulting from Hydrolysis either directly or indirectly to the Sewerage System.

214. BEST MANAGEMENT PRACTICES

OCSD may develop BMPs, by ordinance or individual wastewater discharge permits, to implement Local Limits and the requirements of Article 2.

215. MASS EMISSION RATE DETERMINATION

A. Mass Emission Rates for non-compatible or Compatible Pollutants that are present or anticipated in the User's Wastewater discharge may be set for each User and made an applicable part of each User's permit. These rates shall be based on Table 1, Maximum Allowable Local Discharge Limits, or Federal Categorical Pretreatment Standards, and the User's average daily Wastewater discharge for the past three years, the most recent representative data, or other data acceptable to the General Manager.

B. To verify the User's operating data, OCSD may require the User to submit an inventory of all Wastewater streams and/or records indicating production rates.

C. OCSD may revise limits or Mass Emission Rates previously established in the discharger's permit at any time, based on: current or anticipated operating data of the discharger or OCSD; OCSD's ability to meet NPDES

limits; or changes in the requirements of Regulatory Agencies.

D. The excess use of water to establish an artificially high flow rate for Mass Emission Rate determination is prohibited.

216. MAXIMUM ALLOWABLE LOCAL DISCHARGE LIMITS

OCSD's Maximum Allowable Local Discharge Limits are shown in Table 1 below.

TABLE 1

MAXIMUM ALLOWABLE LOCAL NON-DOMESTIC DISCHARGE LIMITS[1]

CONSTITUENT	MILLIGRAMS/LITER
1,4-dioxane[2]	1.0
Ammonia	Mass[3]
Arsenic	2.0
Biochemical Oxygen Demand (BOD)	Mass[3]
Cadmium	1.0
Chromium (Total)	20.0
Copper	3.0
Cyanide (Total)	5.0
Lead	2.0
Mercury	0.03
Molybdenum	2.3
Nickel	10.0
Pesticides	0.01
Oil and Grease of Mineral or Petroleum Origin[4]	100.0
Polychlorinated Biphenyls (PCB)	0.01
Selenium	3.9
Silver	15.0
Sulfide (Dissolved)	0.5
Sulfide (Total)	5.0
Zinc	10.0

MAXIMUM ALLOWABLE DISCHARGE LIMITS FOR WASTEHAULERS DISCHARGING DOMESTIC SEPTAGE TO THE OCSD WASTEHAULER STATION

CONSTITUENT	MILLIGRAMS/LITER
Cadmium	1.0
Chromium	35.0
Copper	25.0
Lead	10.0
Nickel	10.0
Zinc	50.0

(1) Users subject to Federal Categorical Pretreatment Standards may be required to meet more stringent limits.
(2) 1,4-dioxane is also known as "p-dioxane."
(3) BOD and ammonia mass discharged will be tracked by OCSD and Users. It is the Permittee's responsibility to report the intended technically-based mass use to OCSD.
(4) "Oil and Grease of Mineral or Petroleum Origin" is also known as "Petroleum Oil and Grease as Silica Gel Treated n-Hexane Extractable Material" or "SGT-HEM Non-Polar Material."

ARTICLE 3. DISCHARGE PERMITS, CERTIFICATIONS, CHARGES, AND FEES

301. INTRODUCTION

A. To provide the maximum public benefit from the use of OCSD's Sewerage Facilities, written authorization to use said facilities is required. This written authorization shall be in the form of a discharge permit or certification. No vested right shall be given by issuance of permits or certifications provided for in this Ordinance. OCSD reserves the right to establish, by Ordinance regulation, or in Wastewater Discharge Permits or certifications, more stringent standards or requirements on discharges to OCSD Sewerage Facilities if deemed by the General Manager appropriate to comply with this Ordinance and the requirements of Regulatory Agencies.

B. The discharge permit shall be in one of five forms and is dependent upon the type of discharger, volume, and characteristics of discharge. The five discharge permits are:

1. Class I Wastewater Discharge Permit.

2. Class II Wastewater Discharge Permit.

3. Dry Weather Urban Runoff Discharge Permit.

4. Special Purpose Discharge Permit.

5. Wastehauler Discharge Permit.

C. The Discharge Certification is issued to those Users that are discharging regulated Wastewater but are not otherwise required to obtain a discharge permit.

D. The Zero Discharge Certification is issued to certify that a particular Pollutant or process is not used or discharged to OCSD, even though regulated process Wastewater may still be generated on-site and eventually wastehauled or otherwise eliminated. Such a facility does not require a discharge permit, but may require a Zero Discharge Certification.

302. CLASS I WASTEWATER DISCHARGE PERMITS

A. No User requiring a Class I permit shall discharge Wastewater without obtaining a Class I Wastewater Discharge Permit.

B. Class I Wastewater Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD. The conditions of Wastewater Discharge

Permits shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

C. All Class I Users proposing to discharge directly or indirectly into the OCSD Sewerage Facilities shall obtain a Wastewater Discharge Permit by filing an application pursuant to Section 302.1 and paying the applicable fees pursuant to Section 302.3. For purposes of this Ordinance, a Class I User is any User:

1. Subject to Federal Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR chapter I, subchapter N; or

2. That discharges an average of 25,000 gallons per day or more of process Wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown Wastewater); or

3. Contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the OCSD POTW; or

4. That is designated as such by OCSD on the basis that the Industrial User has a reasonable potential for adversely affecting the OCSD POTW's operation or for violating any Pretreatment Standard, Local Limit or requirement (in accordance with 40 CFR 403.8(f)(6)); or

5. That may cause Pass Through affecting OCSD's ability to comply with its NPDES Permit or other regulations and standards; or

6. That may cause Interference with OCSD's Sewerage Facilities.

302.1 Class I Wastewater Discharge Permit Application

A. Any User required to obtain a Class I Wastewater Discharge Permit shall complete and file with OCSD, prior to commencing discharge, an application on the form prescribed by OCSD. The applicant shall submit, in units and terms appropriate for evaluation, the following information:

1. Name, address, assessor's parcel number(s), NAICS number(s), description of the manufacturing process or service activity.

2. (Whichever is applicable) name, address of any and all principals/owners/major shareholders of company; Articles of Incorporation; most recent Report of the Secretary of State; Business License.

3. Volume of Wastewater to be discharged.

4. Name of individual who can be served with notices other than officers of corporation.

5. Name and address of property owner, landlord and/or manager of the property.

6. Water supplier and water account numbers.

7. Wastewater constituents and characteristics as required by OCSD, including, but not limited to, those mentioned in Section 215, Mass Emission Rate Determination, and Table 1, Local Discharge Limits, of this Ordinance. These constituents and characteristics shall be determined by a laboratory selected by the discharger and acceptable to OCSD.

8. Time and duration of discharge.

9. Number of employees per shift and hours of work per employee per day for each shift.

10. Waste minimization, best management practices, and water conservation practices.

11. Production records, if applicable.

12. Waste-Tracking Forms, if applicable.

13. Landscaped area in square feet, if applicable.

14. Tons of cooling tower capacity, if applicable.

15. EPA Hazardous Waste Generator Number, if applicable.

16. Any other information as specified.

B. Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, spill containment, clarifiers, Pretreatment equipment, and appurtenances by size, location, and elevation for evaluation.

C. Applicants may also be required to submit information related to the applicant's business operations, processes, and potential discharge as may be requested by OCSD to properly evaluate the permit application.

D. After evaluation of the data, OCSD may issue a Wastewater Discharge Permit, subject to terms and conditions set forth in this Ordinance and as

otherwise determined by the General Manager to be appropriate to protect OCSD's Sewerage Facilities.

E. The permit application may be denied if the applicant fails to establish to OCSD's satisfaction that adequate Pretreatment equipment is included within the applicant's plans to ensure that the discharge limits will be met or if the applicant has, in the past, demonstrated an inability to comply with applicable discharge limits.

F. The permit application may be denied if the applicant has in the past demonstrated an inability to keep current with OCSD invoices for items such as Permit Fees, Non-Compliance Resampling Fees, Civil Penalties, Administrative Civil Penalties, Charges for Use, and Supplemental Capital Facilities Capacity Charges.

302.2 Class I Permit Conditions, and Limits

A. A Class I permit shall contain all of the following conditions or limits:

1. Mass Emission Rates and concentration limits regulating non-compatible Pollutants, including BMPs based on applicable Pretreatment Standards.

2. Requirements to notify OCSD in writing prior to modification to processes or operations through which Industrial Wastewater may be produced.

3. Location of the User's on-site sampling point.

4. Requirements for submission of self-monitoring reports, technical reports, production data, discharge reports, compliance with Pretreatment Standards, BMP-based Pretreatment Standards and/or Local Limits, and/or Waste-Tracking Forms.

5. Requirements for maintaining, for a minimum of three (3) years, plant records relating to Wastewater discharge, and Waste-Tracking Forms as specified by OCSD.

6. Requirements to submit copies of tax and water bills.

B. A Class I permit may contain any of the following conditions and/or limits:

1. Requirements for the User to construct and maintain, at his own expense, appropriate Pretreatment equipment, pH control, Flow Monitoring Facilities, and sampling facilities.

2. Limits on rate and time of discharge or requirements for flow regulation and equalization.

3. Requirements to self-monitor.

4. Assumed values for BOD and suspended solids characteristics that typify the Discharger's effluent for determination of the charge for use.

5. Other terms and conditions which may be appropriate to ensure compliance with this Ordinance or determined by the General Manager to be appropriate to protect OCSD's Sewerage System.

302.3 Class I Permit Fee

A. The Class I permit fee shall be in an amount adopted by Ordinance of the Board of Directors. The permit fee shall be payable at the time a permit application is submitted for the issuance of a new permit or a renewed permit. Payment of permit fees must be received by OCSD prior to issuance of either a new permit or a renewed permit. Permittee shall also pay any delinquent invoices in full prior to permit renewal.

B. Any permit issued for a location wherein the Permittee is not the property owner may be conditioned upon depositing financial security to guarantee payment of all annual fees and charges to be incurred, in accordance with the provisions of Section 623.(E) of this Ordinance.

302.4 Class I Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by the General Manager during the life of the permit based on:

1. The Discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. New source indirect Dischargers shall be required to install and start up any

necessary pollution control equipment before beginning discharge, and comply with applicable Federal Categorical Pretreatment Standards not to exceed thirty (30) days after the commencement of discharge.

C. Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond in writing.

D. Permittee shall be informed of any change in the permit limitations, conditions, or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

302.5 Class I Permit Duration and Renewal

Class I permits shall normally be issued for a period not to exceed four (4) years. At least forty-five (45) days prior to the expiration of the permit, the User shall apply for renewal of the permit in accordance with the provisions of this Article 3.

302.6 Class I Permit Charge for Use

A. The purpose of a charge for use is to ensure that each recipient of sewerage service from OCSD pays its reasonably proportionate share of all the costs of providing that sewerage service. Charges for use to recover the cost of conveying, treating, and disposing of Sewage in OCSD's Sewerage Facilities are exclusive of any fees levied by local sewering agencies. The charge for use shall be based on the total maintenance, operation, capital expenditures, and reserve requirements for providing Wastewater collection, treatment, and disposal.

B. A Discharger who is issued a Class I Wastewater Discharge Permit under the provisions of this Ordinance shall pay a charge for use in accordance with the formula contained herein and the unit charge rates adopted by Ordinance of the Board of Directors. These fees shall be invoiced on a quarterly basis. The quarterly invoice shall be based upon an estimate of the annual use as determined by OCSD. OCSD shall compute the charge for use based upon actual use for the preceding fiscal year on an annual reconciliation statement.

C. The charge for use is payable within forty-five (45) days of invoicing by OCSD. A special assessment credit will be allowed for any regional sanitary sewer service charge adopted by the Board of Directors by separate Ordinance and levied against the permitted property.

D. In order for OCSD to determine actual annual water use, the User shall

provide to OCSD copies of its water bills. If these water bill copies are not received by August 15th of each year for the 12-month period ended closest to June 30, OCSD will endeavor to obtain the water use data. Data obtained by OCSD will be considered correct and will not be adjusted before the next annual reconciliation statement. There shall be a fee levied for OCSD administrative costs when OCSD obtains water use data. OCSD's Board of Directors shall adopt the amount of the fee.

E. The charge for use shall be computed by the following formula:

Charge for Use = VoV + BoB + SoS – Special Assessment Credit

Where V = total annual volume of flow, in millions of gallons

B = total annual discharge of biochemical oxygen demand, in thousands of pounds

S = total annual discharge of suspended solids, in thousands of pounds

Vo, Bo, So = Unit Charge rates established and adopted by Ordinance of OCSD's Board of Directors, based upon the funding requirements of providing sewerage service, in dollars per unit as described in Paragraph F below:

F. The Unit Charge rates in the charge-for-use formula shall be determined by the following method:

1. An Operations and Maintenance component of the Unit Charge for the total annual operation and maintenance funding requirements of the Sewerage System shall be levied at a rate to be determined from time to time by the Board of Directors. This Charge shall be allocated among the three Wastewater charge parameters of flow, biochemical oxygen demand and suspended solids in accordance with the General Manager's determination as to the costs associated with each parameter and pursuant to applicable requirements of state and federal Regulatory Agencies.

   The operation and maintenance costs as distributed to flow, biochemical oxygen demand and suspended solids shall be divided by the projected annual total flow volume and weights of biochemical oxygen demand and suspended solids to be treated by the Sewerage System in the budgeted year.

2. A Capital Facilities Replacement Service component of the Unit Charge for capital replacement and capital improvement shall be levied at a rate to be determined from time to time by the Board of

Directors. This charge shall be allocated among Wastewater charge parameters of flow, biochemical oxygen demand, and suspended solids in accordance with the General Manager's determination of which portion of the charge predominantly relates to each parameter.

The capital facilities charge distributed to biochemical oxygen demand, and suspended solids shall be divided by the projected annual weights of biochemical oxygen demand and suspended solids to be treated by the Sewerage System in the budgeted year.

3. The Unit Charge rates for each respective Wastewater component in (1) and (2) above shall be summed. The Unit Charge rates so determined will be expressed in dollars per million gallons for Vo, and in dollars per thousand pounds for Bo and So.

G. Other measurements of the organic content of the Wastewater of a Discharger, such as COD or TOC, may be used instead of BOD. However, the Discharger must establish to the General Manager's satisfaction a relationship between the BOD of the Wastewater and the parameter of measure. This relationship shall be used by OCSD in determining the charge for use.

When Wastewater from sanitary facilities is discharged separately from the other Wastewater of a Discharger, the charge for use for discharging the Wastewater may be determined by using the following:

1. 25 gallons per employee per eight-hour working day.

2. BOD and suspended solids to be calculated at domestic Wastewater strength per employee per year.

The number of employees will be considered as the average number of people employed full time on a daily basis. This may be determined by averaging the number of people employed at the beginning and end of each quarter, or other period that reflects normal employment fluctuations.

303. CLASS II WASTEWATER DISCHARGE PERMITS

A. No User requiring a Class II permit shall discharge Wastewater without obtaining a Wastewater Discharge Permit.

B. Class II Wastewater Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use and fees established by OCSD. The conditions of Wastewater Discharge Permits shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

C. All Class II Users proposing to discharge directly or indirectly into the OCSD's Sewerage Facilities shall obtain a Wastewater Discharge Permit by filing an application pursuant to Section 303.1 and paying the applicable fees pursuant to Section 303.3. For purposes of this Ordinance, a Class II User is any User:

1. Whose charge for use is greater than the special assessment "OCSD Sewer User Fee" included on the County of Orange secured property tax bill exclusive of debt service; and

2. Discharging Wastewater other than sanitary; and

3. Not otherwise required to obtain a Class I permit.

303.1 Class II Wastewater Discharge Permit Application

A. Any User required to obtain a Class II Wastewater Discharge Permit shall complete and file with OCSD, prior to commencing discharge, an application on the form prescribed by OCSD. The applicant shall submit, in units and terms appropriate for evaluation, the following information:

1. Name, address, assessor's parcel number(s) and NAICS number(s); description of the manufacturing process or service activity.

2. Name and address of any and all principals/owners/major shareholders of company; Articles of Incorporation; most recent Report of the Secretary of State; Business License.

3. Volume of Wastewater to be discharged.

4. Name of individual who can be served with notices other than officers of corporation.

5. Name and address of property owner, landlord and/or manager of the property.

6. Water supplier and water account numbers.

7. Wastewater constituents and characteristics as required by OCSD, including, but not limited to, those mentioned in Section 215, Mass Emission Rate Determination, and Table 1, Local Discharge Limits of this Ordinance. These constituents and characteristics shall be determined by a laboratory selected by the Discharger and acceptable to OCSD.

8. Time and duration of discharge.

9. Number of employees and average hours of work per employee per day.

10. Production records, if applicable.

11. Waste-Tracking Forms, if applicable.

12. Landscaped area in square feet, if applicable.

13. Tons of cooling tower capacity, if applicable.

14. EPA Hazardous Waste Generator Number, if applicable.

15. Any other information as specified.

B. Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, spill containment, clarifiers, Pretreatment systems, and appurtenances by size, location, and elevation for evaluation.

C. Applicants may also be required to submit other information related to the applicant's business operations, processes, and potential discharge as may be requested to properly evaluate the permit application.

D. After evaluation of the data furnished, OCSD may issue a Wastewater Discharge Permit, subject to terms and conditions set forth in this Ordinance and as otherwise determined by the General Manager to be appropriate to protect the OCSD system.

E. The permit application may be denied if the applicant fails to establish to OCSD's satisfaction that adequate Pretreatment equipment is included within the applicant's plans to ensure that the discharge limits will be met or if the applicant has, in the past, demonstrated an inability to comply with applicable discharge limits.

303.2 Class II Permit Conditions and Limits

A. A Class II permit shall contain all of the following conditions and/or limits:

1. Applicable Mass Emission Rates and concentration limits regulating non-compatible Pollutants.

2. Requirements to notify OCSD in writing prior to modification to processes or operations through which Industrial Wastewater may

be produced.

3. Location of the User's on-site sample point.

4. Requirements for submission of technical reports, production data, discharge reports, and/or Waste-Tracking Forms.

5. Requirements to submit copies of tax and water bills.

B. A Class II permit may contain any of the following conditions and/or limits:

1. Requirements for the User to construct and maintain, at his own expense, appropriate Pretreatment equipment, pH control, flow monitoring and/or sampling facilities.

2. Limits on rate and time of discharge or requirements for flow regulation and equalization.

3. Assumed values for BOD and suspended solids characteristics that typify the Discharger's effluent for determination of the charge for use.

4. Requirements to self-monitor.

5. Requirements for maintaining, for a minimum of three years, plant records relating to Wastewater discharge, and Waste-Tracking Forms as specified by OCSD.

6. Other provisions which may be appropriate to ensure compliance with this Ordinance.

7. Other terms and conditions determined by the General Manager to be appropriate to protect OCSD's Sewerage System.

303.3 Class II Permit Fee

A. The Class II permit fee shall be in an amount adopted by Ordinance of the Board of Directors. The permit fee shall be payable at the time a permit application is submitted for the issuance of a new permit or a renewed permit. Payment of the permit fee must be received by OCSD prior to issuance of either a new permit or a renewed permit. Permittee shall also pay any delinquent invoices in full prior to permit renewal.

B. Any permit issued for a location wherein the Permittee is not the property owner may be conditioned upon depositing financial security to guarantee payment of all annual fees and charges to be incurred, in accordance with the provisions of Section 623.(E) of this Ordinance.

303.4 Class II Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by the General Manager during the life of the permit based on:

1. The Discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. The Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond in writing.

C. Permittee shall be informed of any change in the permit limitations, conditions, or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

303.5 Class II Permit Duration and Renewal

Class II permits shall normally be issued for a period not to exceed five (5) years. At least forty-five (45) days prior to the expiration of the permit, the User shall apply for renewal of the permit in accordance with the provisions of this Article 3.

303.6 Class II Permit Charge for Use

A. The purpose of a charge for use is to ensure that each recipient of sewerage service from OCSD pays its reasonably proportionate share of all the costs of providing that sewerage service. Charges for use to recover the cost of conveying, treating, and disposing of Sewage in OCSD's Sewerage Facilities are exclusive of any fees levied by local sewering agencies. The charge for use shall be based on the total maintenance, operation, capital expenditures, and reserve requirements for providing Wastewater collection, treatment, and disposal.

B. A Discharger who is issued a Class II Wastewater Discharge Permit under the provisions of this Ordinance shall pay a charge for use in accordance

with the formula contained herein and the Unit Charge rates adopted annually by Ordinance of the Board of Directors. These fees shall be invoiced on a quarterly basis. The quarterly invoice shall be based upon an estimate of the annual use as determined by OCSD.

Annually, OCSD shall compute the charge for use based upon actual use for the preceding fiscal year on an annual reconciliation statement. The charge for use is payable within forty-five (45) days of invoicing by OCSD. A special assessment credit will be allowed for any regional sanitary sewer service charge adopted by the Board of Directors by separate Ordinance and levied against the permitted property.

C. In order for OCSD to determine actual annual water use, the User shall provide to OCSD copies of its water bills. If these water bill copies are not received by August 15th of each year for the 12-month period ended closest to June 30, OCSD will endeavor to obtain the water use data. Data obtained by OCSD will be considered correct and will not be adjusted before the next annual reconciliation statement.

There shall be a fee levied for OCSD administrative costs when water use data is obtained by OCSD. The amount of the fee shall be adopted by the OCSD Board of Directors.

D. The charge for use shall be computed by the following formula:

Charge for Use = VoV + BoB + SoS – Special Assessment Credit

Where V = total annual volume of flow, in millions of gallons

B = total annual discharge of biochemical oxygen demand, in thousands of pounds

S = total annual discharge of suspended solids, in thousands of pounds

Vo, Bo, So = Unit Charge rates adopted annually by Ordinance of OCSD's Board of Directors, based upon the funding requirements of providing sewerage service, in dollars per unit as described in Paragraph E below.

E. The unit charge rates in the charge for use formula shall be established annually and shall be determined by the following method:

1. An Operations and Maintenance component of the Unit Charge for the total annual operation and maintenance funding requirements of the Sewerage System shall be levied at a rate to be determined from time to time by the Board of Directors. This charge shall be allocated among the three Wastewater charge parameters of flow, biochemical

oxygen demand and suspended solids in accordance with the General Manager's determination as to the costs associated with each parameter and pursuant to applicable requirements of state and federal Regulatory Agencies.

The operation and maintenance costs as distributed to flow, biochemical oxygen demand and suspended solids shall be divided by the projected annual total flow volume and weights of biochemical oxygen demand and suspended solids to be treated by the Sewerage System in the budgeted year.

2. A Capital Facilities Replacement component of the Unit Charge for capital replacement and capital improvement shall be levied at a rate to be determined from time to time by the Board of Directors. This charge shall be allocated among the three Wastewater charge parameters of flow, biochemical oxygen demand and suspended solids in accordance with the General Manager's determination of which portion of the charge predominantly relates to each parameter.

   The capital facilities charge distributed to biochemical oxygen demand and suspended solids shall be divided by the projected annual weights of biochemical oxygen demand and suspended solids to be treated by the Sewerage System in the budgeted year.

3. The unit charge rates for each respective Wastewater component in (1) and (2) above shall be summed. The Unit Charge rates so determined will be expressed in dollars per million gallons for Vo, and in dollars per thousand pounds for Bo and So.

F. Other measurements of the organic content of the Wastewater of a Discharger, such as COD or TOC, may be used instead of BOD. However, the Discharger must establish to the General Manager's satisfaction a relationship between the BOD of the Wastewater and the other parameter of measure. This relationship shall be used by OCSD in determining the charge for use. When Wastewater from sanitary facilities is discharged separately from the other Wastewater of a Discharger, the charge for use for discharging the sanitary Wastewater may be determined by using the following:

1. 25 gallons per employee per eight-hour working day.

2. BOD and suspended solids to be calculated at domestic Wastewater strength per employee per year.

   The number of employees will be considered as the average number of people employed full time on a daily basis. This may be

determined by averaging the number of people employed at the beginning and end of each quarter, or other period that reflects normal employment fluctuations.

304. DRY WEATHER URBAN RUNOFF DISCHARGE PERMITS

A. No User shall discharge urban runoff directly to OCSD's Sewerage System without obtaining a Dry Weather Urban Runoff Discharge Permit.

B. OCSD shall determine whether the dry weather urban runoff proposed to be discharged into OCSD's Sewerage System may cause a potential environmental risk and/or health hazard that cannot be economically or practically controlled by alternative disposal methods.

C. Dry Weather Urban Runoff Discharge Permits shall be subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD.

D. All Users required to obtain a Dry Weather Urban Runoff Discharge Permit proposing to discharge directly or indirectly into OCSD's Sewerage Facilities shall file an application pursuant to Section 304.1 and pay the applicable fees pursuant to Sections 304.3 and 304.6.

304.1 Dry Weather Urban Runoff Discharge Permit Application

A. An applicant shall contact OCSD prior to any construction of facilities and discharge of dry weather urban runoff into the Sewerage System to determine if the discharge of dry weather urban runoff to the OCSD's Sewerage Facilities is feasible.

B. Applicants shall complete and file with OCSD, prior to commencing discharge, an application in the form prescribed by OCSD. This application shall be accompanied by applicable fees, design plans, a detailed analysis of other disposal alternatives, or other data as needed by OCSD for review. The applicant shall provide justification that disposal alternatives for the dry weather urban runoff are not economically or practically feasible in lieu of sewer discharge.

C. In addition to the discharge permit, OCSD may require that the permit applicant enter into an agreement setting forth the terms under which the dry weather urban runoff discharge is authorized.

D. Applicants shall provide adequate Pretreatment and/or Best Management Practices included within the applicants' plans to ensure that the applicable discharge limits shall be met.

304.2 Dry Weather Urban Runoff Discharge Permit Condition and Limits

The issuance of a Dry Weather Urban Runoff Discharge Permit may contain any the following conditions or limits:

A. Mass Emission Rates and concentration limits regulating non-compatible Pollutants.

B. Requirements for the User to construct and maintain, at the User's expense, appropriate Pretreatment equipment, Flow Monitoring Facilities, and devices to prevent storm water discharge into OCSD's Sewerage System during a wet weather event (rain event).

C. Requirements for the User to provide OCSD with its operations and maintenance plan, best management practices, and pollution prevention strategies designed to minimize or eliminate dry weather urban runoff Pollutants.

D. Limits on rate and time of discharge or requirements for flow regulation and equalization prior to discharge to the Sewerage System.

E. Requirements to self-monitor the discharge to the Sewerage System.

F. The General Manager may impose additional requirements as may be appropriate to reduce the burden on OCSD's Sewerage Facilities.

G. Prohibitions on the discharge, which may cause OCSD's effluent, biosolids, or any other product of its treatment process, to be unsuitable for reclamation, reuse, or disposal.

304.3 Dry Weather Urban Runoff Discharge Permit Fee

The Dry Weather Urban Runoff Discharge Permit fee shall be paid by the applicant in an amount established in the applicable Ordinance adopted by OCSD's Board of Directors. Payment of permit fees must be received by OCSD prior to issuance of either a new permit or a renewed permit. Each Permittee shall also pay delinquent invoices in full prior to permit renewal.

304.4 Dry Weather Urban Runoff Discharge Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by OCSD during the life of the permit based on:

1. The discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies, which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. A Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested changes and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond accordingly.

C. A Permittee shall be informed of any changes in the permit at least forty-five (45) days prior to the effective date change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

304.5 Dry Weather Urban Runoff Discharge Permit Duration and Renewal

Dry Weather Urban Runoff Discharge Permit shall normally be issued for a period not to exceed five (5) years. At least forty-five (45) days prior to the expiration of the permit, the User shall apply for renewal of the permit in accordance with the provisions of this Article 3.

304.6 Dry Weather Urban Runoff Discharge Permit Charge for Use

A Discharger who is issued a Dry Weather Urban Runoff Discharge Permit under the provision of this Ordinance shall pay a charge for use in accordance with rates established by Ordinance adopted by OCSD's Board of Directors.

305. SPECIAL PURPOSE DISCHARGE PERMITS

A. No User requiring a Special Purpose Discharge Permit shall discharge Wastewater without obtaining a Special Purpose Discharge Permit. Alternatively, at the discretion of the OCSD Division Head or Department Head, OCSD may issue a Letter to Discharge in lieu of a Special Purpose Discharge Permit.

B. Special Purpose Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD. The conditions of Special Purpose Discharge Permits shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

C. All Special Purpose Discharge Permit Users proposing to discharge directly

or indirectly into OCSD's Sewerage Facilities shall obtain a Special Purpose Discharge Permit by filing an application pursuant to Section 305.1 and paying the applicable fees pursuant to Sections 305.3 and 305.6. This discharge permit may be granted when no alternative method of disposal is reasonably available, or to mitigate an environmental risk or health hazard.

305.1 Special Purpose Discharge Permit Application

A. Applicants seeking a Special Purpose Discharge Permit shall complete and file with OCSD, prior to commencing discharge, an application in the form prescribed by OCSD. This application shall be accompanied by the applicable fees, plumbing plans, a detailed analysis of the alternatives for water disposal, or other data as needed by OCSD for review.

B. The permit application may be denied when the applicant has failed to establish to OCSD's satisfaction that adequate Pretreatment equipment is included within the applicants' plans to ensure that the discharge limits will be met or that the applicant has, in the past, demonstrated an inability to comply with applicable discharge limits.

305.2 Special Purpose Discharge Permit Conditions and Limits

A. Discharge conditions and limits shall be no less stringent than Section 201(A), General Prohibitions; 201(B), Specific Prohibitions; Section 213, Mass Emission Rate Determination; and Table 1, Local Discharge Limits.

B. Monitoring requirements for the discharge shall be for those non-compatible Pollutants known to exist in the discharge. At least one set of baseline analysis prior to or upon sewer discharge may be required for all constituents contained in the most current Environmental Protection Agency (EPA) "Priority Pollutant" list, excluding asbestos, as listed in Appendix A of 40 CFR Part 423, or as subsequently amended.

C. OCSD may specify and make part of each Special Purpose Discharge Permit specific Pretreatment Requirements or other terms and conditions determined by the General Manager to be appropriate to protect OCSD's Sewerage Facilities, the Local Sewering Agency, to comply with Regulatory Agencies' requirements, to ensure compliance with this Ordinance, and to assess a charge for use.

305.3 Special Purpose Discharge Permit Fee

The special purpose discharge permit fee shall be paid by the applicant in an amount adopted by Ordinance of the Board of Directors. Payment of permit fees must be received by OCSD prior to issuance of either a new permit or a renewed permit. Each Permittee shall also pay delinquent invoices in full prior to permit renewal.

305.4 Special Purpose Discharge Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by OCSD during the life of the permit based on:

1. The Discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. A Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond in writing.

C. A Permittee shall be informed of any changes in the permit at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

305.5 Special Purpose Discharge Permit Duration and Renewal

Special purpose discharge permits shall normally be issued for a period not to exceed five (5) years, but may be renewed as determined by the General Manager. Users seeking permit renewal shall comply with all provisions of this Article 3.

305.6 Special Purpose Discharge Permit Charge for Use

The General Manager shall establish a charge for use to cover all costs of OCSD for providing sewerage service and monitoring. A deposit determined by the General Manager to be sufficient to pay the estimated charges for use shall accompany the Special Purpose Discharge Permit application, and said deposit shall be applied to the charges for use.

306. WASTEHAULER DISCHARGE PERMIT

A. Wastehauler Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD. The conditions of Wastehauler Discharge Permits shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

B. A Wastehauler proposing to discharge Waste and/or Wastewater into the OCSD Wastehauler Station shall obtain and keep current both a valid Orange County Health Care Agency registration (where applicable), and a OCSD Wastehauler Discharge Permit.

306.1 Wastehauler Discharge Permit Application

A. No User or Wastehauler shall discharge waste and/or Wastewater without both a valid Orange County Health Care Agency registration (where applicable) and an OCSD Wastehauler Discharge Permit.

B. Any User or Wastehauler required to obtain a Wastehauler Discharge Permit shall complete and file with OCSD prior to commencing discharge, an application in a form prescribed by OCSD. This application shall be accompanied by the applicable fees. The applicant shall submit, in units and terms appropriate for evaluation, the following information:

1. Name, address, telephone number, and description of the industries or clients using the applicant's services.

2. (Whichever is applicable) Name and address of any and all principals/owners/major shareholders of the company, Articles of Incorporation, most recent Report of the Secretary of State, and Business License.

3. Name and address of leaseholder of the vehicle or trailer, if applicable.

4. Number of trucks and trailers and the license numbers and tank hauling capacity of each truck or trailer.

5. A copy of the applicant's valid Orange County Health Care Agency registration, where applicable.

C. Wastehaulers discharging Food Service Establishment grease waste into OCSD's Wastehauler Station must have a valid California Department of Food and Agriculture (CDFA) permit, if required by law.

D. Other information related to the applicant's business operations and potential discharge may be requested to properly evaluate the permit application.

E. After evaluation of the data furnished, OCSD may issue a Wastehauler Discharge Permit, subject to terms and conditions set forth in this Ordinance and as otherwise determined by the General Manager to be appropriate to protect OCSD's Sewerage System.

306.2 Wastehauler Discharge Permit Conditions and Limits

The issuance of a Wastehauler permit may contain any of the following conditions or limits:

A. Limits on discharge of heavy metals and other priority Pollutants.

B. Requirements for maintaining and submitting Wastehauling records and Waste-Tracking Forms, and a valid copy of a current Orange County Health Care Agency registration (where applicable).

C. Additional requirements as otherwise determined to be appropriate by the General Manager to protect OCSD's Sewerage System or as specified by other Regulatory Agencies.

D. Other terms and conditions which may be applicable to ensure compliance with this Ordinance.

306.3 Wastehauler Discharge Permit Fee

The Wastehauler discharge permit fee shall be paid by the applicant in an amount adopted by Ordinance of the Board of Directors. Payment of permit fees must be received by OCSD prior to issuance of either a new permit or a renewed permit. A Permittee shall also pay any delinquent invoices in full prior to permit renewal.

306.4 Wastehauler Identification Decal and Access Card Transfer

A. The identification decal is non-transferable.

B. If a gate access card is issued, it shall be issued to a specific permitted vehicle and is non-transferable unless previously authorized in writing by OCSD.

306.5 Wastehauler Discharge Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by OCSD during the life of the permit

based on:

1. The Discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond in writing.

C. Permittee shall be informed of any change in the permit limits, conditions, or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

306.6 Wastehauler Discharge Permit Duration and Renewal

Wastehauler Discharge Permits shall be issued for a period not to exceed three (3) years. The Wastehauler Discharge Permit is contingent upon the Permittee maintaining a valid Orange County Health Care Agency Permit registration throughout the duration of the Wastehauler Discharge Permit. If at any time, the Permittee is determined to not have a valid OCHCA registration, the OCSD Wastehauler Discharge Permit will be immediately revoked. Upon expiration of the permit, the User and/or Wastehauler shall apply for renewal of the permit in accordance with the provisions of Article 3.

306.7 Wastehauler Discharge Permit Charge for Use

A charge for use to cover all costs of OCSD for providing the Wastehauler Station service and monitoring shall be established by Ordinance of the Board of Directors.

307. DISCHARGE CERTIFICATIONS

A. Discharge Certifications may be issued to those Users that are discharging regulated Wastewater but are not otherwise required to obtain a discharge permit.

B. No User requiring a Discharge Certification, or a Zero Discharge Certification shall discharge non-domestic Wastewater to OCSD without obtaining certification.

C. Discharge Certifications shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD. The conditions of the Discharge Certifications shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

D. All Users subject to Discharge Certifications proposing to discharge directly or indirectly into the OCSD's Sewerage Facilities shall obtain a Discharge Certification by filing an application and paying all applicable fees thereto.

E. A User required to obtain a Discharge Certification may be required, at OCSD's discretion, to submit a completed application, and OCSD will approve the certification or otherwise proceed as required by federal law.

F. The Discharge Certification shall contain as a minimum:

1. BMPs to regulate the quality of Wastewater discharged;

2. Requirements to periodically certify that appropriate BMPs are being practiced or are no longer necessary;

3. Requirements to notify OCSD in writing prior to modification to processes or operations through which regulated Wastewater may be produced;

4. Notice that OCSD may inspect the facility as necessary to assess and assure compliance with all discharge requirements; and

5. Requirements to comply with Resource Conservation and Recovery Act (RCRA) and state hazardous waste regulations regarding the proper disposal of hazardous waste.

G. A Zero Discharge Certification shall contain at a minimum:

1. A statement that no discharge of regulated Wastewater is permitted;

2. Requirements to notify OCSD of any changes in operation resulting in a potential for discharge;

3. Requirements to periodically certify that no discharge of regulated Wastewater has occurred;

4. Notice that OCSD may inspect the facility as necessary to assess and assure compliance with the "no discharge" requirement; and

5. Requirements to comply with Resource Conservation and Recovery Act (RCRA) and state hazardous waste regulations regarding the proper disposal of hazardous waste.

308. OUT OF DISTRICT PERMITS/DISCHARGERS

A. Industrial Wastewater Discharge Permits for Dischargers located outside OCSD's boundaries but within the OCSD service area and tributary to OCSD's Sewerage Facilities, may be issued by a Local Sewering Agency after approval by OCSD. OCSD shall have the right of inspection and sampling of the User's discharge to determine compliance with Industrial Wastewater discharge regulations. Such inspection and sampling will be performed under a coordinated plan developed with the Local Sewering Agency. The more stringent of the industrial Wastewater discharge regulations and effluent limits of OCSD and the local agency shall apply to the Discharger.

B. Pursuant to Article 6 herein, OCSD shall have the right to enforce the Federal Regulations, the provisions of this Ordinance, and permit conditions and limits applicable to any User located outside of OCSD's service area, but whose discharge is tributary to OCSD's Sewerage Facilities.

C. The fees for use shall be determined by OCSD and set forth in a use agreement with the Local Sewering Agency.

D. The requirements for a liquid wastehauler program may be established by a Local Sewering Agency after obtaining written permission from OCSD.

309. RESERVED

310. RESERVED

ARTICLE 4. FACILITIES REQUIREMENTS

401. DRAWING SUBMITTAL REQUIREMENTS

Upon request by OCSD:

A. Applicants or Users may be required to submit three copies of detailed facility plans. The submittal shall be in a form and content acceptable to OCSD for review of existing or proposed Pretreatment facilities, spill containment facilities, monitoring facilities, metering facilities, and operating procedures. The review of the plans and procedures shall in no way relieve the User of the responsibility of modifying the facilities or procedures in the future, as necessary to produce a discharge acceptable to OCSD, and to meet the requirements of this Ordinance or any requirements of other Regulatory Agencies.

B. The drawing shall depict as a minimum the manufacturing process (Wastewater generating sources), spill containment, monitoring or metering facilities, and Pretreatment facilities.

C. The applicant or User shall submit a schematic drawing of the Pretreatment facilities, piping and instrumentation diagram, and Wastewater characterization report.

D. Users and applicants may also be required to submit for review site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, spill containment, clarifiers, and appurtenances by size, location, and elevation for evaluation.

E. OCSD may require the drawings be prepared by a California Registered Chemical, Mechanical, or Civil Engineer.

F. Permittees shall be required to submit updated detailed facility plans.

402. PRETREATMENT FACILITIES

A. All Users shall provide Wastewater treatment as necessary to comply with this ordinance and shall achieve compliance with all Categorical Pretreatment Standards, Table 1, Local Discharge Limits, and the prohibitions set out in Sections 201 (A) & (B) of this Ordinance within the time limitations specified by EPA, the state, or OCSD, whichever is more stringent. Any facilities necessary for compliance shall be provided, operated by a qualified operator, and maintained in proper operating condition at the User's expense.

B. All Users may also be required by OCSD to submit Wastewater analysis plans, contingency plans, and meet other necessary requirements to ensure proper operation of the Pretreatment facilities and compliance with permit limits and this Ordinance.

C. No User shall increase the use of water or in any other manner attempt to dilute a discharge as a partial or complete substitute for treatment to achieve compliance with this Ordinance and the User's Permit.

403. SPILL CONTAINMENT FACILITIES/ACCIDENTAL SLUG CONTROL PLANS

A. All Users shall provide spill containment for protection against discharge of prohibited Pollutants, materials or other Wastewaters regulated by this Ordinance. Such protection shall be designed to secure the discharges and to prevent them from entering into the Sewerage System in accordance with reasonable engineering standards. Such facilities shall be provided and maintained at the User's expense.

B. The General Manager shall require any Significant Industrial User to develop and implement an accidental discharge/slug control plan. OCSD may evaluate whether each Industrial User needs such a plan. Any User required to develop and implement an accidental discharge/control slug plan shall submit a plan which addresses, at a minimum, the following:

1. Description of discharge practices, including non-routine batch discharges.

2. Description of stored chemicals.

3. Procedures for immediately notifying OCSD of any accidental of slug discharge. Such notification must also be given for any discharge which would violate any of the prohibited discharges in Article 2 of this Ordinance.

4. Procedures to prevent adverse impact from any accidental or slug discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic Pollutants (including solvents), and measures and equipment for emergency response.

404. MONITORING/METERING FACILITIES

All Wastewater samples must be representative of the User's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of a User to keep its monitoring facility in good working order shall not be grounds for the User to claim that sample results are unrepresentative of its discharge.

A. OCSD may require the User to construct and maintain in proper operating condition at the User's sole expense, flow monitoring, constituent monitoring and/or sampling facilities.

B. Permittees may be required to install and maintain an appropriate effluent flow monitoring device. Calibration of such flow monitoring device shall be done annually or as specified in the Wastewater discharge permit.

C. The monitoring or metering facilities may be required to include a security closure that can be locked with an OCSD provided hasp lock during sampling or upon termination of service.

D. The location of the monitoring or metering facilities shall be subject to approval by OCSD.

E. The User shall provide immediate, clear, safe and uninterrupted access to OCSD to the User's monitoring and metering facilities.

F. For all industries permitted by OCSD, domestic Wastewaters shall be kept segregated from all Industrial Wastewaters until the Industrial Wastewaters have passed through any required Pretreatment system or device and the Permittee's sample point.

405. WASTE MINIMIZATION REQUIREMENTS

A. As required by a User's permit, the User shall provide waste minimization plans to reduce or eliminate Pollutant discharge to the Sewerage System and conserve water. The User shall investigate product substitution, housekeeping practices, provide inventory control, implement employee education, and other steps as necessary to minimize Wastewater produced.

B. Upon approval by OCSD, a User may certify that their facility does not discharge any type of Wastewater containing Pollutants that may directly or indirectly discharge into OCSD's Sewerage System as a form of Best Management Practice (BMP).

ARTICLE 5. MONITORING, REPORTING, NOTIFICATION, AND INSPECTION REQUIREMENTS

501. MONITORING AND REPORTING CONDITIONS

A. Monitoring for Annual Charge for Use

The Wastewater constituents and characteristics of a Discharger needed for determining the annual charge for use shall be submitted in the form of self-monitoring reports by the User to OCSD, if requested. The frequency of analyses and reporting shall be set forth in the User's permit. The analyses of these constituents and characteristics shall be by a laboratory acceptable to OCSD, and at the sole expense of the Permittee. Analyses performed by OCSD's personnel may be used in the determination of the annual charge for use.

B. Monitoring for Compliance with Permit Conditions or Reporting Requirements

OCSD may require reports for self-monitoring of Wastewater constituents and characteristics of the Discharger needed for determining compliance with any limit or requirements as specified in the User's permit, federal or state regulations, or this Ordinance. The federal Pretreatment regulations, including 40 CFR 403.12(g)-(h), contain requirements for collecting samples, such as requiring that sampling be representative of conditions occurring during the reporting period and that grab samples must be collected for certain parameters. These reports include:

1. Baseline Monitoring Reports.

a) Within either one hundred eighty (180) days after the effective date of a categorical Pretreatment Standard, or the final administrative decision on a category determination under 40 CFR 403.6(a)(4), whichever is later, existing Industrial Users subject to categorical Pretreatment Standard(s) currently discharging to or scheduled to discharge to OCSD shall submit to the General Manager a report which contains the information listed in paragraph b), below. At least ninety (90) days prior to commencement of their discharge, New Sources, and sources that become Significant Industrial Users subsequent to the promulgation of an applicable categorical Standard, shall submit to the General Manager a report which contains the information listed in paragraph c), below. A New Source shall report the method of Pretreatment it intends to use to meet applicable categorical Pretreatment Standards. A New Source also shall give estimates of its

anticipated flow and quantity of Pollutants to be discharged.

b) Users described above shall submit the information set forth below.

(1) All information required in Section 302.13 of this Ordinance, including requirements in 40 CFR 403.12(b)(1)-(7).

(2) Measurement of Pollutants.

a) The User shall provide the following information.

1) The categorical Pretreatment Standards applicable to each regulated process and any new categorically regulated processes for Existing Sources.

2) The results of sampling and analysis identifying the nature and concentration, and/or mass, where required by the Standard or by the General Manager, of regulated Pollutants in the discharge from each regulated process.

3) Instantaneous, Daily Maximum, and long-term average concentrations or mass, where required, shall be reported.

4) The sample shall be representative of daily operations and shall be analyzed in accordance with procedures set out in Section 501.2 of this Ordinance. Where the Standard requires compliance with a BMP or pollution prevention alternative, the User shall submit documentation as required by the General Manager or the applicable Standards to determine compliance with the Standard.

5) Sampling must be performed in accordance with procedures set out in Section 602 of this Ordinance.

b) The User shall take a minimum of one representative sample to compile that data

necessary to comply with the requirements of this paragraph.

c) Samples should be taken immediately downstream from Pretreatment facilities if such exist or immediately downstream from the regulated process if no Pretreatment exists. If other Wastewaters are mixed with the regulated Wastewater prior to Pretreatment the User should measure the flows and concentrations necessary to allow use of the Combined Wastestream Formula in 40 CFR 403.6(e) to evaluate compliance with the Pretreatment Standards. Where an alternate concentration or mass limit has been calculated in accordance with 40 CFR 403.6(e), this adjusted limit along with supporting data shall be submitted to OCSD;

d) Sampling and analysis shall be performed in accordance with this Ordinance;

e) The General Manager may allow the submission of a baseline report which utilizes only historical data so long as the data provides information sufficient to determine the need for industrial Pretreatment measures;

f) The baseline report shall indicate the time, date and place of sampling and methods of analysis, and shall certify that such sampling and analysis is representative of normal work cycles and expected Pollutant discharges to OCSD.

(3) Compliance Certification. A statement, reviewed by the User's Authorized Representative as defined in this Ordinance and certified by a qualified professional, indicating whether Pretreatment Standards are being met on a consistent basis, and, if not, whether additional operation and maintenance (O&M) and/or additional Pretreatment is required to meet the Pretreatment Standards and Requirements.

(4) Compliance Schedule. If additional Pretreatment and/or O&M will be required to meet the Pretreatment Standards, the shortest schedule by which the User will

provide such additional Pretreatment and/or O&M must be provided.

The completion date in this schedule shall not be later than the compliance date established for the applicable Pretreatment Standard. A compliance schedule pursuant to this Section must meet the requirements set forth in this Ordinance.

(5) Signature and Report Certification. All baseline monitoring reports must be certified in accordance with this Ordinance and signed by an Authorized Representative.

2. Compliance Schedule Progress Reports.

The following conditions shall apply to the compliance schedule required by this Ordinance:

a) The schedule shall contain progress increments in the form of dates for the commencement and completion of major events leading to the construction and operation of additional Pretreatment required for the User to meet the applicable Pretreatment Standards (such events include, but are not limited to, hiring an engineer, completing preliminary and final plans, executing contracts for major components, commencing and completing construction, and beginning and conducting routine operation);

b) No increment referred to above shall exceed nine (9) months;

c) The User shall submit a progress report to the General Manager no later than fourteen (14) days following each date in the schedule and the final date of compliance including, as a minimum, whether or not it complied with the increment of progress, the reason for any delay, and, if appropriate, the steps being taken by the User to return to the established schedule; and

d) In no event shall more than nine (9) months elapse between such progress reports to the General Manager.

3. 90-Day Compliance Reports.

Within ninety (90) days following the date for final compliance with applicable categorical Pretreatment Standards, or in the case of a

New Source following commencement of the introduction of Wastewater into OCSD, any User subject to such Pretreatment Standards and Pretreatment Requirements shall submit to the General Manager a report containing the information described in this Ordinance. For Users subject to equivalent mass or concentration limits, this report shall contain a reasonable measure of the User's long-term production rate. For all other Users subject to categorical Pretreatment Standards expressed in terms of allowable Pollutant discharge per unit of production (or other measure of operation), this report shall include the User's actual production during the appropriate sampling period. All compliance reports must be signed and certified in accordance with this Ordinance. All sampling will be done in conformance with Section 602.

4. Periodic Compliance Reports.

   a) Except as otherwise specified in this Ordinance, all Significant Industrial Users must, at a frequency determined by the General Manager, submit no less than twice per year on dates specified by OCSD reports indicating the nature, concentration of Pollutants in the discharge which are limited by Pretreatment Standards and the measured or estimated average and maximum daily flows for the reporting period. In cases where the Pretreatment Standard requires compliance with a Best Management Practice (BMP) or pollution prevention alternative, the User must submit documentation required by the General Manager or the Pretreatment Standard necessary to determine the compliance status of the User including documentation associated with Best Management Practices.

   b) OCSD will meet reporting requirements as specified by 40 CFR Part 3 (Cross-Media Electronic Reporting). Therefore, Users that send electronic (digital) documents to OCSD to satisfy the requirements of this Section must register for the system online and submit a signed Subscriber Agreement to OCSD for review and approval.

5. Notification of the Discharge of Hazardous Waste.

   a) Any User who commences the discharge of hazardous waste shall notify OCSD, the EPA Regional Waste Management Division Director, and state hazardous waste authorities, in writing, of any discharge into OCSD of a substance which, if otherwise disposed of, would be a hazardous waste under 40

CFR Part 261. The User shall receive written approval from the OCSD to discharge hazardous waste. Such notification must include the name of the hazardous waste as set forth in 40 CFR Part 261, the EPA hazardous waste number, and the type of discharge (continuous, batch, or other). If the User discharges more than one hundred (100) kilograms of such waste per calendar month to OCSD, the notification also shall contain the following information to the extent such information is known and readily available to the User: an identification of the hazardous constituents contained in the wastes, an estimation of the mass and concentration of such constituents in the wastestream discharged during that calendar month, and an estimation of the mass of constituents in the wastestream expected to be discharged during the following twelve (12) months. All notifications must take place no later than one hundred and eighty (180) days after the discharge commences. Any notification under this paragraph need be submitted only once for each hazardous waste discharged. However, notifications of changed conditions must be submitted under subdivision 6 below. The notification requirement in this Section does not apply to Pollutants already reported by Users subject to categorical Pretreatment Standards under the self-monitoring requirements of this Ordinance.

b) Dischargers are exempt from the requirements of paragraph (a), above, during a calendar month in which they discharge no more than fifteen (15) kilograms of hazardous wastes, unless the wastes are acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e). Discharge of more than fifteen (15) kilograms of non-acute hazardous wastes in a calendar month, or of any quantity of acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e), requires a one-time notification. Subsequent months during which the User discharges more than such quantities of any hazardous waste do not require additional notification.

c) In the case of any new regulations under section 3001 of RCRA (42 U.S.C. § 6921) identifying additional characteristics of hazardous waste or listing any additional substance as a hazardous waste, the User must notify the General Manager, the EPA Regional Waste Management Waste Division Director, and state hazardous waste authorities of the discharge of such substance within ninety (90) days of the effective date of such regulations.

d) In the case of any notification made under this Section, the User shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

e) This provision does not create a right to discharge any substance not otherwise permitted to be discharged by this Ordinance, a permit issued thereunder, or any applicable federal or state law.

6. Reports of Changed Conditions

Each User must notify the General Manager's designee in writing at least thirty (30) days prior to implementing any significant changes to the User's operations, systems, or processes. Significant changes include any modifications which may alter the nature, quality, or volume of its Wastewater, or which may alter the facility's production processes and/or treatment systems and methods.

a) The General Manager may require the User to submit such information as may be deemed necessary to evaluate the changed condition, including the submission of a Wastewater discharge permit application under this Ordinance.

b) The General Manager may issue a Wastewater discharge permit under this Ordinance or modify an existing Wastewater discharge permit under this ordinance in response to changed conditions or anticipated changed conditions.

7. Reports of Potential Problems

a) In the case of any discharge, including, but not limited to, accidental discharges, discharges of a non-routine, episodic nature, a non-customary batch discharge, a Slug Discharge or Slug Load, that might cause potential problems for OCSD, the User shall follow the notification procedures under Notification of Spill or Slug Loading in Article 5. This notification shall also include the location of the discharge, type of Wastewater, concentration and volume, if known, and corrective actions taken by the User.

b) Within five (5) days following such discharge, the User shall, unless waived by the General Manager, submit a detailed written report. This written notification shall include, but not be limited to, the date of the incident, the reasons for the discharge or spill, what steps were taken to immediately

correct the problem, and what steps are being taken to prevent the problem from recurring.

c) Such notification shall not relieve the User of any expense, loss, damage, or other liability which might be incurred as a result of damage or loss to OCSD, natural resources, or any other damage to person or property; nor shall such notification relieve the User of any fees, fines, penalties, or other liability which may be imposed pursuant to this Ordinance or other applicable law.

d) A notice shall be permanently posted on the User's bulletin board or other prominent place advising employees who to call in the event of a discharge described in paragraph a, above. Employers shall ensure that all employees, who could cause such a discharge to occur, are advised of the emergency notification procedure.

e) Significant Industrial Users are required to notify the General Manager immediately of any changes at its facility affecting the potential for a Slug Discharge.

8. Reports from Unpermitted Users

All Users not required to obtain a Wastewater discharge permit shall provide appropriate reports to the General Manager as the General Manager may require.

9. Notice of Violation/Repeat Sampling and Reporting

If sampling performed by a User indicates a violation, the User must notify the General Manager within twenty-four (24) hours of becoming aware of the violation. The User shall also repeat the sampling and analysis and submit the results of the repeat analysis to the General Manager within thirty (30) days after becoming aware of the violation. Resampling by the User is not required if OCSD performs sampling at the User's facility at least once a month, or if OCSD performs sampling at the User's facility between the time when the initial sampling was conducted and the time when the User or OCSD receives the results of this sampling, or if OCSD has performed the sampling and analysis in lieu of the User.

10. Other reports as required by OCSD.

a) Monitoring reports of the analyses of Wastewater constituents and characteristics shall be in a manner and form approved

by OCSD and shall be submitted upon request of OCSD. When applicable, the self-monitoring requirement and frequency of reporting may be set forth in the User's permit as directed by OCSD. The analyses of Wastewater constituents and characteristics and the preparation of the monitoring report shall be done at the sole expense of the User.

b) Failure by the User to perform any required monitoring, or to submit monitoring reports required by OCSD constitutes a violation of this Ordinance, may result in determining whether the Permittee is in significant non-compliance, and be cause for OCSD to initiate all necessary tasks and analyses to determine the Wastewater constituents and characteristics for compliance with any limits and requirements specified in the User's permit or in this Ordinance. The User shall be responsible for any and all expenses of OCSD in undertaking such monitoring analyses and preparation of reports.

501.1 Inspection and Sampling Conditions

A. OCSD may inspect and sample the Wastewater generating and disposal facilities of any User to ascertain whether the intent of this Ordinance is being met and the User is complying with all requirements.

B. OCSD shall have the right to place on the User's property or other locations as determined by OCSD, such devices as are necessary to conduct sampling or metering operations. Other sampling locations may include downstream manholes, usually in the Sewerage System, for the purpose of determining the compliance status of an industrial or commercial Discharger.

C. OCSD may require the User to install and maintain sample points in areas acceptable to OCSD outside the User's facility, within the reasonable control of the User or OCSD. OCSD may also require lockable sample boxes fully containing the sample points. The User shall grant OCSD access to the sample points and sample boxes in accordance with this Ordinance.

D. In order for OCSD to determine the Wastewater characteristics of the Discharger for purposes of determining the annual use charge and for compliance with permit requirements, the User shall make available for inspection and copying by OCSD all notices, self-monitoring reports, Waste-Tracking Forms, and records including, but not limited to, those related to production, Wastewater generation, Wastewater disposal, and those required in the Pretreatment Requirements without restriction but

subject to the confidentiality provision set forth in Section 103 herein. All such records shall be kept by the User a minimum of three (3) years.

E. If a Discharger falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method, the Discharger may be subject to imposition of penalties, permit suspension or permit revocation.

501.2 Analytical Requirements

All Pollutant analyses, including sampling techniques, to be submitted as part of a Wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto, unless otherwise specified in an applicable categorical Pretreatment Standard. If 40 CFR 136 does not contain sampling or analytical techniques for the Pollutant in question, or where the EPA determines that the 40 CFR 136 sampling and analytical techniques are inappropriate for the Pollutant in question, sampling and analyses shall be performed by using validated analytical methods or any other applicable sampling and analytical procedures, including EPA-approved procedures or procedures approved by the General Manager.

501.3 Right of Entry

A. Persons or occupants of premises where Wastewater is created or discharged shall allow OCSD, or its representatives, reasonable access to all parts of the Wastewater generating and disposal facilities for the purposes of inspection and sampling during all times the Discharger's facility is open, operating, or any other reasonable time. No Person shall interfere with, delay, resist or refuse entrance to authorized OCSD personnel attempting to inspect any facility involved directly or indirectly with a discharge of Wastewater to OCSD's Sewerage System.

B. Where a User has security measures in place, the User shall make necessary arrangements so that personnel from OCSD shall be permitted to enter without delay for the purpose of performing their specific responsibilities.

501.4 Notification of Spill or Slug Loading

A. In the event the Discharger is unable to comply with any permit condition due to a breakdown of equipment, accidents, or human error, or the Discharger has reasonable opportunity to know that a discharge will exceed the discharge provisions of the User's permit, Sections 201(A) & (B) or Table 1, Local Discharge Limits, the Discharger shall immediately notify OCSD by telephone. If the Wastewater or material discharged to the sewer has the potential to cause or result in a fire or explosion hazard, the Discharger shall immediately notify the local fire department and OCSD. Also see *Reports of Potential Problems* in this Article.

501.5 Bypass Prohibition; Notification of Bypass

A. Bypass of Industrial Wastewater to the Sewerage System is prohibited. OCSD may take enforcement action against the User, unless:

1. Bypass was unavoidable because it was done to prevent loss of life, personal injury, or severe property damage;

2. There were no feasible alternatives to the Bypass, such as the use of auxiliary treatment facilities, retention of untreated Wastes, elective slow-down or shut-down of production units or maintenance during periods of production downtime. This condition is not satisfied if adequate backup equipment could have been feasibly installed in the exercise of reasonable engineering judgment to prevent a Bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

3. The Permittee submitted notices as required under Section 501.4(A).

B. If a Permittee knows in advance of the need for a Bypass, it shall submit a written request to allow the Bypass to OCSD, if possible, at least ten (10) days before the date of the Bypass.

C. OCSD may approve an anticipated Bypass at its sole discretion after considering its adverse effects, and OCSD determines that the conditions listed in Section 501.5(A)(1-3) are met.

D. A Permittee shall provide telephone notification to OCSD of an unanticipated Bypass that exceeds its permitted discharge limits within four hours from the time the Permittee becomes aware of the Bypass. A written report shall also be provided within five (5) days of the time the Permittee becomes aware or could reasonably have been aware of the Bypass. The report shall contain a description of the Bypass and its cause; the duration of the Bypass, including exact dates and times, and, if the Bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the Bypass. Failure to comply with the oral notice or written report may be grounds for permit revocation.

ARTICLE 6. ENFORCEMENT

601. PURPOSE AND SCOPE

A. The Board finds that in order for OCSD to comply with the laws, regulations, and rules imposed upon it by Regulatory Agencies and to ensure that OCSD's Sewerage Facilities and treatment processes are protected and are able to operate with the highest degree of efficiency, and to protect the public health and environment, specific enforcement provisions must be adopted to govern the discharges to OCSD's Sewerage System by Permittees or by facilities required to obtain Zero Discharge Certifications. Certain violations may result in civil or criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable federal deadlines.

B. To ensure that all interested parties are afforded due process of law and that non-compliance and violations are resolved as soon as possible, the general policy of OCSD is that:

1. Any determination relating to a Zero Discharge Certification, Probation Order, Enforcement Compliance Schedule Agreement (ECSA), or Regulatory Compliance Schedule Agreement (RCSA) will be made by the Division Head of the OCSD Pretreatment Program, with a right of appeal by the Permittee to the General Manager pursuant to the procedures set forth in Section 618.

2. Any permit suspension or revocation recommended by the Division Head responsible for the OCSD Pretreatment Program will be heard and a recommendation made to the General Manager by an OCSD Department Head or other person designated by the General Manager.

3. Actions and decisions by the Division Head or Department Head are made pursuant to a delegation of authority by the General Manager as authorized by Section 107 of this Ordinance.

4. The Board of Directors may adopt rules of procedure to establish the conduct of certain administrative proceedings.

C. OCSD, at its discretion, may utilize any one, combination, or all enforcement remedies provided in this Article 6 in response to any permit or Ordinance violation.

602. DETERMINATION OF NON-COMPLIANCE WITH DISCHARGE LIMITS

A. Sampling Procedures

1. Sampling of all Permittees' facilities, Wastewater and discharges shall be conducted in the time, place, manner, and frequency determined at the sole discretion of OCSD.

2. Non-compliance with Mass Emission Rate limits, concentration limits, permit discharge conditions, or any discharge provision of this Ordinance may be determined by an analysis of a grab or composite sample of the effluent of a User. Non-compliance with Mass Emission Rate limits shall be determined by an analysis of a composite sample of the User's effluent, except that a grab sample may be used to determine compliance with Mass Emission Rate limits when the discharge is from a closed (batch) treatment system in which there is no Wastewater flow into the system when the discharge is occurring, the volume of Wastewater contained in the batch system is known, the time interval of discharge is known, and the grab sample is homogeneous and representative of the discharge.

3. All Wastewater samples must be representative of the User's discharge. Any sample taken from a sample point is considered to be representative of the discharge to the public sewer.

4. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of a User to keep its monitoring facility in good working order shall not be grounds for the User to claim that sample results are unrepresentative of its discharge.

5. If a User subject to the reporting requirement in this section monitors any regulated Pollutant at the appropriate sampling location more frequently than required by the General Manager, using the procedures prescribed in this Ordinance, the results of this monitoring shall be included in the report.

603. ENFORCEMENT PROCEDURES AND APPLICABLE FEES

A. Self-Monitoring Requirements as a Result of Non-Compliance

1. If analysis of any sample obtained by OCSD or by a Permittee shows non-compliance with the applicable Wastewater discharge limits set forth in this Ordinance or in the Permittee's discharge permit, OCSD may impose self-monitoring requirements on the Permittee.

2. A Permittee shall perform required self-monitoring of constituents in a frequency, at the specific location, and in a manner directed by OCSD.

3. All analyses of self-monitoring samples shall be performed by an independent laboratory acceptable to OCSD and submitted to OCSD in the form and frequency determined by OCSD.

4. All self-monitoring costs shall be borne by the Permittee.

5. Nothing in this section shall be deemed to limit the authority of OCSD to impose self-monitoring as a permit condition.

B. Purpose of Non-Compliance Resampling Fees

The purpose of the non-compliance resampling fee is to compensate OCSD for costs of additional sampling, monitoring, laboratory analysis, treatment, disposal, and administrative processing incurred as a result of the non-compliance, and shall be in addition to and not in lieu of any penalties as may be assessed pursuant to Sections 616 and 617.

C. Non-Compliance Resampling Fees for Composite Samples

1. Each violation of a Permittee's permit limit or condition is a violation of this Ordinance.

   a) If analysis of any composite sample of a Permittee's discharge obtained by OCSD shows a major violation by the Permittee of the Mass Emission Rates or concentration limits specified in the Permittee's discharge permit or in this Ordinance, then the Permittee shall pay non-compliance resampling fees to OCSD pursuant to fee schedules adopted by OCSD's Board of Directors.

   b) If analysis of any composite sample of a Permittee's discharge obtained by OCSD shows a minor violation by the Permittee of the Mass Emission Rates or concentration limits specified in the Permittee's discharge permit or in this Ordinance, then OCSD shall impose non-compliance resampling fees pursuant to fee schedules adopted by OCSD's Board of Directors.

2. The fees specified in subsection 603.C.1.a), C.1.b) and D herein shall be imposed for each date on which OCSD conducts sampling as a result of a violation by a Permittee.

D. Non-Compliance Resampling Fees for Grab Samples and Self-Monitoring Results

1. If analysis of any grab sample of a Permittee's discharge shows non-compliance with any concentration limits as set forth in the User's permit or in this Ordinance, OCSD may impose non-compliance resampling fees, pursuant to fee schedules adopted by the OCSD Board of Directors, for resampling conducted by OCSD as a result of a violation by the Permittee.

2. If any self-monitoring analysis of a Permittee's discharge shows non-compliance with any concentration limits or Mass Emission Rates as set forth in the User's permit or in this Ordinance, OCSD may impose non-compliance resampling fees, pursuant to fee schedules adopted by the OCSD Board of Directors, for sampling conducted by OCSD as a result of a violation by the Permittee.

603.1 Probation Order

A. Grounds

In the event the Division Head determines that a Permittee has violated any provision of this Ordinance, or the terms, conditions and limits of its discharge permit, or has not made payment of all amounts owed to OCSD for User charges, non-compliance resampling fees or any other fees, the General Manager may issue a Probation Order, whereby the Permittee must comply with all directives, conditions and requirements therein within the time prescribed.

B. Provisions

The issuance of a Probation Order may contain terms and conditions including, but not limited to, installation of Pretreatment equipment and facilities, requirements for self-monitoring, submittal of drawings or technical reports, operator certification, audit of Waste minimization practices, payment of fees, limits on rate and time of discharge, or other provisions to ensure compliance with this Ordinance.

C. Probation Order - Expiration

A Probation Order issued by the General Manager shall be in effect for a period not to exceed ninety (90) days.

603.2 Enforcement Compliance Schedule Agreement (ECSA)

A. Grounds

Upon determination that a Permittee is in non-compliance with the terms, conditions or limits specified in its permit or any provision of this Ordinance, and needs to construct and/or acquire and install equipment related to Pretreatment, the General Manager may require the Permittee to enter into an ECSA which will, upon the effective date of the ECSA, amend the Permittee's permit. The ECSA shall contain terms and conditions by which a Permittee must operate during its term and shall provide specific dates for achieving compliance with each term and condition for construction and/or acquisition and installation of required equipment related to Pretreatment.

B. Provisions

The issuance of an ECSA may contain terms and conditions including but not limited to requirements for self-monitoring, installation of Pretreatment equipment and facilities, submittal of drawings or reports, operator certification, audit of Waste minimization practices, payment of fees, limits on rate and time of discharge, deposit of performance guarantee, interim limits, or other provisions to ensure compliance with this Ordinance.

C. ECSA - Payment of Amounts Owed

OCSD shall not enter into an ECSA until such time as all amounts owed to OCSD, including User fees, non-compliance resampling fees, deposits, or other amounts due are paid in full, or an agreement for deferred payment secured by collateral or a third party, is approved by the General Manager. Failure to pay all amounts owed to OCSD shall be grounds for permit suspension or permit revocation as set forth in Section 605 and 606.

D. ECSA - Permit Suspension/Revocation

If compliance is not achieved in accordance with the terms and conditions of an ECSA during its term, the General Manager may issue an order suspending or revoking the discharge permit pursuant to Section 605 or 606 of this Ordinance.

604. REGULATORY COMPLIANCE SCHEDULE AGREEMENT (RCSA)

A. Grounds

If at any time subsequent to the issuance of a Wastewater Discharge Permit to an Industrial User, Federal Categorical Pretreatment Standards are adopted or revised by the United States Environmental Protection Agency,

or in the event OCSD enacts revised or new discharge limits, the General Manager, upon determination that an Industrial User would not be in compliance with the adopted revised or new limits, may require the industrial User to enter into a RCSA with OCSD under terms and conditions that would provide for achieving compliance with all new standards by the industrial User on a specific date. The RCSA shall have a maximum term of two hundred-seventy (270) days. The General Manager may approve a longer term, upon a showing of good cause.

B. Provisions

The issuance of a RCSA may contain terms and conditions including but not limited to requirements for installation of Pretreatment equipment and facilities, submittal of drawings or reports, waste minimization practices or other provisions to ensure compliance with this Ordinance.

C. RCSA - Non-Compliance Resampling Fee

During the period a RCSA is in effect, any discharge by Permittee in violation of the RCSA will require payment of non-compliance resampling fees in accordance with this Article 6.

605. PERMIT SUSPENSION

A. Grounds

The General Manager may suspend any permit when it is determined that a Permittee:

1. Fails to comply with the terms and conditions of either an ECSA or RCSA.

2. Knowingly provides a false statement, representation, record, report, or other document to OCSD.

3. Refuses to provide records, reports, plans, or other documents required by OCSD to determine permit terms, conditions, or limits, discharge compliance, or compliance with this Ordinance.

4. Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method.

5. Fails to report significant changes in operations or Wastewater constituents and characteristics.

6. Violates a Probation Order.

7. Refuses reasonable access to the Permittee's premises for the purpose of inspection and monitoring.

8. Does not make timely payment of all amounts owed to OCSD for User charges, non-compliance sampling fees, permit fees, or any other fees imposed pursuant to this Ordinance.

9. Violates any condition or limit of its discharge permit or any provision of OCSD's Ordinances or regulations.

B. Notice

When the General Manager has reason to believe that grounds exist for permit suspension, he/she shall give written notice thereof via personal delivery, mail with proof of delivery, or a similar method to the permittee setting forth a statement of the facts and grounds deemed to exist.

C. Suspension Effective Immediately

Any discharger notified of a permit suspension shall immediately cease and desist all direct and indirect discharges to the OCSD's sewerage system. In the event the discharger fails to voluntarily comply with the suspension order, the General Manager may take such steps as are reasonably necessary to prevent further discharges, including blocking or severing the discharger's connection to the sewer system.

D. Suspension Hearing

Any discharger whose permit is suspended may file a written request for a suspension hearing pursuant to this section. Such a request will not stay the suspension.

In the event a hearing is requested, the General Manager or his/her designee shall, within fourteen (14) days after receiving the request, hold a hearing to determine whether the permit suspension should be confirmed or terminated.

1. At the suspension hearing, the Permittee shall have an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by OCSD's General Counsel.

2. The General Manager or the General Manager's designee shall render a decision on the suspension within seventy-two (72) hours following the conclusion of the suspension hearing. In the event the

General Manager or his/her designee fails to make a decision within seventy-two (72) hours, the suspension shall be stayed pending the decision.

3. The decision shall be made in writing and include a brief statement of facts found to be true and a determination of the issues presented, including a final decision and order regarding whether the suspension is upheld or terminated.

4. The written decision and order of the General Manager or his/her designee shall be sent via personal delivery, mail with proof of delivery, or a similar method to the Permittee or its legal counsel/representative at the Permittee's business address.

E. Effect of Suspension Order

1. Upon issuance, an order of permit suspension issued by the General Manager shall be final in all respects.

2. The permittee shall immediately cease and desist its discharge of any Wastewater, directly or indirectly to OCSD's Sewerage System for the duration of the suspension. All costs for physically terminating and reinstating service shall be paid by the Permittee.

3. Any owner and responsible management employee of the Permittee shall be bound by the order of suspension.

F. Reinstatement or Revocation

1. The General Manager shall reinstate the suspended permit upon proof of satisfactory compliance with all discharge requirements of OCSD, including all additional permit requirements deemed necessary by the General Manager or his or her designee to prevent future violations by the permittee

2. The General Manager may, in his or her sole discretion, seek to permanently revoke any suspended permit pursuant to the procedures outlined in Section 606 of this Ordinance.

606. PERMIT REVOCATION

A. Grounds

The General Manager may revoke any permit when it is determined that a Permittee:

1. Knowingly provides a false statement, representation, record, report, or other document to OCSD.

2. Refuses to provide records, reports, plans, or other documents required by OCSD to determine permit terms, conditions, or limits, discharge compliance, or compliance with this Ordinance.

3. Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method.

4. Fails to report significant changes in operations or Wastewater constituents and characteristics.

5. Fails to comply with the terms and conditions of an ECSA, permit suspension, or probation order.

6. Discharges effluent to OCSD's Sewerage System while its permit is suspended.

7. Refuses reasonable access to the Permittee's premises for the purpose of inspection and monitoring.

8. Does not make timely payment of all amounts owed to OCSD for User charges, non-compliance resampling fees, permit fees, or any other fees imposed pursuant to this Ordinance.

9. Causes interference with OCSD's collection, treatment, or disposal system.

10. Fails to submit oral notice or written report of a Bypass occurrence.

11. Violates any condition or limit of its discharge permit or any provision of OCSD's Ordinances or regulations.

B. Notice/Hearing

When the General Manager has reason to believe that grounds exist for the revocation of a permit, he/she shall give written notice via personal delivery, mail with proof of delivery, or a similar method thereof to the Permittee setting forth a statement of the facts and grounds deemed to exist together with the time and place where the charges shall be heard by the General Manager's designee. The hearing date shall be not less than fifteen (15) calendar days nor more than forty-five (45) calendar days after the mailing of such notice.

1. At the hearing, the Permittee shall have an opportunity to respond to

the allegations set forth in the notice by presenting written or oral evidence. The revocation hearing shall be conducted in accordance with the procedures established by the General Manager and approved by OCSD's General Counsel.

2. After the conclusion of the hearing, the General Manager's designee shall submit a written report to the General Manager within thirty (30) calendar days setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

3. The General Manager shall make his/her determination and should he/she find that grounds exist for permanent revocation of the permit, he/she shall issue his/her decision and order in writing within twenty (20) calendar days of receiving the written report. The written decision and order of the General Manager shall be sent via personal delivery, mail with proof of delivery, or a similar method to the Permittee or its legal counsel/representative at the Permittee's business address.

4. In the event the General Manager determines to not revoke the permit, he/she may order other enforcement actions, including, but not limited to, a temporary suspension of the permit, under terms and conditions that he/she deems appropriate.

C. Effect

1. Upon issuance, an order of permit revocation issued by the General Manager shall be final in all respects.

2. The Permittee shall immediately cease and desist its discharge of any Wastewater directly or indirectly to OCSD's Sewerage System. All costs for physical termination shall be paid by the Permittee.

3. Any owner or Authorized Representative of the Permittee shall be bound by the order of revocation.

4. Any future application for a permit at any location within OCSD by any Person subject to an order of revocation will be considered by OCSD after fully reviewing the records of the revoked permit, which records may be the basis for denial of a new permit.

607. WASTEHAULER NON-COMPLIANCE WITH PERMIT CONDITIONS

A Wastehauler's non-compliance with permit requirements shall be determined by an analysis of a sample of the discharge for any constituent or conditions specified in the

Wastehauler's discharge permit or this Ordinance. If the discharge of a Wastehauler is found by the analysis to be in excess of the concentration limits specified in the Wastehauler's discharge permit or in this Ordinance, the Wastehauler shall, after receiving a demand from OCSD, identify in writing, all sources of the discharge.

OCSD reserves the right to sample and inspect any Wastehauler that delivers Wastewater to any facility which is tributary to OCSD's Sewerage Facilities.

Even if it is established to the satisfaction of the General Manager that the origin of the discharge is domestic septage, or septic Waste, OCSD may still elect not to accept Wastewater from that particular source.

If the discharge is Industrial Wastewater from an industrial source(s) and exceeds permit concentration limits or limits specified in this Ordinance, the following shall apply:

A. First Violation

1. The Permittee shall pay a non-compliance processing or sampling fee pursuant to fee schedules adopted by the OCSD Board of Directors.

2. The Wastehauler permit for disposal privileges shall be suspended for five (5) days.

B. Second Violation

1. The Permittee shall pay a non-compliance processing or sampling fee pursuant to fee schedules adopted by the OCSD Board of Directors.

2. The Wastehauler permit for disposal privileges shall be suspended for ten (10) days.

3. The Wastehauler permit may be revoked in accordance with Section 606.

608. DAMAGE TO FACILITIES OR INTERRUPTION OF NORMAL OPERATIONS

A. Any User who discharges any Wastewater which causes or contributes to any obstruction, interference, damage, or any other impairment to OCSD's Sewerage Facilities or to the operation of those facilities shall be liable for all costs required to clean or repair the facilities together with expenses incurred by OCSD to resume normal operations. Such discharge shall be grounds for permit revocation. A service charge of twenty five percent (25%) of OCSD costs shall be added to the costs and charges to reimburse OCSD for miscellaneous overhead, including administrative personnel and

record keeping. The total amount shall be payable within forty-five (45) days of invoicing by OCSD.

B. Any User who discharges a Wastewater which causes or contributes to OCSD violating its discharge requirements established by any Regulatory Agency incurring additional expenses or suffering losses or damage to the facilities, shall be liable for any costs or expenses incurred by OCSD, including regulatory fines, penalties, and assessments made by other agencies or a court.

609. INDUSTRIAL WASTEWATER PASS THROUGH

Any User whose discharge results in a Pass Through event affecting OCSD or its Sewerage Facilities shall be liable for all costs associated with the event, including treatment costs, regulatory fines, penalties, assessments, and other indirect costs. The Discharger shall submit to OCSD plans to prevent future recurrences to the satisfaction of OCSD.

610. PUBLICATION OF VIOLATION

Upon a determination in a permit suspension, permit revocation, or civil penalty proceedings that a User has discharged in violation of its permit or any provision under this Ordinance, OCSD may require that the User notify the public and/or other Users of the OCSD's Sewerage Facilities of such violation, of actions taken to correct such violation, and of any administrative or judicial orders or penalties imposed as a result of such violation.

611. PUBLISHED NOTICES FOR SIGNIFICANT NON-COMPLIANCE

In accordance with Federal Regulations, including 40 CFR 25 and 40 CFR 403.8(f), OCSD shall annually cause to be published the names of all Industrial Users in significant non-compliance. Upon a minimum of a thirty (30) day notification to the User, said publication shall be made in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by OCSD.

612. PUBLIC NUISANCE

Discharge of Wastewater in any manner in violation of this Ordinance or of any order issued by the General Manager, as authorized by this Ordinance, is hereby declared a public nuisance and shall be corrected or abated as directed by the General Manager. Any Person creating a public nuisance is guilty of a misdemeanor.

613. TERMINATION OF SERVICE

A. OCSD, by order of the General Manager, may physically terminate sewerage service to any property as follows:

1. On a term of any order of emergency suspension or revocation of a permit; or

2. Upon the failure of a Person not holding a valid discharge permit to immediately cease discharge, whether direct or indirect, to OCSD's Sewerage Facilities; or

3. Upon the failure of a facility not holding a valid discharge permit or certification.

B. All costs for physical termination shall be paid by the User as well as all costs for reinstating service.

614. EMERGENCY SUSPENSION ORDER

A. OCSD may, by order of the General Manager, suspend sewerage service or Wastehauler discharge service when the General Manager determines that such suspension is necessary in order to stop an actual or impending discharge which presents or may present an imminent or substantial endangerment to the health and welfare of persons, or to the environment, or may cause interference to the OCSD's Sewerage Facilities, or may cause OCSD to violate any state or federal law or regulation. Any Discharger notified of and subject to an Emergency Suspension Order shall immediately cease and desist the discharge of all Industrial Wastewater to the Sewerage System.

B. As soon as reasonably practicable following the issuance of an Emergency Suspension Order, but in no event more than five (5) days following the issuance of such order, the General Manager shall hold a hearing to provide the User the opportunity to present information in opposition to the issuance of the Emergency Suspension Order. Such a hearing shall not stay the effect of the Emergency Suspension Order. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by the OCSD General Counsel. The General Manager shall issue a written decision and order within two (2) business days following the hearing, which decision shall be sent via personal delivery, mail with proof of delivery, or a similar method to the User or its legal counsel/representative at that User's business address. The decision of the General Manager following the hearing shall be final in all respects.

615. INJUNCTION

Whenever a Discharger of Wastewater is in violation of or has the reasonable potential to violate any provision of this Ordinance, permit condition, or any Federal Categorical Pretreatment Standards or Pretreatment Requirements as set forth in 40 CFR Section

403.8, et seq., fails to submit required reports, or refuses to allow OCSD entry to inspect or monitor the User's discharge, OCSD may petition the Superior Court for the issuance of a preliminary or permanent injunction, or both, as may be appropriate to restrain the continued violation or to prevent threatened violations by the Discharger.

616. CIVIL PENALTIES

A. Authority

All Users of OCSD's Sewerage System and facilities are subject to enforcement actions administratively or judicially by OCSD, U.S. EPA, State of California Regional Water Quality Control Board, or the County of Orange District Attorney. Said actions may be taken pursuant to the authority and provisions of several laws, including but not limited to: (1) Federal Water Pollution Control Act, commonly known as the Clean Water Act (33 U.S.C. Section 1251, et seq.); (2) California Porter-Cologne Water Quality Control Act (California Water Code Section 13000, et seq.); (3) California Hazardous Waste Control Law (California Health & Safety Code Sections 25100, et seq.); (4) Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901, et seq.); and (5) California Government Code= Sections 54739-54740.

B. Recovery of Fines or Penalties

In the event OCSD is subject to the payment of fines or penalties pursuant to the legal authority and actions of other Regulatory Agencies or enforcement agencies based on a violation of law or regulation or its permits, and said violation can be established by OCSD, as caused by the discharge of any User of OCSD's Sewerage System which is in violation of any provision of this Ordinance or the User's permit, OCSD shall be entitled to recover from the User all costs and expenses, including, but not limited to, the full amount of said fines or penalties to which OCSD has been subjected.

C. Ordinance

Pursuant to the authority of California Government Code Sections 54739 - 54740.6, any Person who violates any provision of this Ordinance; any permit condition, prohibition or effluent limit; or any suspension or revocation order shall be liable civilly for a sum not to exceed $25,000.00 per violation for each day in which such violation occurs. Pursuant to the authority of the Clean Water Act, 33 U.S.C. Section 1251, et seq., any Person who violates any provision of this Ordinance, or any permit condition, prohibition, or effluent limit shall be liable civilly for a sum not to exceed $25,000.00 per violation for each day in which such violation occurs. The General Counsel of OCSD, upon order of the General Manager, shall

petition the Superior Court to impose, assess, and recover such penalties, or such other penalties as OCSD may impose, assess, and recover pursuant to federal and/or state legislative authorization.

D. Administrative Civil Penalties

1. Pursuant to the authority of California Government Code Sections 54740.5 and 54740.6, OCSD may issue an administrative complaint to any Person who violates:

   a) any provision of this Ordinance;

   b) any permit condition, prohibition, or effluent limit, or certification requirement; or

   c) any suspension or revocation order.

2. The administrative complaint shall be served via personal delivery, mail with proof of delivery, or a similar method on the Person and shall inform the Person that a hearing will be conducted, and shall specify a hearing date within sixty (60) days. The administrative complaint will allege the act or failure to act that constitutes the violation of OCSD requirements, the provisions of law authorizing civil liability to be imposed, and the proposed civil penalty. The matter shall be heard by the General Manager's designee. The Person to whom an administrative complaint has been issued may waive the right to a hearing, in which case a hearing will not be conducted.

3. At the hearing, the Person shall have an opportunity to respond to the allegations set forth in the administrative complaint by presenting written or oral evidence. The hearing shall be conducted in accordance with the procedures established by the General Manager and approved by OCSD's General Counsel.

4. After the conclusion of the hearing, the General Manager's designee shall submit a written report to the General Manager within thirty (30) calendar days setting forth a brief statement of the facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

5. The General Manager shall make his/her determination and should he/she find that grounds exist for assessment of a civil penalty against the Person, he/she shall issue his/her decision and order in writing within twenty (20) calendar days of receiving the written report.

6. If, after the hearing or appeal, if any, it is found that the Person has violated reporting or discharge requirements, the General Manager may assess a civil penalty against that Person. In determining the amount of the civil penalty, the General Manager may take into consideration all relevant circumstances, including but not limited to the extent of harm caused by the violation, the economic benefit derived through any non-compliance, the nature and persistence of the violation, the length of time over which the violation occurs, and corrective action, if any, attempted or taken by the Person involved.

7. Civil penalties may be assessed as follows:

   a) In an amount which shall not exceed two thousand dollars ($2,000.00) for each day for failing or refusing to furnish technical, monitoring reports, or any other required documents;

   b) In an amount which shall not exceed three thousand dollars ($3,000.00) for each day for failing or refusing to timely comply with any compliance schedules established by OCSD;

   c) In an amount which shall not exceed five thousand dollars ($5,000.00) per violation for each day of discharge in violation of any Wastewater discharge limit, permit condition, or requirement issued, reissued, or adopted by OCSD;

   d) In any amount which does not exceed ten dollars ($10.00) per gallon for discharges in violation of any suspension, revocation, cease and desist order or other orders, or prohibition issued, reissued, or adopted by OCSD;

8. Any Person aggrieved by an order issued by the General Manager assessing administrative civil penalties may, within fifteen (15) days after the General Manager issues the order, file an appeal with the Governing Board. The evidence on appeal shall consist solely of the General Manager's order and the administrative record before the hearing officer. The Governing Board shall determine whether to uphold, modify, or reverse the General Manager's order. The decision of the Governing Board shall be set forth in writing and be sent by certified mail to the appellant. The decision of the Governing Board shall be final in all respects. If no appeal of the General Manager's decision is filed within fifteen (15) days of its issuance, the General Manager's order becomes final in all respects.

9. Copies of the administrative order shall be served on the party served with the administrative complaint, either by personal service or by registered mail to the Person at his business or residence address, and upon other persons who appeared at the hearing and requested a copy of the order.

10. Any Person aggrieved by a final decision issued by the Governing Board, may obtain review in the superior court, pursuant to Government Code Section 54740.6, by filing in the court a petition for writ of mandate within thirty (30) days following the service of a copy of the Governing Board decision.

11. Payment of any order setting administrative civil penalties shall be made within thirty (30) days of the date the order becomes final. The amount of any administrative civil penalties imposed which have remained delinquent for a period of sixty (60) days shall constitute a lien against the real property of the Discharger from which the discharge resulting in the imposition of the civil penalty originated. The lien shall have no effect until recorded with the county recorder. OCSD may record the lien for any unpaid administrative civil penalties on the ninety-first (91st) day following the date the order becomes final.

12. No administrative civil penalties shall be recoverable under Section 616.D for any violation for which OCSD has recovered civil penalties through a judicial proceeding filed pursuant to Government Code Section 54740.

617. CRIMINAL PENALTIES

Any Person who violates any provision of this Ordinance is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed $1,000.00, or imprisonment for not more than thirty (30) days, or both. Each violation and each day in which a violation occurs may constitute a new and separate violation of this Ordinance and shall be subject to the penalties contained herein.

618. APPEALS TO GENERAL MANAGER

A. General

Any User, permit applicant, or Permittee affected by any decision, action or determination made by the Division Head may file with the General Manager a written request for an appeal hearing. The request must be received by OCSD within fifteen (15) days of mailing of notice of the decision, action, or determination of OCSD to the appellant. The request for hearing shall set forth in detail all facts supporting the appellant's

request. Filing of an appeal shall stay the proceedings and furtherance of the action being appealed

B. Notice

The General Manager shall, within fifteen (15) days of receiving the request for appeal, and pursuant to Section 107, designate a Department Head or other person to hear the appeal and provide written notice to the appellant of the hearing date, time and place via personal delivery, mail with proof of delivery, or a similar method. The hearing date shall not be more than thirty (30) days from the delivery date of such notice to the appellant unless a later date is agreed to by the appellant. If the hearing is not held within said time due to actions or inactions of the appellant, then the staff decision shall be deemed final.

C. Hearing

At the hearing, the appellant shall have the opportunity to present information supporting its position concerning the Division Head's decision, action or determination. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by OCSD's General Counsel.

D. Written Determination

After the conclusion of the hearing, the Department Head (or other designee) shall submit a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation whether to uphold, modify or reverse the Division Head's original decision, action or determination. The General Manager shall make his/her determination and shall issue his/her decision and order within thirty (30) calendar days of receiving the written report by the Department Head (or other designee). Upon issuance, the order of the General Manager shall be final in all respects. The written decision and order of the General Manager shall be sent via personal delivery, mail with proof of delivery, or a similar method to the appellant or its legal counsel/representative at the appellant's business address.

619. PAYMENT OF CHARGES

A. Except as otherwise provided, all fees, charges and penalties established by this Ordinance are due and payable upon receipt of notice thereof. All such amounts are delinquent if unpaid forty-five (45) days after date of invoice.

B. Any charge that becomes delinquent shall have added to it a penalty in accordance with the following:

1. Forty-six (46) days after date of invoice, a basic penalty of ten percent (10%) of the base invoice amount, not to exceed a maximum of $1,000.00; and

2. A penalty of one and one-half percent (1.5%) per month of the base invoice amount and basic penalty shall accrue from and after the forty-sixth (46th) day after date of invoice.

C. Any invoice outstanding and unpaid after ninety (90) days shall be cause for immediate suspension of the permit.

D. Penalties charged under this Section shall not accrue to those invoices successfully appealed.

E. Payment of disputed charges is still required by the due date during OCSD review of any appeal submitted by Permittees.

620. COLLECTION OF DELINQUENT ACCOUNTS

Collection of delinquent accounts shall be in accordance with OCSD's policy resolution establishing procedures for collection of delinquent obligations owed to OCSD, as amended from time to time by the Board of Directors. Any such action for collection may include an application for an injunction to prevent repeated and recurring violations of this Ordinance.

621. APPEAL OF CHARGES AND FEES

Except for non-compliance charges and penalties, any User, permit applicant, or Permittee affected by any decision, action, or determination by OCSD, relating to fiscal issues of OCSD in which the User, applicant, or Permittee is located, including but not limited to the imposition and collection of fees, such as capital facility capacity charges, sewer use charges, special purpose discharge use charges and Wastehauler fees, may request that OCSD reconsider imposition of such fees or charges. Following review of such a request, OCSD shall notify the User, permit applicant, or Permittee via personal delivery mail with proof of delivery, or a similar method of OCSD's decision on the reconsideration request. Any User, permit applicant, or Permittee adversely affected by OCSD's decision on the reconsideration request may file an appeal which shall be heard by the Board of Directors. The notice of appeal must be received by OCSD within thirty (30) days of the mailing of OCSD's decision on the reconsideration request.

622. RECOVERY OF COSTS INCURRED BY OCSD

In the event any User, permit applicant, or permittee fails to comply with any of the terms

and conditions of this Ordinance, a probationary order, an order of permit suspension or revocation, an ECSA, a RCSA, a certification, or a permit issued hereunder, OCSD shall be entitled to reasonable attorney's fees and costs which may be incurred in order to enforce any of said terms and conditions, with or without filing proceedings in court.

623. FINANCIAL SECURITY/AMENDMENTS TO PERMIT

A. Compliance Deposit

Permittees that have been subject to enforcement and/or collection proceedings may be required to deposit with OCSD an amount determined by the General Manager as necessary to guarantee payment to OCSD of all charges, fees, penalties, costs and expenses that may be incurred in the future, before permission is granted for further discharge to the sewer.

B. Delinquent Accounts

OCSD may require an amendment to the permit of any Permittee who fails to make payment in full of all fees and charges assessed by OCSD, including reconciliation amounts, delinquency penalties, and other costs or fees incurred by Permittee.

C. Bankruptcy

Every Permittee filing any legal action in any court of competent jurisdiction, including the United States Bankruptcy Court, for purposes of discharging its financial debts or obligations or seeking court ordered, protection from its creditors, shall, within ten (10) days of filing such action, apply for and obtain the issuance of an amendment to its permit.

D. Permit Amendments

OCSD shall review and examine Permittee's account to determine whether previously incurred fees and charges have been paid in accordance with time requirements prescribed by this Ordinance. OCSD may thereafter issue an amendment to the User's permit in accordance with the provisions of Article 3 and subsection E below.

E. Security

An amendment to a Wastewater discharge permit issued pursuant to subdivisions (B), (C) and (D) above, may be conditioned upon the Permittee depositing financial security in an amount equal to the average total fees and charges for two (2) calendar quarters during the preceding year. Said deposit shall be used to guarantee payment of all fees and charges incurred for future services and facilities furnished by OCSD and shall not be used

by OCSD to recover outstanding fees and charges incurred prior to the Permittee filing and receiving protection from creditors in the United States Bankruptcy Court.

F. Return of Security

In the event the Permittee makes payment in full within the time prescribed by this Ordinance of all fees and charges incurred over a period of two (2) years following the issuance of an amendment to the permit pursuant to subdivisions (B), (C) and (D), OCSD shall either return the security deposit posted by the Permittee or credit their account.

624. JUDICIAL REVIEW

A. Purpose and Effect

Pursuant to Section 1094.6 of the California Code of Civil Procedure, OCSD hereby enacts this part to limit to ninety (90) days following final decisions in adjudicatory administrative hearings the time within which an action can be brought to review such decisions by means of administrative mandamus.

B. Definitions

As used in this Section, the following terms and words shall have the following meanings:

1. Decision shall mean and include adjudicatory administrative decisions that are made after hearing, or after revoking, suspending, or denying an application for a permit.

2. Complete Record shall mean and include the transcript, if any exists, of the proceedings, all pleadings, all notices and orders, any proposed decision by the General Manager, the final decision, all admitted exhibits, all rejected exhibits in the possession of OCSD or its offices or agents, all written evidence, and any other papers in the case.

3. Party shall mean a Person whose permit has been denied, suspended, or revoked.

C. Time Limit for Judicial Review

Judicial review of any decision of OCSD or its officer or agent may be made pursuant to Section 1094.5 of the Code of Civil Procedure only if the petition for writ of mandate is filed not later than the ninetieth (90th) day following the date on which the decision becomes final. If there is no provision for

reconsideration in the procedures governing the proceedings or if the date is not otherwise specified, the decision is final on the date it is made. If there is provision for reconsideration, the decision is final upon the expiration of the period during which such reconsideration can be sought; provided that if reconsideration is sought pursuant to such provision the decision is final for the purposes of this Section on the date that reconsideration is rejected.

D. Preparation of the Record

The complete record of the proceedings shall be prepared by the OCSD officer or agent who made the decision and shall be delivered to the petitioner within ninety (90) days after he/she has filed written request therefor. OCSD may recover from the petitioner its actual costs for transcribing or otherwise preparing the record.

E. Extension

If the petitioner files a request for the record within ten (10) days after the date the decision becomes final, the time within which a petition, pursuant to Section 1094.5 of the Code of Civil Procedure, may be filed shall be extended to not later than the thirtieth (30th) day following the date on which the record is either personally delivered or mailed to the petitioner or the petitioner's attorney of record.

F. Notice

In making a final decision, OCSD shall provide notice to the party that the time within which judicial review must be sought is governed by Section 1094.6 of the Code of Civil Procedure.

G. Administrative Civil Penalties

Notwithstanding the provisions in this Section, and pursuant to Government Code Section 54740.6, judicial review of an order of the General Manager imposing administrative civil penalties pursuant to Section 616.D may be made only if the petition for writ of mandate is filed not later than the thirtieth (30th) day following the day on which the order of the General Manager becomes final.

ARTICLE 7. SEWER SERVICE CHARGES – CAPITAL FACILITY CAPACITY CHARGES

701. SANITARY SEWER SERVICE CHARGE

Every parcel of real property located within OCSD which is improved with structures designed for residential, commercial, or industrial use, and connected to the OCSD's Sewerage System, shall pay a sanitary sewer service charge in an amount adopted by the Board of Directors by separate Ordinance.

702. CAPITAL FACILITIES CAPACITY CHARGE

Every parcel of real property located within OCSD which is improved with structures designed for residential, commercial, or industrial use, and connected to the OCSD's Sewerage System, shall pay a capital facilities capacity charge in an amount adopted by the Board of Directors by separate Ordinance.

ARTICLE 8. SEVERABILITY

801. SEVERABILITY

If any provision of these Regulations or the application to any circumstances is held invalid, the remainder of the regulations or the application of such provision to other persons or other circumstances shall not be affected.

802. GENERAL APPLICATION

The provisions of this Ordinance shall apply to all properties within OCSD including those properties otherwise deemed exempt from payment of taxes or assessments by provisions of the state Constitution or statute, including properties owned by other public agencies or tax-exempt organizations.

Section I: This Ordinance is enacted in order to preserve the public health and safety, and in order to continue the provision of sewer services by OCSD. The facts requiring the public health and safety to be preserved are that the regulation of the discharge of industrial and sanitary Sewage is regulated by federal and state law, and protection of individuals' health and the environment require that no discharges of untreated Sewage/Wastewater are allowed to occur that are not in accord with technical specifications and requirements.

Section II: Effective Date. This Ordinance shall take effect July 1, 2019.

Section III: Repeal. Ordinance No. OCSD-48 is hereby repealed.

Section IV: The Clerk of the Board shall certify to the adoption of this Ordinance and shall cause a summary to be published in a newspaper of general circulation as required by law.

PASSED AND ADOPTED by the Board of Directors of the Orange County Sanitation District at a Regular Meeting held the 22nd day of May, 2019.

David John Shawver

David John Shawver
Chair, Board of Directors
Orange County Sanitation District

ATTEST:

Kelly A. Lore, MMC
Clerk of the Board
Orange County Sanitation District

Bradley R. Hogin
General Counsel

STATE OF CALIFORNIA)
)SS.
COUNTY OF ORANGE)

I, Kelly A. Lore, Clerk of the Board of Directors of Orange County Sanitation District, do hereby certify that the above and foregoing Ordinance No. OCSD-48 was introduced for first reading at a regular meeting of said Board on the 24th day of April 2019, and passed and adopted at a regular meeting of said Board on the 22nd day of May 2019, by the following vote, to wit:

AYES:	Avery; Beamish (Alternate); Bernstein; Chaffee; Collacott; Harper (Alternate); Hawkins; Iglesias; Kim; Kring; Massa-Lavitt; R. Murphy; Nguyen; Nichols (Alternate); O'Neill (Alternate); Ooten (Alternate); Parker; Peterson; Shawver; Shea; Silva; F. Smith; Wanke; Withers and Yarc
NOES:	None
ABSTENTIONS:	None
ABSENT:	None

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of Orange County Sanitation District this 22nd day of May, 2019.

Kelly A. Lore, MMC
Clerk of the Board
Orange County Sanitation District

APPENDIX E3

Ordinance No. OCSD-05-04

FOG Program Fees

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
	09/26/19	M. Seiler	• Reviewed – no changes
	09/24/20	L. McKinley	• Reviewed – no changes
	09/19/21	L. McKinley	• Reviewed – no changes
	09/22/22	L. McKinley	• Reviewed – no changes
	09/20/23	L. McKinley	• Reviewed – no changes
	09/17/24	L. McKinley	• Reviewed – no changes
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RESOLUTION NO. OCSD 05-04

ESTABLISHING FATS, OIL, AND GREASE CONTROL PROGRAM FEES APPLICABLE TO FOOD SERVICE ESTABLISHMENTS

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ORANGE COUNTY SANITATION DISTRICT, ESTABLISHING FATS, OIL, AND GREASE CONTROL PROGRAM FEES

****

WHEREAS, the State of California Regional Water Quality Control Board ("RWQCB") for the Santa Ana Region adopted Order R8-2002-0014, which prescribes general waste discharge requirements prohibiting sanitary sewer overflows ("SSOs") by sewer collection agencies; and

WHEREAS, in Order R8-2002-0014, the RWQCB found that one of the leading causes of SSOs within the Santa Ana Region, which encompasses the District's service area is "grease blockages;" and

WHEREAS, SSOs often caused by discharge of wastewater containing high levels of fat, oils and grease ('FOG"), suspended solids, pathogenic organisms, and other pollutants, may cause temporary exceedances of applicable water quality objectives, pose a threat to the public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters within the District's service area; and

WHEREAS, the 2000-2001 Orange County Grand Jury ("Grand Jury") conducted a survey among 35 wastewater collection and treatment agencies in Orange County and concluded that one of the leading causes of SSOs and sewage spills is sewer lines clogged from the accumulation of FOG discharged from Food Service Establishments; and

WHEREAS, the Grand Jury further concluded that more effective methods of minimizing grease discharges into the sewer system must be developed and implemented to reduce the discharge of FOG to the sewer system in order to prevent sewer blockages and SSOs; and

WHEREAS, Orange County Sanitation District ("District"), together with 32 other agencies, are collectively named as "Dischargers" in Order No. R8-2002-0014; and

WHEREAS, Order No. R8-2002-0014 requires the District to monitor and control SSOs and to develop a FOG Control Program by December 30, 2004; and

WHEREAS, in light of the overwhelming evidence that FOG is a primary cause of SSOs, the District desires to implement a FOG Control Program to prevent SSOs; and

WHEREAS, the foregoing findings indicate that a FOG Control Program is required for Food Service Establishments within the District's jurisdiction to comply with waste discharge regulations and prevent the harmful effects of SSOs; and

WHEREAS, on November 17, 2004, the Board of Directors adopted Ordinance No. OCSD-25 adopting FOG control regulations applicable to Food Service Establishments; and

WHEREAS, Ordinance No. OCSD-25 requires Food Service Establishments subject to the regulations to obtain a FOG Wastewater Discharge Permit, and to pay an application fee in the amount set by resolution of the Board; and

WHEREAS, Food Service Establishments who are found to be in noncompliance with the terms and conditions of their FOG Wastewater Discharge Permit, Ordinance No. OCSD-25 or other relevant regulations are required to pay a general noncompliance fee, which includes the District's costs of additional monitoring activities and administrative processing incurred resulting from the noncompliance.

NOW, THEREFORE, the Board of Directors of the Orange County Sanitation District DOES HEREBY RESOLVE, DETERMINE, AND ORDER:

Section 1: Annual Permit Fee. The fee for each FOG Wastewater Discharge Permit issued pursuant to Ordinance No. OCSD-25 or its successors, is $100 per year. For example, a permit for a two-year term is subject to a $200 fee.

Section 2: General Noncompliance Fee. The general noncompliance fee is $100.00 per event for the District follow-up activities due to permit, ordinance or regulatory noncompliance.

Section 3: Effective Date. This Resolution shall take effect on May 1, 2005.

PASSED AND ADOPTED at a regular meeting held March 23, 2005.

Steve Anderson

Chair

ATTEST:

Penny M. Lyle

Board Secretary

APPENDIX F

FOG Source Control Program and Enforcement Management System

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
	09/26/19	M. Seiler	• Reviewed – no changes
	09/24/20	L. McKinley	• Reviewed – no changes
	09/19/21	L. McKinley	• Reviewed – no changes
1	09/22/22	L. McKinley	• Entire document updated; see updated document including errata sheet; there will be a completely new document written and submitted by end of FY 2022-23, to be included in 2023 SSMP update.
	09/20/23	L. McKinley	• Reviewed – no changes; new rewritten document described above will not be included in the 2023 SSMP update.
	09/17/24	L. McKinley	• Reviewed – updated Appendix I (permit application packet); new rewritten document described above will not be included in the 2024 SSMP update.
	02/20/25	L. McKinley	• Reviewed-updated Appendix E (Kitchen BMP Training Materials).
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Fats, Oils, and Grease Source Control Program and Enforcement Management System

Orange County Sanitation District
Source Control Division

Prepared by:
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Date:
September 30, 2005

Revision Date:
September 25, 2022

Table of Contents

1 INTRODUCTION 1

2 PRELIMINARY FOG CONTROL STUDIES 2

3 OCSD's FOG SOURCE CONTROL PROGRAM 3

3.1 Legal Authority 3

3.2 Systematic Identification and Inventory of FOG Sources 10
3.2.1 Initial Inventory of FSEs 10
3.2.2 Program Provisions to Update Inventory of FSEs 11

3.3 Permitting Program 12
3.3.1 Comprehensive Permit 12
3.3.2 Major Permit Requirements 13
3.3.3 Permit Duration 13
3.3.4 Permit Informational Materials 13

3.4 Enforcement Program 14
3.4.1 Monitoring Program 14
3.4.2 Enforcement Management System 14

3.5 Staffing Resources and Training 16
3.5.1 Staffing Resources 16
3.5.2 Training 16

3.6 FSE Outreach 17
3.6.1 FOG Ordinance Advocacy 18
3.6.2 Stakeholder Involvement and Education 18

~~3.7~~ Collaboration with ~~Sewer Maintenance, Engineering Design, Source Control, and Communication Groups~~ Operations and Maintenance (O&M), Engineering, Environmental Services Departments and Public Affairs Office 19

4 OVERVIEW OF OCSD'S FOG ENFORCEMENT MANAGEMENT SYSTEM 20

5 CONTROL MECHANISMS 23

5.1 FOG Ordinance 23

5.2 FOG Wastewater Discharge Permit 23
5.2.1 Permit Processing and Issuance 24

6 MONITORING FSEs 26

6.1 Methods of Investigating Instances of Noncompliance 26

6.2 FSE Self-Monitoring 26
6.2.1 Self-Monitoring to Track Implementation of Required Best Management Practices 26
6.2.2 Self-Monitoring to Track Implementation of Maintenance Requirements for Grease Interceptors 27

6.3 Inspections 27
6.3.1 Routine Onsite Facility Inspections 28
6.3.2 Follow-up Inspection and Verification 28
6.3.3 Compliance Audit 28
6.3.4 Inspection for Bi-Annual Permit Renewal 28
6.3.5 Downstream Sewer Line Inspections 28

6.4 Data Management 29

7 COMPLIANCE SCREENING 30

7.1 Screening for Violations Pertaining to Unauthorized Discharges 31
7.1.1 Discharging Without a Permit 31
7.1.2 Failure to Inform Change of Ownership 31
7.1.3 Discharging with an Expired Permit 31
7.1.4 Discharging with Suspended Permit or Discharging with Revoked Permit 32

7.2 Screening for Noncompliance with the BMP Implementation Requirements 32
7.2.1 Failure to Implement Required BMPs 32
7.2.2 Failure to Keep Required Records for Implementing BMPs 32

7.3 Screening for Violations of Grease Interceptor Maintenance Requirements 33
7.3.1 Violation of the 25% Rule 33
7.3.2 Failure to Maintain Parts of the Grease Interceptor in Proper Operating Condition 33
7.3.3 Failure to Keep Required Records for Grease Interceptor Maintenance 33

7.4 Screening for Violations of Reporting Requirements 34
7.4.1 Delinquent Reports 34

7.4.2 Inaccurate Reports....34
7.5 Screening for Violations of Administrative Mandates....34
7.6 Violations of Ordinance and Special Permit Conditions Detected During Inspections....35
8 IMPLEMENTING ENFORCEMENT ACTIONS....36
8.1 Enforcement Responses....37
8.1.1 Corrective Action Notice (CAN)....37
8.1.2 Notices of Violation (NOV)....37
8.1.3 Noncompliance Fees....37
8.1.4 Compliance Follow-Up Inspection and Verification....37
8.1.5 Compliance Audit....38
8.1.6 Compliance Meetings....38
8.1.7 Increased Grease Interceptor Pumping/Maintenance....38
8.1.8 Order to Cease Noncompliant Discharge....38
8.1.9 Compliance Schedule Agreement....38
8.1.10 Administrative Complaint/Administrative Fines....39
8.1.11 Revocation of Waiver from Grease Interceptor Installation....40
8.1.12 Revocation of Variance from Grease Interceptor Requirements....40
8.1.13 Permit Suspension....40
8.1.14 Permit Revocation....41
8.1.15 Order to Terminate Discharge....42
8.1.16 Emergency Suspension Order....42
8.1.17 Civil Penalties (Judicial)....42
8.1.18 Injunction....43
8.1.19 Physical Termination of Service....43
8.1.20 Criminal Penalties....43
8.1.21 Financial Security....43
8.2 Criteria for Determining Appropriate Enforcement Actions....43
8.2.1 Magnitude of Violation....44
8.2.2 Duration and/or Frequency of Violation....44
8.2.3 Effect of Violation on Public Health and the Environment....44
8.2.4 Effect of Violation on OCSD's Workers and Sewerage System....44
8.2.5 Compliance History of the FSE....45
8.2.6 Good Faith Efforts of the FSE to Eliminate Noncompliance....45
Appendices....46
Errata Sheet....48

1 INTRODUCTION

The Orange County Sanitation District (OCSD) is committed to complying with the mandates set forth under the ~~**General Waste Discharge Requirements for Sewage Collection Agencies in Orange County**~~**,** ~~**Order No. R8-2002-0014**~~ **State Water Resources Control Board Order No. 2022-0103-DWQ.**. As part of this mandate, OCSD implemented a Fats, Oils, and Grease (FOG) Source Control Program to limit the discharge of FOG and other debris that may cause sewerage collection system blockages or Sanitary Sewer Overflows (SSOs). This is accomplished through implementation and effective enforcement of OCSD's FOG Ordinance OCSD-25 (Appen~~dix~~ D1A) by:

- Administering an extensive permitting program to control and regulate FOG discharges from Food Service Establishments (FSEs);
- Requiring FSEs to implement Best Management Practices (BMPs) and install grease interceptors, when applicable, to reduce FOG from their wastewater prior to discharge to OCSD's sewerage system;
- Tracking compliance through inspection of FSEs, aggressive CCTV monitoring of the sewer system to identify potential sources of sewer blockages, and monitoring compliance with BMP requirements and maintenance requirements for grease interceptors;
- Evaluating and screening the results of inspection and monitoring to identify violations; and
- Consistently responding to all types of violations to ensure long-term compliance.

OCSD's existing Wastewater Discharge Regulations OCSD-~~01~~53 (Appendix ~~D2~~B) implements the general and specific prohibitions of the National Pretreatment Program (40CFR403.5).

To achieve an effective and aggressive enforcement program, OCSD established a FOG Enforcement Management System, which encompasses the basic components required to cover all FOG control activities. In developing the system, OCSD addressed the fundamental requirements necessary to regulate FSEs, such as obtaining and evaluating information on compliance of FSEs; identifying violations; and selecting appropriate enforcement actions to resolve noncompliance in a timely, fair, and consistent manner.

2 PRELIMINARY FOG CONTROL STUDIES

Basis for developing OCSD's FOG Source Control Program

During the development of OCSD's FOG Source Control Program, OCSD and other WDR Co-Permittees needed to know the basic components of such a program. Therefore, OCSD, on behalf of the WDR Co-Permittees and in its role as regional facilitator, contracted the services of Environmental Engineering & Contracting, Inc. (EEC), to conduct a FOG Control Study. The final Phase I report was received in July 2003, and the report listed 12 potential "building blocks" for an effective FOG Source Control Program, from which WDR Co-Permittees could develop programs tailored to their site-specific conditions. A full copy of this study is available from OCSD's Source Control Division.

OCSD also contracted EEC to conduct a Characterization Study of the hot spots and FSEs in its area of jurisdiction to gather more specific information for developing its FOG Source Control Program. The overall aim was to determine the true cause(s) of the hot spots. The study encompassed visual observations of sewer lines using Closed Circuit Television (CCTV) in the vicinity of the hot spots and inspecting and cataloging each tributary FSE, including plotting the information in Geographical Information System (GIS). The majority of the hot spots were caused or exacerbated by structural issues and FOG discharges from FSEs. Sometimes a repair effectively eliminated a hot spot caused by structural issues, but in other cases, mitigation is not feasible and other techniques must be employed to mitigate the hot spot. With the data gathered, OCSD is able to identify FSEs discharging FOG and is currently prioritizing on those facilities discharging to hot spots. A copy of this study is available from OCSD's Source Control Division.

As a result of these studies, OCSD has the data necessary for developing the basis for its FOG Source Control Program.

3 OCSD's FOG SOURCE CONTROL PROGRAM

Essential elements of an effective program

OCSD established the following essential elements to implement an effective FOG Source Control Program for FSEs in the city of Tustin and unincorporated areas within OCSD's jurisdiction. In 2016, the Orange County Local Agency Formation Commission approved East Orange County Water District's application to accept the transfer of sewers within OC San's Service Area 7, which included the Tustin area and a few unincorporated areas of Orange County. One area in particular was the local sewers in the northern Tustin area. With the transfers of those sewer lines, OC San no longer had jurisdiction over the FSEs connected to the local sewers in that area. OC San now has a fixed, defined set of sites having FSEs that discharge directly to our trunklines.

3.1 Legal Authority

OCSD established a FOG Ordinance (OCSD-25) that provides the legal authority necessary for implementing the FOG Source Control Program. To prevent SSOs caused by FOG blockages of sewers, OCSD's scope of authority includes:

- Authority to regulate all FSEs contributing FOG to the sewer system
- Authority to require and issue Wastewater Discharge Permits, including:
  - Authority to require FSEs to obtain permits
  - Authority to require FSEs to submit permit applications containing all data which OCSD deems relevant to permit decisions and provisions for public access to data
  - Authority to enter, inspect, and sample to verify information supplied by FSEs as well as to assess the FSEs' compliance status
  - Authority to incorporate local limits
  - Authority to incorporate federal and state pretreatment standards and requirements
  - Authority to require self-monitoring, record keeping, and reporting by FSEs
  - Authority to develop other appropriate permit conditions
- Authority to enforce permit violations.

OCSD's Board of Directors adopted the FOG Ordinance OCSD-25 on December 17, 2004, which was effective on January 1, 2005. Subsequently, FOG Fee Resolution OCSD 05-04 (Appendix ~~D3~~C) establishing FOG fees applicable to FSEs was passed and adopted on March 23, 2005, and was effective on May 1, 2005.

The following is a summary of the core requirements of the FOG Ordinance:

Permit Requirement

- FSEs are required to obtain a FOG Wastewater Discharge Permit to discharge wastewater into the sewer system.

Permit Exemptions

- A limited food preparation establishment is not considered an FSE and is exempt from obtaining a FOG Discharge Permit. Exempted establishments shall be engaged only in reheating, hot holding, or assembly of ready-to-eat food products and, as a result, there is no wastewater discharge containing a significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.

Permit Fee

- The Permit Fee is $100/year to cover permit issuance and maintenance. There is no change in existing user fees specific to FSEs.

Prohibitions

- Use of food grinders. Installation of food grinders in the plumbing system of new constructions of FSEs is prohibited. Furthermore, all food grinders shall be removed from all existing FSEs within 180 days after notification, except when expressly allowed by the FOG Source Control Program Manager.
- Introduction of any additives into a FSE's wastewater system for the purpose of emulsifying or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance, unless a specific written authorization from the FOG Source Control Program Manager is obtained.
- Disposal of waste cooking oil into drainage pipes. All waste cooking oils shall be collected and stored properly in receptacles, such as barrels or drums, for recycling or other acceptable methods of disposal.
- Discharge of wastewater from dishwashers to any grease trap or grease interceptor.
- Discharge of wastewater with temperatures in excess of 140˚F to any grease control device, including grease traps and grease interceptors.

- Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service, or vice versa.
- Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system. Grease removed from grease interceptors shall be wastehauled periodically as part of the operation and maintenance requirements for grease interceptors.
- Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the total design hydraulic depth of the grease interceptor (25% Rule).

Requirement to Implement Best Management Practices (BMPs)

- FSEs are required to implement BMPs in their operation to minimize the discharge of FOG to the sewer system.

General Requirement for FOG Pretreatment

- Service Establishments are required to pretreat their wastewater using grease interceptors to remove FOG prior to discharge to the sewer system. Waivers or Variances are allowed when applicable, but space and plumbing segregation are required for future interceptor installation.

Implementation of FOG Pretreatment Requirement for New Construction of FSEs

- New construction of FSEs is required to install grease interceptors prior to commencing discharge of wastewater to the sewer system.

Implementation of FOG Pretreatment Requirement for Existing FSEs

- For existing FSEs in general, the requirement to install and to properly operate and maintain a grease interceptor may be conditionally ~~delayed in its implementation (through a conditional waiver)~~ waived by the FOG Control Manager. ~~for a maximum period of three years from the effective date of the Ordinance.~~
- Installation of grease interceptors are required within 180 days after notification for existing FSEs that have caused or contributed to grease related blockage in the sewer system, or which have sewer laterals connected to hotspots, or which have been determined to have major impact to the sewer system by the FOG Source Control Program Manager based on inspection or sampling.

- Installation of grease interceptors is required for Existing FSEs undergoing remodeling or a change in operations as defined in the Ordinance, or for Existing FSEs that change ownership and undergo remodeling or a change in operations as defined in the Ordinance.

Variance from Grease Interceptor Requirement

- A variance may be issued to allow alternative pretreatment technology that is, at least, equally effective in controlling the FOG discharge in lieu of a grease interceptor, to FSEs demonstrating that it is impossible or impracticable to install, operate, or maintain a grease interceptor. The FOG Source Control Program Manager's determination to grant a variance will be based upon, but not limited to, evaluation of the following conditions:

  1. There is no adequate space for installation and/or maintenance of a grease interceptor.
  2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.
  3. The FSE may justify that the alternative pretreatment technology is equivalent or better than a grease interceptor in controlling its FOG discharge. In addition, the FSE must be able to demonstrate, after installation of the proposed alternative pretreatment, its effectiveness to control FOG discharge through downstream visual monitoring (Closed Circuit Television or CCTV) of the sewer system, for at least three months, at its own expense. A Variance may be granted if the results show no visible accumulation of FOG in its lateral and/or tributary downstream sewer lines.

Conditional Waiver from Installation of Grease Interceptor

- Conditional Waivers from installation of grease interceptors may be issued to FSEs that have been determined to have negligible FOG discharge and insignificant impact to the sewer system. ~~This waiver may also be issued to existing FSEs to delay implementation of the requirement up to a maximum of three years from the effective date of the Ordinance~~. The FOG Source Control Program Manager's determination to grant or revoke a conditional waiver shall be based upon, but not limited to, evaluation of the following conditions:

  1. Quantity of FOG discharge as measured or as indicated by the size of FSE based on seating capacity, number of meals served menu, water usage, etc.

2. De minimis discharge, i.e., discharge volume that does not require an interceptor size larger than 350 gallons.

3. Adequacy of implementation of BMPs and compliance history.
4. Sewer size, grade, condition based on visual information (CCTV), FOG deposition in the sewer by the FSE, and history of maintenance and sewage spills in the receiving sewer system.
5. Changes in operations that significantly affect FOG discharge.
6. Any other condition deemed reasonably appropriate by the FOG Source Control Program Manager.

Waiver from Grease Interceptor Installation with a Grease Disposal Mitigation Fee

- For FSEs where the installation of a grease interceptor is not feasible and no equivalent alternative pretreatment may be installed, a waiver from the grease interceptor requirement may be granted with the imposition of a Grease Disposal Mitigation Fee as described in the Ordinance. The FOG Source Control Program Manager's determination to grant the waiver with a Grease Disposal Mitigation Fee will be based upon, but not limited to, evaluation of the following conditions:

  1. There is no adequate space for installation and/or maintenance of a grease interceptor.
  2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.
  3. A variance from grease interceptor installation to allow alternative pretreatment technology may not be granted.

Grease Interceptor Installation Requirements

- Any FSE required to provide FOG pretreatment shall install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of the Ordinance. Grease interceptor sizing and installation shall conform to the current edition of the Uniform Plumbing Code.

Grease Interceptor Maintenance Requirements

- Grease Interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor, which includes wastewater, accumulated FOG, floating materials, sludge, and solids.
- All existing and newly installed grease interceptors shall be maintained in a manner consistent with a maintenance

frequency approved by the FOG Source Control Program Manager pursuant to this section.

- No FOG that has accumulated in a grease interceptor shall be allowed to pass into any sewer lateral, sewer system, storm drain, or public right of way during maintenance activities.
- FSEs with grease interceptors may be required to submit data and information necessary to establish the maintenance frequencies for the grease interceptors.
- The maintenance frequency for all FSEs with a grease interceptor shall be determined in one of the following methods:

  1. Grease interceptors shall be fully pumped out and cleaned at a frequency such that the combined FOG and solids accumulation does not exceed 25% of the total design hydraulic depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume are maintained to effectively intercept and retain FOG discharged to the sewer system.
  2. All FSEs with a Grease Interceptor shall maintain their grease interceptor not less than every 6 months.
  3. Grease interceptors shall be fully pumped out and cleaned quarterly when the frequency described in (1) has not been established. The maintenance frequency shall be adjusted when sufficient data have been obtained to establish an average frequency based on the requirements described in (1) and guidelines adopted pursuant to the FOG Source Control Program. OCSD may change the maintenance frequency at any time to reflect changes in actual operating conditions in accordance with the FOG Source Control Program. Based on the actual generation of FOG from the FSE, the maintenance frequency may increase or decrease.
  4. The owner/operator of a FSE may submit a request to the FOG Source Control Program Manager requesting a change in the maintenance frequency at any time. The FSE has the burden of responsibility to demonstrate that the requested change in frequency reflects actual operating conditions based on the average FOG accumulation over time and meets the requirements described in (1), and that it is in full compliance with the conditions of its permit and this Ordinance. Upon determination by the FOG Source Control Program Manager that requested revision is justified, the permit shall be revised accordingly to reflect the change in maintenance frequency.
  5. If the grease interceptor, at any time, contains FOG and solids accumulation that does not meet the requirements described in (1), the FSE shall be required to have the grease interceptor serviced immediately such that all fats, oils, grease, sludge, and other materials are completely removed from the grease interceptor. If deemed necessary, the FOG Source Control Program Manager

may also increase the maintenance frequency of the grease interceptor from the current frequency.

- Wastewater, accumulated FOG, floating materials, sludge/solids, and other materials removed from the grease interceptor shall be disposed off-site properly by wastehaulers in accordance with federal, state, and/or local laws.

Requirements for Best Management Practices (BMPs)

- Installation of drain screens. Drain screens shall be installed on all drainage pipes in food preparation areas.
- Disposal of food waste. All food waste shall be disposed of directly into the trash or garbage and not in sinks.
- Segregation and collection of waste cooking oil. Licensed wastehaulers or an approved recycling facility must be used to dispose of waste cooking oil.
- Employee training. Employees of the FSE shall be trained by ownership within 180 days of notification, and twice each calendar year thereafter, on the following subjects:
    1. How to "dry wipe" pots, pans, dishware, and work areas before washing to remove grease.
    2. How to properly dispose of food waste and solids in enclosed plastic bags prior to disposal in trash bins or containers to prevent leaking and odors.
    3. The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.
    4. How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.
- Training shall be documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time by OCSD or other authorized inspector.
- Maintenance of kitchen exhaust filters. Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed of properly.
- Kitchen signage. Best management and waste minimization practices shall be posted conspicuously in the food preparation and dishwashing areas at all times.

Notification Requirements

- FSEs shall comply with the following notification requirements:

1. Notification of Spill
2. Notification Regarding Planned Changes

Recordkeeping Requirements

- FSEs shall keep records for at least two years and submit or make available for review, the following documents to OCSD, upon request:
  1. A Record/Logbook of BMPs being implemented, including employee training.
  2. A Logbook of the grease interceptor, grease trap, or grease control device cleaning and maintenance practices and activities.
  3. Training Records.

  For permittees with grease interceptors:

  4. Copies of records and manifests of wastehauling interceptor contents.
  5. Records of sampling data and/or sludge height monitoring for FOG and solids accumulation in the grease interceptors.

Reporting Requirements

- FSEs may be required periodic reporting of the status of implementation of BMPs and maintenance of grease interceptors.
- Other reports may be required such as compliance schedule progress reports, FOG control monitoring reports, and any other reports deemed reasonably appropriate to ensure compliance with the Ordinance.

Drawing Submittals

- FSEs may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, schematic drawings of FOG control device, grease interceptors or other pretreatment equipment and appurtenances by size, location, and elevation for evaluation.

3.2 Systematic Identification and Inventory of FOG Sources

3.2.1 Initial Inventory of FSEs

OCSD initially identified FSEs within its jurisdiction by inspecting and characterizing each FSE and subsequently determined individual

potential to generate and discharge FOG to the sewer system. This was done as part of the FOG Characterization Study conducted by Environmental Engineering and Contracting, Inc. (EEC) on behalf of OCSD. The purpose of the study was to provide key information and program recommendations for the development of OCSD's FOG Source Control Program to prevent FOG-related SSOs.

A total of 145 FSEs were initially identified to be significant FOG dischargers and were issued permits on January 1, 2005, based on inspection and evaluation of each FSE and the following assessments:

- Problem areas in the sewer system (hot spots), as manifested by more frequent cleaning and maintenance, were identified and inspected using Closed Circuit Television (CCTV). This enabled OCSD to determine FSEs contributing to the existence of hot spots and identify other potential sources of FOG.
- OCSD's service area was mapped out utilizing Geographic Information System (GIS) software to georeference critical information such as streets, sewer lines and flow directions, location of FSEs and hot spots, location of historical SSOs, etc. This map enabled OCSD to better understand occurrence of SSOs and evaluate potential impact of each FSE based on its proximity and relative location to hot spots.

Utilizing the results from the GIS findings, OCSD ranked FSEs that have the probability of causing sewer blockages and impact to downstream hotspots. This served as the basis to prioritize major permit requirements, such as installation, operation and maintenance of a grease interceptor.

3.2.2 Program Provisions to Update Inventory of FSEs

To ensure that all significant FOG dischargers are permitted and regulated, OCSD established mechanisms to update its inventory of FSEs on a routine basis. The following are implemented to identify new or potential FSEs that are not currently on permit:

- ~~OCSD partnered with the City of Tustin's Community Development Department - Building Division, to identify new construction or major renovation of FSEs exceeding $50,000. When a building permit is issued by the Building Division, the prospective FSE is also given a FOG Wastewater Discharge Permit Application. Upon notification by the Building Division, OCSD staff conducts an inspection to collect the necessary information needed to issue a new FOG Wastewater Discharge Permit. An Inspection Card, issued by the City of Tustin for each building permit, contains a sign off provision for OCSD to provide the opportunity to inform the city's Building Division that the FSE has met OCSD's requirements, including issuance~~

~~of a valid FOG Wastewater Discharge Permit. This allows the city to complete the business license procedure and issue the certificate of occupancy to the FSE. This procedure ensures that OCSD's FOG discharge requirements are satisfied prior to discharge.~~

- ~~OCSD obtains and reviews, on a periodic basis, a list of FSEs from the City of Tustin's Business License Division to identify new FSEs. This enables OCSD to identify new FSEs based on change of ownership that did not go through the building permit process.~~
- On an annual basis, OCSD reviews a comprehensive list of FSEs inspected by the Orange County Health Care Agency (OCHCA) to identify FSEs that are not currently permitted by OCSD.
- As a condition of the FOG permit, current FSEs are required to notify OCSD of any changes to their company information, such as changes in ownership. A Facility Information Update Form, available in the FOG permit package, is provided for this purpose. The update form will initiate the appropriate follow-up response such as an inspection or the mailing of a permit application (for new owners).
- OC San conducts additional industry search activities by routinely visiting Orange parcels located in the OC San FOG service area.

3.3 Permitting Program

In addition to the FOG Ordinance, OCSD utilizes FOG Wastewater Discharge Permits as a control mechanism to effectively implement FOG control requirements to FSEs. Competently staffed with personnel well trained in the pretreatment program, OCSD processes permits efficiently using established procedures and time frames together with automation. This ensures timely issuance and application of appropriate permit conditions.

3.3.1 Comprehensive Permit

A permit is effective only when it is comprehensive enough to describe all requirements and control parameters required of a permittee. To ensure that each FSE understands its unique obligations, OCSD issues a permit that comprehensively defines the FSEs' responsibilities; the regulations to which FSEs need to adhere; and specific requirements in terms of self-monitoring frequency, reporting requirements, etc.

The permit issued to an FSE authorizes the discharge of wastewater to OCSD's sewerage system, and describes, in a single document, all the duties and obligations of the FSE, including applicable FOG pretreatment requirements. Permits allow for the systematic

integration of all applicable requirements and greatly facilitate enforcement of any noncompliance. An example of the FOG Wastewater Discharge Permit is shown in Appendi~~x~~ces ~~E1~~D1and D2.

3.3.2 Major Permit Requirements

Some of the major requirements of the permit that help ensure an effective FOG control program include, but are not limited to, the following:

- Mandatory implementation of Kitchen BMPs for all FSEs.
- Installation, operation, and maintenance of grease interceptors, when applicable.

Although all permits include the requirement for installation, operation, and maintenance of grease interceptors, waivers are initially issued to FSEs believed to have minor impact based on current information. An ongoing identification and verification of major FOG sources through FSE inspections and CCTV are integral components of OCSD's FOG Source Control Program. This enables OCSD to revoke waivers and pursue installation of grease interceptor for FSEs that are known to have major impact. Of the 145 permits initially issued by OCSD on January 1, 2005, about 20% were required to install, operate and maintain a grease interceptor.

3.3.3 Permit Duration

FOG Wastewater Discharge Permits issued by OCSD are typically for two years from the date of issuance and are updated, reviewed and renewed bi-annually. Prior to expiration of the permit, the FSE is required to complete and submit a permit renewal application to allow for re-evaluation of its existing permit.

3.3.4 Permit Informational Materials

OCSD has taken extra efforts to provide each permittee with a comprehensive permit binder that contains all the informational materials necessary to understand and comply with OCSD's FOG Source Control Program and the FOG discharge requirements. The binder includes the following:

- FOG Wastewater Discharge Permit (Appendi~~x~~ces ~~E~~D1 or D2)
- Kitchen BMPs training materials (Appendix E) in the form of a DVD video and reading material. A poster that is required to be displayed in the kitchen area is also provided separately.
- Informational Fact Sheets (Appendi~~x~~ces F1 - F14 ~~E3~~) on the following subjects:

- FOG Ordinance: Core Elements
- Basic Information on FOG
- FOG Definitions
- FOG Issues: Frequently Asked Questions
- FOG Source Control Program
- FOG Source Control Program: Frequently Asked Questions
- Prohibitions Relating to Discharge of FOG
- General Best Management Practices
- Kitchen Best Management Practices
- Managing Food Materials
- Food Service Waste Reduction
- Restaurant Oil and Grease Rendering
- Grease Interceptors
- Design Guidelines for Grease Interceptors

- FOG Ordinance (Appendix A)
- Forms (Appendices G1 – G3)
- Logs (Appendices H1 – H3) including Employee BMP Training Logs, Grease Interceptor Maintenance Log, Recyclable (yellow) Grease Pickup/Disposal Log

3.4 Enforcement Program

3.4.1 Monitoring Program

The monitoring program is an integral part of OCSD's enforcement program. OCSD performs routine and non-routine monitoring of FSEs to enforce the provisions of the FOG Ordinance and their FOG Wastewater Discharge Permits, and to identify noncompliance. In general, the monitoring program encompasses:

- FSE Self Monitoring which provides feedback to OCSD on the status of the required BMP implementation and grease interceptor maintenance;
- Routine Onsite Facility Inspections conducted by OCSD staff/representative to monitor overall status of compliance;
- Follow-up Inspections and Verification to determine if FSE has implemented required corrective actions;
- Compliance Audit to evaluate repeated violations;
- Inspections for Bi-Annual Permit Renewal to gather information needed for establishing permit conditions during permit renewal; and
- Downstream Sewer Line Inspections using CCTV to provide visual observation of FSE laterals and detect major FOG contributors that are not apparent during routine inspections.

Details of the monitoring program are discussed in Section 6.

3.4.2 Enforcement Management System

OCSD believes that the success of its FOG Source Control Program is highly dependent not only on its ability to administer extensive permitting and to monitor FSEs through inspection, but also on the implementation of an effective and aggressive enforcement program that is capable of deterring violations and consistently responding to all types of noncompliance. OCSD provides a comprehensive range of enforcement options that are used to respond to violations within the legal authority granted by OCSD's FOG Ordinance. The following is a list of available enforcement actions that have been found to be effective in achieving and maintaining long-term compliance:

- Corrective Action Notices
- Notices of Violation
- Noncompliance Fees
- Compliance Follow-Up Inspection and Verification
- Compliance Audit
- Compliance Meetings
- Increased Grease Interceptor Pumping/ Maintenance
- Order to Cease Noncompliant Discharge
- Compliance Schedule Agreement
- Administrative Complaint/Fines
- Revocation of Waiver from Grease Interceptor Installation
- Revocation of Variance from Grease Interceptor Requirements
- Permit Suspension
- Permit Revocation
- Order to Terminate Discharge
- Emergency Suspension Order
- Civil Action to Recover Civil Penalties
- Injunction
- Physical Termination of Service
- Criminal Penalties

To achieve timely and effective implementation of the FOG Source Control Program, OCSD established an Enforcement Management System, which provides systematic procedures to identify noncompliant FSEs and determine appropriate enforcement actions that must be implemented within established time frames. OCSD's Enforcement Management System includes procedures that are applied to enforce the FOG control program requirements and to track compliance. Through the Enforcement Management System, OCSD is able to:

- Identify and investigate instances of noncompliance;
- Establish enforcement responses that are appropriate in relation to the nature and severity of the violation and the overall degree of noncompliance; and
- Provide uniform application of enforcement responses for comparable levels and types of violations, and ensure adequate, consistent, and timely enforcement actions.

OCSD's Enforcement Management System encompasses all the facets of FOG source control activities from permitting to enforcement. This enforcement management system is necessary to effectively administer all the requirements of the FOG Source Control Program. It provides a systematic way of determining whether FSEs are complying with the FOG Ordinance through the requirements specified in the control mechanisms and legal authorities, and in determining how and when to respond to noncompliance. A comprehensive discussion of OCSD's

Enforcement Management System can be found in the following sections.

3.5 Staffing Resources and Training

3.5.1 Staffing Resources

The effectiveness of the control mechanisms (permit and ordinance) established for implementing the FOG Source Control Program is enhanced by a well-qualified and competent staff. OCSD's Source Control Division administers the FOG Source Control Program. ~~This program is staffed by five highly qualified Environmental Specialists/Engineers with bachelor's/master's degrees in either science or engineering and with years of experience in implementing the National Pretreatment Program. In addition, OCSD utilizes the services of Environmental Compliance Inspection Service (ECIS) to conduct routine inspections for BMP and grease interceptors.~~ The continued success of OCSD's pretreatment program is enhanced by the expertise, experience, and skills of the staff developing and implementing the program. These resources are utilized both to attain the goals of the FOG Source Control Program and to work in cooperation with FSEs and the public to protect the environment.

3.5.2 Training

Training is an integral part of OCSD's staff development program. The need for a well-trained staff that is thoroughly familiar with the pretreatment regulations, FOG Source Control Program, policies and procedures, and computer applications cannot be over-emphasized. ~~Therefore, OCSD's Source Control Division has established formal training programs for both new and existing staff utilizing both internal and external resources.~~

~~1.1.1.1 New Staff~~

~~The training of new staff is an intensive process lasting six months to one year, starting with a formal introduction to the program under the guidance of senior staff. A training schedule is developed, tailored to the position and needs of the new staff, which involves familiarization with materials on pretreatment regulations, FOG Ordinance and policies and procedures, kitchen BMPs, and FOG pretreatment equipment and waste management practices. After completing the formal training program, the knowledge obtained is further reinforced through on-the-job training.~~

~~1.1.1.2 Existing Staff~~

The training of ~~existing~~ staff is on-going, and it involves both technical and general training to maintain and augment skills and knowledge needed to perform the job.

- On a continuous basis, staff receives training on both commercial computer software and OCSD's programs created in-house to enable the staff to effectively and efficiently conduct their duties. Examples of these programs include Excel, Word, ~~Access~~, and iPACS.~~OCSD's FOG software~~. Other types of training include time management, project management, budget development, performance assessment, confined space entry, first aid, First Responder training, LEL detection, defensive driving, and developing management and supervisory skills. Continuous on-the-job training through regular staff meetings is conducted to update staff on new regulations, pollution prevention, pretreatment system, policies and procedures, etc. OCSD also provides opportunities, in the form of tuition reimbursement and flexible schedules, for staff to increase their knowledge by taking courses at colleges and universities that relate to the duties performed by staff.
- Staff also participates in conferences and training seminars ~~throughout the country~~ to be kept knowledgeable on the latest technologies and regulations. ~~For example, staff regularly attend the Cal FOG Work Group, California Water Environment Association (CWEA), National Association of Clean Water Agencies (NACWA, formerly AMSA), and Water Environment Federation (WEF) conferences and training seminars, and field staff have participated in conferences and training seminars throughout the country to be up-to-date on the latest technologies available in sampling and monitoring equipment.~~
- ~~When new programs are implemented, staff receives specialized training to execute and conduct the tasks required by the program. For example, at the implementation phase of the FOG Source Control Program, OCSD's staff attended an Advanced Training Course on the Control of Fats, Oils, and Grease sponsored by EPA, WEF and CWEA. Such training program instructs staff and familiarizes them with the issues, technical aspects, and policies and procedures of the program~~.

3.6 FSE Outreach

OCSD recognizes that its ability to be proactive and effective is also dependent upon public outreach and education. OCSD's basic principle is working with FSEs to protect the environment and public health. OCSD strives not only to keep the public involved,

but also to become partners with FSEs in developing and maintaining its environmental protection programs. It has been OCSD's experience that the FOG Source Control Program is more effective and successful if FSEs understand the purposes and goals of the program, and if FSEs are active participants in developing a practical and equitable program.

Interaction with FSEs occurs on a day-to-day basis, as part of the daily operation of the FOG Source Control Program and through a variety of forums and venues which bring together FSEs on the local level. As part of OCSD's philosophy of service to the community and of developing equitable, practical programs, its outreach activities include working with other local agencies to bring about regulations that "make sense" to FSEs, OCSD, and the community.

The following are examples of the more important and unique outreach activities and programs OCSD has undertaken:

3.6.1 FOG Ordinance Advocacy

During the initial development of the FOG Ordinance, OCSD served as the lead agency in creating a model ordinance for Orange County. OCSD worked with other co-permittees in Orange County to solicit inputs in order to ensure that the regulations established are comprehensive and can be practically implemented to achieve the desired environmental results. The model ordinance served as a good starting point for co-permittees to develop and adopt a FOG Ordinance that suits their local need. It was adopted by OCSD and some of the co-permittees.

3.6.2 Stakeholder Involvement and Education

OCSD conducted outreach for FSEs within its jurisdiction through workshops, printed materials mailed to FSEs, and the internet to solicit active participation and feedback on the development of the FOG Ordinance. Beginning August through December 2004, prior to implementation of the FOG Source Control Program in January 1, 2005, OCSD mailed informational materials to FSEs in the form of Fact Sheets (Appendi~~x~~ces ~~F.3~~F1 - F14), to promote awareness about the problem associated with FOG, to educate them on what they can do to help minimize the discharge of FOG, and to create a mindset that the FOG discharge regulations is upcoming and will be implemented through permits and enforcement.

3.7 Collaboration with ~~Sewer Maintenance, Engineering Design, Source Control, and Communication Groups~~ Operations and Maintenance (O&M), Engineering, Environmental Services Department and Public Affairs Office

The FOG Source Control Program alone is insufficient to ensure that FOG related SSOs will be eliminated. In order to be effective, it is also necessary to work with the following:

- Engineering Department to prioritize and correct structural defects
- ~~Maintenance Department~~ Operations and Maintenance (O&M) Department to eliminate root infestation in the sewer, track the emergence of trouble spots (hotspots) in the collection system and take the necessary steps to establish appropriate maintenance frequencies
- ~~Communications Department~~ Public Affairs Office to provide public outreach to minimize residential FOG discharge.

A collaborative effort is established between the Operations and Maintenance Department, Engineering Department, Public Affairs Office, and the Source Control Division to develop a unifying strategy in eliminating SSOs. It is important for the Source Control Division to maintain communication and logistical connectivity to the work practices of the other workgroups. Information obtained from the FOG Source Control Program during the course of its implementation will be fed to the other groups to develop strategies to optimize cleaning of sewer lines and eliminate roots, to identify and fix sewer line structural problems, and to further educate the public.

OCSD is committed in implementing an effective and practical FOG Source Control Program that considers the economic impact in implementing requirements to FSEs as well as the benefits derived towards achieving the desired environmental results. Although an initial program has been established, ongoing efforts to further improve the implementation of the FOG Source Control Program will be pursued.

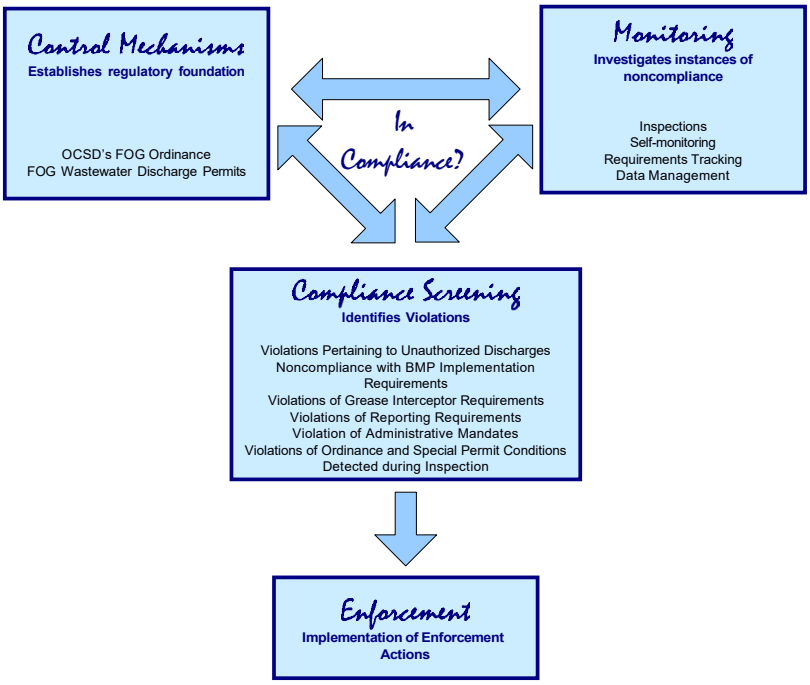
4 OVERVIEW OF OCSD'S FOG ENFORCEMENT MANAGEMENT SYSTEM

How it works

OCSD's FOG Source Control Program is administered through the FOG Enforcement Management System. The system is a network of four interdependent components:

1. Control Mechanisms (FOG Ordinance and Permits) to establish authority for regulating FSEs;
2. Monitoring Program to investigate instances of noncompliance;
3. Compliance Screening to identify violations; and
4. Implementation of Enforcement Actions.

Linked together, these components serve as the framework in effectively enforcing OCSD's FOG Source Control Program. Each component is comprised of procedures on how and when to conduct each activity, and is established to define personnel responsibilities in administering the program.



Control mechanisms are the foundation of the FOG Enforcement Management System. OCSD regulates FSEs through the FOG Discharge Permit (permit) and the FOG Ordinance. The permit and the FOG Ordinance define the FSEs' responsibilities; the regulations to which FSEs need to adhere; and specific discharge requirements. The existence of these control mechanisms, however, is not enough to ensure compliance by FSEs with the regulations. OCSD recognizes that it must be able to act upon and effectively enforce the terms of these control mechanisms.

To determine and investigate instances of noncompliance, OCSD administers a monitoring program by inspecting FSEs, tracking implementation of BMPs, monitoring maintenance of grease interceptors, and by tracking all other requirements imposed. Inspections include evaluations and assessments of the FSEs' operations and grease interceptors, and are documented by inspection reports.

Because of the large volume of information handled in maintaining and evaluating permit and enforcement activities, database management becomes an integral part of the FOG Enforcement Management System. OCSD has a sophisticated computer network for this purpose, which utilizes advanced database management softwares such as ~~Oracle~~ iPACS, to enhance information storage, retrieval, processing, and evaluation. ~~A custom software specifically designed to administer the FOG Source Control Program~~ iPACS is in place, to ensure consistency and efficiency of implementation. The software organizes and enhances monitoring and tracking activities as well as implementation of enforcement actions. Pertinent current information on FSEs is stored in the computer database; similarly, hard copies of documents are stored in files. The FOG software and database system are capable of storing inspection reports, BMP reporting requirements, and grease interceptor maintenance reports among others obtained by OCSD. In addition, the computer tracks due dates for report submittals and requirements imposed on FSEs, and also generates reminders to FSEs prior to the due dates.

With the FSEs' requirements and prohibitions established through the control mechanisms, and the data gathered from the monitoring and tracking activities, violations are identified through systematic compliance screening. The compliance screening process involves review of available information to sort out noncompliant dischargers for appropriate enforcement response. This process automatically generates Notices of Violation that are sent to FSEs. All other violations not amenable to computer tracking are being determined manually, in a systematic manner, in accordance with established policies and procedures.

The violations and discrepancies that are identified during the compliance screening process are reviewed by the appropriate personnel to evaluate the type of enforcement response needed. OCSD staff identifies types of responses that are appropriate based on the nature of the violation, the frequency of the violation, the magnitude of the violation, the duration of the violation, the potential impact of the violation, and the good-faith efforts of the violator to eliminate noncompliance. After selection of the

appropriate response, the enforcement action is implemented by specific personnel within a reasonable time frame.

The culmination of all of the above activities enables OCSD to maintain internal coordination and management of the FOG Source Control Program in a systematic and consistent manner. Through the FOG Enforcement Management System, OCSD intends to implement monitoring and enforcement responsibilities in a consistent, fair and timely manner.

5 CONTROL MECHANISMS

Legal basis for regulatory control

The FOG Ordinance and the FOG Wastewater Discharge Permit are control mechanisms that allow OCSD to implement the FOG Source Control Program. These control mechanisms serve as the regulatory foundation for providing OCSD with the legal authority to implement the program.

5.1 FOG Ordinance

The FOG Ordinance adopted by OCSD sets forth uniform requirements for all FSEs in OCSD's service area of responsibility, to comply with the General Waste Discharge Requirements Order. The Ordinance authorizes the issuance of FOG Discharge Permits to limit FOG discharges to the sewer system; authorizes inspection/monitoring and enforcement activities; establishes administrative procedures; and provides for the setting of fees for the equitable distribution of costs resulting from the implementation of the FOG Source Control Program.

5.2 FOG Wastewater Discharge Permit

OCSD's FOG Ordinance prohibits the discharge of FOG from FSEs without valid FOG Discharge Permits. Therefore, OCSD is administering a permit program for FSEs utilizing procedures that allow for the:

- Identification of new FSEs and characterization of their FOG discharges,
- Identification of significant process and/or discharge changes at existing FSEs, and
- Issuance of permits to regulate FSEs' FOG discharges

FOG Wastewater Discharge Permits issued to FSEs contain:

- Discharge prohibitions and discharge limitations;
- Schedules for self-monitoring and reporting;

- Statements of duration and non-transferability;
- Legal authority of OCSD to revoke the sewer discharge privileges and to modify the permit;
- Penalties;
- Record-keeping and notification requirements;
- Severability; and
- Permit conditions, as necessary.

5.2.1 Permit Processing and Issuance

OCSD implements an efficient permitting program through timely processing and issuance of permits, comprehensive permit evaluation to ensure application of correct permit conditions, and automated permit generation. The following describe these aspects in detail:

5.2.1.1 Timeliness of Permit Processing and Issuance

Permit issuance is frequently delayed when the applicant does not provide complete information and other requirements in the application, or when there are no established internal procedures and time table for processing and issuing a permit. To resolve this problem, OCSD established the following tools to ensure timely issuance of a permit:

- A permit application package (Appendix ~~E7~~I), which contains comprehensive information on how to obtain a FOG Wastewater Discharge Permit and easy-to-follow guidelines on how to fill-out an application form, is made available to all permit applicants. The brochure describes OCSD's FOG wastewater discharge permit program, permit requirements, how to apply and obtain a permit, permit conditions, facilities requirements, permit application review and evaluation process, specific instructions on how to fill out an application, and guidelines on drawings and information submittal requirements. This information provides applicants with sufficient knowledge necessary to be able to respond effectively in complying with all the permit application requirements. A permit application package checklist is also provided to ensure completeness of submittal requirements.
- When a permit application is received, OCSD follows established permitting procedures to ensure issuance of an accurate permit. Based on this, it is expected that new permits will be issued within four weeks, and all existing permits will be renewed prior to or by the expiration date.

5.2.1.2 Comprehensive Permit Evaluation to Ensure Application of Correct Permit Conditions

OCSD conducts a thorough review of the permit application and a comprehensive evaluation of FOG sources through an inspection of the facility, to determine applicable permit conditions. The adequacy of the pretreatment system and BMPs in place are also evaluated to ensure compliance. After final evaluation, the information is summarized and processed quickly using a computer permit generator program. Prior to issuance, QA/QC procedures are followed to ensure accuracy of the permit.

5.2.1.3 Automated Permit Generation

To enhance management of permit information for each FSE, OCSD maintains a relational database system that allows efficient data storage and retrieval for a variety of applications~~. This has led to the development of a computerized permit generator developed in house~~, which includes permit generation.~~allows a permit document to be generated in approximately less than ten minutes.~~

After detailed evaluation of the pertinent information and the applicable permit conditions as previously described, the final information is summarized and ~~entered in the permit generator program. T~~the permit document, containing all pertinent information, is quickly generated and is ready for issuance in a matter of minutes.

6 MONITORING FSEs

How instances of noncompliance are investigated

6.1 Methods of Investigating Instances of Noncompliance

OCSD's monitoring program is used to evaluate the compliance status of FSEs in relation to applicable permit and ordinance requirements. The monitoring program consists of:

- Tracking compliance with permit and ordinance requirements through facility inspections;
- Tracking status of implementation of BMPs and Grease Control Device Operations and Maintenance through self-monitoring program;
- Receiving and evaluating reports as specified in the FSEs' permits or as required by any enforcement actions;
- Investigating instances of noncompliance, producing admissible evidence through visual observation of sewer laterals and sewer lines downstream using closed-circuit television (CCTV), as necessary; and
- Maintaining a computerized compilation of pertinent data regarding all FSEs that is complete and accurate, in order to facilitate the compliance screening process.

The following describes in detail the monitoring and tracking activities performed by OCSD:

6.2 FSE Self-Monitoring

6.2.1 Self-Monitoring to Track Implementation of Required Best Management Practices

OCSD requires all FSEs to implement BMPs and to report the status of implementation every six months. Minimum requirements for implementation of BMPs are specified in the FSE's permit. All self-monitoring is required to be conducted in accordance with OCSD's

guidelines as specified in the FSEs' permit. The self-monitoring results submitted to OCSD are evaluated and used as a means to determine compliance. If the results show noncompliance, the FSE is inspected to confirm the noncompliance and a Corrective Action Notice is issued accordingly, to require immediate implementation of corrective measures. A Notice of Violation with a Noncompliance Fee is issued when the FSE fails to implement the required correction during a follow-up verification inspection.

OCSD utilizes a computer system to administer the self-monitoring program from the initial notification to final submittal of reports or implementing required enforcement responses. FSEs are initially notified at the beginning of the six-month reporting period to implement BMPs and are also sent a reminder notice together with the official Best Management Practices Monitoring Report Forms. Submittals are tracked and late notices are sent when reports are not submitted on time. The reports generated by this automated process are manually verified and checked by responsible personnel prior to final release. After final verification, the results become part of the FSE's permanent file and compliance record in the computer database.

6.2.2 Self-Monitoring to Track Implementation of Maintenance Requirements for Grease Interceptors

OCSD also requires FSEs with grease interceptors to maintain their grease interceptors at a specified frequency and to report these activities every six months. The permit specifies the minimum requirements for grease interceptor maintenance. Similar to the BMP self-monitoring, FSEs are also required to submit self-monitoring reports to OCSD. Reports submitted to OCSD are evaluated and used as a means to determine compliance. If the results show noncompliance, the FSE is inspected to confirm the noncompliance and a Corrective Action Notice is issued accordingly, to require immediate implementation of corrective measures. A Notice of Violation with a Noncompliance Fee is issued when the FSE fails to implement the required correction during a follow-up verification inspection. Implementation procedures for the Grease Interceptor self-monitoring requirement are similar to the BMP self-monitoring requirement.

6.3 Inspections

OCSD conducts routine and non-routine inspections as a means of verifying an FSE's compliance with its discharge permit and OCSD's Ordinance. The following types of inspections are commonly done:

6.3.1 Routine Onsite Facility Inspections

On a routine basis, FSEs with grease interceptor requirements are inspected periodically to verify proper maintenance and operation of grease interceptors and compliance with the 25% rule. OCSD also conducts inspections of FSEs to determine instances of noncompliance with BMP requirements and other permit requirements. The inspections may include interviews with FSE representatives, inspection of grease removal devices, and visual observation of kitchen practices as it relates to FOG generation.

6.3.2 Follow-up Inspection and Verification

When a Corrective Action Notice is issued, a follow-up inspection and verification is conducted to determine if the FSE has complied with the required corrective actions to resolve the noncompliance problem. When an FSE fails to correct the problem based on the findings of this inspection, a Notice of Violation is issued along with the corresponding Noncompliance Fee.

6.3.3 Compliance Audit

This is a special inspection for FSEs with repeated violations to identify and assess the cause of the recurring noncompliance problems and to establish the required corrective actions. OCSD's staff conducts a compliance audit of the facility, including a thorough review of the kitchen practices, waste/wastewater-generating sources, waste management practices, and adequacy of the pretreatment system.

6.3.4 Inspection for Bi-Annual Permit Renewal

This is a comprehensive inspection conducted every two years. It provides a detailed compliance check as well as information needed to re-evaluate the permit during permit renewal. These inspections include evaluation of the kitchen practices and grease interceptor, review of waste manifests and other disposal documents, compliance evaluation, and a review of applicable regulations, policies and procedures for the implementation of the FOG program.

6.3.5 Downstream Sewer Line Inspections

To further confirm compliance with the requirements of the FOG Source Control Program, OCSD conducts routine inspections of downstream sewer lines and laterals from FSEs using Closed Circuit Television (CCTV). This provides opportunity to pinpoint sources of illegal FOG discharges not detected during onsite inspections.

With the visual observations obtained using CCTV, OCSD is able to identify FSEs that have major impacts and, subsequently, require them to install adequately sized grease interceptors to resolve the problem. OCSD regularly conducts downstream monitoring and uses it as an effective means to identify major FOG contributors and further identify groups of dischargers that either collectively or cumulatively impact the sewer. CCTV inspection has been demonstrated to be a very useful tool in monitoring trouble spots to prevent SSOs and eventually eliminating trouble spots.

6.4 Data Management

OCSD maintains a computer data management system for storage, retrieval, and processing of information pertaining to all permit- and enforcement-related activities. The data management system is capable of handling and processing the following permit- and enforcement-related activities:

- Maintaining current FSE information, such as mailing and service address, names of chief operating officer and contact, telephone and facsimile numbers, number of employees, operating hours, etc.
- Maintaining a database for permit-related information such as GIS information, grease interceptor location, original date of permit issuance, permit expiration date, etc.
- Maintaining a database for storing inspection findings and tracking Corrective Action Notices.
- Generating Notices of Violation, when applicable.
- Tracking self-monitoring requirements, generating reminder letters to conduct self-monitoring, generating reminder letters to submit self-monitoring reports, and generating self-monitoring Corrective Action Notices.
- Tracking all permit renewal applications and generation of new and renewed permits.
- Tracking all submittal requirements such as progress reports, Compliance Schedule Agreement submittals, permit condition requirements, and any pertinent requirements.
- Generating reports such as compliance histories.

7 COMPLIANCE SCREENING

How violations are identified

OCSD's compliance screening procedures involve the review of all available information generated by monitoring activities in comparison with the FSE's permit requirements, to sort out noncompliant dischargers. This step is designed primarily to identify apparent violations and subsequently determine the appropriate response in the next steps.

OCSD established standard compliance screening procedures for violations pertaining to permitting, grease interceptor maintenance requirements, BMP implementation and reporting requirements, administrative mandates, ordinance, and special permit conditions. With the aid of OCSD's data management system, standard procedures are followed in systematically identifying all violations and subsequently notifying FSEs of the violations.

The bulk of the compliance screening process deals with the identification of grease interceptor maintenance requirement violations (25% rule), failure to implement mandatory BMPs, reporting violations, and compliance schedule violations. In an effort to conduct the compliance screening process efficiently, OCSD developed computer programs for automatic identification of these violations. Not only will the automated process assist in developing a consistent response, it will also reduce the manpower required to conduct the compliance screening process. The preliminary review and evaluation are handled by the administrative support utilizing the computerized data management system. Computerized compliance screening applications include:

- Screening violations for failure to comply with the grease interceptor maintenance requirements (25% rule) and Failure to implement required BMPs;
- Screening for reporting violations based on computerized tracking for all report submittal requirements; and
- Screening for violation of administrative mandates based on computerized tracking of all administrative mandate requirements.

Because timing is an important element that needs to be considered when conducting compliance screening, OCSD established procedures to review the information on a "rolling" (as received) basis. The data are screened as soon as they are received, which triggers generation of a Notice of Violation when applicable, as an initial enforcement action.

OCSD has developed procedures for careful examination of monitoring data to accurately determine the compliance status of each FSE. The

following describes specifically what OCSD does to screen different types of violations:

7.1 Screening for Violations Pertaining to Unauthorized Discharges

7.1.1 Discharging Without a Permit

During the course of routine inspections of permitted FSEs, OCSD's inspectors conduct searches for FSEs discharging to the sewer without a permit. OCSD identifies non-permitted FSES by:

- ~~Working with the City of Tustin's Community Development Department - Building Division, to identify new construction or major renovation of FSEs exceeding $50,000~~.
- ~~Obtaining and reviewing, on a periodic basis, a list of FSEs from the City of Tustin's Business License Division to identify new FSEs~~.
- Reviewing the list of FSEs inspected by the Orange County Health Care Agency (OCHCA) on an annual basis.
- Visiting parcels located in the OC San FOG service area.

Upon identification of an unpermitted FSE, OCSD issues a **Notice to Apply for Permit;** provides a Permit Application; and specifies the deadline when to submit the application.

7.1.2 Failure to Inform Change of Ownership

This violation is usually detected by the inspectors in the course of their routine inspection as they gather information from the contact. Upon identification of the violation, the inspector issues a **Notice to Apply** and provides a permit application. The inspector specifies the deadline to submit the application and is responsible for the follow-up.

7.1.3 Discharging with an Expired Permit

This violation is usually determined through the permit renewal process with the aid of a computer. On a monthly basis, a list of FSEs whose permits are about to expire is generated by the computer. A designated person is responsible for following up the permit renewal process and identifying noncompliant FSEs. Proper notification and sufficient time is provided to the FSE to ensure that the permit is renewed prior to expiration.

7.1.4 Discharging with Suspended Permit or Discharging with Revoked Permit

Since these violations do not happen frequently, FSEs with Suspended Permits or Revoked Permits are closely monitored and tracked down by inspectors through actual inspection of the FSE's facility.

7.2 Screening for Noncompliance with the BMP Implementation Requirements

7.2.1 Failure to Implement Required BMPs

This noncompliance is detected during submission of BMP Self-Monitoring Reports and during routine onsite inspections. The Self-Monitoring Reports indicate BMPs which are not implemented. Information provided by FSE is entered in the computer which automatically detects noncompliance and generates the Corrective Action Notice. Further tracking of the Corrective Action Notice issued is integrated in the computer program which requires subsequent input to indicate whether the FSE has met compliance or a Notice of Violation needs to be issued. This noncompliance is also detected during onsite inspection for which a Corrective Action Notice is issued. Further tracking of the Corrective Action Notice is also done by the computer which requires subsequent input, to indicate whether the FSE has met compliance or a Notice of Violation needs to be issued, after conducting a Follow-up Inspection and Compliance Verification.

7.2.2 Failure to Keep Required Records for Implementing BMPs

Record-keeping, such as training logs, yellow grease disposal logs, etc., is part of the BMP implementation requirement. Noncompliance with this requirement is detected during onsite inspection for which a Corrective Action Notice is issued. Further tracking of the Corrective Action Notice is done by the computer which requires subsequent input, to indicate whether the FSE has met compliance or a Notice of Violation needs to be issued, after conducting a Follow-up Inspection and Compliance Verification.

7.3 Screening for Violations of Grease Interceptor Maintenance Requirements

7.3.1 Violation of the 25% Rule

During inspection of grease interceptors, the depths of the accumulated solids and FOG are measured to determine compliance with the 25% rule. If noncompliance is detected, a Corrective Action Notice is immediately issued requiring the FSE to immediately pump the full contents of the interceptor within a specified number of days. A Follow-up Inspection and Compliance Verification is conducted to determine if FSE has met compliance. Computer tracking for these events will determine if a Notice of Violation needs to be issued.

7.3.2 Failure to Maintain Parts of the Grease Interceptor in Proper Operating Condition

As part of the grease interceptor inspection, the internal parts are inspected to ensure that they are properly maintained and in good operating condition. When a problem is detected, a Corrective Action Notice is immediately issued requiring the FSE to immediately fix the problem within a specified number of days. Further tracking of the Corrective Action Notice is done by the computer, which requires subsequent input, to indicate whether the FSE has met compliance or a Notice of Violation needs to be issued, after conducting a Follow-up Inspection and Compliance Verification.

7.3.3 Failure to Keep Required Records for Grease Interceptor Maintenance

Record-keeping, such as maintenance records and wastehauling records, is part of the grease interceptor maintenance requirement. Noncompliance with this requirement is detected during onsite inspection for which a Corrective Action Notice is issued. Further tracking of the Corrective Action Notice is done by the computer which requires subsequent input, to indicate whether the FSE has met compliance or a Notice of Violation needs to be issued, after conducting a Follow-up Inspection and Compliance Verification.

7.4 Screening for Violations of Reporting Requirements

7.4.1 Delinquent Reports

Most reporting violations are caused by delinquent reporting. For purposes of compliance screening, OCSD has established a computerized tracking system for all reporting requirements. When requirements for a specific FSE are established, the information is entered into the computer with a brief description of the requirement and when the requirement is due. Upon submission, the computer database is also updated to indicate that the report has been received. ~~On a weekly basis,~~ The computer generates a report which summarizes all upcoming reports due and overdue reports. Not only does this facilitate tracking and follow-up, but it also provides compliance screening for FSEs who fail to satisfy the reporting requirement. Upcoming requirements which are soon due are flagged by the computer; subsequently, OCSD sends reminders to FSEs to inform them of the upcoming due date as a preventive measure for reporting violation occurrences. Such reminders have proven to be beneficial in preventing this type of violation.

7.4.2 Inaccurate Reports

Upon submission of required reports, the information is initially screened by clerical staff for completeness and then reviewed by technical staff for technical content. Compliance screening for inaccurate reports is determined during this process.

7.5 Screening for Violations of Administrative Mandates

All requirements of administrative mandates such as Compliance Schedule Agreements are monitored through the computer for compliance. When requirements are established, the information is entered into the computer with the corresponding due date for tracking purposes. Similarly, the computer is updated when the requirements are satisfied. Compliance screening is accomplished through reports generated by the computer which summarize overdue requirements. As a preventive measure, OCSD sends reminders to FSEs to inform them of the requirements with upcoming due dates.

7.6 Violations of Ordinance and Special Permit Conditions Detected During Inspections

Compliance screening for violations occurring at the FSE's facility is determined by inspectors during the course of routine or nonroutine inspections. When noncompliance is detected, a Corrective Action Notice is immediately issued requiring the FSE to immediately correct the problem within a specified number of days. Further tracking of the Corrective Action Notice is done by the computer which requires subsequent input, to indicate whether the FSE has met compliance or a Notice of Violation needs to be issued, after conducting a Follow-up Inspection and Compliance Verification.

8 IMPLEMENTING ENFORCEMENT ACTIONS

Enforcement responses available

OCSD's first consideration in developing enforcement responses was to anticipate as many types and patterns of violations as possible that are likely to be encountered, as discussed in Section 7. This way, specific enforcement responses may be formulated. The violations and discrepancies that are identified during the compliance screening process are reviewed to evaluate the type of enforcement response needed. Guidelines are established to:

- Provide guidance in determining procedures to be followed to identify, document and respond to the violations;
- Provide guidance in selecting initial and follow-up enforcement actions;
- Establish staff responsibilities for implementing enforcement actions; and
- Designate suggested time frames for implementing enforcement actions.

OCSD's second consideration was to provide a range of enforcement options that can be used to respond to violations. OCSD uses a comprehensive range of enforcement mechanisms within the legal authorization granted by the Clean Water Act, the state legislature, and OCSD's FOG Ordinance.

8.1 Enforcement Responses

The following describes the range of enforcement options used by OCSD in responding to different types of violations:

8.1.1 Corrective Action Notice (CAN)

Corrective Action Notices are informal notices used to initially address and correct noncompliance to provide the FSE with an opportunity to correct the problem before issuance of a formal Notice of Violation with the associated Noncompliance Fees. The Corrective Action Notice specifies the problem that need to be corrected and a due date for completion. After the required completion date, OCSD conducts a Compliance Follow-up Inspection and Verification to determine if FSE is in full compliance. Corrective Action Notices are tracked to ensure that appropriate follow-up is consistently conducted.

8.1.2 Notices of Violation (NOV)

When a Corrective Action Notice for noncompliance with permit conditions or Ordinance provisions is issued, a Follow-up Inspection and Compliance Verification follows to determine if FSE has met compliance. When the FSE is found to have failed to correct the problem, A Notice of Violation is issued together with a Noncompliance Fee. The NOV describes the type of violation, and specifies that corrective actions must be taken to preclude escalated enforcement actions.

8.1.3 Noncompliance Fees

When a Notice of Violation is issued, a Noncompliance Fee is typically imposed on the FSE. The fee recovers OCSD's administrative and field costs in dealing with the noncompliance.

8.1.4 Compliance Follow-Up Inspection and Verification

Following issuance of a Corrective Action Notice as a result of noncompliance, OCSD conducts a compliance follow-up inspection to determine whether the FSE has implemented corrective measures and has resolved problems. Based on this inspection, a Notice of Violation is issued if the FSE is found to have failed to correct the problem or the enforcement action is terminated if the noncompliance problem has been resolved.

8.1.5 Compliance Audit

Compliance Audits are conducted by OCSD staff for FSEs who have demonstrated continued or repeated violations. Compliance Audits are performed in order to investigate the cause of the recurring violations, and to assess the level of corrective measures and enforcement actions needed to fully resolve the noncompliance problem. A Compliance Audit is usually followed by a Compliance Meeting.

8.1.6 Compliance Meetings

Compliance Meetings are held when an FSE has demonstrated continued or repeated violations. A Compliance Meeting is usually held after a Compliance Audit has been conducted. The meeting is held at OCSD's administration office, and attendance by the representatives of the FSE is mandatory. During the meeting, the results of the Compliance Audit are discussed, and a plan is developed to establish the corrective actions to be taken by the FSE to achieve long-term compliance.

8.1.7 Increased Grease Interceptor Pumping/Maintenance

OCSD may impose more frequent grease interceptor pumping/maintenance requirements if an FSE has demonstrated continued or repeated violations of the 25% Rule.

8.1.8 Order to Cease Noncompliant Discharge

When OCSD finds that the FSE has continued to discharge wastewater in violation of OCSD's Ordinance or the provisions of its wastewater discharge permit, an Order to Cease Noncompliant Discharge may be issued to stop noncompliant discharge. The Order also notifies the FSE of subsequent enforcement actions that could be taken should violations continue.

8.1.9 Compliance Schedule Agreement

Upon a determination that an FSE is in noncompliance with the terms, conditions or limitations specified in its permit or any provision of OCSD's Ordinance, and that it needs to construct and/or acquire and install pretreatment equipment, OCSD may require the FSE to enter into a Compliance Schedule Agreement. The Compliance Schedule Agreement contains requirements and conditions by which an FSE must operate during its term and provides specific dates for construction and/or acquisition and

installation of required equipment or implementation of corrective actions.

8.1.10 Administrative Complaint/Administrative Fines

Pursuant to the authority of California Government Code Sections 54740.5 and 54740.6, OCSD may issue an Administrative Complaint to any FSE that violates any provision of OCSD's Ordinance; any permit condition, prohibition, or effluent limit; or any suspension, revocation or other order. The Administrative Complaint describes the violation, the provision of the law authorizing civil liability to be imposed, and the proposed administrative fine.

The Administrative Complaint also provides notification of the date and location of an administrative hearing regarding the complaint. The hearing is held within 60 days after the complaint is transmitted. The hearing is conducted by a staff member designated by OCSD's General Manager. The FSE may waive its right to a hearing, in which case the hearing is not conducted. At the hearing, the FSE is given an opportunity to respond to the allegations set forth in the Administrative Complaint by presenting written or oral evidence. After the conclusion of the hearing, the hearing officer submits a written report to the General Manager setting forth a statement of facts found to be true, a determination of the issues presented, conclusions and a recommendation. Should the General Manager find that grounds exist for assessment of an administrative fine, his decision and order are issued in writing within 30 days after the conclusion of the hearing. The written decision is then transmitted to the FSE.

Administrative fines may be assessed as follows:

- In an amount not to exceed two thousand ($2,000.00) for each day for failing or refusing to furnish technical or monitoring reports;
- In an amount not to exceed three thousand dollars ($3,000.00) for each day for failing or refusing to timely comply with any compliance schedules established by OCSD;
- In an amount not to exceed five thousand dollars ($5,000.00) per violation for each day of discharge in violation of any waste discharge limit, permit condition, or requirement issued, reissued, or adopted by OCSD;
- In any amount not to exceed ten dollars ($10.00) per gallon for discharges in violation of any suspension, revocation, cease and desist order or other orders, or prohibition issued, reissued, or adopted by OCSD.

In determining the proposed administrative penalty, OCSD takes into consideration such factors as environmental or physical harm to

the POTW, the good faith efforts of the FSE once it became aware of the problem, the magnitude and frequency of violations, the FSE's history of noncompliance, and economic benefit.

8.1.11 Revocation of Waiver from Grease Interceptor Installation

Upon determination that an FSE is a major FOG contributor, any existing Waiver from Grease Interceptor Installation may be revoked. Upon revocation of the waiver, the grease interceptor installation requirement is included in the permit and immediately implemented.

8.1.12 Revocation of Variance from Grease Interceptor Requirements

Upon determination by OCSD that the Variance from Grease Interceptor Requirements is no longer appropriate, OCSD may revoke the variance and pursue installation of a standard grease interceptor.

8.1.13 Permit Suspension

A permit may be suspended when it is determined that an FSE has:

- Failed to comply with the terms and conditions of a Compliance Schedule Agreement.
- Knowingly provided a false statement, representation, record, report, or other document to OCSD.
- Refused to provide records, reports, plans, or other documents required by OCSD to determine permit terms, conditions, discharge compliance, or compliance with the Ordinance.
- Falsified, tampered with, or knowingly rendered inaccurate any monitoring device or sample collection method.
- Failed to report significant changes in operations or wastewater constituents and characteristics.
- Refused reasonable access to the FSE's premises for the purpose of inspection and monitoring.
- Failed to make timely payment of all amounts owed to OCSD for user charges, non-compliance sampling fees, permit fees, or any other fees imposed pursuant to this Ordinance.
- Violated any condition or limit of a discharge permit or any provision of OCSD's Ordinance.

Upon determination that there are reasonable grounds for permit suspension, the FSE is provided a written notice with the date and location of the administrative hearing. The hearing is held within 15

- 45 days after the notice is transmitted. The hearing is conducted by a staff member designated by OCSD's General Manager.

At the suspension hearing, the FSE is given an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. After the conclusion of the hearing, the hearing officer submits a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation. Should the General Manager find that grounds exist for suspension of the permit, his decision and order is issued in writing within 30 days after the hearing. The written decision is then transmitted to the FSE.

8.1.14 Permit Revocation

A permit may be revoked when it is determined that an FSE:

- Knowingly provided a false statement, representation, record, report, or other document to OCSD.
- Refused to provide records, reports, plans, or other documents required by OCSD to determine permit terms, conditions, discharge compliance, or compliance with the Ordinance.
- Falsified, tampered with, or knowingly rendered inaccurate any monitoring device or sample collection method.
- Failed to report significant changes in operations or wastewater constituents and characteristics.
- Failed to comply with the terms and conditions of a Compliance Schedule Agreement or permit suspension.
- Discharged effluent to OCSD's sewerage system while its permit was suspended.
- Refused reasonable access to the FSE's premises for the purpose of inspection and monitoring.
- Failed to make timely payment of all amounts owed to OCSD for user charges, non-compliance sampling fees, permit fees, or any other fees imposed pursuant to the Ordinance.
- Caused interference or pass-through with OCSD's collection, treatment, or disposal system.
- Violated any condition or limitations of its discharge permit or any provision of OCSD's Ordinance.

Upon determination that there are reasonable grounds for permit revocation, the FSE is provided a written notice with the date and location of the administrative hearing. The hearing is held within 15 - 45 days after the notice is transmitted. The hearing is conducted by a staff member designated by OCSD's General Manager.

At the revocation hearing, the FSE is given an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. After the conclusion of the hearing, the hearing officer submits a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation. Should the General Manager find that grounds exist for revocation of the permit, his decision and order is issued in writing within 30 days after the date of the hearing. The written decision is then transmitted to the FSE.

8.1.15 Order to Terminate Discharge

An Order to Terminate Discharge may be used to require an FSE to physically terminate its sewerage service if the FSE has failed to comply with an Emergency Suspension Order or Permit Revocation Order; or if an FSE without a valid permit fails to immediately cease and desist discharge.

8.1.16 Emergency Suspension Order

OCSD may suspend sewerage service by order of the General Manager when it is determined that a suspension is necessary in order to stop an actual or impending discharge which presents or may present an imminent or substantial endangerment to the health and welfare of persons, or to the environment, or may cause interference with OCSD's sewerage facilities or operations, or may cause OCSD to violate any Local, State or Federal Law Regulation. Any discharger notified of and subject to an Emergency Suspension Order is required to immediately cease and desist the discharge of all wastewater to the sewerage system. Within five days of the issuance of an Emergency Suspension Order, the General Manager holds a hearing to provide the FSE with an opportunity to provide information in opposition to the order. The General Manager then issues a written decision within two business days following the hearing, and the decision is transmitted to the FSE.

8.1.17 Civil Penalties (Judicial)

Pursuant to the authority of California Government Code Sections 54739 - 54740 and the Clean Water Act, 33 U.S.C. Section 1251 et seq., any person who violates any provision of OCSD's Ordinance, or any permit condition, prohibition or effluent limit is potentially liable civilly up to $25,000.00 per violation for each day in which such violation occurs. This action is initiated by OCSD's General Counsel, upon order of the General Manager, by petitioning the Superior Court to impose, assess and recover such penalties, or such

other penalties as OCSD may impose, assess, and recover pursuant to Federal and/or State legislative authorization.

8.1.18 Injunction

OCSD may petition the Superior Court for the issuance of a preliminary or permanent injunction, or both, to restrain or prevent continued or threatened violations of the Ordinance, an FSE's permit, or any Federal Pretreatment Standard or requirement.

8.1.19 Physical Termination of Service

OCSD may physically terminate sewerage service to any property pursuant to the terms of any order of emergency suspension or revocation of a permit or upon the failure of a person not holding a valid discharge permit to immediately cease discharge, whether direct or indirect, to OCSD's sewerage facilities.

8.1.20 Criminal Penalties

Any person who violates OCSD's Ordinance is guilty of committing a misdemeanor, and if convicted, is punishable by a fine up to $1,000.00, or imprisonment up to 30 days, or both. Each violation and each day of violation may constitute a separate violation of the Ordinance.

8.1.21 Financial Security

FSEs subject to enforcement or collection proceedings may be required to provide financial security to guarantee performance or to pre-pay charges before permission is granted to discharge to the sewer.

8.2 Criteria for Determining Appropriate Enforcement Actions

After identifying various types of violations and establishing a range of available enforcement options, the specific enforcement response must be selected. To ensure that the enforcement response selected is appropriate in relation to the seriousness of the violation, the following criteria are utilized:

- Magnitude of Violation
- Duration and Frequency of Violation

- Effect of Violation on Public Health and the Environment
- Effect of Violation on OCSD's Workers and Sewerage System
- Compliance History of the FSE
- Good Faith Efforts of the FSE to Eliminate Compliance

8.2.1 Magnitude of Violation

Some violations of an isolated or insignificant nature may be dealt with by an informal enforcement action such as a reminder letter, Corrective Action Notice or the issuance of a Notice of Violation. However, violations of a significant nature, even a single occurrence, can threaten the public health and the environment, or damage OCSD's sewerage system. For this reason, the magnitude of violation is an important factor in determining the appropriate level of response.

8.2.2 Duration and/or Frequency of Violation

Regardless of the magnitude, the duration and/or frequency of violation must be considered in determining an enforcement response. All else being equal, violations which continue over extended periods of time are subject to more escalated levels of response.

8.2.3 Effect of Violation on Public Health and the Environment

The actual or potential effect of a violation on public health and the environment is a significant factor in determining the level of response. In situations where there is an imminent threat to public health and the environment, OCSD may immediately suspend sewerage service. The level of response is related to the impact of the violation, and is also devised to recover any costs incurred by OCSD. For example, if the violation has resulted in SSO to a penalty imposed on OCSD, the FSE would be responsible for the penalty amount.

8.2.4 Effect of Violation on OCSD's Workers and Sewerage System

Some discharge violations may result in adverse effects on OCSD's workers and/or sewerage system. Adverse effects on the sewerage system can include harm to equipment, processes, or operations; contamination of wastewater or biosolids; and damage or obstruction to the collection system. The level of response is related to the impact of the violation, and is also devised to recover any costs incurred by OCSD as a result of the violation.

8.2.5 Compliance History of the FSE

The compliance history of the FSE must be considered in determining the appropriate level of response to a violation. In addition, the various aspects of the compliance history should be taken into consideration including the status of the FSE's pretreatment equipment, operation and maintenance efforts, waste minimization efforts, etc.

8.2.6 Good Faith Efforts of the FSE to Eliminate Noncompliance

The good faith efforts of an FSE, once it is aware of a violation, plays a role in determining the appropriate level of response to a violation. Good faith efforts must be compared against the criteria provided in the Clean Water Act:

"The Act requires industry to take extraordinary efforts if the vital and ambitious goals of the Congress are to be met. This means that business-as-usual is not enough. Prompt, vigorous, and in many cases, expensive pollution control measures must be initiated and completed as promptly as possible. In assessing the good faith of a discharger, the discharger is to be judged against these criteria. Moreover, it is an established principle, which applies to this act, that administrative and judicial review are sought on the discharger's own time."

Legislative History of the Clean Water Act No. 95-14, Vol. 3, p.463

Appendices

Appendix A
Fats, Oils, and Grease (FOG) Ordinance for Food Service Establishments
Ordinance No. OCSD-25

Appendix B
Wastewater Discharge Regulations Ordinance No. OCSD-53

Appendix C
Establishing Fats, Oils, and Grease Control Program Fees Applicable to Food Service Establishments
Resolution No. OCSD 05-04

Appendix D1
FOG Permit Type 1 – BMP Only

Appendix D2
FOG Permit Type 2 – BMP and GI

Appendix E
Kitchen BMP Training Materials

Appendix F1
FOG Ordinance: Core Elements

Appendix F2
FOG Fact Sheet

Appendix F3
FOG Definitions

Appendix F4
FOG Issues: Frequently Asked Questions

Appendix F5
FOG Source Control Program

Appendix F6
FOG Source Control Program Frequently Asked Questions

Appendix F7
FOG Prohibitions

Appendix F8
General Best Management Practices for FOG

Appendix F9
Kitchen Best Management Practices

Appendix F10
Managing Food Materials

Appendix F11
Food Service Waste Reduction

Appendix F12
Restaurant Oil and Grease Rendering

Appendix F13
Grease Interceptors

Appendix F14
Design Guidelines for Grease Interceptors

Appendix G1
BMP Inspection Report

Appendix G2
CAN (Corrective Action Notice)

Appendix G3
Certification of Hand Delivery

Appendix H1
BMP Training Log

Appendix H2
GI Maintenance Log

Appendix H3
Yellow Grease Log

Appendix I
FOG Permit Application Packet

Errata Sheet

ORANGE COUNTY SANITATION DISTRICT

ERRATA SHEET FOR: Fats, Oils, and Grease Source Control Program and Enforcement Management System - 2005 (OC San SSMP APP_F)

DATE: 9/25/2022 **BY:** Lori McKinley, Principal Environmental Specialist, Resource Protection Division

PAGE	SECTION	NOW READS	SHOULD READ	REASON FOR CHANGE
1	Introduction	General Waste Discharge Requirements for Sewage Collection Agencies in Orange County, Order No. R8-2002-0014.	State Water Resources Control Board Order No. 2006-0003-DWQ.	Updated
1	Introduction	Appendix D1	Appendix A	Updated
1	Introduction	OCSD-01	OCSD-53	Updated
1	Introduction	Appendix D2	Appendix B	
3	3 OCDS's FOG Source Control Program	OCSD established the following essential elements to implement an effective FOG Source Control Program for FSEs in the city of Tustin and unincorporated areas within OCSD's jurisdiction:	In 2016, the Orange County Local Agency Formation Commission approved East Orange County Water District's application to accept the transfer of sewers within OC San's Service Area 7, which included the Tustin area and a few unincorporated areas of Orange County. One area in particular was the local sewers in the northern Tustin area. With the transfers of those sewer lines, OC San no longer had jurisdiction over the FSEs connected to the local sewers in that area. OC San now has a fixed, defined set of sites having FSEs that discharge directly to our trunklines.	Updated
4	3.1 Legal Authority	Appendix D3	Appendix C	Updated
5	3.1 Implentation of FOG Pretreatment Requirement for Existing FSEs	delayed in its implementation (through a conditional waiver) by the FOG Control Manager for a maximum period of three years from the effective date of the Ordinance.	waived.	No longer a three-year period
6	3.1 Conditional Waiver from Installation of Grease Interceptor	This waiver may also be issued to existing FSEs to delay implementation of the requirement up to a maximum of three years from the effective date of the Ordinance.	Verbiage deleted	No longer a three-year period
11	3.2.2 Program Provisions to Update Inventory of FSEs	OCSD partnered with the City of Tustin's Community Development Department - Building Division, to identify new construction or major renovation of FSEs exceeding $50,000. When a building permit is issued by the Building Division, the prospective FSE is also given a FOG Wastewater Discharge Permit Application. Upon notification by the Building Division, OCSD staff conducts an inspection to collect the necessary information needed to issue a new FOG Wastewater Discharge Permit. An Inspection Card, issued by the City of Tustin for each building permit, contains a sign off provision for OCSD to provide the opportunity to inform the city's Building Division that the FSE has met OCSD's requirements, including issuance of a valid FOG Wastewater Discharge Permit. This allows the city to complete the business license procedure and issue the certificate of occupancy to the FSE. This procedure ensures that OCSD's FOG discharge requirements are satisfied prior to discharge.	Verbiage deleted	Updated
12	3.2.2 Program Provisions to Update Inventory of FSEs	OCSD obtains and reviews, on a periodic basis, a list of FSEs from the City of Tustin's Business License Division to identify new FSEs. This enables OCSD to identify new FSEs based on change of ownership that did not go through the building permit process.	Verbiage deleted	Updated

ORANGE COUNTY SANITATION DISTRICT

ERRATA SHEET FOR: Fats, Oils, and Grease Source Control Program and Enforcement Management System - 2005 (OC San SSMP APP_F)

DATE: 9/25/2022 | **BY: Lori McKinley, Principal Environmental Specialist, Resource Protection Division**

PAGE	SECTION	NOW READS	SHOULD READ	REASON FOR CHANGE
12	3.2.2 Program Provisions to Update Inventory of FSEs	N/A	OC San conducts additional search activities by routinely visiting Orange parcels located in the OC San FOG service area.	Added additional information
13	3.3.1 Comprehensive Permit	Appendix E1	Appendices D1 and D2	Updated
13	3.3.4 Permit Informational Materials	Appendix E1	Appendices D1 or D2	Updated
13	3.3.4 Permit Informational Materials	Appendix E2	Appendix E	Updated
13	3.3.4 Permit Informational Materials	Appendix E3	Appendices F1 - F14	Updated
14	3.3.4 Permit Informational Materials	Appendix E4	Appendix A	Updated
14	3.3.4 Permit Informational Materials	Appendix E5	Appendices G1 - G3	Updated
14	3.3.4 Permit Informational Materials	Appendix E6	Appendices H1 - H3	Updated
16	3.5.1 Staffing Resources	The effectiveness of the control mechanisms (permit and ordinance) established for implementing the FOG Source Control Program is enhanced by a well-qualified and competent staff. OCSD's Source Control Division administers the FOG Source Control Program. This program is staffed by five highly qualified Environmental Specialists/Engineers with bachelor's/master's degrees in either science or engineering and with years of experience in implementing the National Pretreatment Program. In addition, OCSD utilizes the services of Environmental Compliance Inspection Service (ECIS) to conduct routine inspections for BMP and grease interceptors. The continued success of OCSD's pretreatment program is enhanced by the expertise, experience, and skills of the staff developing and implementing the program. These resources are utilized both to attain the goals of the FOG Source Control Program and to work in cooperation with FSEs and the public to protect the environment.	The effectiveness of the control mechanisms (permit and ordinance) established for implementing the FOG Source Control Program is enhanced by a well-qualified and competent staff. OCSD's Source Control Division administers the FOG Source Control Program. The continued success of OCSD's pretreatment program is enhanced by the expertise, experience, and skills of the staff developing and implementing the program. These resources are utilized both to attain the goals of the FOG Source Control Program and to work in cooperation with FSEs and the public to protect the environment.	Not accurate

ORANGE COUNTY SANITATION DISTRICT

ERRATA SHEET FOR: Fats, Oils, and Grease Source Control Program and Enforcement Management System - 2005 (OC San SSMP APP_F)

DATE: 9/25/2022 **BY:** Lori McKinley, Principal Environmental Specialist, Resource Protection Division

PAGE	SECTION	NOW READS	SHOULD READ	REASON FOR CHANGE
16	3.5.2 Training	Training is an integral part of OCSD's staff development program. The need for a well-trained staff that is thoroughly familiar with the pretreatment regulations, FOG Source Control Program, policies and procedures, and computer applications cannot be over- emphasized. Therefore, OCSD's Source Control Division has established formal training programs for both new and existing staff utilizing both internal and external resources.	Training is an integral part of OCSD's staff development program. The need for a well-trained staff that is thoroughly familiar with the pretreatment regulations, FOG Source Control Program, policies and procedures, and computer applications cannot be over- emphasized.	No estabilshed formal training program
16	3.5.2 .1 New Staff	3.5.2.1 New Staff The training of new staff is an intensive process lasting six months to one year, starting with a formal introduction to the program under the guidance of senior staff. A training schedule is developed, tailored to the position and needs of the new staff, which involves familiarization with materials on pretreatment regulations, FOG Ordinance and policies and procedures, kitchen BMPs, and FOG pretreatment equipment and waste management practices. After completing the formal training program, the knowledge obtained is further reinforced through on-the-job training.	Verbiage deleted	Currently not done
17	3.5.2 Existing Staff	3.5.2 Existing Staff The training of existing staff is on-going, and it involves both technical and general training to maintain and augment skills and knowledge needed to perform the job.	3.5.2 Existing Staff The training of staff is on-going, and it involves both technical and general training to maintain and augment skills and knowledge needed to perform the job.	Removed "existing"

ORANGE COUNTY SANITATION DISTRICT

ERRATA SHEET FOR: Fats, Oils, and Grease Source Control Program and Enforcement Management System - 2005 (OC San SSMP APP_F)

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PAGE	SECTION	NOW READS	SHOULD READ	REASON FOR CHANGE
17	3.5.2.2 Existing Staff	On a continuous basis, staff receives training on both commercial computer software and OCSD's programs created in-house to enable the staff to effectively and efficiently conduct their duties. Examples of these programs include Excel, Word, Access, and OCSD's FOG software. Other types of training include time management, project management, budget development, performance assessment, confined space entry, first aid, First Responder training, LEL detection, defensive driving, and developing management and supervisory skills. Continuous on-the-job training through regular staff meetings is conducted to update staff on new regulations, pollution prevention, pretreatment system, policies and procedures, etc. OCSD also provides opportunities, in the form of tuition reimbursement and flexible schedules, for staff to increase their knowledge by taking courses at colleges and universities that relate to the duties performed by staff. Staff also participates in conferences and training seminars throughout the country to be kept knowledgeable on the latest technologies and regulations. For example, staff regularly attend the Cal FOG Work Group, California Water Environment Association (CWEA), National Association of Clean Water Agencies (NACWA, formerly AMSA), and Water Environment Federation (WEF) conferences and training seminars, and field staff have participated in conferences and training seminars throughout the country to be up-to-date on the latest technologies available in sampling and monitoring equipment. When new programs are implemented, staff receives specialized training to execute and conduct the tasks required by the program. For example, at the implementation phase of the FOG Source Control Program, OCSD's staff attended an Advanced Training Course on the Control of Fats, Oils, and Grease sponsored by EPA, WEF and CWEA. Such training program instructs staff and familiarizes them with the issues, technical aspects, and policies and procedures of the program.	On a continuous basis, staff receives training on both commercial computer software and OCSD's programs created in-house to enable the staff to effectively and efficiently conduct their duties. Examples of these programs include Excel, Word, and iPACS. Other types of training include time management, project management, budget development, performance assessment, confined space entry, first aid, First Responder training, LEL detection, defensive driving, and developing management and supervisory skills. Continuous on-the-job training through regular staff meetings is conducted to update staff on new regulations, pollution prevention, pretreatment system, policies and procedures, etc. OCSD also provides opportunities, in the form of tuition reimbursement and flexible schedules, for staff to increase their knowledge by taking courses at colleges and universities that relate to the duties performed by staff. Staff also participates in conferences and training seminars to be kept knowledgable on the latest technologies and regulations.	Not accurate
18	3.6.2 Stakeholder Involvement and Education	Appendix E3	Appendices F1 - F14	Update
19	3.7 Collaboration with Sewer Maintenance, Engineering Design, Source Control, and Communication Groups	3.7 Collaboration with Sewer Maintenance, Engineering Design, Source Control, and Communication Groups	3.7 Collaboration with Operations and Maintenance (O&M), Engineering, Environmental Services Department and Public Affairs Office	Updated names of departments
19	3.7 Collaboration with Sewer Maintenance, Engineering Design, Source Control, and Communication Groups	Maintenance Department to eliminate root infestation in the sewer, track the emergence of trouble spots (hotspots) in the collection system and take the necessary steps to establish appropriate maintenance frequencies	Operations and Maintenance Department (O&M) to eliminate root infestation in the sewer, track the emergence of trouble spots (hotspots) in the collection system and take the necessary steps to establish appropriate maintenance frequencies	Updated names of departments
19	3.7 Collaboration with Sewer Maintenance, Engineering Design, Source Control, and Communication Groups	Communications Department to provide public outreach to minimize residential FOG discharge.	Public Affairs Office to provide public outreach to minimize residential FOG discharge.	Updated name of PAO

ORANGE COUNTY SANITATION DISTRICT

ERRATA SHEET FOR: Fats, Oils, and Grease Source Control Program and Enforcement Management System - 2005 (OC San SSMP APP_F)

DATE: 9/25/2022 **BY:** Lori McKinley, Principal Environmental Specialist, Resource Protection Division

PAGE	SECTION	NOW READS	SHOULD READ	REASON FOR CHANGE
19	3.7 Collaboration with Sewer Maintenance, Engineering Design, Source Control, and Communication Groups	A collaborative effort is established between the Maintenance Department, Engineering Department, Communications Department, and the Source Control Division to develop a unifying strategy in eliminating SSOs. It is important for the Source Control Division to maintain communication and logistical connectivity to the work practices of the other workgroups. Information obtained from the FOG Source Control Program during the course of its implementation will be fed to the other groups to develop strategies to optimize cleaning of sewer lines and eliminate roots, to identify and fix sewer line structural problems, and to further educate the public.	A collaborative effort is established between the Operations and Maintenance Department, Engineering Department, Public Affairs Office, and the Source Control Division to develop a unifying strategy in eliminating SSOs. It is important for the Source Control Division to maintain communication and logistical connectivity to the work practices of the other workgroups. Information obtained from the FOG Source Control Program during the course of its implementation will be fed to the other groups to develop strategies to optimize cleaning of sewer lines and eliminate roots, to identify and fix sewer line structural problems, and to further educate the public.	Updated names of departments
21	4 Overview of OCSD's FOG Enforcement Management System	Because of the large volume of information handled in maintaining and evaluating permit and enforcement activities, database management becomes an integral part of the FOG Enforcement Management System. OCSD has a sophisticated computer network for this purpose, which utilizes advanced database management softwares such as Oracle, to enhance information storage, retrieval, processing, and evaluation. A custom software specifically designed to administer the FOG Source Control Program is in place, to ensure consistency and efficiency of implementation. The software organizes and enhances monitoring and tracking activities as well as implementation of enforcement actions. Pertinent current information on FSEs is stored in the computer database; similarly, hard copies of documents are stored in files. The FOG software and database system are capable of storing inspection reports, BMP reporting requirements, and grease interceptor maintenance reports among others obtained by OCSD. In addition, the computer tracks due dates for report submittals and requirements imposed on FSEs, and also generates reminders to FSEs prior to the due dates.	Because of the large volume of information handled in maintaining and evaluating permit and enforcement activities, database management becomes an integral part of the FOG Enforcement Management System. OCSD has a sophisticated computer network for this purpose, which utilizes advanced database management softwares such as iPACS, to enhance information storage, retrieval, processing, and evaluation. iPACS is in place, to ensure consistency and efficiency of implementation. The software organizes and enhances monitoring and tracking activities as well as implementation of enforcement actions. Pertinent current information on FSEs is stored in the computer database; similarly, hard copies of documents are stored in files. The FOG software and database system are capable of storing inspection reports, BMP reporting requirements, and grease interceptor maintenance reports among others obtained by OCSD. In addition, the computer tracks due dates for report submittals and requirements imposed on FSEs, and also generates reminders to FSEs prior to the due dates.	Updated data-handling system
24	5.2.1.1	Appendix E7	Appendix I	Updated
25	5.2.1.3 Automated Permit Generation	To enhance management of permit information for each FSE, OCSD maintains a relational database system that allows efficient data storage and retrieval for a variety of applications. This has led to the development of a computerized permit generator developed in-house, which allows a permit document to be generated in approximately less than ten minutes. After detailed evaluation of the pertinent information and the applicable permit conditions as previously described, the final information is summarized and entered in the permit generator program. The permit document, containing all pertinent information, is quickly generated and is ready for issuance in a matter of minutes	To enhance management of permit information for each FSE, OCSD maintains a relational database system that allows efficient data storage and retrieval for a variety of applications, which includes permit generation. After detailed evaluation of the pertinent information and the applicable permit conditions as previously described, the final information is summarized and, and the permit document, containing all pertinent information, is quickly generated and is ready for issuance in a matter of minutes	Updated data-handling system
31	7.1.1 Discharging Without a Permit	Working with the City of Tustin's Community Development Department - Building Division, to identify new construction or major renovation of FSEs exceeding $50,000.	delete verbiage	Not accurate
31	7.1.1 Discharging Without a Permit	Obtaining and reviewing, on a periodic basis, a list of FSEs from the City of Tustin's Business License Division to identify new FSEs.	delete verbiage	Not accurate
31	7.1.1 Discharging Without a Permit	N/A	Visiting parcels located in the OC San FOG service area.	Added additional information

ORANGE COUNTY SANITATION DISTRICT

ERRATA SHEET FOR: Fats, Oils, and Grease Source Control Program and Enforcement Management System - 2005 (OC San SSMP APP_F)

DATE: 9/25/2022 **BY:** Lori McKinley, Principal Environmental Specialist, Resource Protection Division

PAGE	SECTION	NOW READS	SHOULD READ	REASON FOR CHANGE
34	7.4.1 Delinquent Reports	Most reporting violations are caused by delinquent reporting. For purposes of compliance screening, OCSD has established a computerized tracking system for all reporting requirements. When requirements for a specific FSE are established, the information is entered into the computer with a brief description of the requirement and when the requirement is due. Upon submission, the computer database is also updated to indicate that the report has been received. On a weekly basis, the computer generates a report which summarizes all upcoming reports due and overdue reports. Not only does this facilitate tracking and follow-up, but it also provides compliance screening for FSEs who fail to satisfy the reporting requirement. Upcoming requirements which are soon due are flagged by the computer; subsequently, OCSD sends reminders to FSEs to inform them of the upcoming due date as a preventive measure for reporting violation occurrences. Such reminders have proven to be beneficial in preventing this type of violation.	Most reporting violations are caused by delinquent reporting. For purposes of compliance screening, OCSD has established a computerized tracking system for all reporting requirements. When requirements for a specific FSE are established, the information is entered into the computer with a brief description of the requirement and when the requirement is due. Upon submission, the computer database is also updated to indicate that the report has been received. The computer generates a report which summarizes all upcoming reports due and overdue reports. Not only does this facilitate tracking and follow-up, but it also provides compliance screening for FSEs who fail to satisfy the reporting requirement. Upcoming requirements which are soon due are flagged by the computer; subsequently, OCSD sends reminders to FSEs to inform them of the upcoming due date as a preventive measure for reporting violation occurrences. Such reminders have proven to be beneficial in preventing this type of violation.	Removed "on a weekly basis"
46	Appendices	N/A	Added list of appendices	Added additional information
48	Errata Sheet	N/A	Added Errata Sheet	Added additional information

Appendix A

Fats, Oils, and Grease (FOG) Ordinance for Food Service Establishments
Ordinance No. OCSD-25

ORDINANCE NO. OCSD-25

ADOPTING FATS, OILS AND GREASE CONTROL REGULATIONS APPLICABLE TO FOOD SERVICE ESTABLISHMENTS

AN ORDINANCE OF THE BOARD OF DIRECTORS OF ORANGE COUNTY SANITATION DISTRICT ADOPTING FATS, OILS AND GREASE CONTROL REGULATIONS APPLICABLE TO FOOD SERVICE ESTABLISHMENTS

WHEREAS, pursuant to the County Sanitation District Act, Health & Safety Code §§4700 et seq., the Orange County Sanitation District ("District") has the authority to adopt ordinances relating to the provision of sewer services and facilities, and regulations of those services and facilities; and

WHEREAS, the Regional Water Quality Control Board ("RWQCB") for the Santa Ana Region adopted Order R8-2002-0014, which prescribes general waste discharge requirements prohibiting sanitary sewer overflows ("SSOs") by sewer collection agencies; and

WHEREAS, in Order R8-2002-0014, the RWQCB found that one of the leading causes of SSOs within the Santa Ana Region, which encompasses the District's service area is "grease blockages;" and

WHEREAS, SSOs often caused by discharge of wastewater containing high levels of fat, oils and grease ('FOG"), suspended solids, pathogenic organisms, and other pollutants, may cause temporary exceedances of applicable water quality objectives, pose a threat to the public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters within the District's service area; and

WHEREAS, the 2000-2001 Orange County Grand Jury ("Grand Jury") conducted a survey among 35 wastewater collection and treatment agencies in Orange County and concluded that one of the leading causes of SSOs and sewage spills is sewer lines clogged from the accumulation of FOG discharged from Food Service Establishments; and

WHEREAS, the Grand Jury further concluded that more effective methods of minimizing grease discharges into the sewer system must be developed and implemented to reduce the discharge of FOG to the sewer system in order to prevent sewer blockages and SSOs; and

WHEREAS, Order No. R8-2002-0014 requires the District to monitor and control SSOs and to develop a FOG Control Program by December 30, 2004; and

WHEREAS, in light of the overwhelming evidence that FOG is a primary cause of SSOs, the District desires to implement a FOG Control Program to prevent SSOs; and

WHEREAS, Section 1014 of the 2001 California Plumbing Code, applicable to all occupancies in the State pursuant to the California Building Standards Law, requires the installation of grease traps or interceptors when in the opinion of the Building Official waste pretreatment is required; and

WHEREAS, the foregoing findings indicate that a FOG Control Program is required for Food Service Establishments within the District's jurisdiction to comply with waste discharge regulations and prevent the harmful effects of SSOs; and

WHEREAS, the regulations adopted herein will require existing Food Service Establishments to install grease control devices or interceptors no later than three years from the effective date of this Ordinance, and the Board finds that three years is a reasonable amortization period for existing Food Service Establishments that are operating without a grease control device or grease interceptor; and

WHEREAS, the Board of Directors finds that specific enforcement provisions must be adopted to govern discharges of wastewater to the District's system by Food Service Establishments.

NOW, THEREFORE, the Board of Directors does hereby ordain as follows:

ARTICLE 1 - GENERAL PROVISIONS

1.1 PURPOSE AND POLICY

A. The purpose of this Ordinance is to facilitate the maximum beneficial public use of the District's sewer services and facilities while preventing blockages of the sewer lines resulting from discharges of FOG to the sewer facilities, and to specify appropriate FOG discharge requirements for Food Service Establishments.

B. This Ordinance shall be interpreted in accordance with the definitions set forth in Section 1.2. The provisions of this Ordinance shall apply to the direct or indirect discharge of all wastewater or waste containing FOG carried to the sewer facilities of the District.

C. To comply with Federal, State, and local policies and to allow the District to meet applicable standards, provisions are made in this Ordinance for the regulations of wastewater or waste containing FOG discharges to the sewer facilities.

D. This Ordinance establishes quantity and quality standards on all wastewater and/or waste discharges containing FOG, which may alone or collectively cause or contribute to FOG accumulation in the sewer facilities causing or potentially causing or contributing to the occurrence of SSOs.

1.2 DEFINITIONS

A. Unless otherwise defined herein, terms related to water quality shall be as adopted in the latest edition of Standard Methods for Examination of Water and Wastewater, published by the American Public Health Association, the American Water Works Association and the Water Environment Federation. The testing procedures for waste constituents and characteristics shall be as provided in 40 CFR 136 (Code of Federal Regulations).

B. Other terms not herein defined are defined as being the same as set forth in the latest adopted applicable editions of the California Codes applicable to building construction adopted pursuant to the California Building Standards Law.

C. Subject to the foregoing provisions, the following definitions shall apply in this Ordinance:

Best Management Practices	Schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the introduction of FOG to the sewer facilities.
Board	The Board of Directors of the District.
Change in Operations	Any change in the ownership, food types, or operational procedures that have the potential to increase the amount of FOG generated and/or discharged by Food Service Establishments in an amount that alone or collectively causes or creates a potential for SSOs to occur.
Composite Sample	A collection of individual samples obtained at selected intervals based on an increment of either flow or time. The resulting mixture (composite sample) forms a representative sample of the wastestream discharged during the sample period. Samples will be collected when a wastewater discharge occurs.
Discharger	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer. Discharger shall mean the same as User.
District	The Orange County Sanitation District.
Sewer Facility or System	Any property belonging to the District used in the treatment, reclamation, reuse, transportation, or disposal of wastewater, or sludge.
Effluent	Any liquid outflow from the Food Service Establishment that is discharged to the sewer.
Fats, Oils, and Grease ("FOG")	Any substance such as a vegetable or animal product that is used in, or is a by product of, the cooking or food preparation process, and that turns or may turn viscous or solidifies with a change in temperature or other conditions.
FOG Control Program	The FOG Control Program required by and developed pursuant to RWQCB Order No. R8-2002-0014, Section (c)(12)(viii).

FOG Control Program Manager	The individual designated by the District to administer the FOG Control Program. The FOG Control Program Manager is responsible for all determinations of compliance with the program, including approval of discretionary variances and waivers.
FOG Wastewater Discharge Permit	A permit issued by the District subject to the requirements and conditions established by the District authorizing the permittee or discharger to discharge wastewater into the District's facilities or into sewer facilities which ultimately discharge into a District facility.
Food Service Establishment	Facilities defined in California Uniform Retail Food Service Establishments Law (CURFFL) Section 113785, and any commercial entity within the boundaries of the District, operating in a permanently constructed structure such as a room, building, or place, or portion thereof, maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to be removed by a Type I or Type II hood, as defined in CURFFL Section 113785. A limited food preparation establishment is not considered a Food Service Establishment when engaged only in reheating, hot holding or assembly of ready to eat food products and as a result, there is no wastewater discharge containing a significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.
Food Grinder	Any device installed in the plumbing or sewage system for the purpose of grinding food waste or food preparation by products for the purpose of disposing it in the sewer system.
Grease Control Device	Any grease interceptor, grease trap or other mechanism, device, or process, which attaches to, or is applied to, wastewater plumbing fixtures and lines, the purpose of which is to trap or collect or treat FOG prior to it being discharged into the sewer system. "Grease control device" may also include any other proven method to reduce FOG subject to the approval of the District.

Grease Disposal Mitigation Fee	A fee charged to an Owner/Operator of a Food Service Establishment when there are physical limitations to the property that make the installation of the usual and customary grease interceptor or grease control device for the Food Service Establishment under consideration, impossible or impracticable. The Grease Disposal Mitigation Fee is intended to cover the costs of increased maintenance of the sewer system for inspection and cleaning of FOG and other viscous or solidifying agents that a properly employed grease control device would otherwise prevent from entering the sewer system.
Grease Interceptor	A multi-compartment device that is constructed in different sizes and is generally required to be located, according to the California Plumbing Code, underground between a Food Service Establishment and the connection to the sewer system. These devices primarily use gravity to separate FOG from the wastewater as it moves from one compartment to the next. These devices must be cleaned, maintained, and have the FOG removed and disposed of in a proper manner on regular intervals to be effective.
Grease Trap	A grease control device that is used to serve individual fixtures and have limited effect and should only be used in those cases where the use of a grease interceptor or other grease control device is determined to be impossible or impracticable.
General Manager	The individual duly designated by the Board of Directors of the District to administer this Ordinance.
Grab Sample	A sample taken from a waste stream on a one-time basis without regard to the flow in the waste stream and without consideration of time.
Hot Spots	Areas in sewer lines that have experienced sanitary sewer overflows or that must be cleaned or maintained frequently to avoid blockages of sewer system.
Inflow	Water entering a sewer system through a direct stormwater/ runoff connection to the sanitary sewer, which may cause an almost immediate increase in wastewater flows.
Infiltration	Water entering a sewer system, including sewer service connections, from the ground through such means as defective pipes, pipe joints, connections, or manhole walls.

Inspector	A person authorized by the District to inspect any existing or proposed wastewater generation, conveyance, processing, and disposal facilities.
Interceptor	A grease interceptor.
Interference	Any discharge which, alone or in conjunction with discharges from other sources, inhibits or disrupts the District's sewer system, treatment processes or operations; or is a cause of violation of the District's NPDES or Waste Discharge Requirements or prevents lawful sludge use or disposal.
Local Sewering Agency	Any public agency or private entity responsible for the collection and disposal of wastewater to the District's sewer facilities duly authorized under the laws of the State of California to construct and/or maintain public sewers.
NPDES	The National Pollutant Discharge Elimination System; the permit issued to control the discharge of liquids or other substances or solids to surface waters of the United States as detailed in Public Law 92-500, Section 402.
New Construction	Any structure planned or under construction for which a sewer connection permit has not been issued.
Permittee	A person who has received a permit to discharge wastewater into the District's sewer facilities subject to the requirements and conditions established by the District.
Person	Any individual, partnership, firm, association, corporation or public agency, including the State of California and the United States of America.
Public Agency	The State of California and/or any city, county, special district, other local governmental authority or public body of or within this State.
Public Sewer	A sewer owned and operated by the District, or other local Public Agency, which is tributary to the District's sewer facilities.

Regulatory Agencies Regulatory Agencies shall mean those agencies having regulatory jurisdiction over the operations of the District, including, but not limited to:

a) United States Environmental Protection Agency, Region IX, San Francisco and Washington, DC (EPA).

b) California State Water Resources Control Board (SWRCB).

c) California Regional Water Quality Control Board, Santa Ana Region (RWQCB).

d) South Coast Air Quality Management District (SCAQMD).

e) California Department of Health Services (DOHS).

Remodeling A physical change or operational change causing generation of the amount of FOG that exceed the current amount of FOG discharge to the sewer system by the Food Service Establishment in an amount that alone or collectively causes or create a potential for SSOs to occur; or exceeding a cost of $50,000 to a Food Service Establishment that requires a building permit, and involves any one or combination of the following: (1) Under slab plumbing in the food processing area, (2) a 30% increase in the net public seating area, (3) a 30% increase in the size of the kitchen area, or (4) any change in the size or type of food preparation equipment.

Sample Point A location approved by the District, from which wastewater can be collected that is representative in content and consistency of the entire flow of wastewater being sampled.

Sampling Facilities Structure(s) provided at the user's expense for the District or user to measure and record wastewater constituent mass, concentrations, collect a representative sample, or provide access to plug or terminate the discharge.

Sewage Wastewater.

Sewer Facilities or System Any and all facilities used for collecting, conveying, pumping, treating, and disposing of wastewater and sludge.

Sewer Lateral	A building sewer as defined in the latest edition of the California Plumbing Code. It is the wastewater connection between the building's wastewater facilities and a public sewer system.
Sludge	Any solid, semi-solid or liquid decant, subnate or supernate from a manufacturing process, utility service, or pretreatment facility.
Twenty-five percent (25%) Rule	Requirement for grease interceptors to be maintained such that the combined FOG and solids accumulation does not exceed 25% of the design hydraulic depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume is maintained to effectively intercept and retain FOG discharged to the sewer system.
User	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer system. User shall mean the same as Discharger.
Waste	Sewage and any and all other waste substances, liquid, solid, gaseous or radioactive, associated with human habitation or of human or animal nature, including such wastes placed within containers of whatever nature prior to and for the purpose of disposal.
Manifest	That receipt which is retained by the generator of wastes for disposing recyclable wastes or liquid wastes as required by the District.
Waste Minimization Practices	Plans or programs intended to reduce or eliminate discharges to the sewer system or to conserve water, including, but not limited to, product substitutions, housekeeping practices, inventory control, employee education, and other steps as necessary to minimize wastewater produced.
Wastehauler	Any person carrying on or engaging in vehicular transport of waste as part of, or incidental to, any business for that purpose.
Wastewater	The liquid and water-carried wastes of the community and all constituents thereof, whether treated or untreated, discharged into or permitted to enter a public sewer.

Wastewater Constituents and Characteristics	The individual chemical, physical, bacteriological, and other parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the quality and quantity of wastewater.

D. Words used in this Ordinance in the singular may include the plural and the plural the singular. Use of masculine shall mean feminine and use of feminine shall mean masculine. Shall is mandatory; may is permissive or discretionary.

ARTICLE 2 - GENERAL LIMITATIONS, PROHIBITIONS, AND REQUIREMENTS ON FATS, OILS, AND GREASE ("FOG") DISCHARGES

2.1 FOG DISCHARGE REQUIREMENT

No Food Service establishment shall discharge or cause to be discharged into the sewer system FOG that exceeds a concentration level adopted by the Board or that may accumulate and/or cause or contribute to blockages in the sewer system or at the sewer system lateral which connects the Food Service Establishment to the sewer system.

2.2 PROHIBITIONS

The following prohibitions shall apply to all Food Service Establishments:

A. Installation of food grinders in the plumbing system of new constructions of Food Service Establishments shall be prohibited. Furthermore, all food grinders shall be removed from all existing Food Service Establishments within 180 days of the effective date of this Ordinance, except when expressly allowed by the FOG Control Program Manager.

B. Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying FOG or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance, unless a specific written authorization from the FOG Control Program Manager is obtained.

C. Disposal of waste cooking oil into drainage pipes is prohibited. All waste cooking oils shall be collected and stored properly in receptacles such as barrels or drums for recycling or other acceptable methods of disposal.

D. Discharge of wastewater from dishwashers to any grease trap or grease interceptor is prohibited.

E. Discharge of wastewater with temperatures in excess of 140°F to any grease control device, including grease traps and grease interceptors, is prohibited.

F. Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service, or vice versa, is prohibited.

G. Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system is prohibited. Grease removed from grease interceptors shall be wastehauled periodically as part of the operation and maintenance requirements for grease interceptors.

H. Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the design hydraulic depth of the grease interceptor (25% Rule)

2.3 FOG WASTEWATER DISCHARGE PERMIT REQUIRED

No person shall discharge, or cause to be discharged any wastewater from Food Service Establishments directly or indirectly into the sewer system without first obtaining a FOG Wastewater Discharge Permit pursuant to this Ordinance.

2.4 BEST MANAGEMENT PRACTICES REQUIRED

All Food Services Establishments shall implement Best Management Practices in its operation to minimize the discharge of FOG to the sewer system. Detailed requirements for Best Management Practices shall be specified in the permit. This may include kitchen practices and employee training that are essential in minimizing FOG discharge.

2.5 FOG PRETREATMENT REQUIRED

Food Service Establishments are required to install, operate and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of this Ordinance, subject to the variance and waiver provisions of Section 2.6. The grease interceptor shall be adequate to separate and remove FOG contained in wastewater discharges from Food Service Establishments prior to discharge to the sewer system. Fixtures, equipment, and drain lines located in the food preparation and clean up areas of Food Service Establishments that are sources of FOG discharges shall be connected to the grease interceptor. Compliance shall be established as follows:

A. New Construction of Food Service Establishments

New construction of Food Service Establishments shall include and install grease interceptors prior to commencing discharges of wastewater to the sewer system.

B. Existing Food Service Establishments

1. For existing Food Service Establishments, the requirement to install and to properly operate and maintain a grease interceptor may be conditionally stayed, that is, delayed in its implementation by the FOG Control Program Manager for a maximum period of three years from the effective date of this Ordinance (3-year Amortization Period). Terms and conditions for application of a stay to a Food Service Establishment shall be set forth in the permit. The Board finds that three years is a reasonable amortization period for existing Food Service Establishments that are operating without a grease interceptor.

2. Existing Food Service Establishments, which have caused or contributed to grease-related blockage in the sewer system, or which have sewer laterals connected to hot spots, or which have been determined to contribute significant FOG to the sewer system by the FOG Control Program Manager based on inspection or sampling, shall be deemed to have reasonable potential to adversely impact the sewer system, and shall install grease interceptors within 180 days upon notification by the District.

3. Existing Food Service Establishments or Food Service Establishments that change ownership, that undergo remodeling or a change in operations as defined in Section 1.2 of this Ordinance, shall be required to install a grease interceptor.

2.6 VARIANCE AND WAIVER OF GREASE INTERCEPTOR REQUIREMENT

A. Variance from Grease Interceptor Requirements

An existing Food Service Establishment may obtain a variance from the grease interceptor requirement to allow alternative pretreatment technology that is, at least, equally effective in controlling the FOG discharge in lieu of a grease interceptor, if the Food Service Establishment demonstrates that it is impossible or impracticable to install, operate or maintain a grease interceptor. The FOG Control Program Manager's determination to grant a variance will be based upon, but not limited to, evaluation of the following conditions:

1. There is no adequate space for installation and/or maintenance of a grease interceptor.

2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.

3. The Food Service Establishment can justify that the alternative pretreatment technology is equivalent or better than a grease interceptor in controlling its FOG discharge. In addition, the Food Service Establishment must be able to demonstrate, after installation of the proposed alternative pretreatment, its effectiveness to control FOG discharge through downstream visual monitoring of the sewer system, for at least three months, at its own expense. A Variance may be granted if the results show no visible accumulation of FOG in its lateral and/or tributary downstream sewer lines.

B. Conditional Waiver from Installation of Grease Interceptor

An existing Food Service Establishment may obtain a conditional waiver from installation of a grease interceptor, if the Food Service

Establishment demonstrates that it has negligible FOG discharge and insignificant impact to the sewer system. Although a waiver from installation of grease interceptor may be granted, the Food Service Establishment may be required to provide space and plumbing segregation for future installation of grease interceptor. The FOG Control Program Manager's determination to grant or revoke a conditional waiver shall be based upon, but not limited to, evaluation of the following conditions:

1. Quantity of FOG discharge as measured or as indicated by the size of Food Service Establishment based on seating capacity, number of meals served, menu, water usage, amount of on-site consumption of prepared food and other conditions that may reasonably be shown to contribute to FOG discharges.

2. Adequacy of implementation of Best Management Practices and compliance history.

3. Sewer size, grade, condition based on visual information, FOG deposition in the sewer by the Food Service Establishment, and history of maintenance and sewage spills in the receiving sewer system.

4. Changes in operations that significantly affect FOG discharge.

5. Any other condition deemed reasonably related to the generation of FOG discharges by the FOG Control Program Manager.

C. Waiver from Grease Interceptor Installation with a Grease Disposal Mitigation Fee

For Food Service Establishments where the installation of grease interceptor is not feasible and no equivalent alternative pretreatment can be installed, a waiver from the grease interceptor requirement may be granted with the imposition of a Grease Disposal Mitigation Fee as described in Section 2.8. Additional requirements may be imposed to mitigate the discharge of FOG into the sewer system. The FOG Control Program Manager's determination to grant the waiver with a Grease Disposal Mitigation Fee will be based upon, but not limited to, evaluation of the following conditions:

1. There is no adequate space for installation and/or maintenance of a grease interceptor.

2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.

3. A variance from grease interceptor installation to allow alternative pretreatment technology cannot be granted.

D. Application for Waiver or Variance of Requirement for Grease Interceptor

A Food Service Establishment may submit an application for waiver or variance from the grease interceptor requirement to the FOG Control Program Manager. The Food Service Establishment bears the burden of demonstrating, to the FOG Control Program Manager's reasonable satisfaction, that the installation of a grease interceptor is not feasible or applicable. Upon determination by the FOG Control Program Manager that reasons are sufficient to justify a variance or waiver, the permit will be issued or revised to include the variance or waiver and relieve the Food Service Establishment from the requirement.

E. Terms and conditions

A variance or waiver shall contain terms and conditions that serve as basis for its issuance. A waiver or variance may be revoked at any time when any of the terms and conditions for its issuance is not satisfied or if the conditions upon which the waiver was based change so that the justification for the waiver no longer exists. The waiver or variance shall be valid so long as the Food Service Establishment remains in compliance with their terms and conditions until the expiration date specified in the variance or waiver.

2.7 COMMERCIAL PROPERTIES

Property owners of commercial properties or their official designee(s) shall be responsible for the installation and maintenance of the grease interceptor serving multiple Food Service Establishments that are located on a single parcel.

2.8 GREASE DISPOSAL MITIGATION FEE

Food Service Establishments that operate without a grease control interceptor may be required to pay an annual Grease Disposal Mitigation Fee to equitably cover the costs of increased maintenance of the sewer system as a result of the Food Service Establishments' inability to adequately remove FOG from its wastewater discharge. This Section shall not be interpreted to allow the new construction of, or existing Food Service Establishments undergoing remodeling or change in operations to operate without an approved grease interceptor unless the District has determined that it is impossible or impracticable to install or operate a grease control interceptor for the subject facility under the provisions of Section 2.6 of this Ordinance.

A. The Grease Disposal Mitigation Fee shall be established by ordinance or resolution of the Board of Directors, and shall be based on the estimated annual increased cost of maintaining the sewer system for inspection and removal of FOG and other viscous or solidifying agents attributable to the Food Service Establishment resulting from the lack of a grease interceptor or grease control device.

B. The Grease Disposal Mitigation Fee may be waived or reduced on a no less than an annual basis when the discharger demonstrates to the reasonable satisfaction of the FOG Control Program Manager that they had used best management and waste minimization practices on a regular basis that has significantly reduced the introduction of FOG into the sewer system.

C. The Grease Disposal Mitigation Fee may not be waived or reduced when the Food Service Establishment does not comply with the minimum requirements of this Ordinance and/or its discharge into the sewer system in the preceding 12 months has caused or potentially caused or contributed alone or collectively, in sewer blockage or SSO in the sewer downstream, or surrounding the Food Service Establishment prior to the waiver request.

2.9 SEWER SYSTEM OVERFLOWS, PUBLIC NUISANCE, ABATEMENT ORDERS AND CLEANUP COSTS

Notwithstanding the three-year amortization period established in Section 2.5, Food Service Establishments found to have contributed to a sewer blockage, SSOs or any sewer system interferences resulting from the discharge of wastewater or waste containing FOG, shall be ordered to install and maintain a grease interceptor, and may be subject to a plan to abate the nuisance and prevent any future health hazards created by sewer line failures and blockages, SSOs or any other sewer system interferences. SSOs may cause threat and injury to public health, safety, and welfare of life and property and are hereby declared public nuisances. Furthermore, sewer lateral failures and SSOs caused by Food Service Establishments alone or collectively, are the responsibility of the private property owner or Food Service Establishment, and individual(s) as a responsible officer or owner of the Food Service Establishment. If the District must act immediately to contain and clean up an SSO caused by blockage of a private or public sewer lateral or system serving a Food Service Establishment , or at the request of the property owner or operator of the Food Service Establishment, or because of the failure of the property owner or Food Service Establishment to abate the condition causing immediate threat of injury to the health, safety, welfare, or property of the public, the District's costs for such abatement may be entirely borne by the property owner or operator of the Food Service Establishment, and individual(s) as a responsible officer or owner of the Food Service Establishment(s) and may constitute a debt to the District and become due and payable upon the District's request for reimbursement of such costs.

ARTICLE 3 - FOG WASTEWATER DISCHARGE PERMITS FOR FOOD SERVICE ESTABLISHMENTS

3.1 FOG WASTEWATER DISCHARGE PERMIT REQUIRED

A. Food Service Establishments proposing to discharge or currently discharging wastewater containing FOG into the District's sewer system shall obtain a FOG Wastewater Discharge Permit from the District.

B. FOG Wastewater Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by the District. The conditions of FOG Wastewater Discharge Permits shall be enforced by the District in accordance with this Ordinance and applicable State and Federal Regulations.

3.2 FOG WASTEWATER DISCHARGE PERMIT APPLICATION

A. Any person required to obtain a FOG Wastewater Discharge Permit shall complete and file with the District prior to commencing or continuing discharges, an application in a form prescribed by the District. The applicable fees shall accompany this application. The applicant shall submit, in units and terms appropriate for evaluation, the following information at a minimum:

1. Name, address, telephone number, assessor's parcel number(s), description of the Food Service Establishment, operation, cuisine, service activities, or clients using the applicant's services.

2. (Whichever is applicable) Name, address of any and all principals/owners/major shareholders of the Food Service Establishment; Articles of Incorporation; most recent Report of the Secretary of State; Business License.

3. Name and address of property owner or lessor and the property manager where the Food Service Establishment is located.

4. Any other information as specified in the application form.

B. Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, FOG control device, grease interceptor or other pretreatment equipment and appurtenances by size, location, and elevation for evaluation.

C. Other information related to the applicant's business operations and potential discharge may be requested to properly evaluate the permit application.

D. After evaluation of the data furnished, the District may issue a FOG Wastewater Discharge Permit, subject to terms and conditions set forth in

this Ordinance and as otherwise determined by the FOG Control Program Manager to be appropriate to protect the District's sewer system.

3.3 FOG WASTEWATER DISCHARGE PERMIT CONDITIONS

The issuance of a FOG Wastewater Discharge Permit may contain any of the following conditions or limits:

A. Limits on discharge of FOG and other priority pollutants.

B. Requirements for proper operation and maintenance of grease interceptors and other grease control devices.

C. Grease interceptor maintenance frequency and schedule.

D. Requirements for implementation of Best Management Practices and installation of adequate grease interceptor and/or grease control device.

E. Requirements for maintaining and reporting status of Best Management Practices

F. Requirements for maintaining and submitting logs and records, including wastehauling records and waste manifests.

G. Requirements to self-monitor.

H. Requirements for the Food Service Establishment to construct, operate and maintain, at its own expense, FOG control device and sampling facilities.

I. Additional requirements as otherwise determined to be reasonably appropriate by the FOG Control Program Manager to protect the District's system or as specified by other Regulatory Agencies.

J. Other terms and conditions, which may be reasonably applicable to ensure compliance with this Ordinance.

3.4 FOG WASTEWATER DISCHARGE PERMIT APPLICATION FEE

The FOG Wastewater Discharge Permit Application fee shall be paid by the applicant in an amount adopted by ordinance or resolution of the Board of Directors of the District. Payment of permit application fee must be received by the District upon submission of the permit application. A permittee shall also pay any delinquent invoices in full prior to permit renewal.

3.5 FOG WASTEWATER DISCHARGE PERMIT MODIFICATION OF TERMS AND CONDITIONS

A. The terms and conditions of an issued permit may be subject to modification and change by the sole determination of the FOG Control Program Manager during the life of the permit based on:

1. The discharger's current or anticipated operating data;

2. The District's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect the District; or

4. A determination by the FOG Control Program Manager that such modification is appropriate to further the objectives of this Ordinance.

B. The Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. The FOG Control Program Manager shall review the request, make a determination on the request, and respond in writing.

C. The Permittee shall be informed of any change in the permit limits, conditions, or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

3.6 FOG WASTEWATER DISCHARGE PERMIT DURATION AND RENEWAL

FOG Wastewater Discharge Permits shall be issued for a period not to exceed four (4) years. At least 60 days prior to the expiration of the permit, the user shall apply for renewal of the permit in accordance with the provisions of this Article 3.

3.7 EXEMPTION FROM FOG WASTEWATER DISCHARGE PERMIT

A limited food preparation establishment is not considered a Food Service Establishment and is exempt from obtaining a FOG Wastewater Discharge Permit. Exempted establishments shall be engaged only in reheating, hot holding or assembly of ready to eat food products and as a result, there is no wastewater discharge containing significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.

3.8 NON-TRANSFERABILITY OF PERMITS

FOG Wastewater Discharge Permits issued under this Ordinance are for a specific Food Service Establishment, for a specific operation and create no vested rights.

A. No permit holder shall assign, transfer, sell any FOG Wastewater Discharge Permit issued under this Ordinance nor use any such permit for or on any premises or for facilities or operations or discharges not expressly encompassed within the underlying permit.

B. Any permit which is transferred to a new owner or operator or to a new facility is void.

3.9 FOG WASTEWATER DISCHARGE PERMIT CHARGE FOR USE

A charge to cover all costs of the District for providing the sewer service and monitoring shall be established by Ordinance or Resolution of the Board of Directors of the District.

ARTICLE 4 - FACILITIES REQUIREMENTS

4.1 DRAWING SUBMITTAL REQUIREMENTS

Upon request by the District:

A. Food Service Establishments may be required to submit two copies of facility site plans, mechanical and plumbing plans, and details to show all sewer locations and connections. The submittal shall be in a form and content acceptable to the District for review of existing or proposed grease control device, grease interceptor, monitoring facilities, metering facilities, and operating procedures. The review of the plans and procedures shall in no way relieve the Food Service Establishments of the responsibility of modifying the facilities or procedures in the future, as necessary to produce an acceptable discharge, and to meet the requirements of this Ordinance or any requirements of other Regulatory Agencies.

B. Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, FOG control device, grease interceptor or other pretreatment equipment and appurtenances by size, location, and elevation for evaluation.

C. Food Service Establishments may be required to submit a schematic drawing of the FOG control device, grease interceptor or other pretreatment equipment, piping and instrumentation diagram, and wastewater characterization report.

D. The District may require the drawings be prepared by a California Registered Civil, Chemical, Mechanical, or Electrical Engineer.

4.2 GREASE INTERCEPTOR REQUIREMENTS

A. All Food Service Establishments shall provide wastewater acceptable to the District, under the requirements and standards established herein before discharging to any public sewer. Any Food Service Establishment required to provide FOG pretreatment shall install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of this Ordinance.

B. Grease interceptor sizing and installation shall conform to the current edition of the Uniform 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.

C. The grease interceptor shall be installed at a location where it shall be at all times easily accessible for inspection, cleaning, and removal of accumulated grease.

D. Access manholes, with a minimum diameter of 24 inches, shall be provided over each grease interceptor chamber and sanitary tee. The access manholes shall extend at least to finished grade and be designed and maintained to prevent water inflow or infiltration. The manholes shall also have readily removable covers to facilitate inspection, grease removal, and wastewater sampling activities.

4.3 GREASE TRAP REQUIREMENTS

A. Food Service Establishments may be required to install grease traps in the waste line leading from drains, sink, and other fixtures or equipment where grease may be introduced into the sewer system in quantities that can cause blockage.

B. Sizing and installation of grease traps shall conform to the current edition of the California Plumbing Code.

C. Grease traps shall be maintained in efficient operating conditions by removing accumulated grease on a daily basis.

D. Grease traps shall be maintained free of all food residues and any FOG waste removed during the cleaning and scraping process.

E. Grease traps shall be inspected periodically to check for leaking seams and pipes, and for effective operation of the baffles and flow regulating device. Grease traps and their baffles shall be maintained free of all caked-on FOG and waste. Removable baffles shall be removed and cleaned during the maintenance process.

F. Dishwashers and food waste disposal units shall not be connected to or discharged into any grease trap.

4.4 MONITORING FACILITIES REQUIREMENTS

A. The District may require the Food Service Establishments to construct and maintain in proper operating condition at the Food Service Establishment's sole expense, flow monitoring, constituent monitoring and/or sampling facilities.

B. The location of the monitoring or metering facilities shall be subject to approval by the FOG Control Program Manager.

C. Food Service Establishments may be required to provide immediate, clear, safe and uninterrupted access to the FOG Control Program Manager or inspectors to the Food Service Establishment's monitoring and metering facilities.

D. Food Service Establishments may also be required by the FOG Control Program Manager to submit waste analysis plans, contingency plans, and meet other necessary requirements to ensure proper operation and

maintenance of the grease control device or grease interceptor and compliance with this Ordinance.

E. No Food Service Establishment shall increase the use of water or in any other manner attempt to dilute a discharge as a partial or complete substitute for treatment to achieve compliance with this Ordinance and the FOG Wastewater Discharge Permit.

4.5 REQUIREMENTS FOR BEST MANAGEMENT PRACTICES

A. All Food Service Establishments shall implement best management practices in accordance with the requirements and guidelines established by the District under its FOG Control Program in an effort to minimize the discharge of FOG to the sewer system.

B. All Food Service Establishments shall be required, at a minimum, to comply with the following Best Management Practices, when applicable:

1. Installation of drain screens. Drain screens shall be installed on all drainage pipes in food preparation areas.

2. Segregation and collection of waste cooking oil. All waste cooking oil shall be collected and stored properly in recycling receptacles such as barrels or drums. Such recycling receptacles shall be maintained properly to ensure that they do not leak. Licensed wastehaulers or an approved recycling facility must be used to dispose of waste cooking oil.

3. Disposal of food waste. All food waste shall be disposed of directly into the trash or garbage, and not in sinks. Double-bagging food wastes that have the potential to leak in trash bins is highly recommended.

4. Employee training. Employees of the food service establishment shall be trained by ownership/management periodically as specified in the permit, on the following subjects:

a) How to "dry wipe" pots, pans, dishware and work areas before washing to remove grease.

b) How to properly dispose of food waste and solids in enclosed plastic bags prior to disposal in trash bins or containers to prevent leaking and odors.

c) The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.

d) How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.

Training shall be documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time by the FOG Control Program Manager or an inspector.

5. Maintenance of kitchen exhaust filters. Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed properly.

6. Kitchen signage. Best management and waste minimization practices shall be posted conspicuously in the food preparation and dishwashing areas at all times.

4.6 GREASE INTERCEPTOR MAINTENANCE REQUIREMENTS

A. Grease Interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor which includes wastewater, accumulated FOG, floating materials, sludge and solids.

B. All existing and newly installed grease interceptors shall be maintained in a manner consistent with a maintenance frequency approved by the FOG Control Program Manager pursuant to this section.

C. No FOG that has accumulated in a grease interceptor shall be allowed to pass into any sewer lateral, sewer system, storm drain, or public right of way during maintenance activities.

D. Food Service Establishments with grease interceptors may be required to submit data and information necessary to establish the maintenance frequency grease interceptors.

E. The maintenance frequency for all Food Service Establishments with a grease interceptor shall be determined in one of the following methods:

1. Grease interceptors shall be fully pumped out and cleaned at a frequency such that the combined FOG and solids accumulation does not exceed 25% of the total design hydraulic depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume is maintained to effectively intercept and retain FOG discharged to the sewer system.

2. All Food Service Establishments with a Grease Interceptor shall maintain their grease interceptor not less than every 6 months.

3. Grease interceptors shall be fully pumped out and cleaned quarterly when the frequency described in (1) has not been established. The maintenance frequency shall be adjusted when sufficient data have been obtained to establish an average frequency based on the requirements described in (1) and guidelines adopted pursuant to the FOG Control Program. The District may change the maintenance frequency at any time to reflect changes in actual operating conditions in accordance with the FOG Control Program. Based on the actual generation of FOG from the Food Service Establishment, the maintenance frequency may increase or decrease.

4. The owner/operator of a Food Service Establishment may submit a request to the FOG Control Program Manager requesting a change in the maintenance frequency at any time. The Food Service Establishment has the burden of responsibility to demonstrate that the requested change in frequency reflects actual operating conditions based on the average FOG accumulation over time and meets the requirements described in (1), and that it is in full compliance with the conditions of its permit and this Ordinance. Upon determination by the FOG Control Program Manager that requested revision is justified, the permit shall be revised accordingly to reflect the change in maintenance frequency.

5. If the grease interceptor, at any time, contains FOG and solids accumulation that does not meet the requirements described in (1), the Food Service Establishment shall be required to have the grease interceptor serviced immediately such that all fats, oils, grease, sludge, and other materials are completely removed from the grease interceptor. If deemed necessary, the FOG Control Program Manager may also increase the maintenance frequency of the grease interceptor from the current frequency.

F. Wastewater, accumulated FOG, floating materials, sludge/solids, and other materials removed from the grease interceptor shall be disposed off site properly by wastehaulers in accordance with federal, state and/or local laws.

ARTICLE 5 - MONITORING, REPORTING, NOTIFICATION, AND INSPECTION REQUIREMENTS

5.1 MONITORING AND REPORTING CONDITIONS

A. Monitoring for Compliance with Permit Conditions and Reporting Requirements

1. The FOG Control Program Manager may require periodic reporting of the status of implementation of Best Management Practices, in accordance with the FOG Control Program.

2. The FOG Control Program Manager may require visual monitoring at the sole expense of the Permittee to observe the actual conditions of the Food Service Establishment's sewer lateral and sewer lines downstream.

3. The FOG Control Program Manager may require reports for self-monitoring of wastewater constituents and FOG characteristics of the Permittee needed for determining compliance with any conditions or requirements as specified in the FOG Wastewater Discharge Permit or this Ordinance. Monitoring reports of the analyses of wastewater constituents and FOG characteristics shall be in a manner and form approved by the FOG Control Program Manager and shall be submitted upon request of the FOG Control Program Manager. Failure by the Permittee to perform any required monitoring, or to submit monitoring reports required by the FOG Control Program Manager constitutes a violation of this Ordinance and be cause for the District to initiate all necessary tasks and analyses to determine the wastewater constituents and FOG characteristics for compliance with any conditions and requirements specified in the FOG Wastewater Discharge Permit or in this Ordinance. The Permittee shall be responsible for any and all expenses of the District in undertaking such monitoring analyses and preparation of reports.

4. Other reports may be required such as compliance schedule progress reports, FOG control monitoring reports, and any other reports deemed reasonably appropriate by the FOG Control Program Manager to ensure compliance with this Ordinance.

B. Record Keeping Requirements

The Permittee shall be required to keep all manifests, receipts and invoices of all cleaning, maintenance, grease removal of/from the grease control device, disposal carrier and disposal site location for no less than two years. The Permittee shall, upon request, make the manifests,

receipts and invoices available to any District representative, or inspector. These records may include:

1. A logbook of grease interceptor, grease trap or grease control device cleaning and maintenance practices.

2. A record of Best Management Practices being implemented including employee training.

3. Copies of records and manifests of wastehauling interceptor contents.

4. Records of sampling data and sludge height monitoring for FOG and solids accumulation in the grease interceptors.

5. Records of any spills and/or cleaning of the lateral or sewer system.

6. Any other information deemed appropriate by the FOG Control Program Manager to ensure compliance with this Ordinance.

C. Falsifying Information or Tampering with Process

It shall be unlawful to make any false statement, representation, record, report, plan or other document that is filed with the District, or to tamper with or knowingly render inoperable any grease control device, monitoring device or method or access point required under this Ordinance.

5.2 INSPECTION AND SAMPLING CONDITIONS

A. The FOG Control Program Manager may inspect or order the inspection and sample the wastewater discharges of any Food Service Establishment to ascertain whether the intent of this Ordinance is being met and the Permittee is complying with all requirements. The Permittee shall allow the District access to the Food Service Establishment premises, during normal business hours, for purposes of inspecting the Food Service Establishment's grease control devices or interceptor, reviewing the manifests, receipts and invoices relating to the cleaning, maintenance and inspection of the grease control devices or interceptor.

B. The FOG Control Program Manager shall have the right to place or order the placement on the Food Service Establishment's property or other locations as determined by the FOG Control Program Manager, such devices as are necessary to conduct sampling or metering operations. Where a Food Service Establishment has security measures in force, the Permittee shall make necessary arrangements so that representatives of the District shall be permitted to enter without delay for the purpose of performing their specific responsibilities.

C. In order for the FOG Control Program Manager to determine the wastewater characteristics of the discharger for purposes of determining the annual use charge and for compliance with permit requirements, the Permittee shall make available for inspection and copying by the District all notices, monitoring reports, waste manifests, and records including, but not limited to, those related to wastewater generation, and wastewater disposal without restriction but subject to the confidentiality provision set forth in this Ordinance. All such records shall be kept by the Permittee a minimum of two (2) years.

5.3 RIGHT OF ENTRY

Persons or occupants of premises where wastewater is created or discharged shall allow the FOG Control Program Manager, or District representatives, reasonable access to all parts of the wastewater generating and disposal facilities for the purposes of inspection and sampling during all times the discharger's facility is open, operating, or any other reasonable time. No person shall interfere with, delay, resist or refuse entrance to District representatives attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to the District's sewer system. In the event of an emergency involving actual or imminent sanitary sewer overflow, District's representatives may access adjoining businesses or properties which share a sewer system with a Food Service Establishment in order to prevent or remediate an actual or imminent sanitary overflow.

5.4 NOTIFICATION OF SPILL

A. In the event a permittee is unable to comply with any permit condition due to a breakdown of equipment, accidents, or human error or the Permittee has reasonable opportunity to know that his/her/its discharge will exceed the discharge provisions of the FOG Wastewater Discharge Permit or this Ordinance, the discharger shall immediately notify the District by telephone at the number specified in the Permit. If the material discharged to the sewer has the potential to cause or result in sewer blockages or SSOs, the discharger shall immediately notify the local Health Department, City or County, and the District.

B. Confirmation of this notification shall be made in writing to the FOG Control Program Manager at the address specified in the Permit no later than five (5) working days from the date of the incident. The written notification shall state the date of the incident, the reasons for the discharge or spill, what steps were taken to immediately correct the problem, and what steps are being taken to prevent the problem from recurring.

C. Such notification shall not relieve the Permittee of any expense, loss, damage or other liability which may be incurred as a result of damage or loss to the District or any other damage or loss to person or property; nor shall such notification relieve the Permittee of any fees or other liability which may be imposed by this Ordinance or other applicable law.

5.5 NOTIFICATION OF PLANNED CHANGES

Permittee shall notify the District at least 60 days in advance prior to any facility expansion/remodeling, or process modifications that may result in new or substantially increased FOG discharges or a change in the nature of the discharge. Permittee shall notify the District in writing of the proposed expansion or remodeling and shall submit any information requested by the District for evaluation of the effect of such expansion on Permittee's FOG discharge to the sewer system.

ARTICLE 6 - ENFORCEMENT

6.1 PURPOSES AND SCOPE

A. The Board of Directors finds that in order for the District to comply with the laws, regulations, and rules imposed upon it by Regulatory Agencies and to ensure that the District's sewer facilities are protected and are able to operate with the highest degree of efficiency, and to protect the public health and environment, specific enforcement provisions must be adopted to govern the discharges to the District's system by Food Service Establishments.

B. To ensure that all interested parties are afforded due process of law and that violations are resolved as soon as possible, the general policy of the District is that:

1. Any determination relating to a notice of violation and Compliance Schedule Agreement (CSA) will be made by the FOG Control Program Manager, with a right of appeal by the permittee to the General Manager pursuant to the procedures set forth in Section 6.12.

2. A permittee, or applicant for a permit may request the Board of Directors of the District to hear an appeal of the General Manager's decision pursuant to Section 6.13. Such request may be granted or denied by the Board of Directors.

3. Any permit suspension or revocation recommended by the FOG Control Program Manager will be heard and a recommendation made to the General Manager or other person designated by the General Manager with a right of appeal of the General Manager's order by the permittee to the Board of Directors pursuant to the provisions of Section 6.13.

C. The District, at its discretion, may utilize any one, combination, or all enforcement remedies provided in Article 6 in response to any permit or Ordinance violations.

6.2 DETERMINATION OF NONCOMPLIANCE WITH FOG WASTEWATER DISCHARGE PERMIT CONDITIONS

A. Inspection Procedures

1. Inspection of Food Service Establishments shall be conducted in the time, place, manner, and frequency determined at the sole discretion of the FOG Control Program Manager.

2. Noncompliance with Best Management Practices, 25% Rule for grease interceptors, maintenance frequency requirements for

grease interceptors, permit discharge conditions, or any discharge provisions of this Ordinance may be determined by an inspection of the Food Service Establishment.

B. Sampling Procedures

1. Sampling of Food Service Establishments shall be conducted in the time, place, manner, and frequency determined at the sole discretion of the District.

2. Non-compliance with mass emission rate limits, concentration limits, permit discharge conditions, or any discharge provision of this Ordinance may be determined by an analysis of a grab or composite sample of the effluent of a user. Non-compliance with mass emission rate limits shall be determined by an analysis of a composite sample of the user's effluent, except that a grab sample may be used to determine compliance with mass emission rate limits when the discharge is from a closed (batch) treatment system in which there is no wastewater flow into the system when the discharge is occurring, the volume of wastewater contained in the batch system is known, the time interval of discharge is known, and the grab sample is homogeneous and representative of the discharge.

3. Any sample taken from a sample point is considered to be representative of the discharge to the public sewer.

C. Noncompliance Fees

Any permittee determined to be in noncompliance with the terms and conditions specified in its permit or with any provision of this Ordinance shall pay a noncompliance fee. The purpose of the noncompliance fee is to compensate the District for costs of additional inspection and follow-up, sampling, monitoring, laboratory analysis, treatment, disposal, and administrative processing incurred as a result of the noncompliance, and shall be in addition to and not in lieu of any penalties as may be assessed pursuant to Sections 6.10 and 6.11. Noncompliance fees shall be in the amount adopted by ordinance or resolution by the District's Board of Directors.

6.3 COMPLIANCE SCHEDULE AGREEMENT (CSA)

A. Upon determination that a permittee is in noncompliance with the terms and conditions specified in its permit or any provision of this Ordinance, or needs to construct and/or acquire and install a grease control device or grease interceptor, the FOG Control Program Manager may require the permittee to enter into a CSA.

B. The issuance of a CSA may contain terms and conditions including but not limited to requirements for installation of a grease control device,

grease interceptor and facilities, submittal of drawings or reports, audit of waste hauling records, best management and waste minimization practices, payment of fees, or other provisions to ensure compliance with this Ordinance.

C. The FOG Control Program Manager shall not enter into a CSA until such time as all amounts owed to the District, including user fees, noncompliance sampling fees, or other amounts due are paid in full, or an agreement for deferred payment secured by collateral or a third party, is approved by the FOG Control Program Manager.

D. If compliance is not achieved in accordance with the terms and conditions of a CSA during its term, the FOG Control Program Manager may issue an order suspending or revoking the discharge permit pursuant to Section 6.4 or 6.5 of this Ordinance.

6.4 PERMIT SUSPENSION

A. The General Manager may suspend any permit when it is determined that a permittee:

1. Fails to comply with the terms and conditions of a CSA order.

2. Knowingly provides a false statement, representation, record, report, or other document to the District.

3. Refuses to provide records, reports, plans, or other documents required by the District to determine permit terms or conditions, discharge compliance, or compliance with this Ordinance.

4. Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method.

5. Refuses reasonable access to the permittee's premises for the purpose of inspection and monitoring.

6. Does not make timely payment of all amounts owed to the District for user charges, permit fees, or any other fees imposed pursuant to this Ordinance.

7. Causes interference, sewer blockages, or SSOs with the District's collection, treatment, or disposal system.

8. Violates grease interceptor maintenance requirements, any condition or limit of its discharge permit or any provision of the District's Ordinance.

B. When the FOG Control Program Manager has reason to believe that grounds exist for permit suspension, he/she shall give written notice thereof by certified mail to the permittee setting forth a statement of the facts and grounds deemed to exist, together with the time and place

where the charges shall be heard by the General Manager or his/her designee. The hearing date shall be not less than fifteen (15) calendar days nor more than forty-five (45) calendar days after the mailing of such notice.

1. At the suspension hearing, the permittee shall have an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by the District's General Counsel.

2. If the General Manager designated a hearing officer, after the conclusion of the hearing, the hearing officer shall submit a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

3. Upon receipt of the written report of a hearing officer or conclusion of the hearing, if the General Manager conducted the hearing, the General Manager shall make his/her determination and should he/she find that grounds exist for suspension of the permit, he/she shall issue his/her decision and order in writing within thirty (30) calendar days after the conclusion of the hearing. The written decision and order of the General Manager shall be sent by certified mail to the permittee or its legal counsel/representative at the permittee's business address.

C. Effect

1. Upon an order of suspension by the General Manager becoming final, the permittee shall immediately cease and desist its discharge and shall have no right to discharge any wastewater containing FOG directly or indirectly to the District's system for the duration of the suspension. All costs for physically terminating and reinstating service shall be paid by the permittee.

2. Any owner or responsible management employee of the permittee shall be bound by the order of suspension.

3. An order of permit suspension issued by the General Manager shall be final in all respects on the sixteenth (16th) day after it is mailed to the permittee unless a request for hearing is filed with the Board of Directors of the District pursuant to Section 6.13. no later than 5:00 p.m. on the fifteenth (15th) day following such mailing.

6.5 PERMIT REVOCATION

A. The General Manager may revoke any permit when it is determined that a permittee:

1. Knowingly provides a false statement, representation, record, report, or other document to the District.

2. Refuses to provide records, reports, plans, or other documents required by the District to determine permit terms, conditions, discharge compliance, or compliance with this Ordinance.

3. Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method.

4. Fails to comply with the terms and conditions of permit suspension or CSA.

5. Discharges effluent to the District's sewer system while its permit is suspended.

6. Refuses reasonable access to the permittee's premises for the purpose of inspection and monitoring.

7. Does not make timely payment of all amounts owed to the District for user charges, permit fees, or any other fees imposed pursuant to this Ordinance.

8. Causes interference, sewer blockages, or SSOs with the District collection, treatment, or disposal system.

9. Violates grease interceptor maintenance requirements, any condition or limit of its discharge permit or any provision of the District's Ordinance.

B. Approval. When the FOG Control Program Manager has reason to believe that grounds exist for the revocation of a permit, he/she shall give written notice by certified mail thereof to the permittee setting forth a statement of the facts and grounds deemed to exist together with the time and place where the charges shall be heard by the General Manager or his/her designee. The hearing date shall be not less than fifteen (15) calendar days nor more than forty-five (45) calendar days after the mailing of such notice.

1. At the hearing, the permittee shall have an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. The revocation hearing shall be conducted in accordance with the procedures established by the General Manager and approved by the District's General Counsel.

2. If the General Manager designated a hearing officer, after the conclusion of the hearing, the hearing officer shall submit a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

3. Upon receipt of the written report by the hearing officer, or conclusion of the hearing, if the General Manager conducted the hearing, the General Manager shall make his/her determination and should he/she find that grounds exist for permanent revocation of the permit, he/she shall issue his/her decision and order in writing within thirty (30) calendar days after the conclusion of the hearing. The written decision and order of the General Manager shall be sent by certified mail to the permittee or its legal counsel/representative at the permittee's business address.

   In the event the General Manager determines to not revoke the permit, he/she may order other enforcement actions, including, but not limited to, a temporary suspension of the permit, under terms and conditions that he/she deems appropriate.

C. Effect

1. Upon an order of revocation by the General Manager becoming final, the permittee shall permanently lose all rights to discharge any wastewater containing FOG directly or indirectly to the District's system. All costs for physical termination shall be paid by the permittee.

2. Any owner or responsible management employee of the permittee shall be bound by the order of revocation.

3. Any future application for a permit at any location within the District by any person associated with an order of revocation will be considered by the District after fully reviewing the records of the revoked permit, which records may be the basis for denial of a new permit.

4. An order of permit revocation issued by the General Manager shall be final in all respects on the sixteenth (16th) day after it is mailed to the permittee unless a request for hearing is filed with the Board of Directors pursuant to Section 6.13 no later than 5:00 p.m. on the fifteenth (15th) day following such mailing.

6.6 DAMAGE TO FACILITIES OR INTERRUPTION OF NORMAL OPERATIONS

A. Any person who discharges any waste which causes or contributes to any sewer blockage, SSOs, obstruction, interference, damage, or any other impairment to the District's sewer facilities or to the operation of those facilities shall be liable for all costs required to clean or repair the facilities together with expenses incurred by the District to resume normal operations. A service charge of twenty-five percent (25%) of District's costs shall be added to the costs and charges to reimburse the District for miscellaneous overhead, including administrative personnel and record keeping. The total amount shall be payable within forty five (45) days of invoicing by the District.

B. Any person who discharges a waste which causes or contributes to the District violating its discharge requirements established by any Regulatory Agency incurring additional expenses or suffering losses or damage to the facilities, shall be liable for any costs or expenses incurred by the District, including regulatory fines, penalties, and assessments made by other agencies or a court.

6.7 PUBLIC NUISANCE

Discharge of wastewater in any manner in violation of this Ordinance or of any order issued by the FOG Control Program Manager or General Manager, as authorized by this Ordinance, is hereby declared a public nuisance and shall be corrected or abated as directed by the FOG Control Program Manager or General Manager. Any person creating a public nuisance is guilty of a misdemeanor.

6.8 TERMINATION OF SERVICE

A. The District, by order of the General Manager, may physically terminate sewer service to any property as follows:

1. On a term of any order of suspension or revocation of a permit; or

2. Upon the failure of a person not holding a valid FOG Wastewater Discharge Permit to immediately cease the discharge, whether direct or indirect, to the District's sewer facilities after the notice and process in Section 6.5 herein.

B. All costs for physical termination shall be paid by the owner or operator of the Food Service Establishment or permittee as well as all costs for reinstating service.

6.9 EMERGENCY SUSPENSION ORDER

A. The District may, by order of the General Manager, suspend sewer service when the General Manager determines that such suspension is necessary in order to stop an actual or impending discharge which presents or may present an imminent or substantial endangerment to the health and welfare of persons, or to the environment, or may cause SSOs, sewer blockages, interference to the District's sewer facilities, or may cause the District to violate any State or Federal Law or Regulation. Any discharger notified of and subject to an Emergency Suspension Order shall immediately cease and desist the discharge of all wastewater containing FOG to the sewer system.

B. As soon as reasonably practicable following the issuance of an Emergency Suspension Order, but in no event more than five (5) business days following the issuance of such order, the General Manager shall hold a hearing to provide the Food Service Establishment or Permittee the opportunity to present information in opposition to the issuance of the Emergency Suspension Order. Such a hearing shall not

stay the effect of the Emergency Suspension Order. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by the District's General Counsel. The General Manager shall issue a written decision and order within two (2) business days following the hearing, which decision shall be sent by certified mail to the Food Service Establishment or its legal counsel/representative at that Food Service Establishment's business address. The decision of the General Manager following the hearing shall be final and not appealable to the Board, but may be subject to judicial review pursuant to Section 6.16.

6.10 CIVIL PENALTIES

A. All users of the District's system and facilities are subject to enforcement actions administratively or judicially by the District, U.S. EPA, State of California Regional Water Quality Control Board, the County of Orange or District Attorney. Said actions may be taken pursuant to the authority and provisions of several laws, including but not limited to: (1) Federal Water Pollution Control Act, commonly known as the Clean Water Act (33 U.S.C.A. Section 1251 et seq.); (2) California Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.); (3) California Hazardous Waste Control Law (California Health & Safety Code Sections 25100 to 25250); (4) Resource Conservation and Recovery Act of 1976 (42 U.S.C.A Section 6901 et seq.); and (5) California Government Code, Sections 54739-54740.

B. In the event the District is subject to the payment of fines or penalties pursuant to the legal authority and actions of other regulatory or enforcement agencies based on a violation of law or regulation or its permits, and said violation can be established by the District, as caused by the discharge of any user of the District's system which is in violation of any provision of the District's Ordinance or the user's permit, the District shall be entitled to recover from the user all costs and expenses, including, but not limited to, the full amount of said fines or penalties to which it has been subjected.

C. Pursuant to the authority of California Government Code Sections 54739 - 54740, any person who violates any provision of this Ordinance; any permit condition, prohibition or effluent limit; or any suspension or revocation order shall be liable civilly for a sum not to exceed $25,000.00 per violation for each day in which such violation occurs. Pursuant to the authority of the Clean Water Act, 33 U.S.C. Section 1251 et seq., any person who violates any provision of this Ordinance, or any permit condition, prohibition, or effluent limit shall be liable civilly for a sum not to exceed $25,000.00 per violation for each day in which such violation occurs. The General Counsel of the District, upon request of the General Manager, shall petition the Superior Court to impose, assess, and recover such penalties, or such other penalties as the District may impose, assess, and recover pursuant to Federal and/or State legislative authorization.

D. Administrative Civil Penalties

1. Pursuant to the authority of California Government Code Sections 54740.5 and 54740.6, the District may issue an administrative complaint to any person who violates:

   a) any provision of this Ordinance;

   b) any permit condition, prohibition, or effluent limit; or

   c) any suspension or revocation order.

2. The administrative complaint shall be served by personal delivery or certified mail on the person and shall inform the person that a hearing will be conducted, and shall specify a hearing date within sixty (60) days following service. The administrative complaint will allege the act or failure to act that constitutes the violation of the District's regulations, the provisions of law authorizing civil liability to be imposed, and the proposed civil penalty. The matter shall be heard by the General Manager or his/her designee. The person to whom an administrative complaint has been issued may waive the right to a hearing, in which case a hearing will not be conducted.

3. At the hearing, the person shall have an opportunity to respond to the allegations set forth in the administrative complaint by presenting written or oral evidence. The hearing shall be conducted in accordance with the procedures established by the General Manager and approved by the District's General Counsel.

4. If the General Manager designated a hearing officer, after the conclusion of the hearing, the hearing officer shall submit a written report to the General Manager setting forth a brief statement of the facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

5. Upon receipt of the written report by the hearing officer, or conclusion of the hearing if the General Manager conducted the hearing, the General Manager shall make his/her determination and should he/she find that grounds exist for assessment of a civil penalty against the person, he/she shall issue his/her decision and order in writing within thirty (30) calendar days after the conclusion of the hearing .

6. If, after the hearing or appeal, if any, it is found that the person has violated reporting or discharge requirements, the General Manager or Board of Directors may assess a civil penalty against that person. In determining the amount of the civil penalty, the General Manager or Board of Directors may take into consideration all relevant circumstances, including but not limited to the extent of harm caused by the violation, the economic benefit

derived through any non-compliance, the nature and persistence of the violation, the length of time over which the violation occurs, and corrective action, if any, attempted or taken by the person involved.

7. Civil penalties may be assessed as follows:

   a) In an amount which shall not exceed two thousand dollars ($2,000.00) for each day for failing or refusing to furnish required reports;

   b) In an amount which shall not exceed three thousand dollars ($3,000.00) for each day for failing or refusing to timely comply with any compliance schedules established by the District;

   c) In an amount which shall not exceed five thousand dollars ($5,000.00) per violation for each day of discharge in violation of any waste discharge limit, permit condition, or requirement issued, reissued, or adopted by the District;

   d) In any amount which does not exceed ten dollars ($10.00) per gallon for discharges in violation of any suspension, revocation, cease and desist order or other orders, or prohibition issued, reissued, or adopted by the District;

8. An order assessing administrative civil penalties issued by the General Manager shall be final in all respects on the thirty-first (31st) day after it is served on the person unless an appeal and request for hearing is filed with the Board of Directors pursuant to Section 6.13 no later than the thirtieth (30th) day following such mailing. An order assessing administrative civil penalties issued by the Board of Directors shall be final upon issuance.

9. Copies of the administrative order shall be served on the party served with the administrative complaint, either by personal service or by registered mail to the person at his/her/its business or residence address, and upon other persons who appeared at the hearing and requested a copy of the order.

10. Any person aggrieved by a final order issued by the Board of Directors, after granting review of the order of the General Manager, may obtain review of the order of the Board of Directors in the superior court, pursuant to Government Code Section 54740.6, by filing in the court a petition for writ of mandate within thirty (30) days following the service of a copy of the decision or order issued by the Board of Directors.

11. Payment of any order setting administrative civil penalties shall be made within thirty (30) days of the date the order becomes final.

The amount of any administrative civil penalties imposed shall constitute a debt to the District.

12. No administrative civil penalties shall be recoverable for any violation for which the District has recovered civil penalties through a judicial proceeding filed pursuant to Government Code Section 54740.

6.11 CRIMINAL PENALTIES

Any person who violates any provision of this Ordinance is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed $1,000.00, or imprisonment for not more than 6 months, or both. Each violation and each day in which a violation occurs may constitute a new and separate violation of this Ordinance and shall be subject to the penalties contained herein.

6.12 APPEALS TO GENERAL MANAGER

A. Any Food Service Establishment, permit applicant or permittee affected by any decision, action or determination made by the FOG Control Program Manager or notice of violation issued by any District inspector may file with the General Manager a written request for an appeal hearing. The request must be received by the District within fifteen (15) days of mailing of notice of the decision, action, or determination of the FOG Control Program Manager to the appellant. The request for hearing shall set forth in detail all facts supporting the appellant's request.

B. The General Manager shall, within fifteen (15) days of receiving the request for appeal, designate a Department Head or other person to hear the appeal and provide written notice to the appellant of the hearing date, time and place. The hearing date shall not be more than thirty (30) days from the mailing of such notice by certified mail to the appellant unless a later date is agreed to by the appellant. If the hearing is not held within said time due to actions or inactions of the appellant, then the staff decision shall be deemed final.

C. At the hearing, the appellant shall have the opportunity to present information supporting its position concerning the FOG Control Program Manager's decision, action or determination. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by the District's General Counsel.

D. After the conclusion of the hearing, the Department Head (or other designee) shall submit a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation whether to uphold, modify or reverse the FOG Control Program Manager's original decision, action or determination. Upon receipt of the written report, the General Manager shall make his/her determination and shall issue his/her decision and order within thirty (30) calendar days of the hearing by his/her designee. The written decision and order of the General Manager

shall be sent by certified mail to the appellant or its legal counsel/representative at the appellant's business address.

The order of the General/City Manager shall be final in all respects on the sixteenth (16th) day after it is mailed to the appellant unless a request for hearing is filed with the Board of Directors pursuant to Section 6.13, no later than 5:00 p.m. on the fifteenth day following such mailing.

6.13 APPEALS TO THE BOARD OF DIRECTORS

A. Any Food Service Establishment, permit applicant, or permittee adversely affected by a decision, action, or determination made by the General Manager may, prior to the date that the General Manager's order becomes final, file a written request for hearing before the Board of Directors accompanied by an appeal fee in the amount established by a separate resolution of the District's Board of Directors. The request for hearing shall set forth in detail all the issues in dispute for which the appellant seeks determination and all facts supporting appellant's request.

No later than sixty (60) days after receipt of the request for hearing, the Board of Directors shall either set the matter for a hearing, or deny the request for a hearing.

A hearing shall be held by the Board of Directors within sixty-five (65) days from the date of determination granting a hearing, unless a later date is agreed to by the appellant and the Board of Directors. If the matter is not heard within the required time, due to actions or inactions of the appellant, the General Manager's order shall be deemed final.

B. The Board of Directors shall grant all requests for a hearing on appeals concerning permit suspension, revocation, or denial. Whether to grant or deny the request for a hearing on appeals of other decisions of the General Manager shall be within the sole discretion of the Board of Directors.

C. The appeal fee shall be refunded if the Board of Directors denies a hearing or reverses or modifies, in favor of the appellant, the order of the General Manager. The fee shall not be refunded if the Board of Directors denies the appeal.

D. After the hearing, the Board of Directors shall make a determination whether to uphold, modify, or reverse the decision, action, or determination made by the General Manager.

The decision of the Board of Directors shall be set forth in writing within sixty-five (65) days after the close of the hearing and shall contain a finding of the facts found to be true, the determination of issues presented, and the conclusions. The written decision and order of the Board of Directors shall be sent by certified mail to the appellant or its legal counsel/representative at the appellant's business address.

The order of the Board of Directors shall be final upon its adoption. In the event the Board of Directors fails to reverse or modify the General Manager's order, it shall be deemed affirmed.

6.14 PAYMENT OF CHARGES

A. Except as otherwise provided, all fees, charges and penalties established by this Ordinance are due and payable upon receipt of notice thereof. All such amounts are delinquent if unpaid forty-five (45) days after date of invoice.

B. Any charge that becomes delinquent shall have added to it a penalty in accordance with the following:

1. Forty-six (46) days after date of invoice, a basic penalty of ten percent (10%) of the base invoice amount, not to exceed a maximum of $1,000.00; and

2. A penalty of one and one-half percent (1.5%) per month of the base invoice amount and basic penalty shall accrue from and after the forty-sixth (46th) day after date of invoice.

C. Any invoice outstanding and unpaid after ninety (90) days shall be cause for immediate initiation of permit revocation proceedings or immediate suspension of the permit.

D. Penalties charged under this Section shall not accrue to those invoices successfully appealed, provided the District receives written notification of said appeal prior to the payment due date.

E. Payment of disputed charges is still required by the due date during District review of any appeal submitted by permittees.

Collection of Delinquent Accounts

Collection of delinquent accounts shall be in accordance with the District's policy resolution establishing procedures for collection of delinquent obligations owed to the District, as amended from time to time by the Board of Directors. Any such action for collection may include an application for an injunction to prevent repeated and recurring violations of this Ordinance.

6.15 FINANCIAL SECURITY/AMENDMENTS TO PERMIT

A. Delinquent Accounts

The District may require an amendment to the permit of any Permittee who fails to make payment in full of all fees and charges assessed by the District, including reconciliation amounts, delinquency penalties, and other costs or fees incurred by the Permittee.

B. Bankruptcy

Every Permittee filing any legal action in any court of competent jurisdiction, including the United States Bankruptcy Court, for purposes of discharging its financial debts or obligations or seeking court-ordered, protection from its creditors, shall, within ten (10) days of filing such action, apply for and obtain the issuance of an amendment to its permit.

C. Security

An amendment to a waste discharge permit issued, may be conditioned upon the Permittee depositing financial security in an amount equal to the average total fees and charges for two (2) calendar quarters during the preceding year. Said deposit shall be used to guarantee payment of all fees and charges incurred for future services and facilities furnished by District and shall not be used by the District to recover outstanding fees and charges incurred prior to the Permittee filing and receiving protection from creditors in the United States Bankruptcy Court.

D. Return of Security

In the event the Permittee makes payment in full within the time prescribed by this Ordinance of all fees and charges incurred over a period of two (2) years following the issuance of an amendment to the permit, the District shall either return the security deposit posted by the Permittee or credit their account.

6.16 JUDICIAL REVIEW

A. Pursuant to Section 1094.6 of the California Code of Civil Procedure, the District hereby enacts this part to limit to ninety (90) days following final decisions in adjudicatory administrative hearings the time within which an action can be brought to review such decisions by means of administrative mandamus.

B. Definitions

As used in this Section, the following terms and words shall have the following meanings:

1. Decision shall mean and include adjudicatory administrative decisions that are made after hearing, or after revoking, suspending, or denying an application for a permit.

2. Complete Record shall mean and include the transcript, if any exists, of the proceedings, all pleadings, all notices and orders, any proposed decision by the District's officers, agents, or employees, the final decision, all admitted exhibits, all rejected exhibits in the possession of the District or its officers, agents or employees, all written evidence, and any other papers in the case.

C. Time Limit for Judicial Review. Judicial review of any decision of the District or its officer or agent may be made pursuant to Section 1094.5 of the Code of Civil Procedure only if the petition for writ of mandate is filed not later than the ninetieth (90th) day following the date on which the decision becomes final. If there is no provision for reconsideration in the procedures governing the proceedings or if the date is not otherwise specified, the decision is final on the date it is made. If there is provision for reconsideration, the decision is final upon the expiration of the period during which such reconsideration can be sought; provided that if reconsideration is sought pursuant to such provision the decision is final for the purposes of this Section on the date that reconsideration is rejected.

D. The complete record of the proceedings shall be prepared by the District officer or agent who made the decision and shall be delivered to the petitioner within ninety (90) days after he/she has filed written request therefor. The District may recover from the petitioner its actual costs for transcribing or otherwise preparing the record.

E. If the petitioner files a request for the record within ten (10) days after the date the decision becomes final, the time within which a petition, pursuant to Section 1094.5 of the Code of Civil Procedure, may be filed shall be extended to not later than the thirtieth (30th) day following the date on which the record is either personally delivered or mailed to the petitioner or the petitioner's attorney of record, if appropriate.

F. In making a final decision, the District shall provide notice to the party that Section 1094.6 of the Code of Civil Procedure governs the time within which judicial review must be sought.

G. Notwithstanding the foregoing in this Section 6.16, and pursuant to Government Code Section 54740.6, judicial review of an order of the Board of Directors imposing administrative civil penalties pursuant to Section 6.10.D may be made only if the petition for writ of mandate is filed not later than the thirtieth (30th) day following the day on which the order of the Board of Directors becomes final.

ARTICLE 7 - SEVERABILITY

If any section, subsection, subdivision, sentence, clause or phrase of this Ordinance is for any reason held to be unconstitutional or otherwise invalid, such invalidity shall not affect the validity of this entire Ordinance or any of the remaining portions hereof. The Board of Directors hereby declares that it would have passed this Ordinance, and each section, subsection, subdivision, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, subdivisions, sees, clauses or phrases be declared unconstitutional or otherwise invalid.

ARTICLE 8 - EFFECTIVE DATE

This Ordinance shall take effect January 1, 2005, and a summary shall be published in a newspaper of general circulation as provided by law.

PASSED AND ADOPTED by the Board of Directors of Orange County Sanitation District this 17th day of November, 2004.

Vice Chair, Board of Directors
Orange County Sanitation District

Attest:

Secretary of the Board of Directors
Orange County Sanitation District

Thomas L. Woodruff, General Counsel
Orange County Sanitation District

STATE OF CALIFORNIA)
)SS.
COUNTY OF ORANGE)

I, PENNY M. KYLE, Secretary of the Board of Directors of Orange County Sanitation District, do hereby certify that the above and foregoing Ordinance No. OCSD-25 was passed and adopted at a regular meeting of said Board on the 17th day of November, 2004, by the following vote, to wit:

AYES: James M. Ferryman, Board Vice Chair; Don Bankhead; Patricia Bortle; Carolyn Cavecche; Alberta Christy; John Collins; Doug Davert; Mike Duvall; Norm Eckenrode; Cathy Green; Alice Jempsa; Beth Krom; Shirley McCracken; Darryl Miller; Roy Moore; Joy L. Neugebauer; Anna Piercy; Tod Ridgeway; Jim Silva; Paul Walker; Paul Yost

NOES: None

ABSENT: Steve Anderson, Board Chair; Bill Dalton; Brian Donahue; Patsy Marshall

IN WITNESS WHEREOF, I have hereunto set my hand this 17th day of November, 2004.

Penny M. Kyle

Penny M. Kyle
Secretary of the Board of Directors
Orange County Sanitation District

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Appendix B

Wastewater Discharge Regulations
Ordinance No. OCSD-53

ORDINANCE NO. OCSD-53

AN ORDINANCE OF THE BOARD OF DIRECTORS OF THE ORANGE COUNTY SANITATION DISTRICT AMENDING WASTEWATER DISCHARGE REGULATIONS, AND REPEALING ORDINANCE NO. OCSD-48

CONTENTS

ARTICLE 1. GENERAL PROVISIONS 5
101. PURPOSE AND POLICY 5
102. DEFINITIONS 7
103. CONFIDENTIAL INFORMATION 21
104. SALE OR CHANGE OF OWNERSHIP 21
105. RESERVED 22
106. AUTHORITY 22
107. DELEGATION OF AUTHORITY 23
108. SIGNATORY REQUIREMENTS 23
109. RECORD KEEPING REQUIREMENTS 23
ARTICLE 2. GENERAL PROHIBITIONS, LIMITS AND REQUIREMENTS FOR DISCHARGE 25
201. PROHIBITED DISCHARGES 25
202. PROHIBITION ON DILUTION 27
203. PROHIBITION ON SURFACE RUNOFF AND GROUNDWATER 27
204. PROHIBITION ON NON-DOMESTIC SURFACE AND FLOOR DRAINS 27
205. PROHIBITION ON UNPOLLUTED WATER 28
206. PROHIBITION ON SLUG DISCHARGES AND NOTIFICATION REQUIREMENT 28
207. PROHIBITION ON THE USE OF GRINDERS 28
208. PROHIBITION ON POINT OF DISCHARGE 28
209. HAZARDOUS WASTE DISCHARGE NOTIFICATION REQUIREMENT 29
210. PROHIBITION AND REQUIREMENTS FOR WASTEHAULER DISCHARGES TO THE OCSD SEWERAGE SYSTEM AND WASTEHAULER STATION ... 29
211. PROHIBITION ON MEDICAL WASTE 30
212. PROHIBITION ON DISPOSAL OF SPENT SOLUTIONS AND SLUDGES... 31
213. PROHIBITION ON HYDROLYSATE 31
214. BEST MANAGEMENT PRACTICES 31
215 MASS EMISSION RATE DETERMINATION 31
216. MAXIMUM ALLOWABLE LOCAL DISCHARGE LIMITS 33
ARTICLE 3. DISCHARGE PERMITS, CERTIFICATIONS, CHARGES, AND FEES 34
301. INTRODUCTION 34
302. CLASS I WASTEWATER DISCHARGE PERMITS 34
303. CLASS II WASTEWATER DISCHARGE PERMITS 41

304. DRY WEATHER URBAN RUNOFF DISCHARGE PERMITS 48
305. SPECIAL PURPOSE DISCHARGE PERMITS 50
306. WASTEHAULER DISCHARGE PERMIT 53
307. DISCHARGE CERTIFICATIONS 55
308. OUT OF DISTRICT PERMITS/DISCHARGERS 57
309. RESERVED 57
310. RESERVED 57
ARTICLE 4. FACILITIES REQUIREMENTS 58
401. DRAWING SUBMITTAL REQUIREMENTS 58
402. PRETREATMENT FACILITIES 58
403. SPILL CONTAINMENT FACILITIES/ACCIDENTAL SLUG CONTROL PLANS..... 59
404. MONITORING/METERING FACILITIES 60
405. WASTE MINIMIZATION REQUIREMENTS 60
ARTICLE 5. MONITORING, REPORTING, NOTIFICATION, AND INSPECTION REQUIREMENTS 61
501. MONITORING AND REPORTING CONDITIONS 61
ARTICLE 6. ENFORCEMENT 72
601. PURPOSE AND SCOPE 72
602. DETERMINATION OF NON COMPLIANCE WITH DISCHARGE LIMITS 73
603. ENFORCEMENT PROCEDURES AND APPLICABLE FEES 73
604. REGULATORY COMPLIANCE SCHEDULE AGREEMENT (RCSA) 76
605. PERMIT SUSPENSION 77
606. PERMIT REVOCATION 79
607. WASTEHAULER NON-COMPLIANCE WITH PERMIT CONDITIONS 81
608. DAMAGE TO FACILITIES OR INTERRUPTION OF NORMAL OPERATIONS 82
609. INDUSTRIAL WASTEWATER PASS THROUGH 83
610. PUBLICATION OF VIOLATION 83
611. PUBLISHED NOTICES FOR SIGNIFICANT NON-COMPLIANCE 83
612. PUBLIC NUISANCE 83
613. TERMINATION OF SERVICE 83
614. EMERGENCY SUSPENSION ORDER 84
615. INJUNCTION 84
616. CIVIL PENALTIES 85

617. CRIMINAL PENALTIES 88
618. APPEALS TO GENERAL MANAGER 88
619. PAYMENT OF CHARGES 89
620. COLLECTION OF DELINQUENT ACCOUNTS 90
621. APPEAL OF CHARGES AND FEES 90
622. RECOVERY OF COSTS INCURRED BY OCSD 90
623. FINANCIAL SECURITY/AMENDMENTS TO PERMIT 91
624. JUDICIAL REVIEW 92
ARTICLE 7. SEWER SERVICE CHARGES – CAPITAL FACILITY CAPACITY CHARGES 94
701. SANITARY SEWER SERVICE CHARGE 94
702. CAPITAL FACILITIES CAPACITY CHARGE 94
ARTICLE 8. SEVERABILITY 95
801. SEVERABILITY 95
802. GENERAL APPLICATION 95

The Board of Directors of the Orange County Sanitation District (OCSD) does hereby FIND:

A. That OCSD is required by federal and state law, including the Clean Water Act (33 U.S.C. 1251, et seq.), the General Pretreatment Regulations (40 CFR 403), and the Porter-Cologne Water Quality Control Act (Water Code § 13000, et seq.), to implement and enforce a program for the regulation of Wastewater discharges to OCSD's sewers; and

B. That OCSD is required by federal, state, and local law to meet applicable standards of treatment plant effluent quality; and

C. That the adoption of this Ordinance is statutorily exempt under the California Environmental Quality Act pursuant to the provisions of Public Resources Code Section 21080(b)(8) and California Code of Regulations Section 15273(a) and categorically exempt pursuant to California Code of Regulations Sections 15307 and 15308.

D. That OCSD operates and maintains a separate sewer system of pipes, pumps stations, intercepting sewer lines, and other conveyances upstream of its wastewater treatment plant headworks to collect and convey domestic, commercial and industrial wastewater, and is not designed to collect large amounts of storm water runoff from precipitation events.

E. That OCSD implements a system-specific Sewer System Management Plan which includes provisions to provide proper and efficient management, operation, and maintenance of sanitary sewer systems in compliance with the California Statewide General Waste Discharge Requirements, Systems, Water Quality Order No. 2006-0003-DWQ For Wastewater Collection Agencies.

NOW, THEREFORE, the Board of Directors of the Orange County Sanitation District does ORDAIN:

Section I: Wastewater Discharge Regulations governing the use of OCSD's Sewerage Facilities are hereby restated and amended to provide as follows:

ARTICLE 1. GENERAL PROVISIONS

101. PURPOSE AND POLICY

This ordinance sets uniform requirements for Users of OCSD's Sewerage Facilities and enables OCSD to comply with all applicable state and federal laws, including the Clean Water Act (33 United States Code [U.S.C.] 1251, et seq.) and the General Pretreatment Regulations (Title 40 of the Code of Federal Regulations [CFR] Part 403). This Ordinance

shall be interpreted in accordance with the definitions set forth in Section 102. The provisions of the Ordinance shall apply to the direct or indirect discharge of all liquid wastes carried to facilities of OCSD.

A. The purpose of this Ordinance is to provide for the maximum public benefit from the use of OCSD's Sewerage Facilities. This shall be accomplished by regulating sewer use and Wastewater discharges; by providing equitable distribution of costs, in compliance with applicable federal, state, and local regulations; and by supporting the proper disposal of Prescription Drugs as noted in the guidelines published by the Office of National Drug Control Policy. The revenues to be derived from the application of this Ordinance shall be used to defray all costs of providing sewerage service by OCSD, including, but not limited to, administration, operation, monitoring, maintenance, financing, capital construction, replacement and recovery, and provisions for necessary reserves;

B. This ordinance is meant to protect both OCSD personnel who may be affected by Wastewater, sludge, and biosolids in the course of their employment and the general public.

C. To comply with federal, state, and local policies and to allow OCSD to meet applicable standards of treatment plant effluent quality, biosolids quality, and air quality, provisions are made in this Ordinance for the regulation of Wastewater discharges to the public sewer. This Ordinance establishes quantity and quality limits on all Wastewater discharges which may adversely affect OCSD's Sewerage System, processes, effluent quality, biosolids quality, air emission characteristics, or inhibit OCSD's ability to beneficially reuse or dispose of its treated Wastewater, biosolids or meet biosolids discharge criteria.

D. It is the intent of these limits to improve the quality of Wastewater being received for treatment and to encourage water conservation and Wastewater minimization by all Users connected to a public sewer. This Ordinance also provides for regulation of the degree of Wastewater Pretreatment required, the issuance of permits for Wastewater discharge and connections and other miscellaneous permits, and establishes penalties for violation of the Ordinance.

E. OCSD is committed to: 1) a policy of Wastewater reclamation and reuse to provide alternate sources of water supply for OCSD and agencies with which OCSD has agreements for Wastewater reclamation; and 2) a policy for the protection of groundwater. OCSD is also committed to help protect groundwater goals as established by various water quality and water purveyor agencies. To fulfill these commitments, OCSD may implement more stringent quality requirements on Wastewater discharges through regulation, including revisions to this Ordinance.

F. OCSD is committed to a policy for the beneficial use of biosolids, the implementation of programs to land-apply or provide for the marketing and distribution of biosolids, which may necessitate more stringent quality requirements on Wastewater discharges.

G. OCSD is also committed to meet applicable air quality goals established by the South Coast Air Quality Management District, which may further necessitate more stringent quality requirements on Wastewater discharges.

102. DEFINITIONS

A. Unless otherwise defined herein, terms related to water quality shall be as adopted in the latest edition of *Standard Methods for the Examination of Water and Wastewater*, published by the American Public Health Association, the American Water Works Association, and the Water Environment Federation.

The testing procedures for Wastewater constituents and characteristics shall be as provided in 40 CFR 136 (Code of Federal Regulations; Title 40; Protection of Environment; Chapter I, Environmental Protection Agency; Part 136, Guidelines Establishing Test Procedures for the Analyses of Pollutants), or as specified.

Other terms not herein defined shall have the same meaning as defined in the latest California Building and Construction Codes, Title 24, California Code of Regulations.

1. Act or "the Act" shall mean the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, 33 U.S.C. section 1251, et seq.

2. Approved POTW Pretreatment Program or Program or POTW Pretreatment Program shall mean a program administered by a POTW that meets the criteria established in 40 CFR 403.8 and 403.9 and which has been approved by a Regional Administrator or State Director in accordance with 40 CFR 403.11.

3. Authorized Representative or Designated Signatory shall mean:

   a) A Responsible Officer, as that term is defined in this Ordinance and 40 CFR 403.12(l); or

   b) A person that is responsible for the overall operation of the facility from which the discharge originates and that a

Responsible Officer has designated, in writing and submitted to OCSD, an Authorized Representative; or

c) A person that has overall responsibility for environmental matters for the facility from which the discharge originates and that a Responsible Officer has designated, in writing and submitted to OCSD, an Authorized Representative; or

d) If the applicant or User is a federal, state, or local governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or the designee.

4. Best Management Practices (BMPs) shall mean management practices to prevent or reduce pollution or to meet Article 2 standards. Such BMPs shall be considered Local Limits and Pretreatment Standards as stated in 40 CFR 403.5(c)(4).

5. Biochemical Oxygen Demand (BOD) shall mean a measurement of oxygen utilized by the decomposition of organic material, over a specified time period (usually 5 days) in a Wastewater sample. It is used as a measurement of the readily decomposable organic content of Wastewater.

6. Board shall mean the Board of Directors of the Orange County Sanitation District.

7. Bypass shall mean the intentional diversion of wastestreams from any portion of a User's treatment facility.

8. Capital Facilities Capacity Charge shall mean the payment of a fee, imposed by the governing Board of OCSD, to pay for the future costs of constructing new sewerage collection, treatment, and disposal facilities; and as a contributive share of the cost of the existing facilities. This charge shall be paid by all property owners at the time they develop the property and connect directly or indirectly to OCSD's Sewerage Facilities as a new system User. This charge, which rates are set forth in a separate Ordinance, is expressly authorized by the provisions of California Health & Safety Code Sections 5471 and 5474.

9. Charge For Use shall mean OCSD's sanitary sewer service charge, a charge established and levied by OCSD upon residential, commercial, and industrial Users of OCSD's Sewerage System, pursuant to Sections 302.6(F), or 303.6(E) of this Ordinance, in proportion to the use of the treatment works by their respective class,

that provides for the recovery of the costs of operation and maintenance expenses, capital facilities rehabilitation or replacement, and adequate reserves for the POTW. The minimum charge for use is the Annual Sewer Service Fee Residential Users.

10. Chemical Oxygen Demand (COD) shall mean a measure of the oxygen required to oxidize all compounds, both organic and inorganic, in Wastewater.

11. Class I User shall mean any User who discharges Wastewater that:

    a) is a Significant Industrial User; or

    b) Is determined to have a reasonable potential for adversely affecting OCSD's operation or for violating any Pretreatment Standard, Local Limit, or discharge requirement, or may cause Pass Through affecting OCSD's ability to comply with its NPDES Permit or other regulations and standards; or

    c) may cause pass through or Interference with OCSD's Sewerage Facilities.

12. Class II User shall mean any User whose charge for use is greater than the special assessment "OCSD Sewer User Fee" included on the County of Orange secured property tax bill exclusive of debt service, that discharges wastes other than sanitary, and that is not otherwise required to obtain a Class I permit.

13. Code of Federal Regulations (CFR) shall mean the codification of the general and permanent regulations published in the Federal Register by the executive departments and agencies of the federal government.

14. Compatible Pollutant shall mean a combination of biochemical oxygen demand, suspended solids, pH, fecal coliform bacteria, plus other Pollutants that OCSD's treatment facilities are designed to accept and/or remove. Compatible Pollutants are non-compatible when discharged in quantities that have an adverse effect on OCSD's Sewerage System or NPDES permit, or when discharged in qualities or quantities violating any Federal Categorical Pretreatment Standards, Local Limit, or other discharge requirement.

15. Composite Sample shall mean a collection of individual samples obtained at selected intervals based on an increment of either flow or time. The resulting mixture (composite sample) forms a representative sample of the wastestream discharged during the

sample period.

16. Connection Permit shall mean a permit issued by OCSD, upon payment of a capital facilities capacity charge, authorizing the Permittee to connect directly to an OCSD's Sewerage Facilities or to a sewer which ultimately discharges into an OCSD's Sewerage Facilities.

17. Department Head shall mean that person duly designated by the General Manager to perform those delegated duties as specified in this Ordinance.

18. Discharger shall mean any Person who discharges or causes a discharge of Wastewater directly or indirectly to a public sewer. Discharger shall mean the same as User.

19. District shall mean the Orange County Sanitation District or OCSD.

20. Division Head shall mean that person duly designated by the General Manager to implement the OCSD Pretreatment Program and perform the duties as specified in this Ordinance.

21. Domestic Septage shall mean the liquid and solid material removed from food service establishments, or a septic tank, cesspool, portable toilet, or similar treatment works that receives only domestic Wastewater.

22. Domestic Wastewater shall mean the liquid and solid waterborne wastes derived from the ordinary living processes of humans of such character as to permit satisfactory disposal, without special treatment, into the public sewer or by means of a private disposal system.

23. Downstream Sampling or Monitoring shall mean sampling or monitoring usually conducted in a city or agency owned sewer for the purpose of determining the compliance status of an industrial or commercial Discharger.

24. Dry Weather Urban Runoff shall mean surface runoff flow that is generated from any drainage area within OCSD's service area during a period that does not fall within the definition of Wet Weather. It is surface runoff that contains Pollutants that interfere with or prohibit the recreational use and enjoyment of public beaches or cause an environmental risk or health hazard.

25. Enforcement Compliance Schedule Agreement (ECSA) shall mean

a mutual agreement between OCSD and Permittee requiring implementation of necessary Pretreatment practices and/or installation of equipment to ensure permit compliance.

26. Enforcement Response Plan shall mean a plan containing detailed procedures indicating how OCSD will investigate and respond to instances of Industrial User non-compliance in accordance with 40 CFR 403.8(f)(1) or other Users in accordance with OCSD non-compliance procedures.

27. Federal Categorical Pretreatment Standards shall mean any regulation containing Pollutant discharge limits promulgated by the U.S. EPA in accordance with Sections 307(b) and (c) of the Clean Water Act (33 U.S.C. 1317) which apply to a specific category of Industrial Users and which appear in 40 CFR Chapter I, Subchapter N, Parts 405-471.

28. Federal Regulations shall mean any applicable provision of the Federal Water Pollution Control Act, also known as the Clean Water Act, as amended, Title 33, United States Code, Section 1251 and following, and any regulation promulgated by the United States Environmental Protection Agency under Title 40 CFR implementing that act.

29. Flow Monitoring Facilities shall mean equipment and structures provided at a User's expense to measure, totalize, and/or record, the incoming water to the facility or the Wastewater discharged to the sewer.

30. General Manager shall mean the individual duly designated by the Board of Directors of OCSD to administer this Ordinance (see also Section 107).

31. Grab Sample shall mean a sample taken from a wastestream on a one-time basis without regard to the flow in the wastestream and without consideration of time.

32. Hydrolysate shall mean the resultant liquid from the hydrolysis of human remains.

33. Hydrolysis shall mean the process by which the body of a deceased person is chemically reduced to its essential organic components and bone fragments either before or after processing of the remains after removal from the hydrolysis chamber.

34. Indirect Discharge or Discharge shall mean the introduction of

Pollutants into a POTW from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act [33 U.S.C. 1317(b)-(d)].

35. Industrial User shall mean any User that discharges Industrial Wastewater.

36. Industrial Wastewater shall mean all liquid carried wastes and Wastewater of the community, excluding domestic Wastewater and domestic septage, and shall include all Wastewater from any producing, manufacturing, processing, agricultural, or other operation.

37. Inspector shall mean a person authorized by the General Manager to inspect any existing or proposed Wastewater generation, conveyance, processing, and disposal facilities.

38. Instantaneous Limit (see the Maximum Allowable Discharge Limit)

39. Interference shall mean any discharge which, alone or in conjunction with a discharge or discharges from other sources, either:

    a) inhibits or disrupts OCSD, its treatment processes or operations, or its biosolids processes, use, or disposal; or

    b) is a cause of a violation of any requirement of OCSD's NPDES permit or prevents lawful biosolids or treated effluent use or disposal.

40. LEL (Lower Explosive Limit) shall mean the minimum concentration of a combustible gas or vapor in air (usually expressed in percent by volume at sea level) which will ignite if an ignition source (sufficient ignition energy) is present.

41. Letter to Discharge shall mean a letter authorizing a User to discharge to the sewer without having to obtain a Special Purpose Discharge Permit. The discharge volume is generally limited to less than 1 million gallons.

42. Local Limit shall mean specific discharge limits developed pursuant to 40 CFR 403.5(c) and enforced by OCSD upon industrial or commercial facilities to implement the general and specific discharge prohibitions listed in 40 CFR 403.5(a)(1) and (b).

43. Local Sewering Agency shall mean any public agency or private corporation responsible for the collection and disposal of Wastewater to OCSD's Sewerage Facilities and duly authorized under the laws

of the State of California to construct and/or maintain public sewers.

44. Major Violation shall mean a discharge over the permitted discharge limit, as determined by the result of a sample analysis, as follows:

    a) a discharge exceeding a Mass Emission Rate limit by 20% or more, or

    b) a discharge exceeding a concentration limit by 20% or more, or

    c) a pH discharge less than 5.0.

45. Mass Emission Rate shall mean the weight of material discharged to the sewer system during a given time interval. Unless otherwise specified, the mass emission rate shall mean pounds per day of a particular constituent or combination of constituents.

46. Maximum Allowable Discharge Limit shall mean the maximum quantity or concentration of a Pollutant allowed to be discharged at any period of time, determined from the analysis of any discrete or composited sample collected, independent of the industrial flow rate and the duration of the sampling event.

47. Medical Waste shall mean the discharge of isolation wastes, infectious agents, human blood and blood byproducts, pathological wastes, sharps, body parts, fomites, etiologic agents, contaminated bedding, surgical wastes, potentially contaminated laboratory wastes, and dialysis wastes.

48. Milligrams Per Liter (mg/L or mg/l) shall mean a unit of the concentration of a constituent or compound that is found in water or Wastewater. It is 1 milligram of the constituent or compound in 1 liter of water or Wastewater.

49. Minor Violation shall mean a discharge over the permitted discharge limit as determined by the result of a sample analysis, as follows:

    a) a discharge exceeding a Mass Emission Rate limit by less than 20%, or

    b) a discharge exceeding a concentration limit by less than 20%, or.

    c) a pH discharge equal to or greater than 5.0, but less than 6.0, or

d) a pH discharge greater than 12.0.

50. National Pretreatment Standard, Pretreatment Standard, or Standard shall mean any regulation containing Pollutant discharge limits promulgated by the EPA in accordance with section 307 (b) and (c) of the Act, which applies to Industrial Users. This term includes prohibitive discharges and categorical standards established pursuant to 40 CFR 403.5 and 403.6.

51. North American Industry Classification System (NAICS) shall mean an industry classification system that groups establishments into industries based on the activities in which they are primarily engaged.

52. National Pollutant Discharge Elimination System Permit (NPDES Permit) shall mean the permit issued to control the discharge to surface waters of the United States as detailed in Section 402 of the Act (33 U.S.C. 1342).

53. New Source shall mean those sources that are new as defined by 40 CFR 403.3(m) as revised.

54. Non-compatible Pollutant shall mean any Pollutant which is not a Compatible Pollutant as defined herein.

55. OCSD shall mean Orange County Sanitation District.

56. OCSD's Sewerage Facilities or System shall mean any property belonging to OCSD used in the treatment, reclamation, reuse, transportation, or disposal of Wastewater, or biosolids.

57. Ordinance shall mean that document entitled "Wastewater Discharge Regulations" containing OCSD requirements, conditions, and limits for connecting and discharging to the sewer system, as may be amended and modified.

58. pH shall mean both acidity and alkalinity on a scale ranging from 0 to 14 where 7 represents neutrality, numbers less than 7 increasing acidity, and more than 7 increasing alkalinity, and is the logarithm of the reciprocal of the quantity of hydrogen ions in moles per liter of solution.

59. Pass Through shall mean discharge through OCSD's Sewerage Facilities to Waters of the U.S. which, alone or in conjunction with discharges from other sources, is a cause of a violation of OCSD's

NPDES permit.

60. Permittee shall mean a Person who has received a permit to discharge Wastewater into OCSD's Sewerage Facilities subject to the requirements and conditions established by OCSD.

61. Person shall mean any individual, partnership, copartnership, company, firm, association, corporation or public agency, joint stock company, trust, estate, or any other legal entity; or their legal representatives, responsible corporate officers, agents, assigns, including all federal, state, and local governmental entities.

62. Pesticides shall mean those compounds classified as such under federal or state law or regulations including, but not limited to DDT (dichlorodiphenyltrichloro-ethane, both isomers); DDE (dichlorodiphenyl-ethylene); DDD (dichlorodiphenyldichloroethane); aldrin, benzene hexachloride (alpha [α], beta [β], and gamma [γ] isomers); chlordane; endrin; endrin aldehyde; 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD); toxaphene; α-endosulfan; β-endosulfan; endosulfan sulfate; heptachlor; heptachlor epoxide; dieldrin; demeton; guthion; malathion; methoxychlor; mirex; and parathion.

63. Pollutant shall mean any constituent, compound, or characteristic of Wastewaters on which a discharge limit or requirement may be imposed either by OCSD or the regulatory bodies empowered to regulate OCSD.

64. Polychlorinated Biphenyls (PCB) shall mean those compounds classified as such under federal or state law including, but not limited to Aroclors 1016, 1221, 1228, 1232, 1242, 1248, 1254, 1260, and 1262.

65. Pretreatment shall mean the reduction of the amount of Pollutants, the elimination of Pollutants, or the alteration of the nature of Pollutant properties in Wastewater to a level authorized by OCSD prior to, or in lieu of, discharge of the Wastewater into OCSD's Sewerage System. The reduction or alteration can be obtained by physical, chemical or biological processes, by process changes, or by other means.

66. Pretreatment Facility shall mean any works or devices that the General Manager determines are appropriate to treat, restrict, or prevent the flow of Industrial Wastewater prior to discharge into a public sewer.

67. Pretreatment Requirements shall mean any substantive or procedural requirement related to Pretreatment, other than a National Pretreatment Standard, imposed on an Industrial User.

68. Priority Pollutants shall mean the most recently adopted list of toxic Pollutants identified and listed by EPA as having the greatest environmental impact. They are classified as Non-compatible Pollutants and may require Pretreatment prior to discharge to prevent:

    a) Interference with OCSD's operation; or

    b) biosolids contamination; or

    c) Pass Through into receiving waters or into the atmosphere.

69. Public Agency shall mean the State of California and any city, county, district, other local authority or public body of or within this state.

70. Public Sewer shall mean a sewer owned and operated by OCSD, a city or other local sewering Public Agency which is tributary to OCSD's Sewerage Facilities.

71. Publicly Owned Treatment Works or POTW shall mean a treatment works as defined by section 212 of the Act (33 U.S.C. 1292), which is owned by a state or municipality (as defined by section 502(4) of the Act [33 U.S.C. 1362(4)]). This definition includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal Sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey Wastewater to a POTW Treatment Plant. The term also means the municipality, as defined in section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works.

72. RCRA shall mean Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901, et seq.) and as amended.

73. Regulatory Agencies shall mean those agencies having jurisdiction over the operation of OCSD including, but not limited to, the following:

    a) United States Environmental Protection Agency, Region IX, San Francisco and Washington, DC (EPA).

    b) California State Water Resources Control Board (SWRCB).

c) California Regional Water Quality Control Board, Santa Ana Region (RWQCB).

d) South Coast Air Quality Management District (SCAQMD).

e) California Environmental Protection Agency (Cal-EPA).

74. Regulatory Compliance Schedule Agreement (RCSA) shall mean an agreement between OCSD and Permittee requiring the Permittee to implement Pretreatment practices and/or install equipment to ensure compliance with future revised categorical Pretreatment Standards or revised discharge limits.

75. Responsible Officer shall mean:

a) As defined in 40 CFR 403.12(l), if the applicant or User is a corporation:

(1) The president, secretary, treasurer, or a vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or

(2) The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions that govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiate and direct other comprehensive measures to assure long-term environmental compliance with environmental laws and regulations; can ensure that the necessary systems are established or actions taken to gather complete and accurate information for individual Wastewater discharge permit requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

b) As defined in 40 CFR 403.12(l), if the applicant or User is a partnership or sole proprietorship: a general partner or proprietor, respectively.

c) If the applicant or User is a federal, state, or local

governmental facility: a director or highest official appointed or designated to oversee the operation and performance of the activities of the government facility, or the designee.

d) An applicant or User not falling within one of the above categories must designate as the Responsible Officer an individual responsible for the overall operation of the facility.

76. Sample Point shall mean a location accepted by OCSD, from which Wastewater can be collected that is representative in content and consistency of the entire flow of Wastewater being sampled.

77. Sampling Facilities shall mean structure(s) provided at a User's expense for OCSD or User to measure and record Wastewater constituent mass, concentrations, collect a representative sample, or provide access to plug or terminate the discharge.

78. Sanitary Waste shall mean domestic Wastewater, human excrement, and gray water (e.g., water from household showers, dishwashing operations, etc.).

79. Septic Waste shall mean any Sewage from holding tanks such as vessels, chemical toilets, and septic tanks.

80. Service Area shall mean an area for which OCSD has agreed to either provide sewer service, or Wastewater treatment, or Wastewater disposal.

81. Sewage shall mean Wastewater.

82. Sewerage Facilities or System shall mean any and all facilities used for collecting, conveying, pumping, treating, and disposing of Wastewater or sludge or biosolids.

83. Significant Industrial User, except as provided in 40 CFR 403.3 (v)(2) and (v)(3), shall mean: (i) All Industrial Users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and/or 40 CFR Chapter I, Subchapter N; and (ii) Any other Industrial User that, pursuant to 40 CFR 403.3(v)(1): discharges an average of 25,000 gallons per day or more of process Wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown Wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW Treatment plant; or is designated as such by OCSD on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's operation or for violating

any Pretreatment Standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

84. Significant Non-Compliance (SNC) shall mean the compliance status of an Industrial User who is in violation of one or more of the criteria as described in 40 CFR 403.8(f)(2)(viii).

85. Slug Load or Slug Discharge shall mean any discharge at a flow rate or concentration, which could cause a violation of the prohibited discharge standards in Section 201 of this Ordinance. A Slug Discharge is any Discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch Discharge, which has a reasonable potential to cause Interference or Pass Through, or in any other way violate the POTW's regulations, Local Limits, or Permit conditions.

86. Sludge shall mean any solid, semi-solid or liquid decant, subnate or supernate from a manufacturing process, utility service, or Pretreatment Facility.

87. Special Assessment Credit shall mean the portion of the secured property tax bill that represents the regional special assessment sewer User fee as defined by OCSD.

88. Special Purpose User shall mean any Discharger who is granted a Special Purpose Discharge Permit by OCSD to discharge unpolluted water, storm runoff, or groundwater to OCSD's Sewerage Facilities.

89. Spent Solutions shall mean any concentrated Industrial Wastewater or Wastewater that is not authorized to be discharged to a Sewage facility until appropriately treated.

90. Spill Containment shall mean a protection system installed by the Permittee to prohibit the discharge to the sewer of non-compatible Pollutants.

91. Standard Methods shall mean procedures described in the current edition of *Standard Methods for the Examination of Water and Wastewater*, as published by the American Public Health Association, the American Water Works Association and Water Pollution Control Federation.

92. Suspended Solids or Total Suspended Solids (TSS) shall mean any insoluble material contained as a component of Wastewater and capable of separation from the liquid portion of said Wastewater by laboratory filtration as determined by the appropriate testing procedure and expressed in terms of milligrams per liter.

93. Total Organic Carbon (TOC) shall mean the measure of total organic carbon in mg/L using heat, oxygen, ultraviolet irradiation, chemical oxidants, or combinations of these oxidants that convert organic carbon to carbon dioxide, rounded to two significant figures. As such, Total Toxic Organics is a subset of TOC.

94. Total Toxic Organics (TTO) shall mean the summation of all quantifiable values greater than 0.01 milligrams per liter for the organics regulated by the EPA or OCSD for a specific industrial category.

95. Unpolluted Water shall mean water to which no Pollutant has been added either intentionally or accidentally.

96. User shall mean any Person who discharges or causes a discharge of Wastewater directly or indirectly to a public sewer. User shall mean the same as Discharger. User includes Industrial Users as a type of User.

97. Waste-Tracking Form shall mean that receipt which is retained by the generator of hazardous wastes as required by the State of California or the United States Government pursuant to RCRA, or the California Hazardous Materials Act, or that receipt which is retained by the generator for recyclable wastes or liquid non-hazardous wastes as required by OCSD. The Waste-Tracking Form is typically known as a "waste manifest."

98. Wastehauler shall mean any Person carrying on or engaging in vehicular transport of brine, domestic septage (except the SAWPA Sewer Service Area in compliance with the 1996 OCSD/SAWPA Agreement), or Wastewater as part of, or incidental to, any business for the purpose of discharging directly or indirectly said Wastewater into OCSD's Sewerage System.

99. Wastewater shall mean the liquid and water-carried wastes of the community and all constituents thereof, whether treated or untreated, discharged into or permitted to enter a public sewer.

100. Wastewater Constituents and Characteristics shall mean the individual chemical, physical, bacteriological, and radiological parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the quality and quantity of Wastewater.

101. Wet Weather shall mean any period of time during which measurable

rainfall occurs within OCSD's service area. This period shall include the time following the cessation of rainfall until OCSD determines that the wet weather event is no longer impacting OCSD's Sewerage System.

102. Working Day shall mean the period of time during which production or operation is taking place or any period during which discharge to the sewer is occurring.

103. Zero Discharge Certification shall mean a control mechanism that is issued by OCSD to ensure that specific facilities are not discharging a Pollutant(s) that may otherwise qualify the facility for a discharge permit.

B. Words used in this Ordinance in the singular may include the plural and the plural the singular. Terms used in the masculine form shall include feminine, and terms used in the feminine form shall include masculine.

103. CONFIDENTIAL INFORMATION

All user information and data on file with OCSD is presumed to be available to the public and governmental agencies without restriction unless the User specifically requests and is able to demonstrate to the satisfaction of OCSD that the release of such information would divulge information, processes or methods which would be detrimental to the User's competitive position. The demonstration of the need for confidentiality made by the Permittee must meet the burden necessary for withholding such information from the general public under applicable state and federal law. Any such claim must be made at the time of submittal of the information by marking the submittal "Confidential Business Information" on each page containing such information.

Information which is demonstrated to be confidential shall not be transmitted to anyone other than a governmental agency without prior notification to the User. Wastewater constituents and characteristics and other effluent data, as defined in 40 CFR 2.302, shall not be recognized as confidential information and shall be available to the public.

104. SALE OR CHANGE OF OWNERSHIP

A. Permits issued under this Ordinance are for a specific User, for a specific operation at a specific location or for a specific Wastehauler, and create no vested rights. Notwithstanding 104.C, the existing permit will be terminated upon sale or change of ownership.

B. No permit may be transferred to allow a discharge to a public sewer from a point other than the location for which the permit was originally issued.

C. When the permittee is a legal entity (such as a corporation, partnership, limited liability company, or other legal entity), the permittee is deemed to have undergone a change of ownership when any other legal entity or person acquires direct or indirect ownership or control of more than fifty percent (50%) of the total ownership interest in the permittee.

D. At least thirty (30) calendar days prior to the sale or change of ownership of any business operating under a permit issued by OCSD, the Permittee shall notify OCSD in writing of the proposed sale or change of ownership. The successor owner shall apply to OCSD for a new permit at least thirty (30) calendar days prior to the sale or change of ownership in accordance with the provisions of this Ordinance. A successor owner shall not discharge any Wastewater for which a permit is required by this Ordinance until a new permit is issued by OCSD to the successor owner.

E. The written notification of intended sale or change of ownership shall be in a form approved by OCSD and shall include a written certification by the new owner or Authorized Representative, which shall include as a minimum:

1. the specific date on which the sale or change of ownership is to occur; and

2. an acknowledgement to comply fully with all the terms, conditions, limits, and provisions of this Ordinance and the new permit.

105. RESERVED

106. AUTHORITY

A. OCSD is regulated by several agencies of the United States Government and the State of California, pursuant to the provisions of federal and state Law. Federal and state laws grant to OCSD the authority to regulate and/or prohibit, by the adoption of ordinances or resolutions, and by issuance of discharge certifications, or discharge permits, the discharge of any Wastewater, directly or indirectly, to OCSD's Sewerage Facilities. Said authority includes the right to establish limits, conditions, and prohibitions; to establish flow rates or prohibit flows discharged to OCSD's Sewerage Facilities; to require the development of compliance schedules for the installation of equipment systems and materials by all Users; and to take all actions necessary to enforce its authority including implementation of the Enforcement Response Plan, whether within or outside OCSD's boundaries, including those Users that are tributary to OCSD or within areas for which OCSD has contracted to provide sewerage services.

B. Four jurisdictions contribute to and are under the purview of OCSD's

Pretreatment program: a section of the Irvine Ranch Water District; a section of the Sanitation Districts of Los Angeles County, which has several Dischargers at the county border; the South Orange County Wastewater Authority, and the Santa Ana Watershed Project Authority (SAWPA), whose discharge is delivered via the Santa Ana River Interceptor (SARI) and is comprised of mostly Wastewater brines. Nothing in this Ordinance is intended to preclude the discharge from SAWPA's SARI Service Area of discharges consisting solely of Wastewater brines that are compliant with all regulations and agreements.

C. OCSD has the authority pursuant to California Health and Safety Code Sections 5471 and 5474 to prescribe, revise, and collect all fees and charges for services and facilities furnished by OCSD either within or without its territorial limits.

107. DELEGATION OF AUTHORITY

Whenever any power is granted to or a duty is imposed upon the General Manager, the power may be exercised or the duty may be performed by any person so authorized by the General Manager.

108. SIGNATORY REQUIREMENTS

Reports and permit applications required by this Ordinance shall contain the following certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

The statement shall be signed by a Responsible Officer (or his/her Authorized Representative) of the Industrial User as defined in 40 CFR 403.12(l), or as defined and designated by OCSD.

109. RECORD KEEPING REQUIREMENTS

Any User subject to OCSD's reporting requirements shall maintain and make available for inspection and copying records of all information obtained pursuant to, or resulting from, any monitoring activities required by OCSD, including documentation associated with Best Management Practices, and any additional records or information obtained pursuant to monitoring activities undertaken by the User independent of such

requirements. Such records shall include information as described in 40 CFR 403.12(o)(1) and (2). These records shall remain available for a period of at least three (3) years. This period shall be automatically extended for the duration of any litigation concerning the User or OCSD, or where the User has been specifically notified of a longer retention period by the General Manager.

ARTICLE 2. GENERAL PROHIBITIONS, LIMITS AND REQUIREMENTS FOR DISCHARGE

201. PROHIBITED DISCHARGES

These prohibitions apply to all Users of OCSD's Sewerage Facilities whether or not they are subject to Federal Categorical Pretreatment Standards or any other national, state, or local Pretreatment Standards or requirements.

A. General Prohibitions.

1. No User shall introduce or cause to be introduced into OCSD's Sewerage Facilities any Pollutant, Wastewater, or flow which causes Pass Through or Interference or would cause OCSD to violate any federal, state, or local regulatory requirement.

2. No User shall increase the contribution of flow, Pollutants, or change the nature of Pollutants where such contribution or change does not meet applicable standards and requirements or where such contribution would cause OCSD to violate any federal, state, or local regulatory permit.

3. No Person shall transport Wastewater from one location or facility to another for the purpose of treating or discharging it directly or indirectly to OCSD's Sewerage Facilities without written permission from OCSD.

4. No Person shall deliver by vehicular transport, rail car, or dedicated pipeline, directly or indirectly to OCSD's Sewerage Facilities, Wastewater which contains any substance that is defined as a hazardous waste by the Regulatory Agencies.

5. No Person shall discharge or cause to be discharged any non-domestic water directly or indirectly to any OCSD Sewerage Facilities without prior authorization.

B. Specific Prohibitions. No User shall introduce or cause to be introduced into the Sewerage Facilities, any Pollutant, substance, or Wastewater which:

1. Creates a fire or explosive hazard in the Sewerage Facilities including, but not limited to, wastestreams with a closed-cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Centigrade) using any of the test methods specified in 40 CFR 261.21; or produces a gaseous mixture that is 10% or greater of the lower explosive limit (LEL).

2. Causes obstruction to the flow in the Sewerage Facilities resulting in interference or damage to the Sewerage Facilities.

3. Produces noxious or malodorous liquids, gases, solids, or other Wastewater which, either singly or by interaction with other Wastes, is sufficient to create a public nuisance or a hazard to life, or to prevent entry into the Sewerage Facilities for maintenance or repair.

4. Results in toxic gases, vapors, or fumes within the Sewerage Facilities in a quantity that may cause acute worker health and safety problems.

5. Contains any radioactive Wastes or isotopes except in compliance with applicable regulations from other governmental agencies empowered to regulate the use of radioactive materials.

6. Causes, alone or in conjunction with other sources, OCSD's treatment plant effluent to fail a toxicity test.

7. Causes OCSD's effluent or any other product of the treatment process, residues, biosolids, or scums, to be unsuitable for reclamation, reuse or disposal. Examples of items which may cause these conditions include, but are not limited, to food packaging, product containers, and non-dispersible products.

8. Causes discoloration or any other condition which affects the quality of OCSD's influent or effluent in such a manner that inhibits OCSD's ability to meet receiving water quality, biosolids quality, or air quality requirements established by Regulatory Agencies.

9. Creates excessive foaming in the Sewerage Facilities.

10. Violates any applicable Federal Categorical Pretreatment Standards, statute, regulation, or ordinance of any public agency or Regulatory Agency having jurisdiction over the operation of or discharge of Wastewater through the Sewerage Facilities.

11. Has a temperature higher than 140 degrees Fahrenheit, (60 degrees Centigrade), or which causes the temperature at the treatment plant to exceed 104 degrees Fahrenheit (40 degrees Centigrade).

12. Has a pH less than 6.0 or greater than 12.0.

13. Causes corrosion, fouling, occlusion, or damage to the POTW beyond normal wear and tear.

14. Is released in a discharge at a flow rate and/or Pollutant concentration (including oxygen-demanding Pollutant (BOD, etc.)) which will cause interference with OCSD's Sewerage Facilities.

15. Is in excess of the permitted Mass Emission Rates established in accordance with Section 213 of this Ordinance, or the concentration limits set forth in Table 1, or the discharge permit.

16. Contains material which will readily settle or cause an obstruction to flow in the Sewerage Facilities resulting in interference, such as, but not limited to, sand, mud, glass, metal filings, diatomaceous earth, cat litter, asphalt, wood, bones, hair, fleshings, food packaging, product containers, and non-dispersible products.

17. Includes petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or Pass Through.

18. Causes the Orange County Water District Groundwater Replenishment System product water to exceed its TOC limit of 0.5 mg/L.

202. PROHIBITION ON DILUTION

No User shall increase the use of water or in any other manner attempt to dilute a discharge as a partial or complete substitute for treatment to achieve compliance with this Ordinance and the User's permit or to establish an artificially high flow rate for permit Mass Emission Rates.

203. PROHIBITION ON SURFACE RUNOFF AND GROUNDWATER

No Person shall discharge groundwater, storm water, surface runoff, or subsurface drainage directly or indirectly to OCSD's Sewerage Facilities except as provided herein. Pursuant to Section 304 or 305, et seq., OCSD may approve the discharge of such water only when no alternate method of disposal is reasonably available or to mitigate an environmental risk or health hazard. The discharge of such waters shall require a Dry Weather Urban Runoff Discharge Permit, a Special Purpose Discharge Permit, or written authorization from OCSD. If a permit is granted for the discharge of such water into a Public Sewer, the User shall pay all applicable charges and shall meet such other conditions as required by OCSD.

204. PROHIBITION ON NON-DOMESTIC SURFACE AND FLOOR DRAINS

No Person shall discharge non-domestic water via a surface or floor drain directly or indirectly to OCSD's Sewerage Facilities except as provided herein. OCSD may approve

the discharge of such water at its sole discretion. The discharge of such waters shall require written authorization from OCSD and shall meet other such conditions as required by OCSD and this Ordinance.

205. PROHIBITION ON UNPOLLUTED WATER

A. No Person shall discharge unpolluted water such as single pass cooling water directly or indirectly to OCSD's Sewerage Facilities except as provided herein. Pursuant to Section 305, et seq., OCSD may approve the discharge of such water only when no alternate method of disposal or reuse is reasonably available or to mitigate an environmental risk or health hazard.

B. The discharge of such waters shall require a Special Purpose Discharge Permit from OCSD.

C. If a permit is granted for the discharge of such water into a public sewer, the User shall pay all applicable charges and shall meet such other conditions as required by OCSD.

206. PROHIBITION ON SLUG DISCHARGES AND NOTIFICATION REQUIREMENT

OCSD has the right to control slug discharges, if it is determined to be necessary. All Significant Industrial Users are required to notify OCSD immediately of any changes at their facilities that could affect the potential for a slug discharge.

207. PROHIBITION ON THE USE OF GRINDERS

A. Waste from industrial or commercial grinders shall not be discharged into a Public Sewer, except wastes generated in packing or preparing food or food products. Such grinders must shred the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the Public Sewer.

B. Waste from Food Service Establishments operating a grinder is prohibited and shall not be discharged into a Public Sewer unless written authorization from the General Manager is obtained.

208. PROHIBITION ON POINT OF DISCHARGE

No Person, except Local Sewering Agencies involved in maintenance functions of sanitary sewer facilities, shall discharge any Wastewater directly into a manhole or other opening in a sewer other than through an approved building sewer, unless approved by OCSD upon written application by the User and payment of the applicable fees and charges established therefor.

209. HAZARDOUS WASTE DISCHARGE NOTIFICATION REQUIREMENT

Any User that discharges any hazardous waste into the Sewerage System shall notify OCSD immediately as required by 40 CFR 403.12(p).

210. PROHIBITION AND REQUIREMENTS FOR WASTEHAULER DISCHARGES TO OCSD'S SEWERAGE SYSTEM AND WASTEHAULER STATION

A. No Wastehauler shall discharge to OCSD's Sewerage System, domestic septage or other approved waste or wastewater from a vacuum pumping truck or other liquid waste transport vehicle, without first obtaining both a valid Orange County Health Care Agency (OCHCA) registration or other control mechanism (where applicable), and a OCSD Wastehauler Permit as required by Section 306. Such Wastewaters shall be discharged only at locations designated by OCSD, and at such times as established by OCSD. OCSD may collect samples of each hauled load to ensure compliance with applicable standards.

B. No Wastehauler shall discharge domestic septage or other approved Waste or Wastewater constituents in excess of Limits in Table 1.

C. The discharge of industrial Wastewater by any Wastehauler is prohibited unless written permission of the General Manager has been obtained, the proper permits have been obtained, and the Industrial Wastewater meets federal and state limits applicable to the User or generator from which the Industrial Wastewater was obtained; or the Maximum Local Discharge Limits as specified in Table 1, whichever are more stringent. The discharge of hauled Industrial Wastewater is subject to all other requirements of this Ordinance.

D. No Wastehauler shall discharge or deliver Wastewater to a Sewerage System that is tributary to OCSD's Sewerage Facilities that are from a source that is not within OCSD's service area unless prior authorization for such Wastewater is granted by the General Manager.

E. No Wastehauler shall deliver directly to OCSD's Sewerage Facilities any Wastewater originating within OCSD's boundaries, from an industrial user subject to categorical Pretreatment Standards, and is greater than the categorical Pretreatment Standards, OCSD's Local Limits, or hazardous waste levels defined by RCRA (40 U.S.C. § 6901, et seq.) or 40 CFR 261.

F. Notwithstanding E above, no Wastehauler shall deliver directly to OCSD's Sewerage Facilities any Wastewater originating within OCSD's boundaries, from a commercial or an industrial user not subject to categorical Pretreatment Standards, and is greater than OCSD Local Limits or hazardous Waste levels defined by RCRA or 40 CFR 261.

G. No Wastehauler shall add chemicals into Wastehauler trucks while on OCSD premises before discharging to the OCSD Wastehauler Station unless approved by OCSD.

H. No Wastehauler shall discharge Wastewater to the OCSD Wastehauler Station, which contains mixed load types, i.e., domestic septage, brine, etc.

I. Wastehaulers shall provide a Waste-Tracking Form for every load. This form shall include, at a minimum, the name and address of the Wastehauler, permit number, truck identification, names and addresses of all sources of Wastewater, and volume and characteristics of Wastewater.

J. Discharge at the OCSD Wastehauler Station shall be through an appropriate hose and connection to the discharge port. Discharging Wastewater directly to the surface area of the Wastehauler Station is prohibited.

K. Wastehauler hoses must be connected to the Wastehauler Station discharge port when being cleaned.

L. Transferring loads between trucks or from portable toilets to trucks on OCSD property is prohibited unless permission from OCSD is obtained.

M. Wastehaulers discharging Food Service Establishment grease waste into OCSD's Wastehauler Station must have a valid California Department of Food and Agriculture (CDFA) permit, if required by law. Wastehaulers must have all necessary permits, or copies thereof, in their possession at the time of discharge to the OCSD Wastehauler station and must present copies for inspection by OCSD personnel upon request

211. PROHIBITION ON MEDICAL WASTE

A. No solid Wastes consisting of, but not limited to, hypodermic needles, syringes, instruments, utensils or other paper and plastic items from hospitals, clinics, offices of medical doctors, convalescent homes, medical laboratories or other medical facilities shall be discharged to the Sewerage System, unless prior written approval for such discharges has been granted by the General Manager.

B. OCSD shall have the authority to require that any discharge of etiologic agents or infectious agents or substances to the Sewerage System be rendered inactive and noninfectious prior to discharge if the infectious Waste is deemed to pose a threat to the public health and safety, or can become an etiologic agent subsequent to discharge to the Sewerage

System, or will result in any violation of applicable Wastewater discharge requirements.

C. No unused, unwanted, or expired pharmaceuticals (both over the counter and prescription-only medications) shall be disposed of in the Sewerage System, except in accordance with federal and state regulations, or in the absence of such regulations, using Best Management Practices.

212. PROHIBITION ON DISPOSAL OF SPENT SOLUTIONS AND SLUDGES

Spent solutions, sludges, and materials of quantity or quality in violation of, or prohibited by this Ordinance, or any permit issued under this Ordinance must be disposed of in compliance with all regulatory requirements at a permitted point of disposal as defined by OCSD or Regulatory Agency with jurisdiction thereof.

If the point of disposal is at an OCSD-permitted treatment facility, all Waste-Tracking Forms shall be retained for a minimum of three years by the facility and Wastehauler of said Wastewater and made available for copying for review upon request.

213. PROHIBITION ON HYDROLYSATE

No Person shall discharge Hydrolysate, Wastes, or Wastewater resulting from Hydrolysis either directly or indirectly to the Sewerage System.

214. BEST MANAGEMENT PRACTICES

OCSD may develop BMPs, by ordinance or individual wastewater discharge permits, to implement Local Limits and the requirements of Article 2.

215. MASS EMISSION RATE DETERMINATION

A. Mass Emission Rates for non-compatible or Compatible Pollutants that are present or anticipated in the User's Wastewater discharge may be set for each User and made an applicable part of each User's permit. These rates shall be based on Table 1, Maximum Allowable Local Discharge Limits, or Federal Categorical Pretreatment Standards, and the User's average daily Wastewater discharge for the past three years, the most recent representative data, or other data acceptable to the General Manager.

B. To verify the User's operating data, OCSD may require the User to submit an inventory of all Wastewater streams and/or records indicating production rates.

C. OCSD may revise limits or Mass Emission Rates previously established in the discharger's permit at any time, based on: current or anticipated operating data of the discharger or OCSD; OCSD's ability to meet NPDES

limits; or changes in the requirements of Regulatory Agencies.

D. The excess use of water to establish an artificially high flow rate for Mass Emission Rate determination is prohibited.

216. MAXIMUM ALLOWABLE LOCAL DISCHARGE LIMITS

OCSD's Maximum Allowable Local Discharge Limits are shown in Table 1 below.

TABLE 1

MAXIMUM ALLOWABLE LOCAL NON-DOMESTIC DISCHARGE LIMITS[1]

CONSTITUENT	MILLIGRAMS/LITER
1,4-dioxane[2]	1.0
Ammonia	Mass[3]
Arsenic	2.0
Biochemical Oxygen Demand (BOD)	Mass[3]
Cadmium	1.0
Chromium (Total)	20.0
Copper	3.0
Cyanide (Total)	5.0
Lead	2.0
Mercury	0.03
Molybdenum	2.3
Nickel	10.0
Pesticides	0.01
Oil and Grease of Mineral or Petroleum Origin[4]	100.0
Polychlorinated Biphenyls (PCB)	0.01
Selenium	3.9
Silver	15.0
Sulfide (Dissolved)	0.5
Sulfide (Total)	5.0
Zinc	10.0

MAXIMUM ALLOWABLE DISCHARGE LIMITS FOR WASTEHAULERS DISCHARGING DOMESTIC SEPTAGE TO THE OCSD WASTEHAULER STATION

CONSTITUENT	MILLIGRAMS/LITER
Cadmium	1.0
Chromium	35.0
Copper	25.0
Lead	10.0
Nickel	10.0
Zinc	50.0

(1) Users subject to Federal Categorical Pretreatment Standards may be required to meet more stringent limits.
(2) 1,4-dioxane is also known as "p-dioxane."
(3) BOD and ammonia mass discharged will be tracked by OCSD and Users. It is the Permittee's responsibility to report the intended technically-based mass use to OCSD.
(4) "Oil and Grease of Mineral or Petroleum Origin" is also known as "Petroleum Oil and Grease as Silica Gel Treated n-Hexane Extractable Material" or "SGT-HEM Non-Polar Material."

ARTICLE 3. DISCHARGE PERMITS, CERTIFICATIONS, CHARGES, AND FEES

301. INTRODUCTION

A. To provide the maximum public benefit from the use of OCSD's Sewerage Facilities, written authorization to use said facilities is required. This written authorization shall be in the form of a discharge permit or certification. No vested right shall be given by issuance of permits or certifications provided for in this Ordinance. OCSD reserves the right to establish, by Ordinance regulation, or in Wastewater Discharge Permits or certifications, more stringent standards or requirements on discharges to OCSD Sewerage Facilities if deemed by the General Manager appropriate to comply with this Ordinance and the requirements of Regulatory Agencies.

B. The discharge permit shall be in one of five forms and is dependent upon the type of discharger, volume, and characteristics of discharge. The five discharge permits are:

1. Class I Wastewater Discharge Permit.

2. Class II Wastewater Discharge Permit.

3. Dry Weather Urban Runoff Discharge Permit.

4. Special Purpose Discharge Permit.

5. Wastehauler Discharge Permit.

C. The Discharge Certification is issued to those Users that are discharging regulated Wastewater but are not otherwise required to obtain a discharge permit.

D. The Zero Discharge Certification is issued to certify that a particular Pollutant or process is not used or discharged to OCSD, even though regulated process Wastewater may still be generated on-site and eventually wastehauled or otherwise eliminated. Such a facility does not require a discharge permit, but may require a Zero Discharge Certification.

302. CLASS I WASTEWATER DISCHARGE PERMITS

A. No User requiring a Class I permit shall discharge Wastewater without obtaining a Class I Wastewater Discharge Permit.

B. Class I Wastewater Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD. The conditions of Wastewater Discharge

Permits shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

C. All Class I Users proposing to discharge directly or indirectly into the OCSD Sewerage Facilities shall obtain a Wastewater Discharge Permit by filing an application pursuant to Section 302.1 and paying the applicable fees pursuant to Section 302.3. For purposes of this Ordinance, a Class I User is any User:

1. Subject to Federal Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR chapter I, subchapter N; or

2. That discharges an average of 25,000 gallons per day or more of process Wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown Wastewater); or

3. Contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the OCSD POTW; or

4. That is designated as such by OCSD on the basis that the Industrial User has a reasonable potential for adversely affecting the OCSD POTW's operation or for violating any Pretreatment Standard, Local Limit or requirement (in accordance with 40 CFR 403.8(f)(6)); or

5. That may cause Pass Through affecting OCSD's ability to comply with its NPDES Permit or other regulations and standards; or

6. That may cause Interference with OCSD's Sewerage Facilities.

302.1 Class I Wastewater Discharge Permit Application

A. Any User required to obtain a Class I Wastewater Discharge Permit shall complete and file with OCSD, prior to commencing discharge, an application on the form prescribed by OCSD. The applicant shall submit, in units and terms appropriate for evaluation, the following information:

1. Name, address, assessor's parcel number(s), NAICS number(s), description of the manufacturing process or service activity.

2. (Whichever is applicable) name, address of any and all principals/owners/major shareholders of company; Articles of Incorporation; most recent Report of the Secretary of State; Business License.

3. Volume of Wastewater to be discharged.

4. Name of individual who can be served with notices other than officers of corporation.

5. Name and address of property owner, landlord and/or manager of the property.

6. Water supplier and water account numbers.

7. Wastewater constituents and characteristics as required by OCSD, including, but not limited to, those mentioned in Section 215, Mass Emission Rate Determination, and Table 1, Local Discharge Limits, of this Ordinance. These constituents and characteristics shall be determined by a laboratory selected by the discharger and acceptable to OCSD.

8. Time and duration of discharge.

9. Number of employees per shift and hours of work per employee per day for each shift.

10. Waste minimization, best management practices, and water conservation practices.

11. Production records, if applicable.

12. Waste-Tracking Forms, if applicable.

13. Landscaped area in square feet, if applicable.

14. Tons of cooling tower capacity, if applicable.

15. EPA Hazardous Waste Generator Number, if applicable.

16. Any other information as specified.

B. Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, spill containment, clarifiers, Pretreatment equipment, and appurtenances by size, location, and elevation for evaluation.

C. Applicants may also be required to submit information related to the applicant's business operations, processes, and potential discharge as may be requested by OCSD to properly evaluate the permit application.

D. After evaluation of the data, OCSD may issue a Wastewater Discharge Permit, subject to terms and conditions set forth in this Ordinance and as

otherwise determined by the General Manager to be appropriate to protect OCSD's Sewerage Facilities.

E. The permit application may be denied if the applicant fails to establish to OCSD's satisfaction that adequate Pretreatment equipment is included within the applicant's plans to ensure that the discharge limits will be met or if the applicant has, in the past, demonstrated an inability to comply with applicable discharge limits.

F. The permit application may be denied if the applicant has in the past demonstrated an inability to keep current with OCSD invoices for items such as Permit Fees, Non-Compliance Resampling Fees, Civil Penalties, Administrative Civil Penalties, Charges for Use, and Supplemental Capital Facilities Capacity Charges.

302.2 Class I Permit Conditions, and Limits

A. A Class I permit shall contain all of the following conditions or limits:

1. Mass Emission Rates and concentration limits regulating non-compatible Pollutants, including BMPs based on applicable Pretreatment Standards.

2. Requirements to notify OCSD in writing prior to modification to processes or operations through which Industrial Wastewater may be produced.

3. Location of the User's on-site sampling point.

4. Requirements for submission of self-monitoring reports, technical reports, production data, discharge reports, compliance with Pretreatment Standards, BMP-based Pretreatment Standards and/or Local Limits, and/or Waste-Tracking Forms.

5. Requirements for maintaining, for a minimum of three (3) years, plant records relating to Wastewater discharge, and Waste-Tracking Forms as specified by OCSD.

6. Requirements to submit copies of tax and water bills.

B. A Class I permit may contain any of the following conditions and/or limits:

1. Requirements for the User to construct and maintain, at his own expense, appropriate Pretreatment equipment, pH control, Flow Monitoring Facilities, and sampling facilities.

2. Limits on rate and time of discharge or requirements for flow regulation and equalization.

3. Requirements to self-monitor.

4. Assumed values for BOD and suspended solids characteristics that typify the Discharger's effluent for determination of the charge for use.

5. Other terms and conditions which may be appropriate to ensure compliance with this Ordinance or determined by the General Manager to be appropriate to protect OCSD's Sewerage System.

302.3 Class I Permit Fee

A. The Class I permit fee shall be in an amount adopted by Ordinance of the Board of Directors. The permit fee shall be payable at the time a permit application is submitted for the issuance of a new permit or a renewed permit. Payment of permit fees must be received by OCSD prior to issuance of either a new permit or a renewed permit. Permittee shall also pay any delinquent invoices in full prior to permit renewal.

B. Any permit issued for a location wherein the Permittee is not the property owner may be conditioned upon depositing financial security to guarantee payment of all annual fees and charges to be incurred, in accordance with the provisions of Section 623.(E) of this Ordinance.

302.4 Class I Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by the General Manager during the life of the permit based on:

1. The Discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. New source indirect Dischargers shall be required to install and start up any

necessary pollution control equipment before beginning discharge, and comply with applicable Federal Categorical Pretreatment Standards not to exceed thirty (30) days after the commencement of discharge.

C. Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond in writing.

D. Permittee shall be informed of any change in the permit limitations, conditions, or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

302.5 Class I Permit Duration and Renewal

Class I permits shall normally be issued for a period not to exceed four (4) years. At least forty-five (45) days prior to the expiration of the permit, the User shall apply for renewal of the permit in accordance with the provisions of this Article 3.

302.6 Class I Permit Charge for Use

A. The purpose of a charge for use is to ensure that each recipient of sewerage service from OCSD pays its reasonably proportionate share of all the costs of providing that sewerage service. Charges for use to recover the cost of conveying, treating, and disposing of Sewage in OCSD's Sewerage Facilities are exclusive of any fees levied by local sewering agencies. The charge for use shall be based on the total maintenance, operation, capital expenditures, and reserve requirements for providing Wastewater collection, treatment, and disposal.

B. A Discharger who is issued a Class I Wastewater Discharge Permit under the provisions of this Ordinance shall pay a charge for use in accordance with the formula contained herein and the unit charge rates adopted by Ordinance of the Board of Directors. These fees shall be invoiced on a quarterly basis. The quarterly invoice shall be based upon an estimate of the annual use as determined by OCSD. OCSD shall compute the charge for use based upon actual use for the preceding fiscal year on an annual reconciliation statement.

C. The charge for use is payable within forty-five (45) days of invoicing by OCSD. A special assessment credit will be allowed for any regional sanitary sewer service charge adopted by the Board of Directors by separate Ordinance and levied against the permitted property.

D. In order for OCSD to determine actual annual water use, the User shall

provide to OCSD copies of its water bills. If these water bill copies are not received by August 15th of each year for the 12-month period ended closest to June 30, OCSD will endeavor to obtain the water use data. Data obtained by OCSD will be considered correct and will not be adjusted before the next annual reconciliation statement. There shall be a fee levied for OCSD administrative costs when OCSD obtains water use data. OCSD's Board of Directors shall adopt the amount of the fee.

E. The charge for use shall be computed by the following formula:

Charge for Use = VoV + BoB + SoS – Special Assessment Credit

Where V = total annual volume of flow, in millions of gallons

B = total annual discharge of biochemical oxygen demand, in thousands of pounds

S = total annual discharge of suspended solids, in thousands of pounds

Vo, Bo, So = Unit Charge rates established and adopted by Ordinance of OCSD's Board of Directors, based upon the funding requirements of providing sewerage service, in dollars per unit as described in Paragraph F below:

F. The Unit Charge rates in the charge-for-use formula shall be determined by the following method:

1. An Operations and Maintenance component of the Unit Charge for the total annual operation and maintenance funding requirements of the Sewerage System shall be levied at a rate to be determined from time to time by the Board of Directors. This Charge shall be allocated among the three Wastewater charge parameters of flow, biochemical oxygen demand and suspended solids in accordance with the General Manager's determination as to the costs associated with each parameter and pursuant to applicable requirements of state and federal Regulatory Agencies.

   The operation and maintenance costs as distributed to flow, biochemical oxygen demand and suspended solids shall be divided by the projected annual total flow volume and weights of biochemical oxygen demand and suspended solids to be treated by the Sewerage System in the budgeted year.

2. A Capital Facilities Replacement Service component of the Unit Charge for capital replacement and capital improvement shall be levied at a rate to be determined from time to time by the Board of

Directors. This charge shall be allocated among Wastewater charge parameters of flow, biochemical oxygen demand, and suspended solids in accordance with the General Manager's determination of which portion of the charge predominantly relates to each parameter.

The capital facilities charge distributed to biochemical oxygen demand, and suspended solids shall be divided by the projected annual weights of biochemical oxygen demand and suspended solids to be treated by the Sewerage System in the budgeted year.

3. The Unit Charge rates for each respective Wastewater component in (1) and (2) above shall be summed. The Unit Charge rates so determined will be expressed in dollars per million gallons for Vo, and in dollars per thousand pounds for Bo and So.

G. Other measurements of the organic content of the Wastewater of a Discharger, such as COD or TOC, may be used instead of BOD. However, the Discharger must establish to the General Manager's satisfaction a relationship between the BOD of the Wastewater and the parameter of measure. This relationship shall be used by OCSD in determining the charge for use.

When Wastewater from sanitary facilities is discharged separately from the other Wastewater of a Discharger, the charge for use for discharging the Wastewater may be determined by using the following:

1. 25 gallons per employee per eight-hour working day.

2. BOD and suspended solids to be calculated at domestic Wastewater strength per employee per year.

The number of employees will be considered as the average number of people employed full time on a daily basis. This may be determined by averaging the number of people employed at the beginning and end of each quarter, or other period that reflects normal employment fluctuations.

303. CLASS II WASTEWATER DISCHARGE PERMITS

A. No User requiring a Class II permit shall discharge Wastewater without obtaining a Wastewater Discharge Permit.

B. Class II Wastewater Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use and fees established by OCSD. The conditions of Wastewater Discharge Permits shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

C. All Class II Users proposing to discharge directly or indirectly into the OCSD's Sewerage Facilities shall obtain a Wastewater Discharge Permit by filing an application pursuant to Section 303.1 and paying the applicable fees pursuant to Section 303.3. For purposes of this Ordinance, a Class II User is any User:

1. Whose charge for use is greater than the special assessment "OCSD Sewer User Fee" included on the County of Orange secured property tax bill exclusive of debt service; and

2. Discharging Wastewater other than sanitary; and

3. Not otherwise required to obtain a Class I permit.

303.1 Class II Wastewater Discharge Permit Application

A. Any User required to obtain a Class II Wastewater Discharge Permit shall complete and file with OCSD, prior to commencing discharge, an application on the form prescribed by OCSD. The applicant shall submit, in units and terms appropriate for evaluation, the following information:

1. Name, address, assessor's parcel number(s) and NAICS number(s); description of the manufacturing process or service activity.

2. Name and address of any and all principals/owners/major shareholders of company; Articles of Incorporation; most recent Report of the Secretary of State; Business License.

3. Volume of Wastewater to be discharged.

4. Name of individual who can be served with notices other than officers of corporation.

5. Name and address of property owner, landlord and/or manager of the property.

6. Water supplier and water account numbers.

7. Wastewater constituents and characteristics as required by OCSD, including, but not limited to, those mentioned in Section 215, Mass Emission Rate Determination, and Table 1, Local Discharge Limits of this Ordinance. These constituents and characteristics shall be determined by a laboratory selected by the Discharger and acceptable to OCSD.

8. Time and duration of discharge.

9. Number of employees and average hours of work per employee per day.

10. Production records, if applicable.

11. Waste-Tracking Forms, if applicable.

12. Landscaped area in square feet, if applicable.

13. Tons of cooling tower capacity, if applicable.

14. EPA Hazardous Waste Generator Number, if applicable.

15. Any other information as specified.

B. Applicants may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, spill containment, clarifiers, Pretreatment systems, and appurtenances by size, location, and elevation for evaluation.

C. Applicants may also be required to submit other information related to the applicant's business operations, processes, and potential discharge as may be requested to properly evaluate the permit application.

D. After evaluation of the data furnished, OCSD may issue a Wastewater Discharge Permit, subject to terms and conditions set forth in this Ordinance and as otherwise determined by the General Manager to be appropriate to protect the OCSD system.

E. The permit application may be denied if the applicant fails to establish to OCSD's satisfaction that adequate Pretreatment equipment is included within the applicant's plans to ensure that the discharge limits will be met or if the applicant has, in the past, demonstrated an inability to comply with applicable discharge limits.

303.2 Class II Permit Conditions and Limits

A. A Class II permit shall contain all of the following conditions and/or limits:

1. Applicable Mass Emission Rates and concentration limits regulating non-compatible Pollutants.

2. Requirements to notify OCSD in writing prior to modification to processes or operations through which Industrial Wastewater may

be produced.

3. Location of the User's on-site sample point.

4. Requirements for submission of technical reports, production data, discharge reports, and/or Waste-Tracking Forms.

5. Requirements to submit copies of tax and water bills.

B. A Class II permit may contain any of the following conditions and/or limits:

1. Requirements for the User to construct and maintain, at his own expense, appropriate Pretreatment equipment, pH control, flow monitoring and/or sampling facilities.

2. Limits on rate and time of discharge or requirements for flow regulation and equalization.

3. Assumed values for BOD and suspended solids characteristics that typify the Discharger's effluent for determination of the charge for use.

4. Requirements to self-monitor.

5. Requirements for maintaining, for a minimum of three years, plant records relating to Wastewater discharge, and Waste-Tracking Forms as specified by OCSD.

6. Other provisions which may be appropriate to ensure compliance with this Ordinance.

7. Other terms and conditions determined by the General Manager to be appropriate to protect OCSD's Sewerage System.

303.3 Class II Permit Fee

A. The Class II permit fee shall be in an amount adopted by Ordinance of the Board of Directors. The permit fee shall be payable at the time a permit application is submitted for the issuance of a new permit or a renewed permit. Payment of the permit fee must be received by OCSD prior to issuance of either a new permit or a renewed permit. Permittee shall also pay any delinquent invoices in full prior to permit renewal.

B. Any permit issued for a location wherein the Permittee is not the property owner may be conditioned upon depositing financial security to guarantee payment of all annual fees and charges to be incurred, in accordance with the provisions of Section 623.(E) of this Ordinance.

303.4 Class II Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by the General Manager during the life of the permit based on:

1. The Discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. The Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond in writing.

C. Permittee shall be informed of any change in the permit limitations, conditions, or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

303.5 Class II Permit Duration and Renewal

Class II permits shall normally be issued for a period not to exceed five (5) years. At least forty-five (45) days prior to the expiration of the permit, the User shall apply for renewal of the permit in accordance with the provisions of this Article 3.

303.6 Class II Permit Charge for Use

A. The purpose of a charge for use is to ensure that each recipient of sewerage service from OCSD pays its reasonably proportionate share of all the costs of providing that sewerage service. Charges for use to recover the cost of conveying, treating, and disposing of Sewage in OCSD's Sewerage Facilities are exclusive of any fees levied by local sewering agencies. The charge for use shall be based on the total maintenance, operation, capital expenditures, and reserve requirements for providing Wastewater collection, treatment, and disposal.

B. A Discharger who is issued a Class II Wastewater Discharge Permit under the provisions of this Ordinance shall pay a charge for use in accordance

with the formula contained herein and the Unit Charge rates adopted annually by Ordinance of the Board of Directors. These fees shall be invoiced on a quarterly basis. The quarterly invoice shall be based upon an estimate of the annual use as determined by OCSD.

Annually, OCSD shall compute the charge for use based upon actual use for the preceding fiscal year on an annual reconciliation statement. The charge for use is payable within forty-five (45) days of invoicing by OCSD. A special assessment credit will be allowed for any regional sanitary sewer service charge adopted by the Board of Directors by separate Ordinance and levied against the permitted property.

C. In order for OCSD to determine actual annual water use, the User shall provide to OCSD copies of its water bills. If these water bill copies are not received by August 15th of each year for the 12-month period ended closest to June 30, OCSD will endeavor to obtain the water use data. Data obtained by OCSD will be considered correct and will not be adjusted before the next annual reconciliation statement.

There shall be a fee levied for OCSD administrative costs when water use data is obtained by OCSD. The amount of the fee shall be adopted by the OCSD Board of Directors.

D. The charge for use shall be computed by the following formula:

Charge for Use = VoV + BoB + SoS – Special Assessment Credit

Where V = total annual volume of flow, in millions of gallons

B = total annual discharge of biochemical oxygen demand, in thousands of pounds

S = total annual discharge of suspended solids, in thousands of pounds

Vo, Bo, So = Unit Charge rates adopted annually by Ordinance of OCSD's Board of Directors, based upon the funding requirements of providing sewerage service, in dollars per unit as described in Paragraph E below.

E. The unit charge rates in the charge for use formula shall be established annually and shall be determined by the following method:

1. An Operations and Maintenance component of the Unit Charge for the total annual operation and maintenance funding requirements of the Sewerage System shall be levied at a rate to be determined from time to time by the Board of Directors. This charge shall be allocated among the three Wastewater charge parameters of flow, biochemical

oxygen demand and suspended solids in accordance with the General Manager's determination as to the costs associated with each parameter and pursuant to applicable requirements of state and federal Regulatory Agencies.

The operation and maintenance costs as distributed to flow, biochemical oxygen demand and suspended solids shall be divided by the projected annual total flow volume and weights of biochemical oxygen demand and suspended solids to be treated by the Sewerage System in the budgeted year.

2. A Capital Facilities Replacement component of the Unit Charge for capital replacement and capital improvement shall be levied at a rate to be determined from time to time by the Board of Directors. This charge shall be allocated among the three Wastewater charge parameters of flow, biochemical oxygen demand and suspended solids in accordance with the General Manager's determination of which portion of the charge predominantly relates to each parameter.

   The capital facilities charge distributed to biochemical oxygen demand and suspended solids shall be divided by the projected annual weights of biochemical oxygen demand and suspended solids to be treated by the Sewerage System in the budgeted year.

3. The unit charge rates for each respective Wastewater component in (1) and (2) above shall be summed. The Unit Charge rates so determined will be expressed in dollars per million gallons for Vo, and in dollars per thousand pounds for Bo and So.

F. Other measurements of the organic content of the Wastewater of a Discharger, such as COD or TOC, may be used instead of BOD. However, the Discharger must establish to the General Manager's satisfaction a relationship between the BOD of the Wastewater and the other parameter of measure. This relationship shall be used by OCSD in determining the charge for use. When Wastewater from sanitary facilities is discharged separately from the other Wastewater of a Discharger, the charge for use for discharging the sanitary Wastewater may be determined by using the following:

1. 25 gallons per employee per eight-hour working day.

2. BOD and suspended solids to be calculated at domestic Wastewater strength per employee per year.

   The number of employees will be considered as the average number of people employed full time on a daily basis. This may be

determined by averaging the number of people employed at the beginning and end of each quarter, or other period that reflects normal employment fluctuations.

304. DRY WEATHER URBAN RUNOFF DISCHARGE PERMITS

A. No User shall discharge urban runoff directly to OCSD's Sewerage System without obtaining a Dry Weather Urban Runoff Discharge Permit.

B. OCSD shall determine whether the dry weather urban runoff proposed to be discharged into OCSD's Sewerage System may cause a potential environmental risk and/or health hazard that cannot be economically or practically controlled by alternative disposal methods.

C. Dry Weather Urban Runoff Discharge Permits shall be subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD.

D. All Users required to obtain a Dry Weather Urban Runoff Discharge Permit proposing to discharge directly or indirectly into OCSD's Sewerage Facilities shall file an application pursuant to Section 304.1 and pay the applicable fees pursuant to Sections 304.3 and 304.6.

304.1 Dry Weather Urban Runoff Discharge Permit Application

A. An applicant shall contact OCSD prior to any construction of facilities and discharge of dry weather urban runoff into the Sewerage System to determine if the discharge of dry weather urban runoff to the OCSD's Sewerage Facilities is feasible.

B. Applicants shall complete and file with OCSD, prior to commencing discharge, an application in the form prescribed by OCSD. This application shall be accompanied by applicable fees, design plans, a detailed analysis of other disposal alternatives, or other data as needed by OCSD for review. The applicant shall provide justification that disposal alternatives for the dry weather urban runoff are not economically or practically feasible in lieu of sewer discharge.

C. In addition to the discharge permit, OCSD may require that the permit applicant enter into an agreement setting forth the terms under which the dry weather urban runoff discharge is authorized.

D. Applicants shall provide adequate Pretreatment and/or Best Management Practices included within the applicants' plans to ensure that the applicable discharge limits shall be met.

304.2 Dry Weather Urban Runoff Discharge Permit Condition and Limits

The issuance of a Dry Weather Urban Runoff Discharge Permit may contain any the following conditions or limits:

A. Mass Emission Rates and concentration limits regulating non-compatible Pollutants.

B. Requirements for the User to construct and maintain, at the User's expense, appropriate Pretreatment equipment, Flow Monitoring Facilities, and devices to prevent storm water discharge into OCSD's Sewerage System during a wet weather event (rain event).

C. Requirements for the User to provide OCSD with its operations and maintenance plan, best management practices, and pollution prevention strategies designed to minimize or eliminate dry weather urban runoff Pollutants.

D. Limits on rate and time of discharge or requirements for flow regulation and equalization prior to discharge to the Sewerage System.

E. Requirements to self-monitor the discharge to the Sewerage System.

F. The General Manager may impose additional requirements as may be appropriate to reduce the burden on OCSD's Sewerage Facilities.

G. Prohibitions on the discharge, which may cause OCSD's effluent, biosolids, or any other product of its treatment process, to be unsuitable for reclamation, reuse, or disposal.

304.3 Dry Weather Urban Runoff Discharge Permit Fee

The Dry Weather Urban Runoff Discharge Permit fee shall be paid by the applicant in an amount established in the applicable Ordinance adopted by OCSD's Board of Directors. Payment of permit fees must be received by OCSD prior to issuance of either a new permit or a renewed permit. Each Permittee shall also pay delinquent invoices in full prior to permit renewal.

304.4 Dry Weather Urban Runoff Discharge Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by OCSD during the life of the permit based on:

1. The discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies, which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. A Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested changes and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond accordingly.

C. A Permittee shall be informed of any changes in the permit at least forty-five (45) days prior to the effective date change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

304.5 Dry Weather Urban Runoff Discharge Permit Duration and Renewal

Dry Weather Urban Runoff Discharge Permit shall normally be issued for a period not to exceed five (5) years. At least forty-five (45) days prior to the expiration of the permit, the User shall apply for renewal of the permit in accordance with the provisions of this Article 3.

304.6 Dry Weather Urban Runoff Discharge Permit Charge for Use

A Discharger who is issued a Dry Weather Urban Runoff Discharge Permit under the provision of this Ordinance shall pay a charge for use in accordance with rates established by Ordinance adopted by OCSD's Board of Directors.

305. SPECIAL PURPOSE DISCHARGE PERMITS

A. No User requiring a Special Purpose Discharge Permit shall discharge Wastewater without obtaining a Special Purpose Discharge Permit. Alternatively, at the discretion of the OCSD Division Head or Department Head, OCSD may issue a Letter to Discharge in lieu of a Special Purpose Discharge Permit.

B. Special Purpose Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD. The conditions of Special Purpose Discharge Permits shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

C. All Special Purpose Discharge Permit Users proposing to discharge directly

or indirectly into OCSD's Sewerage Facilities shall obtain a Special Purpose Discharge Permit by filing an application pursuant to Section 305.1 and paying the applicable fees pursuant to Sections 305.3 and 305.6. This discharge permit may be granted when no alternative method of disposal is reasonably available, or to mitigate an environmental risk or health hazard.

305.1 Special Purpose Discharge Permit Application

A. Applicants seeking a Special Purpose Discharge Permit shall complete and file with OCSD, prior to commencing discharge, an application in the form prescribed by OCSD. This application shall be accompanied by the applicable fees, plumbing plans, a detailed analysis of the alternatives for water disposal, or other data as needed by OCSD for review.

B. The permit application may be denied when the applicant has failed to establish to OCSD's satisfaction that adequate Pretreatment equipment is included within the applicants' plans to ensure that the discharge limits will be met or that the applicant has, in the past, demonstrated an inability to comply with applicable discharge limits.

305.2 Special Purpose Discharge Permit Conditions and Limits

A. Discharge conditions and limits shall be no less stringent than Section 201(A), General Prohibitions; 201(B), Specific Prohibitions; Section 213, Mass Emission Rate Determination; and Table 1, Local Discharge Limits.

B. Monitoring requirements for the discharge shall be for those non-compatible Pollutants known to exist in the discharge. At least one set of baseline analysis prior to or upon sewer discharge may be required for all constituents contained in the most current Environmental Protection Agency (EPA) "Priority Pollutant" list, excluding asbestos, as listed in Appendix A of 40 CFR Part 423, or as subsequently amended.

C. OCSD may specify and make part of each Special Purpose Discharge Permit specific Pretreatment Requirements or other terms and conditions determined by the General Manager to be appropriate to protect OCSD's Sewerage Facilities, the Local Sewering Agency, to comply with Regulatory Agencies' requirements, to ensure compliance with this Ordinance, and to assess a charge for use.

305.3 Special Purpose Discharge Permit Fee

The special purpose discharge permit fee shall be paid by the applicant in an amount adopted by Ordinance of the Board of Directors. Payment of permit fees must be received by OCSD prior to issuance of either a new permit or a renewed permit. Each Permittee shall also pay delinquent invoices in full prior to permit renewal.

305.4 Special Purpose Discharge Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by OCSD during the life of the permit based on:

1. The Discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. A Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond in writing.

C. A Permittee shall be informed of any changes in the permit at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

305.5 Special Purpose Discharge Permit Duration and Renewal

Special purpose discharge permits shall normally be issued for a period not to exceed five (5) years, but may be renewed as determined by the General Manager. Users seeking permit renewal shall comply with all provisions of this Article 3.

305.6 Special Purpose Discharge Permit Charge for Use

The General Manager shall establish a charge for use to cover all costs of OCSD for providing sewerage service and monitoring. A deposit determined by the General Manager to be sufficient to pay the estimated charges for use shall accompany the Special Purpose Discharge Permit application, and said deposit shall be applied to the charges for use.

306. WASTEHAULER DISCHARGE PERMIT

A. Wastehauler Discharge Permits shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD. The conditions of Wastehauler Discharge Permits shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

B. A Wastehauler proposing to discharge Waste and/or Wastewater into the OCSD Wastehauler Station shall obtain and keep current both a valid Orange County Health Care Agency registration (where applicable), and a OCSD Wastehauler Discharge Permit.

306.1 Wastehauler Discharge Permit Application

A. No User or Wastehauler shall discharge waste and/or Wastewater without both a valid Orange County Health Care Agency registration (where applicable) and an OCSD Wastehauler Discharge Permit.

B. Any User or Wastehauler required to obtain a Wastehauler Discharge Permit shall complete and file with OCSD prior to commencing discharge, an application in a form prescribed by OCSD. This application shall be accompanied by the applicable fees. The applicant shall submit, in units and terms appropriate for evaluation, the following information:

1. Name, address, telephone number, and description of the industries or clients using the applicant's services.

2. (Whichever is applicable) Name and address of any and all principals/owners/major shareholders of the company, Articles of Incorporation, most recent Report of the Secretary of State, and Business License.

3. Name and address of leaseholder of the vehicle or trailer, if applicable.

4. Number of trucks and trailers and the license numbers and tank hauling capacity of each truck or trailer.

5. A copy of the applicant's valid Orange County Health Care Agency registration, where applicable.

C. Wastehaulers discharging Food Service Establishment grease waste into OCSD's Wastehauler Station must have a valid California Department of Food and Agriculture (CDFA) permit, if required by law.

D. Other information related to the applicant's business operations and potential discharge may be requested to properly evaluate the permit application.

E. After evaluation of the data furnished, OCSD may issue a Wastehauler Discharge Permit, subject to terms and conditions set forth in this Ordinance and as otherwise determined by the General Manager to be appropriate to protect OCSD's Sewerage System.

306.2 Wastehauler Discharge Permit Conditions and Limits

The issuance of a Wastehauler permit may contain any of the following conditions or limits:

A. Limits on discharge of heavy metals and other priority Pollutants.

B. Requirements for maintaining and submitting Wastehauling records and Waste-Tracking Forms, and a valid copy of a current Orange County Health Care Agency registration (where applicable).

C. Additional requirements as otherwise determined to be appropriate by the General Manager to protect OCSD's Sewerage System or as specified by other Regulatory Agencies.

D. Other terms and conditions which may be applicable to ensure compliance with this Ordinance.

306.3 Wastehauler Discharge Permit Fee

The Wastehauler discharge permit fee shall be paid by the applicant in an amount adopted by Ordinance of the Board of Directors. Payment of permit fees must be received by OCSD prior to issuance of either a new permit or a renewed permit. A Permittee shall also pay any delinquent invoices in full prior to permit renewal.

306.4 Wastehauler Identification Decal and Access Card Transfer

A. The identification decal is non-transferable.

B. If a gate access card is issued, it shall be issued to a specific permitted vehicle and is non-transferable unless previously authorized in writing by OCSD.

306.5 Wastehauler Discharge Permit Modification of Terms and Conditions

A. The terms and conditions of an issued permit may be subject to modification and change in the sole determination by OCSD during the life of the permit

based on:

1. The Discharger's current or anticipated operating data;

2. OCSD's current or anticipated operating data;

3. Changes in the requirements of Regulatory Agencies which affect OCSD; or

4. A determination by the General Manager that such modification is appropriate to further the objectives of this Ordinance.

B. Permittee may request a modification to the terms and conditions of an issued permit. The request shall be in writing stating the requested change, and the reasons for the change. OCSD shall review the request, make a determination on the request, and respond in writing.

C. Permittee shall be informed of any change in the permit limits, conditions, or requirements at least forty-five (45) days prior to the effective date of change. Any changes or new conditions in the permit shall include a reasonable time schedule for compliance.

306.6 Wastehauler Discharge Permit Duration and Renewal

Wastehauler Discharge Permits shall be issued for a period not to exceed three (3) years. The Wastehauler Discharge Permit is contingent upon the Permittee maintaining a valid Orange County Health Care Agency Permit registration throughout the duration of the Wastehauler Discharge Permit. If at any time, the Permittee is determined to not have a valid OCHCA registration, the OCSD Wastehauler Discharge Permit will be immediately revoked. Upon expiration of the permit, the User and/or Wastehauler shall apply for renewal of the permit in accordance with the provisions of Article 3.

306.7 Wastehauler Discharge Permit Charge for Use

A charge for use to cover all costs of OCSD for providing the Wastehauler Station service and monitoring shall be established by Ordinance of the Board of Directors.

307. DISCHARGE CERTIFICATIONS

A. Discharge Certifications may be issued to those Users that are discharging regulated Wastewater but are not otherwise required to obtain a discharge permit.

B. No User requiring a Discharge Certification, or a Zero Discharge Certification shall discharge non-domestic Wastewater to OCSD without obtaining certification.

C. Discharge Certifications shall be expressly subject to all provisions of this Ordinance and all other regulations, charges for use, and fees established by OCSD. The conditions of the Discharge Certifications shall be enforced by OCSD in accordance with this Ordinance and applicable state and federal regulations.

D. All Users subject to Discharge Certifications proposing to discharge directly or indirectly into the OCSD's Sewerage Facilities shall obtain a Discharge Certification by filing an application and paying all applicable fees thereto.

E. A User required to obtain a Discharge Certification may be required, at OCSD's discretion, to submit a completed application, and OCSD will approve the certification or otherwise proceed as required by federal law.

F. The Discharge Certification shall contain as a minimum:

1. BMPs to regulate the quality of Wastewater discharged;

2. Requirements to periodically certify that appropriate BMPs are being practiced or are no longer necessary;

3. Requirements to notify OCSD in writing prior to modification to processes or operations through which regulated Wastewater may be produced;

4. Notice that OCSD may inspect the facility as necessary to assess and assure compliance with all discharge requirements; and

5. Requirements to comply with Resource Conservation and Recovery Act (RCRA) and state hazardous waste regulations regarding the proper disposal of hazardous waste.

G. A Zero Discharge Certification shall contain at a minimum:

1. A statement that no discharge of regulated Wastewater is permitted;

2. Requirements to notify OCSD of any changes in operation resulting in a potential for discharge;

3. Requirements to periodically certify that no discharge of regulated Wastewater has occurred;

4. Notice that OCSD may inspect the facility as necessary to assess and assure compliance with the "no discharge" requirement; and

5. Requirements to comply with Resource Conservation and Recovery Act (RCRA) and state hazardous waste regulations regarding the proper disposal of hazardous waste.

308. OUT OF DISTRICT PERMITS/DISCHARGERS

A. Industrial Wastewater Discharge Permits for Dischargers located outside OCSD's boundaries but within the OCSD service area and tributary to OCSD's Sewerage Facilities, may be issued by a Local Sewering Agency after approval by OCSD. OCSD shall have the right of inspection and sampling of the User's discharge to determine compliance with Industrial Wastewater discharge regulations. Such inspection and sampling will be performed under a coordinated plan developed with the Local Sewering Agency. The more stringent of the industrial Wastewater discharge regulations and effluent limits of OCSD and the local agency shall apply to the Discharger.

B. Pursuant to Article 6 herein, OCSD shall have the right to enforce the Federal Regulations, the provisions of this Ordinance, and permit conditions and limits applicable to any User located outside of OCSD's service area, but whose discharge is tributary to OCSD's Sewerage Facilities.

C. The fees for use shall be determined by OCSD and set forth in a use agreement with the Local Sewering Agency.

D. The requirements for a liquid wastehauler program may be established by a Local Sewering Agency after obtaining written permission from OCSD.

309. RESERVED

310. RESERVED

ARTICLE 4. FACILITIES REQUIREMENTS

401. DRAWING SUBMITTAL REQUIREMENTS

Upon request by OCSD:

A. Applicants or Users may be required to submit three copies of detailed facility plans. The submittal shall be in a form and content acceptable to OCSD for review of existing or proposed Pretreatment facilities, spill containment facilities, monitoring facilities, metering facilities, and operating procedures. The review of the plans and procedures shall in no way relieve the User of the responsibility of modifying the facilities or procedures in the future, as necessary to produce a discharge acceptable to OCSD, and to meet the requirements of this Ordinance or any requirements of other Regulatory Agencies.

B. The drawing shall depict as a minimum the manufacturing process (Wastewater generating sources), spill containment, monitoring or metering facilities, and Pretreatment facilities.

C. The applicant or User shall submit a schematic drawing of the Pretreatment facilities, piping and instrumentation diagram, and Wastewater characterization report.

D. Users and applicants may also be required to submit for review site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, spill containment, clarifiers, and appurtenances by size, location, and elevation for evaluation.

E. OCSD may require the drawings be prepared by a California Registered Chemical, Mechanical, or Civil Engineer.

F. Permittees shall be required to submit updated detailed facility plans.

402. PRETREATMENT FACILITIES

A. All Users shall provide Wastewater treatment as necessary to comply with this ordinance and shall achieve compliance with all Categorical Pretreatment Standards, Table 1, Local Discharge Limits, and the prohibitions set out in Sections 201 (A) & (B) of this Ordinance within the time limitations specified by EPA, the state, or OCSD, whichever is more stringent. Any facilities necessary for compliance shall be provided, operated by a qualified operator, and maintained in proper operating condition at the User's expense.

B. All Users may also be required by OCSD to submit Wastewater analysis plans, contingency plans, and meet other necessary requirements to ensure proper operation of the Pretreatment facilities and compliance with permit limits and this Ordinance.

C. No User shall increase the use of water or in any other manner attempt to dilute a discharge as a partial or complete substitute for treatment to achieve compliance with this Ordinance and the User's Permit.

403. SPILL CONTAINMENT FACILITIES/ACCIDENTAL SLUG CONTROL PLANS

A. All Users shall provide spill containment for protection against discharge of prohibited Pollutants, materials or other Wastewaters regulated by this Ordinance. Such protection shall be designed to secure the discharges and to prevent them from entering into the Sewerage System in accordance with reasonable engineering standards. Such facilities shall be provided and maintained at the User's expense.

B. The General Manager shall require any Significant Industrial User to develop and implement an accidental discharge/slug control plan. OCSD may evaluate whether each Industrial User needs such a plan. Any User required to develop and implement an accidental discharge/control slug plan shall submit a plan which addresses, at a minimum, the following:

1. Description of discharge practices, including non-routine batch discharges.

2. Description of stored chemicals.

3. Procedures for immediately notifying OCSD of any accidental of slug discharge. Such notification must also be given for any discharge which would violate any of the prohibited discharges in Article 2 of this Ordinance.

4. Procedures to prevent adverse impact from any accidental or slug discharge. Such procedures include, but are not limited to, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site run-off, worker training, building of containment structures or equipment, measures for containing toxic organic Pollutants (including solvents), and measures and equipment for emergency response.

404. MONITORING/METERING FACILITIES

All Wastewater samples must be representative of the User's discharge. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of a User to keep its monitoring facility in good working order shall not be grounds for the User to claim that sample results are unrepresentative of its discharge.

A. OCSD may require the User to construct and maintain in proper operating condition at the User's sole expense, flow monitoring, constituent monitoring and/or sampling facilities.

B. Permittees may be required to install and maintain an appropriate effluent flow monitoring device. Calibration of such flow monitoring device shall be done annually or as specified in the Wastewater discharge permit.

C. The monitoring or metering facilities may be required to include a security closure that can be locked with an OCSD provided hasp lock during sampling or upon termination of service.

D. The location of the monitoring or metering facilities shall be subject to approval by OCSD.

E. The User shall provide immediate, clear, safe and uninterrupted access to OCSD to the User's monitoring and metering facilities.

F. For all industries permitted by OCSD, domestic Wastewaters shall be kept segregated from all Industrial Wastewaters until the Industrial Wastewaters have passed through any required Pretreatment system or device and the Permittee's sample point.

405. WASTE MINIMIZATION REQUIREMENTS

A. As required by a User's permit, the User shall provide waste minimization plans to reduce or eliminate Pollutant discharge to the Sewerage System and conserve water. The User shall investigate product substitution, housekeeping practices, provide inventory control, implement employee education, and other steps as necessary to minimize Wastewater produced.

B. Upon approval by OCSD, a User may certify that their facility does not discharge any type of Wastewater containing Pollutants that may directly or indirectly discharge into OCSD's Sewerage System as a form of Best Management Practice (BMP).

ARTICLE 5. MONITORING, REPORTING, NOTIFICATION, AND INSPECTION REQUIREMENTS

501. MONITORING AND REPORTING CONDITIONS

A. Monitoring for Annual Charge for Use

The Wastewater constituents and characteristics of a Discharger needed for determining the annual charge for use shall be submitted in the form of self-monitoring reports by the User to OCSD, if requested. The frequency of analyses and reporting shall be set forth in the User's permit. The analyses of these constituents and characteristics shall be by a laboratory acceptable to OCSD, and at the sole expense of the Permittee. Analyses performed by OCSD's personnel may be used in the determination of the annual charge for use.

B. Monitoring for Compliance with Permit Conditions or Reporting Requirements

OCSD may require reports for self-monitoring of Wastewater constituents and characteristics of the Discharger needed for determining compliance with any limit or requirements as specified in the User's permit, federal or state regulations, or this Ordinance. The federal Pretreatment regulations, including 40 CFR 403.12(g)-(h), contain requirements for collecting samples, such as requiring that sampling be representative of conditions occurring during the reporting period and that grab samples must be collected for certain parameters. These reports include:

1. Baseline Monitoring Reports.

a) Within either one hundred eighty (180) days after the effective date of a categorical Pretreatment Standard, or the final administrative decision on a category determination under 40 CFR 403.6(a)(4), whichever is later, existing Industrial Users subject to categorical Pretreatment Standard(s) currently discharging to or scheduled to discharge to OCSD shall submit to the General Manager a report which contains the information listed in paragraph b), below. At least ninety (90) days prior to commencement of their discharge, New Sources, and sources that become Significant Industrial Users subsequent to the promulgation of an applicable categorical Standard, shall submit to the General Manager a report which contains the information listed in paragraph c), below. A New Source shall report the method of Pretreatment it intends to use to meet applicable categorical Pretreatment Standards. A New Source also shall give estimates of its

anticipated flow and quantity of Pollutants to be discharged.

b) Users described above shall submit the information set forth below.

(1) All information required in Section 302.13 of this Ordinance, including requirements in 40 CFR 403.12(b)(1)-(7).

(2) Measurement of Pollutants.

a) The User shall provide the following information.

1) The categorical Pretreatment Standards applicable to each regulated process and any new categorically regulated processes for Existing Sources.

2) The results of sampling and analysis identifying the nature and concentration, and/or mass, where required by the Standard or by the General Manager, of regulated Pollutants in the discharge from each regulated process.

3) Instantaneous, Daily Maximum, and long-term average concentrations or mass, where required, shall be reported.

4) The sample shall be representative of daily operations and shall be analyzed in accordance with procedures set out in Section 501.2 of this Ordinance. Where the Standard requires compliance with a BMP or pollution prevention alternative, the User shall submit documentation as required by the General Manager or the applicable Standards to determine compliance with the Standard.

5) Sampling must be performed in accordance with procedures set out in Section 602 of this Ordinance.

b) The User shall take a minimum of one representative sample to compile that data

necessary to comply with the requirements of this paragraph.

c) Samples should be taken immediately downstream from Pretreatment facilities if such exist or immediately downstream from the regulated process if no Pretreatment exists. If other Wastewaters are mixed with the regulated Wastewater prior to Pretreatment the User should measure the flows and concentrations necessary to allow use of the Combined Wastestream Formula in 40 CFR 403.6(e) to evaluate compliance with the Pretreatment Standards. Where an alternate concentration or mass limit has been calculated in accordance with 40 CFR 403.6(e), this adjusted limit along with supporting data shall be submitted to OCSD;

d) Sampling and analysis shall be performed in accordance with this Ordinance;

e) The General Manager may allow the submission of a baseline report which utilizes only historical data so long as the data provides information sufficient to determine the need for industrial Pretreatment measures;

f) The baseline report shall indicate the time, date and place of sampling and methods of analysis, and shall certify that such sampling and analysis is representative of normal work cycles and expected Pollutant discharges to OCSD.

(3) Compliance Certification. A statement, reviewed by the User's Authorized Representative as defined in this Ordinance and certified by a qualified professional, indicating whether Pretreatment Standards are being met on a consistent basis, and, if not, whether additional operation and maintenance (O&M) and/or additional Pretreatment is required to meet the Pretreatment Standards and Requirements.

(4) Compliance Schedule. If additional Pretreatment and/or O&M will be required to meet the Pretreatment Standards, the shortest schedule by which the User will

provide such additional Pretreatment and/or O&M must be provided.

The completion date in this schedule shall not be later than the compliance date established for the applicable Pretreatment Standard. A compliance schedule pursuant to this Section must meet the requirements set forth in this Ordinance.

(5) Signature and Report Certification. All baseline monitoring reports must be certified in accordance with this Ordinance and signed by an Authorized Representative.

2. Compliance Schedule Progress Reports.

The following conditions shall apply to the compliance schedule required by this Ordinance:

a) The schedule shall contain progress increments in the form of dates for the commencement and completion of major events leading to the construction and operation of additional Pretreatment required for the User to meet the applicable Pretreatment Standards (such events include, but are not limited to, hiring an engineer, completing preliminary and final plans, executing contracts for major components, commencing and completing construction, and beginning and conducting routine operation);

b) No increment referred to above shall exceed nine (9) months;

c) The User shall submit a progress report to the General Manager no later than fourteen (14) days following each date in the schedule and the final date of compliance including, as a minimum, whether or not it complied with the increment of progress, the reason for any delay, and, if appropriate, the steps being taken by the User to return to the established schedule; and

d) In no event shall more than nine (9) months elapse between such progress reports to the General Manager.

3. 90-Day Compliance Reports.

Within ninety (90) days following the date for final compliance with applicable categorical Pretreatment Standards, or in the case of a

New Source following commencement of the introduction of Wastewater into OCSD, any User subject to such Pretreatment Standards and Pretreatment Requirements shall submit to the General Manager a report containing the information described in this Ordinance. For Users subject to equivalent mass or concentration limits, this report shall contain a reasonable measure of the User's long-term production rate. For all other Users subject to categorical Pretreatment Standards expressed in terms of allowable Pollutant discharge per unit of production (or other measure of operation), this report shall include the User's actual production during the appropriate sampling period. All compliance reports must be signed and certified in accordance with this Ordinance. All sampling will be done in conformance with Section 602.

4. Periodic Compliance Reports.

   a) Except as otherwise specified in this Ordinance, all Significant Industrial Users must, at a frequency determined by the General Manager, submit no less than twice per year on dates specified by OCSD reports indicating the nature, concentration of Pollutants in the discharge which are limited by Pretreatment Standards and the measured or estimated average and maximum daily flows for the reporting period. In cases where the Pretreatment Standard requires compliance with a Best Management Practice (BMP) or pollution prevention alternative, the User must submit documentation required by the General Manager or the Pretreatment Standard necessary to determine the compliance status of the User including documentation associated with Best Management Practices.

   b) OCSD will meet reporting requirements as specified by 40 CFR Part 3 (Cross-Media Electronic Reporting). Therefore, Users that send electronic (digital) documents to OCSD to satisfy the requirements of this Section must register for the system online and submit a signed Subscriber Agreement to OCSD for review and approval.

5. Notification of the Discharge of Hazardous Waste.

   a) Any User who commences the discharge of hazardous waste shall notify OCSD, the EPA Regional Waste Management Division Director, and state hazardous waste authorities, in writing, of any discharge into OCSD of a substance which, if otherwise disposed of, would be a hazardous waste under 40

CFR Part 261. The User shall receive written approval from the OCSD to discharge hazardous waste. Such notification must include the name of the hazardous waste as set forth in 40 CFR Part 261, the EPA hazardous waste number, and the type of discharge (continuous, batch, or other). If the User discharges more than one hundred (100) kilograms of such waste per calendar month to OCSD, the notification also shall contain the following information to the extent such information is known and readily available to the User: an identification of the hazardous constituents contained in the wastes, an estimation of the mass and concentration of such constituents in the wastestream discharged during that calendar month, and an estimation of the mass of constituents in the wastestream expected to be discharged during the following twelve (12) months. All notifications must take place no later than one hundred and eighty (180) days after the discharge commences. Any notification under this paragraph need be submitted only once for each hazardous waste discharged. However, notifications of changed conditions must be submitted under subdivision 6 below. The notification requirement in this Section does not apply to Pollutants already reported by Users subject to categorical Pretreatment Standards under the self-monitoring requirements of this Ordinance.

b) Dischargers are exempt from the requirements of paragraph (a), above, during a calendar month in which they discharge no more than fifteen (15) kilograms of hazardous wastes, unless the wastes are acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e). Discharge of more than fifteen (15) kilograms of non-acute hazardous wastes in a calendar month, or of any quantity of acute hazardous wastes as specified in 40 CFR 261.30(d) and 261.33(e), requires a one-time notification. Subsequent months during which the User discharges more than such quantities of any hazardous waste do not require additional notification.

c) In the case of any new regulations under section 3001 of RCRA (42 U.S.C. § 6921) identifying additional characteristics of hazardous waste or listing any additional substance as a hazardous waste, the User must notify the General Manager, the EPA Regional Waste Management Waste Division Director, and state hazardous waste authorities of the discharge of such substance within ninety (90) days of the effective date of such regulations.

d) In the case of any notification made under this Section, the User shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

e) This provision does not create a right to discharge any substance not otherwise permitted to be discharged by this Ordinance, a permit issued thereunder, or any applicable federal or state law.

6. Reports of Changed Conditions

Each User must notify the General Manager's designee in writing at least thirty (30) days prior to implementing any significant changes to the User's operations, systems, or processes. Significant changes include any modifications which may alter the nature, quality, or volume of its Wastewater, or which may alter the facility's production processes and/or treatment systems and methods.

a) The General Manager may require the User to submit such information as may be deemed necessary to evaluate the changed condition, including the submission of a Wastewater discharge permit application under this Ordinance.

b) The General Manager may issue a Wastewater discharge permit under this Ordinance or modify an existing Wastewater discharge permit under this ordinance in response to changed conditions or anticipated changed conditions.

7. Reports of Potential Problems

a) In the case of any discharge, including, but not limited to, accidental discharges, discharges of a non-routine, episodic nature, a non-customary batch discharge, a Slug Discharge or Slug Load, that might cause potential problems for OCSD, the User shall follow the notification procedures under Notification of Spill or Slug Loading in Article 5. This notification shall also include the location of the discharge, type of Wastewater, concentration and volume, if known, and corrective actions taken by the User.

b) Within five (5) days following such discharge, the User shall, unless waived by the General Manager, submit a detailed written report. This written notification shall include, but not be limited to, the date of the incident, the reasons for the discharge or spill, what steps were taken to immediately

correct the problem, and what steps are being taken to prevent the problem from recurring.

c) Such notification shall not relieve the User of any expense, loss, damage, or other liability which might be incurred as a result of damage or loss to OCSD, natural resources, or any other damage to person or property; nor shall such notification relieve the User of any fees, fines, penalties, or other liability which may be imposed pursuant to this Ordinance or other applicable law.

d) A notice shall be permanently posted on the User's bulletin board or other prominent place advising employees who to call in the event of a discharge described in paragraph a, above. Employers shall ensure that all employees, who could cause such a discharge to occur, are advised of the emergency notification procedure.

e) Significant Industrial Users are required to notify the General Manager immediately of any changes at its facility affecting the potential for a Slug Discharge.

8. Reports from Unpermitted Users

All Users not required to obtain a Wastewater discharge permit shall provide appropriate reports to the General Manager as the General Manager may require.

9. Notice of Violation/Repeat Sampling and Reporting

If sampling performed by a User indicates a violation, the User must notify the General Manager within twenty-four (24) hours of becoming aware of the violation. The User shall also repeat the sampling and analysis and submit the results of the repeat analysis to the General Manager within thirty (30) days after becoming aware of the violation. Resampling by the User is not required if OCSD performs sampling at the User's facility at least once a month, or if OCSD performs sampling at the User's facility between the time when the initial sampling was conducted and the time when the User or OCSD receives the results of this sampling, or if OCSD has performed the sampling and analysis in lieu of the User.

10. Other reports as required by OCSD.

a) Monitoring reports of the analyses of Wastewater constituents and characteristics shall be in a manner and form approved

by OCSD and shall be submitted upon request of OCSD. When applicable, the self-monitoring requirement and frequency of reporting may be set forth in the User's permit as directed by OCSD. The analyses of Wastewater constituents and characteristics and the preparation of the monitoring report shall be done at the sole expense of the User.

b) Failure by the User to perform any required monitoring, or to submit monitoring reports required by OCSD constitutes a violation of this Ordinance, may result in determining whether the Permittee is in significant non-compliance, and be cause for OCSD to initiate all necessary tasks and analyses to determine the Wastewater constituents and characteristics for compliance with any limits and requirements specified in the User's permit or in this Ordinance. The User shall be responsible for any and all expenses of OCSD in undertaking such monitoring analyses and preparation of reports.

501.1 Inspection and Sampling Conditions

A. OCSD may inspect and sample the Wastewater generating and disposal facilities of any User to ascertain whether the intent of this Ordinance is being met and the User is complying with all requirements.

B. OCSD shall have the right to place on the User's property or other locations as determined by OCSD, such devices as are necessary to conduct sampling or metering operations. Other sampling locations may include downstream manholes, usually in the Sewerage System, for the purpose of determining the compliance status of an industrial or commercial Discharger.

C. OCSD may require the User to install and maintain sample points in areas acceptable to OCSD outside the User's facility, within the reasonable control of the User or OCSD. OCSD may also require lockable sample boxes fully containing the sample points. The User shall grant OCSD access to the sample points and sample boxes in accordance with this Ordinance.

D. In order for OCSD to determine the Wastewater characteristics of the Discharger for purposes of determining the annual use charge and for compliance with permit requirements, the User shall make available for inspection and copying by OCSD all notices, self-monitoring reports, Waste-Tracking Forms, and records including, but not limited to, those related to production, Wastewater generation, Wastewater disposal, and those required in the Pretreatment Requirements without restriction but

subject to the confidentiality provision set forth in Section 103 herein. All such records shall be kept by the User a minimum of three (3) years.

E. If a Discharger falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method, the Discharger may be subject to imposition of penalties, permit suspension or permit revocation.

501.2 Analytical Requirements

All Pollutant analyses, including sampling techniques, to be submitted as part of a Wastewater discharge permit application or report shall be performed in accordance with the techniques prescribed in 40 CFR 136 and amendments thereto, unless otherwise specified in an applicable categorical Pretreatment Standard. If 40 CFR 136 does not contain sampling or analytical techniques for the Pollutant in question, or where the EPA determines that the 40 CFR 136 sampling and analytical techniques are inappropriate for the Pollutant in question, sampling and analyses shall be performed by using validated analytical methods or any other applicable sampling and analytical procedures, including EPA-approved procedures or procedures approved by the General Manager.

501.3 Right of Entry

A. Persons or occupants of premises where Wastewater is created or discharged shall allow OCSD, or its representatives, reasonable access to all parts of the Wastewater generating and disposal facilities for the purposes of inspection and sampling during all times the Discharger's facility is open, operating, or any other reasonable time. No Person shall interfere with, delay, resist or refuse entrance to authorized OCSD personnel attempting to inspect any facility involved directly or indirectly with a discharge of Wastewater to OCSD's Sewerage System.

B. Where a User has security measures in place, the User shall make necessary arrangements so that personnel from OCSD shall be permitted to enter without delay for the purpose of performing their specific responsibilities.

501.4 Notification of Spill or Slug Loading

A. In the event the Discharger is unable to comply with any permit condition due to a breakdown of equipment, accidents, or human error, or the Discharger has reasonable opportunity to know that a discharge will exceed the discharge provisions of the User's permit, Sections 201(A) & (B) or Table 1, Local Discharge Limits, the Discharger shall immediately notify OCSD by telephone. If the Wastewater or material discharged to the sewer has the potential to cause or result in a fire or explosion hazard, the Discharger shall immediately notify the local fire department and OCSD. Also see *Reports of Potential Problems* in this Article.

501.5 Bypass Prohibition; Notification of Bypass

A. Bypass of Industrial Wastewater to the Sewerage System is prohibited. OCSD may take enforcement action against the User, unless:

1. Bypass was unavoidable because it was done to prevent loss of life, personal injury, or severe property damage;

2. There were no feasible alternatives to the Bypass, such as the use of auxiliary treatment facilities, retention of untreated Wastes, elective slow-down or shut-down of production units or maintenance during periods of production downtime. This condition is not satisfied if adequate backup equipment could have been feasibly installed in the exercise of reasonable engineering judgment to prevent a Bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

3. The Permittee submitted notices as required under Section 501.4(A).

B. If a Permittee knows in advance of the need for a Bypass, it shall submit a written request to allow the Bypass to OCSD, if possible, at least ten (10) days before the date of the Bypass.

C. OCSD may approve an anticipated Bypass at its sole discretion after considering its adverse effects, and OCSD determines that the conditions listed in Section 501.5(A)(1-3) are met.

D. A Permittee shall provide telephone notification to OCSD of an unanticipated Bypass that exceeds its permitted discharge limits within four hours from the time the Permittee becomes aware of the Bypass. A written report shall also be provided within five (5) days of the time the Permittee becomes aware or could reasonably have been aware of the Bypass. The report shall contain a description of the Bypass and its cause; the duration of the Bypass, including exact dates and times, and, if the Bypass has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the Bypass. Failure to comply with the oral notice or written report may be grounds for permit revocation.

ARTICLE 6. ENFORCEMENT

601. PURPOSE AND SCOPE

A. The Board finds that in order for OCSD to comply with the laws, regulations, and rules imposed upon it by Regulatory Agencies and to ensure that OCSD's Sewerage Facilities and treatment processes are protected and are able to operate with the highest degree of efficiency, and to protect the public health and environment, specific enforcement provisions must be adopted to govern the discharges to OCSD's Sewerage System by Permittees or by facilities required to obtain Zero Discharge Certifications. Certain violations may result in civil or criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule. Such schedules may not extend the compliance date beyond applicable federal deadlines.

B. To ensure that all interested parties are afforded due process of law and that non-compliance and violations are resolved as soon as possible, the general policy of OCSD is that:

1. Any determination relating to a Zero Discharge Certification, Probation Order, Enforcement Compliance Schedule Agreement (ECSA), or Regulatory Compliance Schedule Agreement (RCSA) will be made by the Division Head of the OCSD Pretreatment Program, with a right of appeal by the Permittee to the General Manager pursuant to the procedures set forth in Section 618.

2. Any permit suspension or revocation recommended by the Division Head responsible for the OCSD Pretreatment Program will be heard and a recommendation made to the General Manager by an OCSD Department Head or other person designated by the General Manager.

3. Actions and decisions by the Division Head or Department Head are made pursuant to a delegation of authority by the General Manager as authorized by Section 107 of this Ordinance.

4. The Board of Directors may adopt rules of procedure to establish the conduct of certain administrative proceedings.

C. OCSD, at its discretion, may utilize any one, combination, or all enforcement remedies provided in this Article 6 in response to any permit or Ordinance violation.

602. DETERMINATION OF NON-COMPLIANCE WITH DISCHARGE LIMITS

A. Sampling Procedures

1. Sampling of all Permittees' facilities, Wastewater and discharges shall be conducted in the time, place, manner, and frequency determined at the sole discretion of OCSD.

2. Non-compliance with Mass Emission Rate limits, concentration limits, permit discharge conditions, or any discharge provision of this Ordinance may be determined by an analysis of a grab or composite sample of the effluent of a User. Non-compliance with Mass Emission Rate limits shall be determined by an analysis of a composite sample of the User's effluent, except that a grab sample may be used to determine compliance with Mass Emission Rate limits when the discharge is from a closed (batch) treatment system in which there is no Wastewater flow into the system when the discharge is occurring, the volume of Wastewater contained in the batch system is known, the time interval of discharge is known, and the grab sample is homogeneous and representative of the discharge.

3. All Wastewater samples must be representative of the User's discharge. Any sample taken from a sample point is considered to be representative of the discharge to the public sewer.

4. Wastewater monitoring and flow measurement facilities shall be properly operated, kept clean, and maintained in good working order at all times. The failure of a User to keep its monitoring facility in good working order shall not be grounds for the User to claim that sample results are unrepresentative of its discharge.

5. If a User subject to the reporting requirement in this section monitors any regulated Pollutant at the appropriate sampling location more frequently than required by the General Manager, using the procedures prescribed in this Ordinance, the results of this monitoring shall be included in the report.

603. ENFORCEMENT PROCEDURES AND APPLICABLE FEES

A. Self-Monitoring Requirements as a Result of Non-Compliance

1. If analysis of any sample obtained by OCSD or by a Permittee shows non-compliance with the applicable Wastewater discharge limits set forth in this Ordinance or in the Permittee's discharge permit, OCSD may impose self-monitoring requirements on the Permittee.

2. A Permittee shall perform required self-monitoring of constituents in a frequency, at the specific location, and in a manner directed by OCSD.

3. All analyses of self-monitoring samples shall be performed by an independent laboratory acceptable to OCSD and submitted to OCSD in the form and frequency determined by OCSD.

4. All self-monitoring costs shall be borne by the Permittee.

5. Nothing in this section shall be deemed to limit the authority of OCSD to impose self-monitoring as a permit condition.

B. Purpose of Non-Compliance Resampling Fees

The purpose of the non-compliance resampling fee is to compensate OCSD for costs of additional sampling, monitoring, laboratory analysis, treatment, disposal, and administrative processing incurred as a result of the non-compliance, and shall be in addition to and not in lieu of any penalties as may be assessed pursuant to Sections 616 and 617.

C. Non-Compliance Resampling Fees for Composite Samples

1. Each violation of a Permittee's permit limit or condition is a violation of this Ordinance.

   a) If analysis of any composite sample of a Permittee's discharge obtained by OCSD shows a major violation by the Permittee of the Mass Emission Rates or concentration limits specified in the Permittee's discharge permit or in this Ordinance, then the Permittee shall pay non-compliance resampling fees to OCSD pursuant to fee schedules adopted by OCSD's Board of Directors.

   b) If analysis of any composite sample of a Permittee's discharge obtained by OCSD shows a minor violation by the Permittee of the Mass Emission Rates or concentration limits specified in the Permittee's discharge permit or in this Ordinance, then OCSD shall impose non-compliance resampling fees pursuant to fee schedules adopted by OCSD's Board of Directors.

2. The fees specified in subsection 603.C.1.a), C.1.b) and D herein shall be imposed for each date on which OCSD conducts sampling as a result of a violation by a Permittee.

D. Non-Compliance Resampling Fees for Grab Samples and Self-Monitoring Results

1. If analysis of any grab sample of a Permittee's discharge shows non-compliance with any concentration limits as set forth in the User's permit or in this Ordinance, OCSD may impose non-compliance resampling fees, pursuant to fee schedules adopted by the OCSD Board of Directors, for resampling conducted by OCSD as a result of a violation by the Permittee.

2. If any self-monitoring analysis of a Permittee's discharge shows non-compliance with any concentration limits or Mass Emission Rates as set forth in the User's permit or in this Ordinance, OCSD may impose non-compliance resampling fees, pursuant to fee schedules adopted by the OCSD Board of Directors, for sampling conducted by OCSD as a result of a violation by the Permittee.

603.1 Probation Order

A. Grounds

In the event the Division Head determines that a Permittee has violated any provision of this Ordinance, or the terms, conditions and limits of its discharge permit, or has not made payment of all amounts owed to OCSD for User charges, non-compliance resampling fees or any other fees, the General Manager may issue a Probation Order, whereby the Permittee must comply with all directives, conditions and requirements therein within the time prescribed.

B. Provisions

The issuance of a Probation Order may contain terms and conditions including, but not limited to, installation of Pretreatment equipment and facilities, requirements for self-monitoring, submittal of drawings or technical reports, operator certification, audit of Waste minimization practices, payment of fees, limits on rate and time of discharge, or other provisions to ensure compliance with this Ordinance.

C. Probation Order - Expiration

A Probation Order issued by the General Manager shall be in effect for a period not to exceed ninety (90) days.

603.2 Enforcement Compliance Schedule Agreement (ECSA)

A. Grounds

Upon determination that a Permittee is in non-compliance with the terms, conditions or limits specified in its permit or any provision of this Ordinance, and needs to construct and/or acquire and install equipment related to Pretreatment, the General Manager may require the Permittee to enter into an ECSA which will, upon the effective date of the ECSA, amend the Permittee's permit. The ECSA shall contain terms and conditions by which a Permittee must operate during its term and shall provide specific dates for achieving compliance with each term and condition for construction and/or acquisition and installation of required equipment related to Pretreatment.

B. Provisions

The issuance of an ECSA may contain terms and conditions including but not limited to requirements for self-monitoring, installation of Pretreatment equipment and facilities, submittal of drawings or reports, operator certification, audit of Waste minimization practices, payment of fees, limits on rate and time of discharge, deposit of performance guarantee, interim limits, or other provisions to ensure compliance with this Ordinance.

C. ECSA - Payment of Amounts Owed

OCSD shall not enter into an ECSA until such time as all amounts owed to OCSD, including User fees, non-compliance resampling fees, deposits, or other amounts due are paid in full, or an agreement for deferred payment secured by collateral or a third party, is approved by the General Manager. Failure to pay all amounts owed to OCSD shall be grounds for permit suspension or permit revocation as set forth in Section 605 and 606.

D. ECSA - Permit Suspension/Revocation

If compliance is not achieved in accordance with the terms and conditions of an ECSA during its term, the General Manager may issue an order suspending or revoking the discharge permit pursuant to Section 605 or 606 of this Ordinance.

604. REGULATORY COMPLIANCE SCHEDULE AGREEMENT (RCSA)

A. Grounds

If at any time subsequent to the issuance of a Wastewater Discharge Permit to an Industrial User, Federal Categorical Pretreatment Standards are adopted or revised by the United States Environmental Protection Agency,

or in the event OCSD enacts revised or new discharge limits, the General Manager, upon determination that an Industrial User would not be in compliance with the adopted revised or new limits, may require the industrial User to enter into a RCSA with OCSD under terms and conditions that would provide for achieving compliance with all new standards by the industrial User on a specific date. The RCSA shall have a maximum term of two hundred-seventy (270) days. The General Manager may approve a longer term, upon a showing of good cause.

B. Provisions

The issuance of a RCSA may contain terms and conditions including but not limited to requirements for installation of Pretreatment equipment and facilities, submittal of drawings or reports, waste minimization practices or other provisions to ensure compliance with this Ordinance.

C. RCSA - Non-Compliance Resampling Fee

During the period a RCSA is in effect, any discharge by Permittee in violation of the RCSA will require payment of non-compliance resampling fees in accordance with this Article 6.

605. PERMIT SUSPENSION

A. Grounds

The General Manager may suspend any permit when it is determined that a Permittee:

1. Fails to comply with the terms and conditions of either an ECSA or RCSA.

2. Knowingly provides a false statement, representation, record, report, or other document to OCSD.

3. Refuses to provide records, reports, plans, or other documents required by OCSD to determine permit terms, conditions, or limits, discharge compliance, or compliance with this Ordinance.

4. Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method.

5. Fails to report significant changes in operations or Wastewater constituents and characteristics.

6. Violates a Probation Order.

7. Refuses reasonable access to the Permittee's premises for the purpose of inspection and monitoring.

8. Does not make timely payment of all amounts owed to OCSD for User charges, non-compliance sampling fees, permit fees, or any other fees imposed pursuant to this Ordinance.

9. Violates any condition or limit of its discharge permit or any provision of OCSD's Ordinances or regulations.

B. Notice

When the General Manager has reason to believe that grounds exist for permit suspension, he/she shall give written notice thereof via personal delivery, mail with proof of delivery, or a similar method to the permittee setting forth a statement of the facts and grounds deemed to exist.

C. Suspension Effective Immediately

Any discharger notified of a permit suspension shall immediately cease and desist all direct and indirect discharges to the OCSD's sewerage system. In the event the discharger fails to voluntarily comply with the suspension order, the General Manager may take such steps as are reasonably necessary to prevent further discharges, including blocking or severing the discharger's connection to the sewer system.

D. Suspension Hearing

Any discharger whose permit is suspended may file a written request for a suspension hearing pursuant to this section. Such a request will not stay the suspension.

In the event a hearing is requested, the General Manager or his/her designee shall, within fourteen (14) days after receiving the request, hold a hearing to determine whether the permit suspension should be confirmed or terminated.

1. At the suspension hearing, the Permittee shall have an opportunity to respond to the allegations set forth in the notice by presenting written or oral evidence. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by OCSD's General Counsel.

2. The General Manager or the General Manager's designee shall render a decision on the suspension within seventy-two (72) hours following the conclusion of the suspension hearing. In the event the

General Manager or his/her designee fails to make a decision within seventy-two (72) hours, the suspension shall be stayed pending the decision.

3. The decision shall be made in writing and include a brief statement of facts found to be true and a determination of the issues presented, including a final decision and order regarding whether the suspension is upheld or terminated.

4. The written decision and order of the General Manager or his/her designee shall be sent via personal delivery, mail with proof of delivery, or a similar method to the Permittee or its legal counsel/representative at the Permittee's business address.

E. Effect of Suspension Order

1. Upon issuance, an order of permit suspension issued by the General Manager shall be final in all respects.

2. The permittee shall immediately cease and desist its discharge of any Wastewater, directly or indirectly to OCSD's Sewerage System for the duration of the suspension. All costs for physically terminating and reinstating service shall be paid by the Permittee.

3. Any owner and responsible management employee of the Permittee shall be bound by the order of suspension.

F. Reinstatement or Revocation

1. The General Manager shall reinstate the suspended permit upon proof of satisfactory compliance with all discharge requirements of OCSD, including all additional permit requirements deemed necessary by the General Manager or his or her designee to prevent future violations by the permittee

2. The General Manager may, in his or her sole discretion, seek to permanently revoke any suspended permit pursuant to the procedures outlined in Section 606 of this Ordinance.

606. PERMIT REVOCATION

A. Grounds

The General Manager may revoke any permit when it is determined that a Permittee:

1. Knowingly provides a false statement, representation, record, report, or other document to OCSD.

2. Refuses to provide records, reports, plans, or other documents required by OCSD to determine permit terms, conditions, or limits, discharge compliance, or compliance with this Ordinance.

3. Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or sample collection method.

4. Fails to report significant changes in operations or Wastewater constituents and characteristics.

5. Fails to comply with the terms and conditions of an ECSA, permit suspension, or probation order.

6. Discharges effluent to OCSD's Sewerage System while its permit is suspended.

7. Refuses reasonable access to the Permittee's premises for the purpose of inspection and monitoring.

8. Does not make timely payment of all amounts owed to OCSD for User charges, non-compliance resampling fees, permit fees, or any other fees imposed pursuant to this Ordinance.

9. Causes interference with OCSD's collection, treatment, or disposal system.

10. Fails to submit oral notice or written report of a Bypass occurrence.

11. Violates any condition or limit of its discharge permit or any provision of OCSD's Ordinances or regulations.

B. Notice/Hearing

When the General Manager has reason to believe that grounds exist for the revocation of a permit, he/she shall give written notice via personal delivery, mail with proof of delivery, or a similar method thereof to the Permittee setting forth a statement of the facts and grounds deemed to exist together with the time and place where the charges shall be heard by the General Manager's designee. The hearing date shall be not less than fifteen (15) calendar days nor more than forty-five (45) calendar days after the mailing of such notice.

1. At the hearing, the Permittee shall have an opportunity to respond to

the allegations set forth in the notice by presenting written or oral evidence. The revocation hearing shall be conducted in accordance with the procedures established by the General Manager and approved by OCSD's General Counsel.

2. After the conclusion of the hearing, the General Manager's designee shall submit a written report to the General Manager within thirty (30) calendar days setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

3. The General Manager shall make his/her determination and should he/she find that grounds exist for permanent revocation of the permit, he/she shall issue his/her decision and order in writing within twenty (20) calendar days of receiving the written report. The written decision and order of the General Manager shall be sent via personal delivery, mail with proof of delivery, or a similar method to the Permittee or its legal counsel/representative at the Permittee's business address.

4. In the event the General Manager determines to not revoke the permit, he/she may order other enforcement actions, including, but not limited to, a temporary suspension of the permit, under terms and conditions that he/she deems appropriate.

C. Effect

1. Upon issuance, an order of permit revocation issued by the General Manager shall be final in all respects.

2. The Permittee shall immediately cease and desist its discharge of any Wastewater directly or indirectly to OCSD's Sewerage System. All costs for physical termination shall be paid by the Permittee.

3. Any owner or Authorized Representative of the Permittee shall be bound by the order of revocation.

4. Any future application for a permit at any location within OCSD by any Person subject to an order of revocation will be considered by OCSD after fully reviewing the records of the revoked permit, which records may be the basis for denial of a new permit.

607. WASTEHAULER NON-COMPLIANCE WITH PERMIT CONDITIONS

A Wastehauler's non-compliance with permit requirements shall be determined by an analysis of a sample of the discharge for any constituent or conditions specified in the

Wastehauler's discharge permit or this Ordinance. If the discharge of a Wastehauler is found by the analysis to be in excess of the concentration limits specified in the Wastehauler's discharge permit or in this Ordinance, the Wastehauler shall, after receiving a demand from OCSD, identify in writing, all sources of the discharge.

OCSD reserves the right to sample and inspect any Wastehauler that delivers Wastewater to any facility which is tributary to OCSD's Sewerage Facilities.

Even if it is established to the satisfaction of the General Manager that the origin of the discharge is domestic septage, or septic Waste, OCSD may still elect not to accept Wastewater from that particular source.

If the discharge is Industrial Wastewater from an industrial source(s) and exceeds permit concentration limits or limits specified in this Ordinance, the following shall apply:

A. First Violation

1. The Permittee shall pay a non-compliance processing or sampling fee pursuant to fee schedules adopted by the OCSD Board of Directors.

2. The Wastehauler permit for disposal privileges shall be suspended for five (5) days.

B. Second Violation

1. The Permittee shall pay a non-compliance processing or sampling fee pursuant to fee schedules adopted by the OCSD Board of Directors.

2. The Wastehauler permit for disposal privileges shall be suspended for ten (10) days.

3. The Wastehauler permit may be revoked in accordance with Section 606.

608. DAMAGE TO FACILITIES OR INTERRUPTION OF NORMAL OPERATIONS

A. Any User who discharges any Wastewater which causes or contributes to any obstruction, interference, damage, or any other impairment to OCSD's Sewerage Facilities or to the operation of those facilities shall be liable for all costs required to clean or repair the facilities together with expenses incurred by OCSD to resume normal operations. Such discharge shall be grounds for permit revocation. A service charge of twenty five percent (25%) of OCSD costs shall be added to the costs and charges to reimburse OCSD for miscellaneous overhead, including administrative personnel and

record keeping. The total amount shall be payable within forty-five (45) days of invoicing by OCSD.

B. Any User who discharges a Wastewater which causes or contributes to OCSD violating its discharge requirements established by any Regulatory Agency incurring additional expenses or suffering losses or damage to the facilities, shall be liable for any costs or expenses incurred by OCSD, including regulatory fines, penalties, and assessments made by other agencies or a court.

609. INDUSTRIAL WASTEWATER PASS THROUGH

Any User whose discharge results in a Pass Through event affecting OCSD or its Sewerage Facilities shall be liable for all costs associated with the event, including treatment costs, regulatory fines, penalties, assessments, and other indirect costs. The Discharger shall submit to OCSD plans to prevent future recurrences to the satisfaction of OCSD.

610. PUBLICATION OF VIOLATION

Upon a determination in a permit suspension, permit revocation, or civil penalty proceedings that a User has discharged in violation of its permit or any provision under this Ordinance, OCSD may require that the User notify the public and/or other Users of the OCSD's Sewerage Facilities of such violation, of actions taken to correct such violation, and of any administrative or judicial orders or penalties imposed as a result of such violation.

611. PUBLISHED NOTICES FOR SIGNIFICANT NON-COMPLIANCE

In accordance with Federal Regulations, including 40 CFR 25 and 40 CFR 403.8(f), OCSD shall annually cause to be published the names of all Industrial Users in significant non-compliance. Upon a minimum of a thirty (30) day notification to the User, said publication shall be made in a newspaper(s) of general circulation that provides meaningful public notice within the jurisdiction(s) served by OCSD.

612. PUBLIC NUISANCE

Discharge of Wastewater in any manner in violation of this Ordinance or of any order issued by the General Manager, as authorized by this Ordinance, is hereby declared a public nuisance and shall be corrected or abated as directed by the General Manager. Any Person creating a public nuisance is guilty of a misdemeanor.

613. TERMINATION OF SERVICE

A. OCSD, by order of the General Manager, may physically terminate sewerage service to any property as follows:

1. On a term of any order of emergency suspension or revocation of a permit; or

2. Upon the failure of a Person not holding a valid discharge permit to immediately cease discharge, whether direct or indirect, to OCSD's Sewerage Facilities; or

3. Upon the failure of a facility not holding a valid discharge permit or certification.

B. All costs for physical termination shall be paid by the User as well as all costs for reinstating service.

614. EMERGENCY SUSPENSION ORDER

A. OCSD may, by order of the General Manager, suspend sewerage service or Wastehauler discharge service when the General Manager determines that such suspension is necessary in order to stop an actual or impending discharge which presents or may present an imminent or substantial endangerment to the health and welfare of persons, or to the environment, or may cause interference to the OCSD's Sewerage Facilities, or may cause OCSD to violate any state or federal law or regulation. Any Discharger notified of and subject to an Emergency Suspension Order shall immediately cease and desist the discharge of all Industrial Wastewater to the Sewerage System.

B. As soon as reasonably practicable following the issuance of an Emergency Suspension Order, but in no event more than five (5) days following the issuance of such order, the General Manager shall hold a hearing to provide the User the opportunity to present information in opposition to the issuance of the Emergency Suspension Order. Such a hearing shall not stay the effect of the Emergency Suspension Order. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by the OCSD General Counsel. The General Manager shall issue a written decision and order within two (2) business days following the hearing, which decision shall be sent via personal delivery, mail with proof of delivery, or a similar method to the User or its legal counsel/representative at that User's business address. The decision of the General Manager following the hearing shall be final in all respects.

615. INJUNCTION

Whenever a Discharger of Wastewater is in violation of or has the reasonable potential to violate any provision of this Ordinance, permit condition, or any Federal Categorical Pretreatment Standards or Pretreatment Requirements as set forth in 40 CFR Section

403.8, et seq., fails to submit required reports, or refuses to allow OCSD entry to inspect or monitor the User's discharge, OCSD may petition the Superior Court for the issuance of a preliminary or permanent injunction, or both, as may be appropriate to restrain the continued violation or to prevent threatened violations by the Discharger.

616. CIVIL PENALTIES

A. Authority

All Users of OCSD's Sewerage System and facilities are subject to enforcement actions administratively or judicially by OCSD, U.S. EPA, State of California Regional Water Quality Control Board, or the County of Orange District Attorney. Said actions may be taken pursuant to the authority and provisions of several laws, including but not limited to: (1) Federal Water Pollution Control Act, commonly known as the Clean Water Act (33 U.S.C. Section 1251, et seq.); (2) California Porter-Cologne Water Quality Control Act (California Water Code Section 13000, et seq.); (3) California Hazardous Waste Control Law (California Health & Safety Code Sections 25100, et seq.); (4) Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901, et seq.); and (5) California Government Code= Sections 54739-54740.

B. Recovery of Fines or Penalties

In the event OCSD is subject to the payment of fines or penalties pursuant to the legal authority and actions of other Regulatory Agencies or enforcement agencies based on a violation of law or regulation or its permits, and said violation can be established by OCSD, as caused by the discharge of any User of OCSD's Sewerage System which is in violation of any provision of this Ordinance or the User's permit, OCSD shall be entitled to recover from the User all costs and expenses, including, but not limited to, the full amount of said fines or penalties to which OCSD has been subjected.

C. Ordinance

Pursuant to the authority of California Government Code Sections 54739 - 54740.6, any Person who violates any provision of this Ordinance; any permit condition, prohibition or effluent limit; or any suspension or revocation order shall be liable civilly for a sum not to exceed $25,000.00 per violation for each day in which such violation occurs. Pursuant to the authority of the Clean Water Act, 33 U.S.C. Section 1251, et seq., any Person who violates any provision of this Ordinance, or any permit condition, prohibition, or effluent limit shall be liable civilly for a sum not to exceed $25,000.00 per violation for each day in which such violation occurs. The General Counsel of OCSD, upon order of the General Manager, shall

petition the Superior Court to impose, assess, and recover such penalties, or such other penalties as OCSD may impose, assess, and recover pursuant to federal and/or state legislative authorization.

D. Administrative Civil Penalties

1. Pursuant to the authority of California Government Code Sections 54740.5 and 54740.6, OCSD may issue an administrative complaint to any Person who violates:

   a) any provision of this Ordinance;

   b) any permit condition, prohibition, or effluent limit, or certification requirement; or

   c) any suspension or revocation order.

2. The administrative complaint shall be served via personal delivery, mail with proof of delivery, or a similar method on the Person and shall inform the Person that a hearing will be conducted, and shall specify a hearing date within sixty (60) days. The administrative complaint will allege the act or failure to act that constitutes the violation of OCSD requirements, the provisions of law authorizing civil liability to be imposed, and the proposed civil penalty. The matter shall be heard by the General Manager's designee. The Person to whom an administrative complaint has been issued may waive the right to a hearing, in which case a hearing will not be conducted.

3. At the hearing, the Person shall have an opportunity to respond to the allegations set forth in the administrative complaint by presenting written or oral evidence. The hearing shall be conducted in accordance with the procedures established by the General Manager and approved by OCSD's General Counsel.

4. After the conclusion of the hearing, the General Manager's designee shall submit a written report to the General Manager within thirty (30) calendar days setting forth a brief statement of the facts found to be true, a determination of the issues presented, conclusions, and a recommendation.

5. The General Manager shall make his/her determination and should he/she find that grounds exist for assessment of a civil penalty against the Person, he/she shall issue his/her decision and order in writing within twenty (20) calendar days of receiving the written report.

6. If, after the hearing or appeal, if any, it is found that the Person has violated reporting or discharge requirements, the General Manager may assess a civil penalty against that Person. In determining the amount of the civil penalty, the General Manager may take into consideration all relevant circumstances, including but not limited to the extent of harm caused by the violation, the economic benefit derived through any non-compliance, the nature and persistence of the violation, the length of time over which the violation occurs, and corrective action, if any, attempted or taken by the Person involved.

7. Civil penalties may be assessed as follows:

   a) In an amount which shall not exceed two thousand dollars ($2,000.00) for each day for failing or refusing to furnish technical, monitoring reports, or any other required documents;

   b) In an amount which shall not exceed three thousand dollars ($3,000.00) for each day for failing or refusing to timely comply with any compliance schedules established by OCSD;

   c) In an amount which shall not exceed five thousand dollars ($5,000.00) per violation for each day of discharge in violation of any Wastewater discharge limit, permit condition, or requirement issued, reissued, or adopted by OCSD;

   d) In any amount which does not exceed ten dollars ($10.00) per gallon for discharges in violation of any suspension, revocation, cease and desist order or other orders, or prohibition issued, reissued, or adopted by OCSD;

8. Any Person aggrieved by an order issued by the General Manager assessing administrative civil penalties may, within fifteen (15) days after the General Manager issues the order, file an appeal with the Governing Board. The evidence on appeal shall consist solely of the General Manager's order and the administrative record before the hearing officer. The Governing Board shall determine whether to uphold, modify, or reverse the General Manager's order. The decision of the Governing Board shall be set forth in writing and be sent by certified mail to the appellant. The decision of the Governing Board shall be final in all respects. If no appeal of the General Manager's decision is filed within fifteen (15) days of its issuance, the General Manager's order becomes final in all respects.

9. Copies of the administrative order shall be served on the party served with the administrative complaint, either by personal service or by registered mail to the Person at his business or residence address, and upon other persons who appeared at the hearing and requested a copy of the order.

10. Any Person aggrieved by a final decision issued by the Governing Board, may obtain review in the superior court, pursuant to Government Code Section 54740.6, by filing in the court a petition for writ of mandate within thirty (30) days following the service of a copy of the Governing Board decision.

11. Payment of any order setting administrative civil penalties shall be made within thirty (30) days of the date the order becomes final. The amount of any administrative civil penalties imposed which have remained delinquent for a period of sixty (60) days shall constitute a lien against the real property of the Discharger from which the discharge resulting in the imposition of the civil penalty originated. The lien shall have no effect until recorded with the county recorder. OCSD may record the lien for any unpaid administrative civil penalties on the ninety-first (91st) day following the date the order becomes final.

12. No administrative civil penalties shall be recoverable under Section 616.D for any violation for which OCSD has recovered civil penalties through a judicial proceeding filed pursuant to Government Code Section 54740.

617. CRIMINAL PENALTIES

Any Person who violates any provision of this Ordinance is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed $1,000.00, or imprisonment for not more than thirty (30) days, or both. Each violation and each day in which a violation occurs may constitute a new and separate violation of this Ordinance and shall be subject to the penalties contained herein.

618. APPEALS TO GENERAL MANAGER

A. General

Any User, permit applicant, or Permittee affected by any decision, action or determination made by the Division Head may file with the General Manager a written request for an appeal hearing. The request must be received by OCSD within fifteen (15) days of mailing of notice of the decision, action, or determination of OCSD to the appellant. The request for hearing shall set forth in detail all facts supporting the appellant's

request. Filing of an appeal shall stay the proceedings and furtherance of the action being appealed

B. Notice

The General Manager shall, within fifteen (15) days of receiving the request for appeal, and pursuant to Section 107, designate a Department Head or other person to hear the appeal and provide written notice to the appellant of the hearing date, time and place via personal delivery, mail with proof of delivery, or a similar method. The hearing date shall not be more than thirty (30) days from the delivery date of such notice to the appellant unless a later date is agreed to by the appellant. If the hearing is not held within said time due to actions or inactions of the appellant, then the staff decision shall be deemed final.

C. Hearing

At the hearing, the appellant shall have the opportunity to present information supporting its position concerning the Division Head's decision, action or determination. The hearing shall be conducted in accordance with procedures established by the General Manager and approved by OCSD's General Counsel.

D. Written Determination

After the conclusion of the hearing, the Department Head (or other designee) shall submit a written report to the General Manager setting forth a brief statement of facts found to be true, a determination of the issues presented, conclusions, and a recommendation whether to uphold, modify or reverse the Division Head's original decision, action or determination. The General Manager shall make his/her determination and shall issue his/her decision and order within thirty (30) calendar days of receiving the written report by the Department Head (or other designee). Upon issuance, the order of the General Manager shall be final in all respects. The written decision and order of the General Manager shall be sent via personal delivery, mail with proof of delivery, or a similar method to the appellant or its legal counsel/representative at the appellant's business address.

619. PAYMENT OF CHARGES

A. Except as otherwise provided, all fees, charges and penalties established by this Ordinance are due and payable upon receipt of notice thereof. All such amounts are delinquent if unpaid forty-five (45) days after date of invoice.

B. Any charge that becomes delinquent shall have added to it a penalty in accordance with the following:

1. Forty-six (46) days after date of invoice, a basic penalty of ten percent (10%) of the base invoice amount, not to exceed a maximum of $1,000.00; and

2. A penalty of one and one-half percent (1.5%) per month of the base invoice amount and basic penalty shall accrue from and after the forty-sixth (46th) day after date of invoice.

C. Any invoice outstanding and unpaid after ninety (90) days shall be cause for immediate suspension of the permit.

D. Penalties charged under this Section shall not accrue to those invoices successfully appealed.

E. Payment of disputed charges is still required by the due date during OCSD review of any appeal submitted by Permittees.

620. COLLECTION OF DELINQUENT ACCOUNTS

Collection of delinquent accounts shall be in accordance with OCSD's policy resolution establishing procedures for collection of delinquent obligations owed to OCSD, as amended from time to time by the Board of Directors. Any such action for collection may include an application for an injunction to prevent repeated and recurring violations of this Ordinance.

621. APPEAL OF CHARGES AND FEES

Except for non-compliance charges and penalties, any User, permit applicant, or Permittee affected by any decision, action, or determination by OCSD, relating to fiscal issues of OCSD in which the User, applicant, or Permittee is located, including but not limited to the imposition and collection of fees, such as capital facility capacity charges, sewer use charges, special purpose discharge use charges and Wastehauler fees, may request that OCSD reconsider imposition of such fees or charges. Following review of such a request, OCSD shall notify the User, permit applicant, or Permittee via personal delivery mail with proof of delivery, or a similar method of OCSD's decision on the reconsideration request. Any User, permit applicant, or Permittee adversely affected by OCSD's decision on the reconsideration request may file an appeal which shall be heard by the Board of Directors. The notice of appeal must be received by OCSD within thirty (30) days of the mailing of OCSD's decision on the reconsideration request.

622. RECOVERY OF COSTS INCURRED BY OCSD

In the event any User, permit applicant, or permittee fails to comply with any of the terms

and conditions of this Ordinance, a probationary order, an order of permit suspension or revocation, an ECSA, a RCSA, a certification, or a permit issued hereunder, OCSD shall be entitled to reasonable attorney's fees and costs which may be incurred in order to enforce any of said terms and conditions, with or without filing proceedings in court.

623. FINANCIAL SECURITY/AMENDMENTS TO PERMIT

A. Compliance Deposit

Permittees that have been subject to enforcement and/or collection proceedings may be required to deposit with OCSD an amount determined by the General Manager as necessary to guarantee payment to OCSD of all charges, fees, penalties, costs and expenses that may be incurred in the future, before permission is granted for further discharge to the sewer.

B. Delinquent Accounts

OCSD may require an amendment to the permit of any Permittee who fails to make payment in full of all fees and charges assessed by OCSD, including reconciliation amounts, delinquency penalties, and other costs or fees incurred by Permittee.

C. Bankruptcy

Every Permittee filing any legal action in any court of competent jurisdiction, including the United States Bankruptcy Court, for purposes of discharging its financial debts or obligations or seeking court ordered, protection from its creditors, shall, within ten (10) days of filing such action, apply for and obtain the issuance of an amendment to its permit.

D. Permit Amendments

OCSD shall review and examine Permittee's account to determine whether previously incurred fees and charges have been paid in accordance with time requirements prescribed by this Ordinance. OCSD may thereafter issue an amendment to the User's permit in accordance with the provisions of Article 3 and subsection E below.

E. Security

An amendment to a Wastewater discharge permit issued pursuant to subdivisions (B), (C) and (D) above, may be conditioned upon the Permittee depositing financial security in an amount equal to the average total fees and charges for two (2) calendar quarters during the preceding year. Said deposit shall be used to guarantee payment of all fees and charges incurred for future services and facilities furnished by OCSD and shall not be used

by OCSD to recover outstanding fees and charges incurred prior to the Permittee filing and receiving protection from creditors in the United States Bankruptcy Court.

F. Return of Security

In the event the Permittee makes payment in full within the time prescribed by this Ordinance of all fees and charges incurred over a period of two (2) years following the issuance of an amendment to the permit pursuant to subdivisions (B), (C) and (D), OCSD shall either return the security deposit posted by the Permittee or credit their account.

624. JUDICIAL REVIEW

A. Purpose and Effect

Pursuant to Section 1094.6 of the California Code of Civil Procedure, OCSD hereby enacts this part to limit to ninety (90) days following final decisions in adjudicatory administrative hearings the time within which an action can be brought to review such decisions by means of administrative mandamus.

B. Definitions

As used in this Section, the following terms and words shall have the following meanings:

1. Decision shall mean and include adjudicatory administrative decisions that are made after hearing, or after revoking, suspending, or denying an application for a permit.

2. Complete Record shall mean and include the transcript, if any exists, of the proceedings, all pleadings, all notices and orders, any proposed decision by the General Manager, the final decision, all admitted exhibits, all rejected exhibits in the possession of OCSD or its offices or agents, all written evidence, and any other papers in the case.

3. Party shall mean a Person whose permit has been denied, suspended, or revoked.

C. Time Limit for Judicial Review

Judicial review of any decision of OCSD or its officer or agent may be made pursuant to Section 1094.5 of the Code of Civil Procedure only if the petition for writ of mandate is filed not later than the ninetieth (90th) day following the date on which the decision becomes final. If there is no provision for

reconsideration in the procedures governing the proceedings or if the date is not otherwise specified, the decision is final on the date it is made. If there is provision for reconsideration, the decision is final upon the expiration of the period during which such reconsideration can be sought; provided that if reconsideration is sought pursuant to such provision the decision is final for the purposes of this Section on the date that reconsideration is rejected.

D. Preparation of the Record

The complete record of the proceedings shall be prepared by the OCSD officer or agent who made the decision and shall be delivered to the petitioner within ninety (90) days after he/she has filed written request therefor. OCSD may recover from the petitioner its actual costs for transcribing or otherwise preparing the record.

E. Extension

If the petitioner files a request for the record within ten (10) days after the date the decision becomes final, the time within which a petition, pursuant to Section 1094.5 of the Code of Civil Procedure, may be filed shall be extended to not later than the thirtieth (30th) day following the date on which the record is either personally delivered or mailed to the petitioner or the petitioner's attorney of record.

F. Notice

In making a final decision, OCSD shall provide notice to the party that the time within which judicial review must be sought is governed by Section 1094.6 of the Code of Civil Procedure.

G. Administrative Civil Penalties

Notwithstanding the provisions in this Section, and pursuant to Government Code Section 54740.6, judicial review of an order of the General Manager imposing administrative civil penalties pursuant to Section 616.D may be made only if the petition for writ of mandate is filed not later than the thirtieth (30th) day following the day on which the order of the General Manager becomes final.

ARTICLE 7. SEWER SERVICE CHARGES – CAPITAL FACILITY CAPACITY CHARGES

701. SANITARY SEWER SERVICE CHARGE

Every parcel of real property located within OCSD which is improved with structures designed for residential, commercial, or industrial use, and connected to the OCSD's Sewerage System, shall pay a sanitary sewer service charge in an amount adopted by the Board of Directors by separate Ordinance.

702. CAPITAL FACILITIES CAPACITY CHARGE

Every parcel of real property located within OCSD which is improved with structures designed for residential, commercial, or industrial use, and connected to the OCSD's Sewerage System, shall pay a capital facilities capacity charge in an amount adopted by the Board of Directors by separate Ordinance.

ARTICLE 8. SEVERABILITY

801. SEVERABILITY

If any provision of these Regulations or the application to any circumstances is held invalid, the remainder of the regulations or the application of such provision to other persons or other circumstances shall not be affected.

802. GENERAL APPLICATION

The provisions of this Ordinance shall apply to all properties within OCSD including those properties otherwise deemed exempt from payment of taxes or assessments by provisions of the state Constitution or statute, including properties owned by other public agencies or tax-exempt organizations.

Section I: This Ordinance is enacted in order to preserve the public health and safety, and in order to continue the provision of sewer services by OCSD. The facts requiring the public health and safety to be preserved are that the regulation of the discharge of industrial and sanitary Sewage is regulated by federal and state law, and protection of individuals' health and the environment require that no discharges of untreated Sewage/Wastewater are allowed to occur that are not in accord with technical specifications and requirements.

Section II: Effective Date. This Ordinance shall take effect July 1, 2019.

Section III: Repeal. Ordinance No. OCSD-48 is hereby repealed.

Section IV: The Clerk of the Board shall certify to the adoption of this Ordinance and shall cause a summary to be published in a newspaper of general circulation as required by law.

PASSED AND ADOPTED by the Board of Directors of the Orange County Sanitation District at a Regular Meeting held the 22nd day of May, 2019.

David John Shawver

David John Shawver
Chair, Board of Directors
Orange County Sanitation District

ATTEST:

Kelly A. Lore, MMC
Clerk of the Board
Orange County Sanitation District

Bradley R. Hogin
General Counsel

STATE OF CALIFORNIA)
)SS.
COUNTY OF ORANGE)

I, Kelly A. Lore, Clerk of the Board of Directors of Orange County Sanitation District, do hereby certify that the above and foregoing Ordinance No. OCSD-48 was introduced for first reading at a regular meeting of said Board on the 24th day of April 2019, and passed and adopted at a regular meeting of said Board on the 22nd day of May 2019, by the following vote, to wit:

AYES:	Avery; Beamish (Alternate); Bernstein; Chaffee; Collacott; Harper (Alternate); Hawkins; Iglesias; Kim; Kring; Massa-Lavitt; R. Murphy; Nguyen; Nichols (Alternate); O'Neill (Alternate); Ooten (Alternate); Parker; Peterson; Shawver; Shea; Silva; F. Smith; Wanke; Withers and Yarc
NOES:	None
ABSTENTIONS:	None
ABSENT:	None

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of Orange County Sanitation District this 22nd day of May, 2019.

Kelly A. Lore, MMC
Clerk of the Board
Orange County Sanitation District

Appendix C

Establishing Fats, Oils, and Grease Control Program Fees Applicable to Food Service Establishments Resolution No. OCSD 05-04

RESOLUTION NO. OCSD 05-04

ESTABLISHING FATS, OIL, AND GREASE CONTROL PROGRAM FEES APPLICABLE TO FOOD SERVICE ESTABLISHMENTS

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE ORANGE COUNTY SANITATION DISTRICT, ESTABLISHING FATS, OIL, AND GREASE CONTROL PROGRAM FEES

****

WHEREAS, the State of California Regional Water Quality Control Board ("RWQCB") for the Santa Ana Region adopted Order R8-2002-0014, which prescribes general waste discharge requirements prohibiting sanitary sewer overflows ("SSOs") by sewer collection agencies; and

WHEREAS, in Order R8-2002-0014, the RWQCB found that one of the leading causes of SSOs within the Santa Ana Region, which encompasses the District's service area is "grease blockages;" and

WHEREAS, SSOs often caused by discharge of wastewater containing high levels of fat, oils and grease ('FOG"), suspended solids, pathogenic organisms, and other pollutants, may cause temporary exceedances of applicable water quality objectives, pose a threat to the public health, adversely affect aquatic life, and impair the public recreational use and aesthetic enjoyment of surface waters within the District's service area; and

WHEREAS, the 2000-2001 Orange County Grand Jury ("Grand Jury") conducted a survey among 35 wastewater collection and treatment agencies in Orange County and concluded that one of the leading causes of SSOs and sewage spills is sewer lines clogged from the accumulation of FOG discharged from Food Service Establishments; and

WHEREAS, the Grand Jury further concluded that more effective methods of minimizing grease discharges into the sewer system must be developed and implemented to reduce the discharge of FOG to the sewer system in order to prevent sewer blockages and SSOs; and

WHEREAS, Orange County Sanitation District ("District"), together with 32 other agencies, are collectively named as "Dischargers" in Order No. R8-2002-0014; and

WHEREAS, Order No. R8-2002-0014 requires the District to monitor and control SSOs and to develop a FOG Control Program by December 30, 2004; and

WHEREAS, in light of the overwhelming evidence that FOG is a primary cause of SSOs, the District desires to implement a FOG Control Program to prevent SSOs; and

WHEREAS, the foregoing findings indicate that a FOG Control Program is required for Food Service Establishments within the District's jurisdiction to comply with waste discharge regulations and prevent the harmful effects of SSOs; and

WHEREAS, on November 17, 2004, the Board of Directors adopted Ordinance No. OCSD-25 adopting FOG control regulations applicable to Food Service Establishments; and

WHEREAS, Ordinance No. OCSD-25 requires Food Service Establishments subject to the regulations to obtain a FOG Wastewater Discharge Permit, and to pay an application fee in the amount set by resolution of the Board; and

WHEREAS, Food Service Establishments who are found to be in noncompliance with the terms and conditions of their FOG Wastewater Discharge Permit, Ordinance No. OCSD-25 or other relevant regulations are required to pay a general noncompliance fee, which includes the District's costs of additional monitoring activities and administrative processing incurred resulting from the noncompliance.

NOW, THEREFORE, the Board of Directors of the Orange County Sanitation District DOES HEREBY RESOLVE, DETERMINE, AND ORDER:

Section 1: Annual Permit Fee. The fee for each FOG Wastewater Discharge Permit issued pursuant to Ordinance No. OCSD-25 or its successors, is $100 per year. For example, a permit for a two-year term is subject to a $200 fee.

Section 2: General Noncompliance Fee. The general noncompliance fee is $100.00 per event for the District follow-up activities due to permit, ordinance or regulatory noncompliance.

Section 3: Effective Date. This Resolution shall take effect on May 1, 2005.

PASSED AND ADOPTED at a regular meeting held March 23, 2005.

Chair

ATTEST:

Board Secretary

Appendix D1

FOG Permit Type 1 – BMP Only

FATS, OILS, AND GREASE WASTEWATER DISCHARGE PERMIT

Permit No: F-601510

ORANGE COUNTY SANITATION DISTRICT

In accordance with the provisions of Ordinance No. OCSD-25 - Fats, Oils, and Grease (FOG) Discharge Regulations (FOG Ordinance) of the Orange County Sanitation District, herein referred to as "OC San",

El Metate Market - Store #2
125 N. Rancho Santiago Blvd.
Orange, CA 92869

hereinafter referred to as "Permittee", is hereby authorized to discharge wastewater from the above identified location into OC San's sewer system in accordance with the conditions set forth in this permit. Such conditions are as specified in the following parts of this permit:

Part 1 - Discharge Limitation and Restrictions
Part 2 - Requirements for FOG Control
Part 3 - Notification, Record-Keeping, and Reporting Requirements
Part 4 - Standard Conditions
Part 5 - Special Conditions

If the Permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a renewal permit a minimum of 60 days prior to the expiration date. **Discharging without a valid permit is a violation of the FOG Ordinance and may be subject to administrative fines and physical termination of sewer service.**

Compliance with this permit does not relieve the Permittee of its obligation to comply with the OC San's FOG Ordinance, any applicable requirements under local, State, and Federal laws, including any such regulations, standards, requirements or laws that may become effective during the term of this permit.

This permit shall become effective on January 01, 2022 and shall expire on December 31, 2023. OC San may amend this permit at any time during the term of the permit.

By:
Lan Wiborg
Director of Environmental Services
Resource Protection Division

Issued on

OC SAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue
Fountain Valley, CA 92708-7018
(714) 962-2411

PART 1. DISCHARGE LIMITATION AND RESTRICTIONS

During the period from **January 01, 2022** (effective date) to **December 31, 2023** (expiration date), Permittee is authorized to discharge wastewater into the OC San's sewer system, subject to the following effluent limitations and discharge restrictions:

A. DISCHARGE LIMITATION

Permittee shall not discharge into the sewer system Fats, Oils, and Grease (FOG) that may accumulate and/or cause or contribute to blockages in the sewer system or at the lateral which connects the Permittee's facility to the sewer system.

B. DISCHARGE RESTRICTIONS

The following general prohibitions apply:

1. **Food Grinders.** Installation of food grinders in the plumbing system of new constructions of Food Service Establishments is prohibited. Furthermore, all food grinders shall be removed from all existing Food Service Establishments within 180 days of the effective date of this permit, except when expressly allowed in writing by the FOG Control Program Manager.

2. **Additives.** Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance is prohibited, unless a specific written authorization from the FOG Control Program Manager is obtained.

3. **Waste Cooking Oil.** Disposal of waste cooking oil into drainage pipes is prohibited. All waste cooking oils shall be collected and stored properly in receptacles such as barrels or drums for recycling or other acceptable methods of disposal.

4. **Dishwasher Discharge.** Discharge of wastewater from dishwashers to any grease trap or grease interceptor is prohibited.

5. **Temperature Limitation.** Discharge of wastewater with temperatures in excess of 140°F to any grease control device, including grease traps and grease interceptors, is prohibited.

6. **Domestic Wastes.** Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service or vice versa, is prohibited.

7. **FOG and Solids from Grease Interceptors.** Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system is prohibited. Grease removed from grease interceptors shall be wastehauled periodically as part of the operation and maintenance requirements for grease interceptors.

8. **25% Rule.** Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the design hydraulic depth of the grease interceptor (25% Rule) is prohibited.

PART 2. REQUIREMENTS FOR FOG CONTROL

Permittee shall comply with the following requirements to control the discharge of FOG to the sewer system:

A. BEST MANAGEMENT PRACTICES (BMP)

Permittee shall implement BMPs in its operation to minimize the discharge of FOG to the sewer system. At a minimum, Permittee shall implement the following BMPs when applicable:

1. **Installation of drain screens.** Drain screens shall be installed on all drainage pipes in food preparation areas.

2. **Segregation and collection of waste cooking oil.** All waste cooking oil shall be collected and stored properly in recycling receptacles such as barrels or drums. Such recycling receptacles shall be maintained properly to ensure that they do not leak. Licensed wastehaulers or an approved recycling facility must be used to dispose of waste cooking oil.

3. **Disposal of food waste.** All food waste shall be disposed of directly into the trash or garbage, and not in sinks. Double-bagging food wastes that have the potential to leak in trash bins is highly recommended.

4. **Employee training.** Employees of the food service establishment shall be trained within 180 days of the effective date of this Permit, and twice each calendar year thereafter, on the following subjects:

   a) How to "dry wipe" pots, pans, dishware and work areas before washing to remove grease.
   b) How to properly dispose of food waste and solids in enclosed plastic bags prior to disposal in trash bins or containers to prevent leaking and odors.
   c) The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.
   d) How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.

   Training shall be documented and employee signatures retained, indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time by the FOG Control Program Manager or an inspector.

5. **Maintenance of kitchen exhaust filters.** Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed properly.

6. **Kitchen signage.** Best management and waste minimization practices shall be posted conspicuously in the food preparation and dishwashing areas at all times.

B. FOG PRETREATMENT

WAIVED

1. **Grease Interceptor Requirement.** Permittee shall install, operate, and maintain an approved type and adequately sized grease interceptor in accordance with **Attachment A**. The grease interceptor shall be adequate to separate and remove FOG contained in wastewater discharges from the Permittee's facility prior to discharge to the sewer system. Under special circumstances, OC San may issue a variance or waiver from this requirement as described in Section 2.6 of the OC San's FOG Ordinance.

See Attachment A - Conditional Waiver

PART 3. NOTIFICATION, RECORD-KEEPING, AND REPORTING REQUIREMENTS

A. NOTIFICATION REQUIREMENTS

Permittee shall comply with the following notification requirements:

1. **Notification of Spill**

In case of a sewage spill, Permittee shall notify OC San immediately by phone.

Orange County Sanitation District (714) 962-2411

Confirmation of this notification shall be made in writing to the FOG Control Program Manager at the address specified in the Permit no later than five (5) working days from the date of the incident. The written notification shall state the date of the incident, the reasons for the discharge or spill, what steps were taken to immediately correct the problem, and what steps are being taken to prevent the problem from recurring.

2. **Notification Regarding Planned Changes**

Permittee shall notify OC San at least 60 days in advance prior to any facility expansion/remodeling, or process modifications that may result in new or substantially increased FOG discharges or a change in the nature of the discharge. Permittee shall notify OC San in writing of the proposed expansion or remodeling and shall submit any information requested by OC San for evaluation of the effect of such expansion on Permittee's FOG discharge to the sewer system.

B. RECORD-KEEPING REQUIREMENTS

Permittee shall keep records for at least two years and submit or make available for review, the following documents to OC San, upon request:

1. A Record/Logbook of BMPs being implemented including employee training.
2. A Logbook of recyclable (yellow) grease pickup/disposal.

For Permittees with grease interceptors or other grease control device:

3. A Logbook of grease interceptor (or other grease control device) cleaning and maintenance practices and activities.
4. Copies of records and manifests of wastehauling interceptor contents.

C. REPORTING REQUIREMENTS

1. **BMP Monitoring Report**

> It is OC San's intent to keep inspection of your kitchen to a minimum. To accomplish this, you are required to submit BMP Monitoring Reports, as described below, to demonstrate the status of your compliance with the OC San's BMP requirements.

Permittee shall submit BMP Monitoring Reports semi-annually in accordance with the schedule specified in the following table. The report shall indicate current status of BMPs that are in place as required in Part 2 A of this permit. The BMP information shall be summarized and reported on the official BMP Monitoring Report Form (example shown in **Attachment B**), which shall be mailed out to the Permittee at least 4 weeks prior to the required reporting date. OC San will not accept unofficial BMP Monitoring Report Forms because it uses computer-generated bar codes for tracking purposes.

Permittee shall submit a BMP Monitoring Report for each BMP monitoring period in accordance with the following schedule:

Semi-Annual Reporting Period	Due Dates for Submitting BMP Monitoring Reports
January 2022 - June 2022	07/15/2022
July 2022 - December 2022	01/15/2023
January 2023 - June 2023	07/15/2023
July 2023 - December 2023	01/15/2024

2. **Changes in Company information**

Permittee shall immediately inform OC San of any changes in ownership or facility name, and discrepancies in the food service establishment information currently on file as shown in **Attachment C.**

3. **Signatory Requirements**

Prior to submittal of the BMP Monitoring Report or Grease Interceptor Wastehauling Report to OC San, the information shall be verified and signed under penalty of perjury by an authorized company official.

4. **Falsifying Information**

Knowingly making any false statement on any report or other document required by this permit or knowingly rendering any monitoring device or method inaccurate is a crime and may result in the imposition of criminal sanctions and/or civil penalties.

PART 4. STANDARD CONDITIONS

A. NON-TRANSFERABILITY OF PERMIT

This permit is issued specifically to the owner and facility location specified in this permit. This permit is issued for a specific user, for a specific operation at a specific location, and creates no vested rights. Any permit that is transferred to a new owner and/or operator or to a new facility is void. Permittee shall notify OC San in writing prior to the transfer of ownership and shall give a copy of the existing permit to the new owner or operator.

B. ACCESS REQUIREMENTS

Access to the Permittee's facility shall be granted to OC San's personnel and/or its designee to all parts of the facility for the purpose of conducting compliance inspection during all times the facility is open, operating, or any other reasonable time. OC San may conduct random, unannounced inspections to verify compliance with the terms and conditions of this permit.

C. CIVIL PENALTIES

Any person who violates any provision of the FOG Ordinance; or any permit condition, prohibition or effluent limitation; or any suspension or revocation order shall be liable civilly for a penalty pursuant to Article 6 of the FOG Ordinance, for each day in which such violation occurs.

D. CRIMINAL PENALTIES

Any person who violates any provision of the FOG Ordinance or any permit condition, prohibition or effluent limit, is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed one thousand dollars ($1,000), or imprisonment for not more than six (6) months in the County Jail, or both. Each day in violation constitutes a new and separate violation and shall be subject to the penalties contained herein.

E. SEVERABILITY

The provisions of this permit are severable. If any provision of those permits limitations and/or requirements, or the application thereof, to the Permittee is held invalid, the remainder of the permit limits and/or requirements shall remain in full force and effect.

F. TERMINATION OF SERVICE

OC San, by Order of the General Manager, may physically terminate sewer service to any property on a term of any order of suspension or revocation of a permit or upon the failure of a person not holding a valid wastewater discharge permit to immediately cease discharge, whether direct or indirect, to OC San's sewer facilities after due notification. All costs for physical termination as well as for reinstating service shall be paid by the Permittee.

PART 5. SPECIAL CONDITIONS FOR PERMIT NO. F-601510

- Permittee shall remove existing food grinders within 180 days of the effective date of this permit.

1. FOG CONDITIONAL GI WAIVER

ATTACHMENTS

PERMIT NO. F-601510

El Metate Market - Store #2

ATTACHMENT A

CONDITIONAL WAIVER FROM GREASE INTERCEPTOR REQUIREMENT

This Conditional Waiver from Grease Interceptor Requirement is issued to:

El Metate Market - Store #2
Permit No.: F-601510
125 N. Rancho Santiago Blvd.
Orange, CA 92869

hereinafter referred to as "Permittee", in accordance with the provisions of Ordinance No. OCSD-25 - Fats, Oils, and Grease (FOG) Discharge Regulations (FOG Ordinance) of the Orange County Sanitation District, herein referred to as "OC San". Permittee is granted a temporary conditional waiver for the requirement to install, operate, and maintain a grease interceptor as required in Part 2 B of the Wastewater Discharge Permit, until the expiration date shown below:

Grease Interceptor Waiver Issuance Date	01/01/2022	Grease Interceptor Waiver Expiration Date	12/31/2023

This waiver is granted based on the following conditions:

- Permittee is an existing food service establishment covered under the 3-year amortization period and has negligible FOG discharge and insignificant impact to the sewer system, based on current information. During this grace period, Permittee is given the opportunity to evaluate and plan to reduce its FOG discharge through installation of an adequate grease interceptor, unless a waiver renewal or variance is obtained.

OC San will further determine your waiver status based on the impact of your discharge to the sewer system through a visual observation (CCTV) of your sewer lateral, use of BMP's and other factors. Based on the findings, OC San may at any time, revoke this waiver as deemed appropriate. Upon revocation or non-renewal of the waiver, the Permittee shall be required to install, operate, and maintain a grease interceptor.

By:

Lan Wiborg
Director of Environmental Services
Resource Protection Division

Issued on

OC SAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue
Fountain Valley, CA 92708-7018
(714) 962-2411

ATTACHMENT B

SEMI-ANNUAL KITCHEN BEST MANAGEMENT PRACTICES (BMP) MONITORING REPORT

Facility Name: XYZ Restaurant	Permit No:	BMR No:
Contact:	Reporting Period: January 1, 2005 to June 30, 2005	Submission Date: July 15 2005

	Requirement	BMP Compliance Checklist	Yes	No	Not Applicable (Explain why)	
1	Installation of drain screens	Are drain screens installed on all sink and floor drains in the food preparation areas?	☐	☐	☐	
2	Segregation and collection of waste cooking oil	Is waste cooking oil collected and properly stored in drums and barrels for offsite recycling, or other acceptable disposal method?	☐	☐	☐	
3	Disposal of food waste	Are all food wastes disposed of directly into the trash or garbage, and not down the drains? Disposal of solid wastes down the sink or food grinder drain is prohibited.	☐	☐	☐	
4	Maintenance of exhaust filters	Is the wastewater generated from cleaning the kitchen exhaust filters disposed of properly?	☐	☐	☐	
5	Kitchen Signage	Is the "Drain Is Not A Dump" sign posted in the kitchen area to remind employees about required BMPs?	☐	☐	☐	
6	Employee Training	Employees have been trained on the following Best Management Practices during the reporting period:				
		How to "dry wipe" pots, pans, dishware and work areas to remove food scraps and grease before washing.	☐	☐	☐	
		Proper disposal of food waste and solids in enclosed plastic bags prior to depositing in trash containers or garbage bins to prevent leaking and odors.	☐	☐	☐	
		The location and use of absorption products to clean under fryer baskets and other locations where fats, oils, and grease may be spilled or dripped.	☐	☐	☐	
		How to properly dispose of grease or oils from cooking equipment into the waste grease barrel or drum without spilling to eliminate storm water contamination.	☐	☐	☐	
7	Employee Training Documentation	Training is documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed.	☐	☐	☐	
8	Other BMPs in place					

Example Only

Actual Form will be mailed

Certification

The results presented herein must be verified and signed under penalty of perjury by: (i) a responsible officer; (ii) general partner or proprietor; or (iii) a representative who has the responsibility for the overall operation of the permitted facility, who has been authorized by the corporate officer, general partner or proprietor to sign such reports, and such authorization has been made in writing and submitted to OC San.

I have personally examined and am familiar with the information submitted in this document. Based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of permit revocation/sewer access termination.

Name Signature Title Date

Attachment C

PERMITTEE INFORMATION ON FILE

The following information is currently on file. If any of the information is inaccurate or missing, Permittee is required to update OC San using the FSE Information Update Form provided in the Forms Tab of the Binder.

Applicant:	El Metate Foods, Inc.	**Doing Business as (DBA)**	El Metate Market - Store #2
Street Address:	125 N. Rancho Santiago Blvd.	**Facility Phone Number**	714-771-5527
City/ZIP Code	Orange, 92869	**Facility Email Address**	
Food Service Establishment Owner		**Designated Signatory**	
Name/Title	Rudy Murrieta / President	**Name/Title**	No Person Designated /
Address	838 E. 1st St.,	**Address**	
City / State / ZIP	Santa Ana, CA 92701	**City / State / ZIP**	
Phone Number	714-542-3913	**Phone Number**	
Email Address		**Email Address**	
Facility Contact During Business Hours Name/Title/Phone Number		Chris Murrieta / Manager / 714-771-5527	

Chain Status	☐ Chain ☒ Independent	**Type of Ownership**	☐ Single Proprietorship
Seating Capacity	Inside: 0		☐ Partnership
	Outside 5		☒ Corporation
Seating	☐ Sit-down	**Average No. of Meals served during peak hour**	75-100
	☒ Take-out		
	☐ Both	**Non-disposable Dish Usage**	☐ Yes
No. of Employees	15		☒ No

Food Processing Equipment				Kitchen Equipment	
Deep Fryers	(1)	Rotisserie	( )	Dishwasher	( )
Charbroilers	( )	Griddles	(1)	Pre-Rinse Sink	(1)
Grills	( )	Stoves	(1)	Mop Sink	(1)
Ovens	(1)	Woks	( )	Floor Drain	(3)
Other	( )			Garbage Disposal	( )

Hours of Operation

Monday	Start:	6:00 am	Stop:	8:00 pm	Start:		Stop:		or ☐ 24 Hours or	☐ Closed
Tuesday	Start:	6:00 am	Stop:	8:00 pm	Start:		Stop:		or ☐ 24 Hours or	☐ Closed
Wednesday	Start:	6:00 am	Stop:	8:00 pm	Start:		Stop:		or ☐ 24 Hours or	☐ Closed
Thursday	Start:	6:00 am	Stop:	8:00 pm	Start:		Stop:		or ☐ 24 Hours or	☐ Closed
Friday	Start:	6:00 am	Stop:	8:00 pm	Start:		Stop:		or ☐ 24 Hours or	☐ Closed
Saturday	Start:	6:00 am	Stop:	8:00 pm	Start:		Stop:		or ☐ 24 Hours or	☐ Closed
Sunday	Start:	6:00 am	Stop:	8:00 pm	Start:		Stop:		or ☐ 24 Hours or	☐ Closed

Appendix D2

FOG Permit Type 2 – BMP and GI

FATS, OILS, AND GREASE WASTEWATER DISCHARGE PERMIT

Permit No: F-601583

ORANGE COUNTY SANITATION DISTRICT

In accordance with the provisions of Ordinance No. OCSD-25 - Fats, Oils, and Grease (FOG) Discharge Regulations (FOG Ordinance) of the Orange County Sanitation District, herein referred to as "OC San",

McDonald's #6180
4200 E. Chapman Ave.
Orange, CA 92869

hereinafter referred to as "Permittee", is hereby authorized to discharge wastewater from the above identified location into OC San's sewer system in accordance with the conditions set forth in this permit. Such conditions are as specified in the following parts of this permit:

Part 1 - Discharge Limitation and Restrictions
Part 2 - Requirements for FOG Control
Part 3 - Notification, Record-Keeping, and Reporting Requirements
Part 4 - Standard Conditions
Part 5 - Special Conditions

If the Permittee wishes to continue to discharge after the expiration date of this permit, an application must be filed for a renewal permit a minimum of 60 days prior to the expiration date. **Discharging without a valid permit is a violation of the FOG Ordinance and may be subject to administrative fines and physical termination of sewer service.**

Compliance with this permit does not relieve the Permittee of its obligation to comply with the OC San's FOG Ordinance, any applicable requirements under local, State, and Federal laws, including any such regulations, standards, requirements or laws that may become effective during the term of this permit.

This permit shall become effective on January 01, 2022 and shall expire on December 31, 2023. OC San may amend this permit at any time during the term of the permit.

By:
Lan Wiborg
Director of Environmental Services
Resource Protection Division

Issued on

OC SAN
ORANGE COUNTY SANITATION DISTRICT

ORANGE COUNTY SANITATION DISTRICT
10844 Ellis Avenue
Fountain Valley, CA 92708-7018
(714) 962-2411

PART 1. DISCHARGE LIMITATION AND RESTRICTIONS

During the period from **January 01, 2022** (effective date) to **December 31, 2023** (expiration date), Permittee is authorized to discharge wastewater into the OC San's sewer system, subject to the following effluent limitations and discharge restrictions:

A. DISCHARGE LIMITATION

Permittee shall not discharge into the sewer system Fats, Oils, and Grease (FOG) that may accumulate and/or cause or contribute to blockages in the sewer system or at the lateral which connects the Permittee's facility to the sewer system.

B. DISCHARGE RESTRICTIONS

The following general prohibitions apply:

1. **Food Grinders.** Installation of food grinders in the plumbing system of new constructions of Food Service Establishments is prohibited. Furthermore, all food grinders shall be removed from all existing Food Service Establishments within 180 days of the effective date of this permit, except when expressly allowed in writing by the FOG Control Program Manager.

2. **Additives.** Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance is prohibited, unless a specific written authorization from the FOG Control Program Manager is obtained.

3. **Waste Cooking Oil.** Disposal of waste cooking oil into drainage pipes is prohibited. All waste cooking oils shall be collected and stored properly in receptacles such as barrels or drums for recycling or other acceptable methods of disposal.

4. **Dishwasher Discharge.** Discharge of wastewater from dishwashers to any grease trap or grease interceptor is prohibited.

5. **Temperature Limitation.** Discharge of wastewater with temperatures in excess of 140°F to any grease control device, including grease traps and grease interceptors, is prohibited.

6. **Domestic Wastes.** Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service or vice versa, is prohibited.

7. **FOG and Solids from Grease Interceptors.** Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system is prohibited. Grease removed from grease interceptors shall be wastehauled periodically as part of the operation and maintenance requirements for grease interceptors.

8. **25% Rule.** Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the design hydraulic depth of the grease interceptor (25% Rule) is prohibited.

PART 2. REQUIREMENTS FOR FOG CONTROL

Permittee shall comply with the following requirements to control the discharge of FOG to the sewer system:

A. BEST MANAGEMENT PRACTICES (BMP)

Permittee shall implement BMPs in its operation to minimize the discharge of FOG to the sewer system. At a minimum, Permittee shall implement the following BMPs when applicable:

1. **Installation of drain screens.** Drain screens shall be installed on all drainage pipes in food preparation areas.

2. **Segregation and collection of waste cooking oil.** All waste cooking oil shall be collected and stored properly in recycling receptacles such as barrels or drums. Such recycling receptacles shall be maintained properly to ensure that they do not leak. Licensed wastehaulers or an approved recycling facility must be used to dispose of waste cooking oil.

3. **Disposal of food waste.** All food waste shall be disposed of directly into the trash or garbage, and not in sinks. Double-bagging food wastes that have the potential to leak in trash bins is highly recommended.

4. **Employee training.** Employees of the food service establishment shall be trained within 180 days of the effective date of this Permit, and twice each calendar year thereafter, on the following subjects:

   a) How to "dry wipe" pots, pans, dishware and work areas before washing to remove grease.
   b) How to properly dispose of food waste and solids in enclosed plastic bags prior to disposal in trash bins or containers to prevent leaking and odors.
   c) The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.
   d) How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.

   Training shall be documented and employee signatures retained, indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time by the FOG Control Program Manager or an inspector.

5. **Maintenance of kitchen exhaust filters.** Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed properly.

6. **Kitchen signage.** Best management and waste minimization practices shall be posted conspicuously in the food preparation and dishwashing areas at all times.

B. FOG PRETREATMENT

1. **Grease Interceptor Requirement.** Permittee shall install, operate, and maintain an approved type and adequately sized grease interceptor in accordance with **Attachment A.** The grease interceptor shall be adequate to separate and remove FOG contained in wastewater discharges from the Permittee's facility prior to discharge to the sewer system. Under special circumstances, OC San may issue a variance or waiver from this requirement as described in Section 2.6 of the OC San's FOG Ordinance.

2. **Grease Interceptor Maintenance Frequency.** Grease interceptors shall be maintained by periodic removal of the full content of the interceptor which includes wastewater accumulated FOG, floating materials, sludge, and solids. Permittee shall fully pump out contents of the grease interceptor at a frequency as shown below:

Minimum Grease Interceptor Cleaning Frequency	At least once every **Every 3 months**

3. **Grease Interceptor Maintenance Requirement.** Grease interceptors shall be maintained in efficient operating condition such that the combined FOG and solids accumulation does not exceed 25% of the design hydraulic depth of the grease interceptor. Any exceedance above 25% constitutes a violation of this permit. This requirement is to ensure that the minimum hydraulic retention time and required available volume is maintained to effectively intercept and retain FOG discharged to the sewer system.

PART 3. NOTIFICATION, RECORD-KEEPING, AND REPORTING REQUIREMENTS

A. NOTIFICATION REQUIREMENTS

Permittee shall comply with the following notification requirements:

1. **Notification of Spill**

In case of a sewage spill, Permittee shall notify OC San immediately by phone.

Orange County Sanitation District (714) 962-2411

Confirmation of this notification shall be made in writing to the FOG Control Program Manager at the address specified in the Permit no later than five (5) working days from the date of the incident. The written notification shall state the date of the incident, the reasons for the discharge or spill, what steps were taken to immediately correct the problem, and what steps are being taken to prevent the problem from recurring.

2. **Notification Regarding Planned Changes**

Permittee shall notify OC San at least 60 days in advance prior to any facility expansion/remodeling, or process modifications that may result in new or substantially increased FOG discharges or a change in the nature of the discharge. Permittee shall notify OC San in writing of the proposed expansion or remodeling and shall submit any information requested by OC San for evaluation of the effect of such expansion on Permittee's FOG discharge to the sewer system.

B. RECORD-KEEPING REQUIREMENTS

Permittee shall keep records for at least two years and submit or make available for review, the following documents to OC San, upon request:

1. A Record/Logbook of BMPs being implemented including employee training.

2. A Logbook of recyclable (yellow) grease pickup/disposal.

For Permittees with grease interceptors or other grease control device:

3. A Logbook of grease interceptor (or other grease control device) cleaning and maintenance practices and activities.

4. Copies of records and manifests of wastehauling interceptor contents.

C. REPORTING REQUIREMENTS

1. **BMP Monitoring Report**

It is OC San's intent to keep inspection of your kitchen to a minimum. To accomplish this, you are required to submit BMP Monitoring Reports, as described below, to demonstrate the status of your compliance with the OC San's BMP requirements.

Permittee shall submit BMP Monitoring Reports semi-annually in accordance with the schedule specified in the following table. The report shall indicate current status of BMPs that are in place as required in Part 2 A of this permit. The BMP information shall be summarized and reported on the official BMP Monitoring Report Form (example shown in **Attachment B**), which shall be mailed out to the Permittee at least 4 weeks prior to the required reporting date. OC San will not accept unofficial BMP Monitoring Report Forms because it uses computer-generated bar codes for tracking purposes.

Permittee shall submit a BMP Monitoring Report for each BMP monitoring period in accordance with the following schedule:

Semi-Annual Reporting Period	Due Dates for Submitting BMP Monitoring Reports
January 2022 - June 2022	07/15/2022
July 2022 - December 2022	01/15/2023
January 2023 - June 2023	07/15/2023
July 2023 - December 2023	01/15/2024

2. Grease Interceptor Wastehauling Report

Based on the grease interceptor maintenance frequency specified in Part 2 B of this permit, Permittee shall submit a Grease Interceptor Wastehauling Report semi-annually. The information shall be summarized and reported on the official Grease Interceptor Wastehauling Report Form (example shown in **Attachment C**), which shall be mailed out to the Permittee at least 4 weeks prior to the required reporting date. The report shall indicate the grease interceptor maintenance activities performed during the wastehauling monitoring period and shall include copies of wastehauling manifests. OC San will not accept unofficial Grease Interceptor Wastehauling Report Forms because it uses computer-generated bar codes for tracking purposes. Permittee shall submit Grease Interceptor Wastehauling Reports in accordance with the following schedule:

Wastehauling Monitoring Period	Due Dates for Submitting Grease Interceptor Wastehauling Reports
January 2022 - June 2022	07/15/2022
July 2022 - December 2022	01/15/2023
January 2023 - June 2023	07/15/2023
July 2023 - December 2023	01/15/2024

3. **Changes in Company information**

Permittee shall immediately inform OC San of any changes in ownership or facility name, and discrepancies in the food service establishment information currently on file as shown in **Attachment D.**

4. **Signatory Requirements**

Prior to submittal of the BMP Monitoring Report or Grease Interceptor Wastehauling Report to OC San, the information shall be verified and signed under penalty of perjury by an authorized company official.

5. **Falsifying Information**

Knowingly making any false statement on any report or other document required by this permit or knowingly rendering any monitoring device or method inaccurate is a crime and may result in the imposition of criminal sanctions and/or civil penalties.

PART 4. STANDARD CONDITIONS

A. NON-TRANSFERABILITY OF PERMIT

This permit is issued specifically to the owner and facility location specified in this permit. This permit is issued for a specific user, for a specific operation at a specific location, and creates no vested rights. Any permit that is transferred to a new owner and/or operator or to a new facility is void. Permittee shall notify OC San in writing prior to the transfer of ownership and shall give a copy of the existing permit to the new owner or operator.

B. ACCESS REQUIREMENTS

Access to the Permittee's facility shall be granted to OC San's personnel and/or its designee to all parts of the facility for the purpose of conducting compliance inspection during all times the facility is open, operating, or any other reasonable time. OC San may conduct random, unannounced inspections to verify compliance with the terms and conditions of this permit.

C. CIVIL PENALTIES

Any person who violates any provision of the FOG Ordinance; or any permit condition, prohibition or effluent limitation; or any suspension or revocation order shall be liable civilly for a penalty pursuant to Article 6 of the FOG Ordinance, for each day in which such violation occurs.

D. CRIMINAL PENALTIES

Any person who violates any provision of the FOG Ordinance or any permit condition, prohibition or effluent limit, is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed one thousand dollars ($1,000), or imprisonment for not more than six (6) months in the County Jail, or both. Each day in violation constitutes a new and separate violation and shall be subject to the penalties contained herein.

E. SEVERABILITY

The provisions of this permit are severable. If any provision of those permits limitations and/or requirements, or the application thereof, to the Permittee is held invalid, the remainder of the permit limits and/or requirements shall remain in full force and effect.

F. TERMINATION OF SERVICE

OC San, by Order of the General Manager, may physically terminate sewer service to any property on a term of any order of suspension or revocation of a permit or upon the failure of a person not holding a valid wastewater discharge permit to immediately cease discharge, whether direct or indirect, to OC San's sewer facilities after due notification. All costs for physical termination as well as for reinstating service shall be paid by the Permittee.

PART 5. SPECIAL CONDITIONS FOR PERMIT NO. F-601583

- Permittee shall remove existing food grinders within 180 days of the effective date of this permit.

ATTACHMENTS

PERMIT NO. F-601583

McDonald's #6180

ATTACHMENT A

GREASE INTERCEPTOR DESIGN GUIDELINES

A. Sizing Grease Interceptors

Grease interceptors shall be designed and sized based on anticipated flow rates and organic load for maximum efficiency. The FOG Ordinance adopted by OC San requires grease interceptor sizing and construction to conform with the **Uniform Plumbing Code (UPC)**. To calculate the size of grease interceptor needed by a food service establishment, refer to the following formula taken from Appendix H of the Uniform Plumbing Code:

No. of Meals per peak hour [1]	x	Waste Flow Rate [2]	x	Retention Time [3]	x	Storage Factor [4]	=	Interceptor Size (Liquid Capacity)

1	Meals Served at Peak Hour	3	Retention Times: Commercial kitchen waste Dishwasher 2.5 hours Single-service kitchen Single serving 1.5 hours
2	To calculate the Waste Flow Rate, select the one option that applies: With dishwashing machine 6 gallons Without dishwashing machine 5 gallons Single-service kitchen 2 gallons	4	Storage Factors: Fully equipped commercial kitchen: 8-hour operation 1 16-hour operation 2 24-hour operation 3 Single-service kitchen 1.5

B. Grease Interceptor Design and Construction Guidelines

- Grease interceptors shall be placed as close as practical to the fixture(s) being served. It shall be located where it is easily accessible at all times for inspection, cleaning, and removal of accumulated grease.
- Minimum grease interceptor size shall be 750 gallons; the maximum size shall be 1500 gallons unless authorized by OC San in writing.
- Grease interceptors shall have two compartments. The inlet compartment shall be 2/3 of the total capacity of the interceptor and in all cases shall be longer than the maximum inside width of the interceptor. The outlet compartment shall have a minimum capacity of 1/3 of the total interceptor capacity. The liquid depth shall not be less than 2 feet 6 inches nor more than 6 feet.
- Access to each grease interceptor shall be provided by a manhole over the inlet and a manhole over the outlet. There shall also be an access manhole for each 10 feet of length for interceptors over 20 feet long. Manholes shall extend to grade, have a minimum size of 24 inches diameter or square opening, and shall have a gasketed cover at grade.
- The inlet and outlet shall have a baffle tee or similar flow device with a minimum cross sectional area equal to the required cross sectional area of the inlet. Each baffle shall extend from at least 4 inches above the liquid level to within at least 12 inches of the inside floor of the interceptor.
- Adequate partitions or baffles shall extend at least 6 inches above the liquid level. Flow from inlet compartment to outlet compartment shall be through a quarter bend, or similar device equivalent in cross sectional area to the inlet into the interceptor, and shall extend down to within 12 inches of the inside floor.
- Inlet, outlet and main baffle shall have a free vent area equal to the required cross sectional area of the inlet pipe.

For more details, consult Appendix H of the UPC.

ATTACHMENT B

SEMI-ANNUAL KITCHEN BEST MANAGEMENT PRACTICES (BMP) MONITORING REPORT

Facility Name: XYZ Restaurant	Permit No:	BMR No:
Contact:	Reporting Period: January 1, 2005 to June 30, 2005	Submission Date: July 15 2005

	Requirement	BMP Compliance Checklist	Yes	No	Not Applicable (Explain why)	
1	Installation of drain screens	Are drain screens installed on all sink and floor drains in the food preparation areas?	☐	☐	☐	
2	Segregation and collection of waste cooking oil	Is waste cooking oil collected and properly stored in drums and barrels for offsite recycling, or other acceptable disposal method?	☐	☐	☐	
3	Disposal of food waste	Are all food wastes disposed of directly into the trash or garbage, and not down the drains? Disposal of solid wastes down the sink or food grinder drain is prohibited.	☐	☐	☐	
4	Maintenance of exhaust filters	Is the wastewater generated from cleaning the kitchen exhaust filters disposed of properly?	☐	☐	☐	
5	Kitchen Signage	Is the "Drain Is Not A Dump" sign posted in the kitchen area to remind employees about required BMPs?	☐	☐	☐	
6	Employee Training	Employees have been trained on the following Best Management Practices during the reporting period:				
		How to "dry wipe" pots, pans, dishware and work areas to remove food scraps and grease before washing.	☐	☐	☐	
		Proper disposal of food waste and solids in enclosed plastic bags prior to depositing in trash containers or garbage bins to prevent leaking and odors.	☐	☐	☐	
		The location and use of absorption products to clean under fryer baskets and other locations where fats, oils, and grease may be spilled or dripped.	☐	☐	☐	
		How to properly dispose of grease or oils from cooking equipment into the waste grease barrel or drum without spilling to eliminate storm water contamination.	☐	☐	☐	
7	Employee Training Documentation	Training is documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed.	☐	☐	☐	
8	Other BMPs in place					

Example Only

Actual Form will be mailed

Certification

The results presented herein must be verified and signed under penalty of perjury by: (i) a responsible officer; (ii) general partner or proprietor; or (iii) a representative who has the responsibility for the overall operation of the permitted facility, who has been authorized by the corporate officer, general partner or proprietor to sign such reports, and such authorization has been made in writing and submitted to OC San.

I have personally examined and am familiar with the information submitted in this document. Based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of permit revocation/sewer access termination.

Name	Signature	Title	Date

ATTACHMENT C

SEMI-ANNUAL GREASE INTERCEPTOR WASTEHAULING REPORT

Facility Name: XYZ Restaurant	Permit No:	WHR No:
Contact:	Reporting Period: January 1, 2005 to June 30, 2005	Submission Date: July 15 2005

Grease Interceptor Wastehauling Activities

1	Wastehauling Date		Wastehauler		Vehicle Tag No.	
	Gallons Removed		Waste Disposal Site		Vehicle capacity (gal.)	
2	Wastehauling Date		Wastehauler		Vehicle Tag No.	
	Gallons Removed		Waste Disposal Site		Vehicle capacity (gal.)	
3	Wastehauling Date		Wastehauler		Vehicle Tag No.	
	Gallons Removed		Waste Disposal Site		Vehicle capacity (gal.)	
4	Wastehauling Date		Wastehauler		Vehicle Tag No.	
	Gallons Removed		Waste Disposal Site		Vehicle capacity (gal.)	
5	Wastehauling Date		Wastehauler		Vehicle Tag No.	
	Gallons Removed		Waste Disposal Site		Vehicle capacity (gal.)	
6	Wastehauling Date		Wastehauler		Vehicle Tag No.	
	Gallons Removed		Waste Disposal Site		Vehicle capacity (gal.)	

Example Only
Actual Form will be mailed

Certification

The results presented herein must be verified and signed under penalty of perjury by: (i) a responsible officer; (ii) general partner or proprietor; or (iii) a representative who has the responsibility for the overall operation of the permitted facility, who has been authorized by the corporate officer, general partner or proprietor to sign such reports, and such authorization has been made in writing and submitted to OC San.

I have personally examined and am familiar with the information submitted in this document. Based upon my inquiry of those individuals immediately responsible for obtaining the information reported herein, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of permit revocation/sewer access termination.

Name	Signature	Title	Date

Attachment D

PERMITTEE INFORMATION ON FILE

The following information is currently on file. If any of the information is inaccurate or missing, Permittee is required to update OC San using the FSE Information Update Form provided in the Forms Tab of the Binder.

Applicant:	IVF-B	**Doing Business as (DBA)**	McDonald's #6180
Street Address:	4200 E. Chapman Ave.	**Facility Phone Number**	714-264-5560
City/ZIP Code	Orange, 92869	**Facility Email Address**	abriones@dejonmcd.com
Food Service Establishment Owner		**Designated Signatory**	
Name/Title	Jennifer Briones / CEO	**Name/Title**	No Person Designated /
Address	IVF-B, Inc, 11235 Knott Avenue Unit C	**Address**	
City / State / ZIP	Cypress, CA 90630	**City / State / ZIP**	
Phone Number	714-264-5560	**Phone Number**	
Email Address	jbriones@dejonmcd.com	**Email Address**	
Facility Contact During Business Hours Name/Title/Phone Number		Leisy Torres / Manager / 714-699-0485	

Chain Status	☐ Chain ☒ Independent	**Type of Ownership**	☐ Single Proprietorship
Seating Capacity	Inside: 80		☐ Partnership
	Outside 16		☒ Corporation
Seating	☐ Sit-down	**Average No. of Meals served during peak hour**	90
	☐ Take-out		
	☒ Both	**Non-disposable Dish Usage**	☐ Yes
No. of Employees	43		☒ No

Food Processing Equipment		Kitchen Equipment
Deep Fryers - (2)	Rotisserie - ( )	Dishwasher - ( )
Charbroilers - ( )	Griddles - ( )	Pre-Rinse Sink - ( )
Grills - (2)	Stoves - ( )	Mop Sink - (1)
Ovens - (2)	Woks - ( )	Floor Drain - (7)
Other - ( )		Garbage Disposal - ( )

Hours of Operation

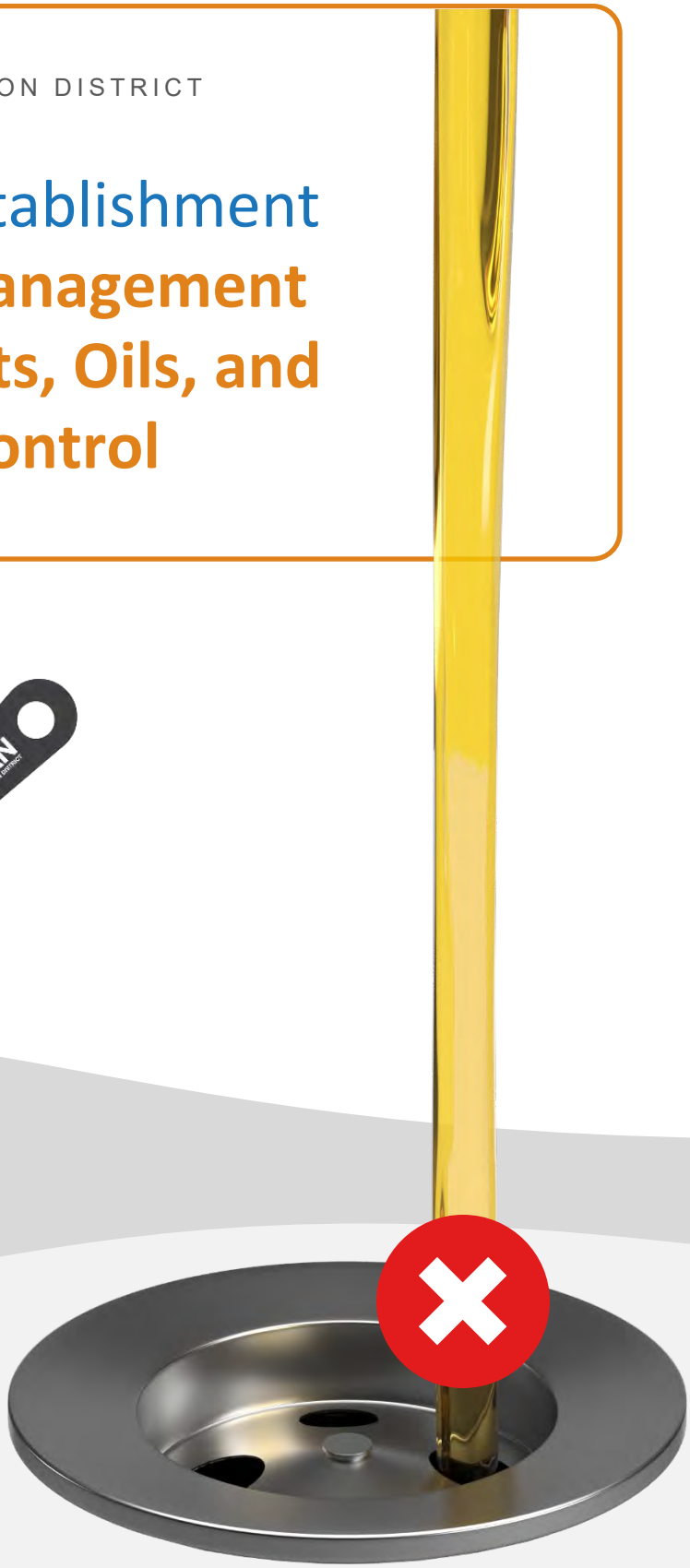
Monday	Start:	6:00 am	Stop:	12:00 am	Start:		Stop:		or ☐	24 Hours or	☐ Closed
Tuesday	Start:	6:00 am	Stop:	12:00 am	Start:		Stop:		or ☐	24 Hours or	☐ Closed
Wednesday	Start:	6:00 am	Stop:	12:00 am	Start:		Stop:		or ☐	24 Hours or	☐ Closed
Thursday	Start:	6:00 am	Stop:	12:00 am	Start:		Stop:		or ☐	24 Hours or	☐ Closed
Friday	Start:	6:00 am	Stop:	12:00 am	Start:		Stop:		or ☐	24 Hours or	☐ Closed
Saturday	Start:	6:00 am	Stop:	12:00 am	Start:		Stop:		or ☐	24 Hours or	☐ Closed
Sunday	Start:	6:00 am	Stop:	12:00 am	Start:		Stop:		or ☐	24 Hours or	☐ Closed

Appendix E

Kitchen BMP Training Materials

ORANGE COUNTY SANITATION DISTRICT

Food Service Establishment Kitchen Best Management Practices for Fats, Oils, and Grease (FOG) Control



OCSAN
ORANGE COUNTY SANITATION DISTRICT

Kitchen Best Management Practices

For more information, check our website:
www.ocsan.gov

or contact the following:

Environmental Protection Manager
Mark Kawamoto
(714) 593-7424

FOG Program Administrator
Lori McKinley, Principal Environmental Specialist
(714) 593-7505 | lmckinley@ocsan.gov

General Assistance Reception Desk
(714) 962-2411

Report a Sewer Overflow - After Hours
Control Center
(714) 593-7025

By Mail
Orange County Sanitation District | Resource Protection Division
18480 Bandilier Circle, Fountain Valley CA 92708

February 2025

Appendix F1

FOG Ordinance: Core Elements

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Core Elements:
Fats, Oils, and Grease (FOG) Ordinance No. OCSD-25

The Orange County Sanitation District's (OC San) Board of Directors adopted Fats, Oils, and Grease (FOG) Ordinance No. OCSD-25 in 2005 to align with California's Waste Discharge Requirements in an effort to reduce FOG in sewers, preventing sewage spills which pose health risks.

Permit Requirement

- All Food Service Establishments (FSEs) shall be required to obtain a FOG Wastewater Discharge Permit to discharge wastewater into the sewer system.

  Rationale: *A permit is an effective method to regulate FOG discharges by providing specific requirements tailored to the needs of each FSE in meeting specific compliance objectives. The permit identifies the permittee's obligations and responsibilities in a single document, thereby increasing the permittee's understanding with regards to FOG control requirements.*

Permit Exemptions

- A limited food preparation establishment is not considered an FSE and is exempt from obtaining a FOG Discharge Permit. Exempted establishments shall be engaged only in reheating, hot holding, or assembly of ready-to-eat food products and, as a result, there is no wastewater discharge containing a significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.

  Rationale: *Limited food preparation establishments have insignificant FOG discharges and need not be regulated at this time.*

Permit Fee

- A permit fee of $100/year covers permit issuance and maintenance.

Prohibitions

- Use of food grinders. Installation of food grinders in the plumbing system of new constructions of FSEs is prohibited. Furthermore, all food grinders shall be removed from all existing FSEs within 180 days after notification, except when expressly allowed by the FOG Control Program Manager.

  Rationale: *Eliminating food grinders (garbage disposer) will reduce the volume of solids that enter a grease interceptor or the sewer. Food wastes that accumulate in the grease interceptor occupy space used to separate and remove grease, resulting in increased cleaning frequency requirement, waste hauling costs, and potential blockages.*

- Introduction of any additives into an FSE's wastewater system for the purpose of emulsifying or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance unless a specific written authorization from the FOG Control Program Manager is obtained.

  Rationale: *Emulsifiers hinder FOG separation by dispersing FOG in the wastewater, which directly conflicts with the grease interceptor's role in separating and removing grease.*

Additives may also cause the interceptor to discharge its contents to the sewer.

- Disposal of waste cooking oil into drainage pipes. All waste cooking oils shall be collected and stored properly in receptacles, such as barrels or drums, for recycling or other acceptable methods of disposal.

  Rationale: *Disposal of waste cooking oil to the sewer will cause blockages. Recyclers in Orange County may recycle waste cooking oil. This is an opportunity for cost recovery.*

- Discharge of wastewater from dishwashers to any grease trap or grease interceptor.

  Rationale: *Dishwashers that utilize temperatures more than 140°F will dissolve grease, which then resolidifies in the sewer as the water cools. This does not necessarily apply to dishwashers that use water temperatures less than 140°F.*

- Discharge of wastewater with temperatures more than 140˚F to any grease control device, including grease traps and grease interceptors.

  Rationale: *Temperatures more than 140˚F will dissolve grease, which then resolidifies in the sanitary sewer as the water cools.*

- Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service, or vice versa.

  Rationale: *Grease interceptors are intended to separate and remove FOG and should not contain other wastes that will interfere with its operations and maintenance.*

- Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system. Grease removed from grease interceptors shall be wastehauled periodically as part of the operation and maintenance requirements for grease interceptors.

  Rationale: *This defeats the purpose of the interceptor. Accumulated grease, solids, and wastewater removed from interceptors must be properly disposed offsite periodically as part of the operation and maintenance requirements.*

- Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the total design hydraulic depth of the grease interceptor (25% Rule).

  Rationale: *This is to ensure that the minimum hydraulic retention time and required hydraulic volume is maintained to effectively intercept and retain FOG discharged to the sewer system.*

Requirement to Implement Best Management Practices (BMPs)

- FSEs are required to implement Best Management Practices in their operation to minimize the discharge of FOG to the sewer system.

  Rationale: *The best way to manage FOG is to keep it out of the plumbing system using Best Management Practices. BMPs are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices that effectively reduce the discharge of FOG from the FSE's wastewater discharge.*

General Requirement for FOG Pretreatment

- FSEs are required to pretreat their wastewater using grease interceptors to remove FOG prior to discharge to the sewer system. Waivers or Variances are allowed when applicable, as outlined in Ordinance No. OCSD-25, Section 2.6, but space and plumbing segregation are required for future interceptor installation.

  Rationale: *Pretreatment through installation, operation, and maintenance of a properly designed and adequately sized grease interceptor has been proven to be effective and is considered the Best Conventional Technology (BCT) for FOG control. Unless the FOG discharge is significantly low, implementation of BMPs and the use of other common grease control devices, such as grease traps, may not be sufficient to effectively control FOG. FSEs with insignificant FOG discharges may be granted waivers from grease interceptor installation, for practical reasons. A Waiver or Variance may be cancelled when it is shown that the FSE has significantly increased its FOG discharge because of facility expansion or changes in operations. Because FSEs have the potential to change operations or grow (hence, increase future FOG discharge), it is important to require space and plumbing segregation to allow*

future grease interceptor installation, even when waivers are issue.

Implementation of FOG Pretreatment Requirement for New Construction of FSEs

- New construction of FSEs is required to install grease interceptors prior to commencing discharge of wastewater to the sewer system.

  Rationale: *New FSEs can install grease interceptors during construction and must take this opportunity to put FOG pretreatment in place.*

Implementation of FOG Pretreatment Requirement for Existing FSEs

- Installation of grease interceptors are required within 180 days after notification for existing FSEs that have caused or contributed to grease related blockage in the sewer system, or which have sewer laterals connected to hotspots, or which have been determined to contribute significant FOG to the sewer system by the FOG Control Program Manager based on inspection or sampling.

  Rationale: *Existing FSEs that have adversely impacted the sewer system or have sewer laterals connected to hotspots, shall ensure that their FOG discharges are immediately reduced and brought to standard. This should decrease blockages and sanitary sewer overflows.*

- Installation of grease interceptors is required for existing FSEs undergoing remodeling or a change in operations as defined in the Ordinance, or for existing FSEs that change ownership and undergo remodeling or a change in operations as defined in the Ordinance.

  Rationale: *Existing FSEs undergoing remodeling or a change in operations can bring their wastewater discharges to standard by integrating the installation of grease interceptors in their planned changes. Likewise, changes in ownership that go through remodeling or changes in operations, have the same opportunities and are subject to the same requirement.*

Variance from Grease Interceptor Requirement

- A variance may be issued to allow alternative pretreatment technology that is, at least, equally effective in controlling the FOG discharge in lieu of a grease interceptor, to FSEs demonstrating that it is impossible or impracticable to install, operate, or maintain a grease interceptor. The FOG Control Program Manager's determination to grant a variance will be based upon, but not limited to, evaluation of the following conditions:

  1. There is no adequate space for installation and/or maintenance of a grease interceptor.
  2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.
  3. The FSE may justify that the alternative pretreatment technology is equivalent or better than a grease interceptor in controlling its FOG discharge. In addition, the FSE must be able to demonstrate, after installation of the proposed alternative pretreatment, its effectiveness to control FOG discharge through downstream visual monitoring (Closed Circuit Television or CCTV) of the sewer system, for at least three months, at its own expense. A variance may be granted if the results show no visible accumulation of FOG in its lateral and/or tributary downstream sewer lines.

  Rationale: *Issuance of a variance allows OC San to accept other alternative FOG pretreatment technology when the installation of a grease interceptor is not feasible. This allows flexibility to implement new technology that is equivalent, in efficacy, to a grease interceptor.*

Conditional Waiver from Installation of Grease Interceptor

- Conditional waivers from installation of grease interceptors may be issued to FSEs that have been determined to have negligible FOG discharge and insignificant impact to the sewer system. The FOG Control

Program Manager's determination to grant or revoke a conditional waiver shall be based upon, but not limited to, evaluation of the following conditions:

1. Quantity of FOG discharge as measured or as indicated by the size of FSE based on seating capacity, number of meals served, menu, water usage, etc.
2. De minimis discharge, i.e., discharge volume that does not require an interceptor size larger than 350 gallons.
3. Adequacy of implementation of Best Management Practices and compliance history.
4. Sewer size, grade, condition based on visual information (CCTV), FOG deposition in the sewer by the FSE, and history of maintenance and sewage spills in the receiving sewer system.
5. Changes in operations that significantly affect FOG discharge.
6. Any other condition deemed reasonably appropriate by the FOG Control Program Manager.

Rationale: *Issuance of conditional waivers from grease interceptor installation allows OC San to waive the requirement when it is not necessary, i.e., when the FSE is determined to have negligible FOG discharge and insignificant impact to the sewer system. The waiver is made conditional so that it may be revoked anytime when any of the reasons or conditions for its issuance is no longer valid or true. The issuance of waivers allows flexibility to implement the grease interceptor requirement in a practical manner such that FSEs are not necessarily burdened by requirements that derive no benefits towards achieving the desired environmental results.*

Waiver from Grease Interceptor Installation with a Grease Disposal Mitigation Fee

- For FSEs where the installation of a grease interceptor is not feasible and no equivalent alternative pretreatment may be installed, a waiver from the grease interceptor requirement may be granted with the imposition of a Grease Disposal Mitigation Fee as described in the Ordinance. The FOG Control Program Manager's determination to grant the waiver with a Grease Disposal Mitigation Fee will be based upon, but not limited to, evaluation of the following conditions:

  1. There is no adequate space for installation and/or maintenance of a grease interceptor.
  2. There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.
  3. A variance from grease interceptor installation to allow alternative pretreatment technology may not be granted.

  Rationale: *This allows issuance of a waiver when the installation of a grease interceptor is not physically feasible. However, FSEs are required to pay an annual Grease Disposal Mitigation Fee to equitably cover the costs of increased maintenance of the sewer system because of the FSEs' inability to adequately remove FOG from their wastewater discharges. The Grease Disposal Mitigation Fee shall be established uniformly and shall be based on the estimated annual increased cost of maintaining the sewer system for inspection and removal of FOG and other viscous or solidifying agents attributable to the FSE resulting from the lack of grease interceptors or grease control devices.*

Grease Interceptor Installation Requirements

- Any FSE required to provide FOG pretreatment shall install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance with the objectives of the Ordinance. Grease interceptor sizing and installation shall conform to the current edition of the Uniform Plumbing Code.

  Rationale: *Although there are different methods available for sizing grease interceptors, the Uniform Plumbing Code design method is widely used and is the current official standard.*

Grease Interceptor Maintenance Requirements

- Grease interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor, which includes wastewater, accumulated FOG, floating materials, sludge, and solids.
- All existing and newly installed grease interceptors shall be maintained in a manner consistent with a maintenance frequency approved by the FOG Control Program Manager pursuant to this section.
- No FOG that has accumulated in a grease interceptor shall be allowed to pass into any sewer lateral, sewer system, storm drain, or public right of way during maintenance activities.
- FSEs with grease interceptors may be required to submit data and information necessary to establish the maintenance frequencies for the grease interceptors.
- The maintenance frequency for all FSEs with a grease interceptor shall be determined in one of the following methods:
    1. Grease interceptors shall be fully pumped out and cleaned at a frequency such that the combined FOG and solids accumulation does not exceed 25% of the total design hydraulic depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume are maintained to effectively intercept and retain FOG discharged to the sewer system.
    2. All FSEs with a grease interceptor shall maintain their grease interceptor not less than every 6 months.
    3. Grease interceptors shall be fully pumped out and cleaned quarterly when the frequency described in (1) has not been established. The maintenance frequency shall be adjusted when sufficient data have been obtained to establish an average frequency based on the requirements described in (1) and guidelines adopted pursuant to the FOG Control Program. OC San may change the maintenance frequency at any time to reflect changes in actual operating conditions in accordance with the FOG Control Program. Based on the actual generation of FOG from the FSE, the maintenance frequency may increase or decrease.
    4. The owner/operator of a FSE may submit a request to the FOG Control Program Manager requesting a change in the maintenance frequency at any time. The FSE has the burden of responsibility to demonstrate that the requested change in frequency reflects actual operating conditions based on the average FOG accumulation over time and meets the requirements described in (1), and that it is in full compliance with the conditions of its permit and this Ordinance. Upon determination by the FOG Control Program Manager that requested revision is justified, the permit shall be revised accordingly to reflect the change in maintenance frequency.
    5. If the grease interceptor, at any time, contains FOG and solids accumulation that does not meet the requirements described in (1), the FSE shall be required to have the grease interceptor serviced immediately such that all fats, oils, grease, sludge, and other materials are completely removed from the grease interceptor. If deemed necessary, the FOG Control Program Manager may also increase the maintenance frequency of the grease interceptor from the current frequency.
- Wastewater, accumulated FOG, floating materials, sludge/solids, and other materials removed from the grease interceptor shall be disposed off-site properly by wastehaulers in accordance with federal, state, and/or local laws.

Rationale: *The above requirements ensure that grease interceptors are properly operated at all times, by maintaining the minimum hydraulic retention time and required available volume necessary to effectively intercept and retain FOG prior to discharge of wastewater to the sewer system.*

Requirements for Best Management Practices (BMPs)

- Installation of drain screens. Drain screens shall be installed on all drainage pipes in food preparation areas.
- Disposal of food waste. All food waste shall be disposed of directly into the designated organic waste collection bin and not in sinks.

  Rationale: *Drain screens collect food wastes that can be disposed of in the organic waste collection bin as recyclable wastes rather than being discharged into the interceptor. Disposal of food wastes to the organic waste collection bin helps reduce the FOG discharged to the sewer and the interceptor pumping frequency required.*
- Segregation and collection of waste cooking oil. Licensed wastehaulers or an approved recycling facility must be used to dispose of waste cooking oil.

  Rationale: *Disposal of waste cooking oil to the sewer is prohibited and will cause blockages. Waste cooking oil may be recycled at recyclers in Orange County. This is an opportunity for cost recovery.*
- Employee training. Employees of the FSE shall be trained by ownership within 180 days of notification, and twice each calendar year thereafter, on the following subjects:

  1. How to "dry wipe" pots, pans, dishware, and work areas before washing to remove grease.
  2. How to properly dispose of food waste to organic waste collection bins.
  3. The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.
  4. How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.

  Training shall be documented, and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time by OC San or other authorized inspector.

  Rationale: *Employees are more willing to support an effort if they understand the basis for it. Regular training will promote awareness in controlling FOG discharges through Best Management Practices.*
- Maintenance of kitchen exhaust filters. Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed of properly such as into a barrel or drum.

  Rationale: *FOG can accumulate on the roof of an establishment and eventually enter the storm drain system when it rains. The discharge of FOG to the storm drain system is prohibited.*
- Kitchen signage. Best management and waste minimization practices shall be posted conspicuously in the food preparation and dishwashing areas.

  Rationale: *Signs serve as a constant reminder for staff working in kitchens. These reminders will help minimize discharge of FOG by implementing Best Management Practices.*

Notification Requirements

- FSEs shall comply with the following notification requirements:

  1. Notification of Spill
  2. Notification Regarding Planned Changes

Recordkeeping Requirements

- FSEs shall keep records for at least two years and submit or make available for review, the following documents to OC San, upon request:

  1. A Record/Logbook of BMPs being implemented, including employee training.
  2. A Logbook of the grease interceptor, grease trap, or grease control device cleaning and maintenance practices and activities.

  For permittees with grease interceptors:

  3. Copies of records and manifests of wastehauling interceptor contents.
  4. Records of sampling data and/or sludge height monitoring for FOG and solids accumulation in the grease interceptors

Reporting Requirements

- FSEs shall be required to submit periodic reporting of the status of implementation of BMPs and maintenance of grease interceptors.
- Other reports may be required such as compliance schedule progress reports, FOG control monitoring reports, and any other reports deemed reasonably appropriate to ensure compliance with the Ordinance.

Drawing Submittals

- FSEs may be required to submit site plans, floor plans, mechanical and plumbing plans, and details to show all sewers, schematic drawings of FOG control device, grease interceptors or other pretreatment equipment and appurtenances by size, location, and elevation for evaluation.

Appendix F2

FOG Fact Sheet

ORANGE COUNTY SANITATION DISTRICT

Answers to questions about...

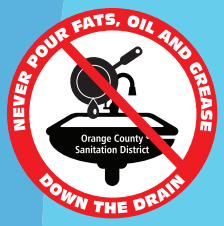
Fats, Oils, and Grease

The Orange County Sanitation District (OC San) is a public agency that provides wastewater collection, treatment, and recycling services for approximately 2.6 million people in central and northwest Orange County. OC San has two plants that treat wastewater from residential, commercial and industrial sources.

What is FOG?

FOG stands for fats, oils, and grease. FOG is a mixture of fats, oils, and grease from various cooking ingredients, such as:

- Butter and margarine
- Lard
- Meat fat
- Dairy products
- Food scraps
- Baked goods



How does FOG enter the sewers?

FOG enters the sewers often unintentionally. For example, FOG enters our sewers when a pan that is used to cook bacon is washed.

Why is Fog a problem?

When poured down the drain, FOG can build up over time in pipes, pumps, and equipment, which can cause significant problems to Orange County Sanitation District's (OC San) sewer collection system and wastewater treatment plant. Some of the problems FOG can cause are sewer line blockages, which can lead to sewer overflows (spills) that cause environmental and public health hazards. Sewer overflows contain disease-causing bacteria and viruses that can make their way to rivers, lakes, and beaches.

How to minimize FOG discharge?

Can it. Cool it. Throw it away. The best way to manage FOG is to keep it out of the sewer system! Below are some easy steps to keep FOG out:

Recycle FOG. There are facilities available that collect household FOG. Do some research to see if there is a facility near you.

Can the FOG. Collect fats, oils, and grease in a disposable container, like a metal can, and mix it with absorbent trash such as coffee grounds, paper towels, or kitty litter.

Install drain screens in kitchen sinks. Drain screens collect food waste that can be tossed into the trash.

Properly dispose of food waste. All food waste should be disposed of directly into the appropriate trash can, and not into sinks or down a drain. This reduces the FOG discharged to the sewer.

OC San is responsible for safely collecting, treating, and disposing more than 180 million gallons per day of wastewater, generated by more than 2.6 million people in central and northwest Orange County. OC San owns and operates approximately 388 miles of regional sewer lines and two wastewater treatment plants in Fountain Valley and Huntington Beach.

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OC SAN
ORANGE COUNTY SANITATION DISTRICT

OC San-PA-07/22

Appendix F3

FOG Definitions

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Fats, Oils, and Grease (FOG) Definitions

Following are the definitions of terms commonly encountered in the FOG Source Control Program:

Best Management Practices (BMPs)	Schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the introduction of FOG to the sewer facilities.
Brown Grease	Yellow grease mixed with wastewater, e.g., waste from grease interceptors.
Change in Operations	Any change in the ownership, food types, or operational procedures that have the potential to increase the amount of FOG generated and/or discharged by Food Service Establishments in an amount that alone or collectively causes or creates a potential for sanitary sewer overflows to occur.
Co-Permittees	Sewering cities and agencies that are subject to the Waste Discharge Requirements (WDR).
OC San	The Orange County Sanitation District.
Effluent	Any liquid outflow from the Food Service Establishment that is discharged to the sewer.
Fats, Oils, and Grease ("FOG")	Any substance such as a vegetable or animal product that is used in, or is a byproduct of, the cooking or food preparation process, and that turns or may turn viscous or solidifies with a change in temperature or other conditions.
FOG Characterization	Study to determine location of hot spots, the location of Food Service Establishments, and any correlation between the two.
FOG Control Program	The FOG Control Program required by and developed pursuant to RWQCB Order No. R8-2002-0014, Section (c)(12)(viii).

FOG Control Program Manager	The individual designated by OC San to oversee the FOG Control Program. The FOG Control Program Manager is responsible for all determinations of compliance with the program, including approval of discretionary variances and waivers.
FOG Program Administrator	The individual designated by OC San to administer the FOG Control Program. The FOG Program Administrator is responsible for the day-to-day tasks that keep the FOG Control Program running smoothly.
FOG Wastewater Discharge Permit	A permit issued by OC San subject to the requirements and conditions established by OC San that authorizes the permittee or discharger to discharge wastewater into OC San's facilities or into sewer facilities which ultimately discharge into an OC San facility.
Food Grinder	Any device installed in the plumbing or sewage system for the purpose of grinding food waste or food preparation byproducts for the purpose of disposing it in the sewer system.
Food Service Establishment	Facilities defined in California Health and Safety Code Division 104, Environmental Health Part 7, California Retail Food Code (CRFC), and any commercial entity within the boundaries of OC San, operating in a permanently constructed structure such as a room, building, or place, or portion thereof, maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to be removed by mechanical exhaust ventilation equipment as defined in CRFC Section 114149.1. A limited food preparation establishment is not considered a Food Service Establishment when engaged only in reheating, hot holding, or assembly of ready to eat food products and as a result, there is no wastewater discharge containing a significant amount of FOG. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.
Grease Control Device	Any grease interceptor, grease trap, hydromechanical grease interceptor or other mechanism, device, or process, which attaches to, or is applied to, wastewater plumbing fixtures and lines, the purpose of which is to trap or collect or treat FOG prior to it being discharged into the sewer system. "Grease control device" may also include any other proven method to reduce FOG subject to the approval of OC San.

Grease Disposal Mitigation Fee	A fee charged to an Owner/Operator of a Food Service Establishment when there are physical limitations to the property that make the installation of the usual and customary grease interceptor or grease control device for the Food Service Establishment under consideration, impossible or impracticable. The Grease Disposal Mitigation Fee is intended to cover the costs of increased maintenance of the sewer system for inspection and cleaning of FOG and other viscous or solidifying agents that a properly employed grease control device would otherwise prevent from entering the sewer system.
Grease Interceptor (GI)	A multi-compartment device that is constructed in different sizes and is generally required to be located, according to the California Plumbing Code, underground between a Food Service Establishment and the connection to the sewer system. These devices primarily use gravity to separate FOG from the wastewater as it moves from one compartment to the next. These devices must be cleaned, maintained, and have the FOG removed and disposed of in a proper manner on regular intervals to be effective.
Grease Trap	A grease control device that is used to serve individual fixtures and have limited effect and should only be used in those cases where the use of a grease interceptor or other grease control device is determined to be impossible or impracticable. Grease traps are also referred to as hydromechanical grease interceptors.
Hot Spots	Areas in sewer lines that have experienced sanitary sewer overflows or that must be cleaned or maintained frequently to avoid blockages of the sewer system.
Inspector	A person authorized by OC San to inspect any existing or proposed wastewater generation, conveyance, processing, and disposal facilities.
Interceptor	A grease interceptor.
Manifest	That receipt which is retained by the generator of wastes for disposing recyclable wastes or liquid wastes as required by OC San.
NPDES	The National Pollutant Discharge Elimination System; the permit issued to control the discharge of liquids or other substances or solids to surface waters of the United States as detailed in Federal Water Pollution Control Act, Section 402.
New Construction	Any structure planned or under construction for which a sewer connection permit has not been issued.

Permittee	A person who has received a permit to discharge wastewater into OC San's sewer facilities subject to the requirements and conditions established by OC San.
Public Sewer	A sewer owned and operated by OC San, or other local Public Agency, which is tributary to the OC San's sewer facilities.
Regulatory Agencies	Regulatory Agencies shall mean those agencies having regulatory jurisdiction over the operations of OC San, including, but not limited to: ▪ United States Environmental Protection Agency, Region IX, San Francisco and Washington, DC (EPA). ▪ California State Water Resources Control Board (SWRCB). ▪ California Regional Water Quality Control Board, Santa Ana Region (RWQCB). ▪ South Coast Air Quality Management District (SCAQMD). ▪ California Department of Health Care Services (DHCS).
Regional Water Quality Control Board (RWQCB)	Regulatory Agency issuing the Waste Discharge Requirements, requiring agencies to control and prevent sewer spills.
Remodeling	A physical change or operational change causing generation of the amount of FOG that exceeds the current amount of FOG discharge to the sewer system by the Food Service Establishment in an amount that alone or collectively causes or creates a potential for SSOs to occur; or exceeding a cost of $50,000 to a Food Service Establishment that requires a building permit, and involves any one or combination of the following: (1) Under slab plumbing in the food processing area, (2) a 30% increase in the net public seating area, (3) a 30% increase in the size of the kitchen area, or (4) any change in the size or type of food preparation equipment.
Sample Point	A location approved by OC San, from which wastewater can be collected that is representative in content and consistency of the entire flow of wastewater being sampled.
Sampling Facilities	Structure(s) provided at the user's expense for OC San or user to measure and record wastewater constituent mass, concentrations, collect a representative sample, or provide access to plug or terminate the discharge.
Sanitary Sewer Overflows (SSOs)	Sewer spills.

Sewer Facilities or System	All facilities used for collecting, conveying, pumping, treating, and disposing of wastewater and sludge.
Sewer Lateral	A building sewer as defined in the latest edition of the California Plumbing Code. It is the wastewater connection between the building's wastewater facilities and a public sewer system.
Sewer System Management Plan (SSMP)	Plan for managing the sewer collection system.
Sludge	Any solid, semi-solid or liquid decant, subnate or supernate from a manufacturing process, utility service, or pretreatment facility.
Twenty-five percent (25%) Rule	Requirement for grease interceptors to be maintained such that the combined FOG and solids accumulation does not exceed 25% of the design hydraulic depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume is maintained to effectively intercept and retain FOG discharged to the sewer system.
User	Any person who discharges or causes a discharge of wastewater directly or indirectly to a public sewer system. User shall mean the same as Discharger.
Waste	Sewage and all other waste substances, liquid, solid, gaseous, or radioactive, associated with human habitation or of human or animal nature, including such wastes placed within containers of whatever nature prior to and for the purpose of disposal.
Waste Discharge Requirements (WDR)	Order that required sewering agencies to control and prevent sewer spills and to develop a Sewer System Management Plan.
Waste Minimization Practices	Plans or programs intended to reduce or eliminate discharges to the sewer system or to conserve water, including, but not limited to, product substitutions, housekeeping practices, inventory control, employee education, and other steps as necessary to minimize wastewater produced.
Wastehauler	Any person carrying on or engaging in vehicular transport of waste as part of, or incidental to, any business for that purpose.

Wastewater	The liquid and water-carried wastes of the community and all constituents thereof, whether treated or untreated, discharged into or permitted to enter a public sewer.
Wastewater Constituents and Characteristics	The individual chemical, physical, bacteriological, and other parameters, including volume and flow rate and such other parameters that serve to define, classify or measure the quality and quantity of wastewater.
Yellow Grease	FOG after it has been used for cooking.

Appendix F4

FOG Issues: Frequently Asked Questions

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Fats, Oils, and Grease (FOG) Issues: Frequently Asked Questions

The following are frequently asked questions intended to provide general information regarding issues related to Fats, Oils, and Grease (FOG) discharges from Food Service Establishments (FSEs) in the Orange County Sanitation District (OC San) FOG Control Program.

What is FOG?

- FOG stands for Fats, Oils, and Grease from food preparation, food service, and kitchen clean up. It is generated in most types of restaurants and FSE kitchens.

What is the main source of FOG from kitchen operations?

- FOG discharges are predominantly generated from washing and cleaning operations and not from fryolators or deep-frying units as most people might think. The pot washing sink, pre-rinse station prior to dishwasher, trenches and floor drains fed by soup kettles, automatic and manual ventilation hoods, etc., are the major sources of grease discharges to the sewer system.

Why is the discharge of FOG a problem?

- When poured down the drain, FOG from food preparation operations solidifies on the inside of sewers restricting the flow of sewage, like the way that cholesterol restricts the flow of blood through arteries and veins. Sewer blockages have resulted from this grease build up, causing raw sewage to backup into streets, homes, and businesses.
- FOG can build up over time in pipes, pumps, and equipment, causing significant problems to OC San's sewer collection system. Sewer line blockages that lead to sewer overflows (sewage spills) can cause environmental and health hazards.

Why is the issue of sewage spills important?

- Sewage spills contain disease-causing bacteria, viruses, and other human health pathogens that can easily be transported to recreational waterways, such as Orange County's beaches, jeopardizing public health.

Is there a law against sanitary sewer overflows?

- **YES.** The federal Clean Water Act and comparable state water quality regulations prohibit wastewater discharges into the waters of the state without a permit. A sanitary sewer overflow that ends up in a storm drain is an example.

What is being done to prevent FOG related sanitary sewer overflows?

- The State Water Resources Control Board issued an order that mandates cities and sewering agencies prevent sewage spills caused by grease blockages.
- To comply with this order, OC San implemented a FOG Source Control Program for FSEs, such as restaurants, located within its jurisdiction and established legal authority for implementing this program by adopting a FOG Ordinance.

What is the objective of OC San's FOG Source Control Program?

- The objective of OC San's FOG Source Control Program is to reduce FOG discharges to the sewer system to prevent sewage spills and protect public health and the environment by regulating the discharge of FOG from FSEs. FOG Wastewater Discharge Permits are issued to enforce the requirements and prohibitions of the FOG Ordinance. See fact sheet on "FOG Source Control Program."

What is required by the FOG Wastewater Discharge Permit?

- The permit requires, among other things, implementation of kitchen Best Management Practices (BMPs), and installation of grease interceptors to reduce FOG discharge into OC San's sewer system. See fact sheet on "FOG Source Control Program Frequently Asked Questions (FAQs)"

Are all FSEs required to have a grease interceptor?

- Waivers from the grease interceptor requirement are issued to most of the FSEs, except for the following:
  - Newly constructed FSEs.
  - FSEs that undergo remodeling or a major change in operations.
  - FSEs that have caused or contributed to grease-related blockages in the sewer system, or which have sewer laterals connected to hotspots, or which have been determined to contribute significant FOG to the sewer system based on inspection or sampling.

Why should I care about FOG?

- FOG related sewer overflows are costly to clean up, and may expose restaurant customers or employees, food service workers, and others to health risks. FSEs may also be subject to temporary closure and potential liabilities.
- FSEs are significant contributors of FOG in the sewer lines because of the amount of grease produced during cooking, food preparation, and kitchen cleaning. Problems caused by these establishments have served as the basis for ordinances and regulations governing the discharge of FOG to the sewer system.
- An FSE found in noncompliance with the conditions of its permit and the FOG Ordinance is subject to enforcement actions that may include, but is not limited to, noncompliance fees, permit suspension, and permit revocation.

What are ways to reduce the amount of grease that goes down the drain?

- FSEs are responsible to implement BMPs to reduce FOG discharge into OC San's system. A list of BMPs is included with the FOG Permit Packet.

What are the plans to address the residential and industrial FOG contributions?

- OC San also recognizes that there are FOG discharges from residential and industrial facilities. Residents are covered under a FOG Public Outreach Program, including TV, newspaper, and radio ads, and industrial facilities are already subject to industrial wastewater discharge permits.

Whom do I contact regarding FOG related issues?

Orange County Sanitation District
Resource Protection Division
FOG Source Control Program

(714) 962-2411
forinformation@ocsan.gov

Website: Fats, Oils, & Grease Wastewater Discharge Permit | Orange County Sanitation District (ocsan.gov)

Appendix F5

FOG Source Control Program

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Fats, Oils, and Grease (FOG) Source Control Program

Fats, Oils, and Grease (FOG) discharged by residential, commercial, institutional, and industrial users present a significant problem to the wastewater collection and treatment systems, causing sewer blockages resulting to sewer overflows (spills).

To address this problem, the Orange County Sanitation District (OC San) established a FOG Source Control Program and an Ordinance to regulate Food Service Establishments (FSEs), which discharge FOG into the sewer system.

What is the Program Objective?

- The objectives of OC San's FOG Source Control Program for FSEs are to reduce FOG discharges into the sewer system, prevent sewage spills, and protect public health and the environment. These objectives are in accordance with the State Water Resources Control Board (SWRCB) mandate. FSEs are significant FOG contributors and must share the responsibility for reducing FOG discharges.

What are the major Requirements of the Program

- All FSEs that discharge FOG into the sewer system are required to obtain a FOG Wastewater Discharge Permit at an annual permit fee of $100. However, a limited food preparation establishment is not considered an FSE and is exempt from obtaining a FOG Wastewater Discharge Permit. Exempted establishments are grouped according to limited food preparation activities that do not produce wastewater containing a significant amount of FOG. These activities include reheating, hot holding, or assembly of ready-to-eat food products. A limited food preparation establishment does not include any operation that changes the form, flavor, or consistency of food.
- All FSEs are required to implement Best Management Practices (BMPs) in their operations to minimize the discharge of FOG to the sewer system.
- All FSEs are required to pretreat their wastewater using grease interceptors to remove FOG prior to discharge to the sewer system, however some FSEs are granted waivers from this requirement for two years, and the waivers may be re-issued on a case- by-case basis. A waiver may not be issued for:
    - Newly constructed FSEs;
    - FSEs that undergo re- modeling or a major change in operations; and
    - FSEs that have caused or contributed to grease-related blockage in the sewer system, or that have sewer laterals connected to hotspots, or that have been determined to contribute significant FOG to the sewer system based on inspection or sampling.
- Variances may be issued to allow alternative pretreatment technology that is, at least, equally effective in controlling the FOG discharge in lieu of grease interceptors. However, FSEs must demonstrate and justify that it is impracticable to install, operate, or maintain grease interceptors.
- All FSEs required by OC San to install grease interceptors or equivalent devices are required to properly operate and maintain the pretreatment system.

How does OC San Implement the Program?

- Implement and enforce the FOG Ordinance that specifies general prohibitions and restrictions on FOG discharges;
- Administer enforcement measures and costs associated with FOG discharge and blockages;
- Administer a permit program to regulate wastewater discharges from FSEs;
- Track compliance through inspection of FSEs, review kitchen BMPs and grease interceptor maintenance practices, and monitor wastewater discharges;
- Evaluate and screen the results of inspection and reports to ensure compliance with FOG requirements;
- Consistently respond to all types of violations to ensure long-term compliance; and
- Work with FSEs, when applicable, to evaluate options to pretreat wastewater to reduce FOG prior to discharge to the sewer system.

What are the Bases for Establishing the Requirements?

In developing the requirements for the FOG Source Control Program, OC San considered the following:

- Technical Findings of the Hotspot Characterization and the FSE Characterization Studies: In order to establish reasonable requirements in reducing FOG discharge, OC San conducted characterization studies to thoroughly understand the nature of the FOG problem within OC San's Area 7. These studies helped identify all FSEs within OC San's Area 7 that were potential and specific sources of FOG discharges. The studies also provided valuable information on causes and preventions of sewage spills associated with FOG discharges. In addition, an evaluation of existing FOG control technologies was conducted.
- Case-by-Case Considerations vs. "One size fits all": FSEs were evaluated individually to determine specific requirements that were applicable and appropriate towards achieving the desired environmental results.
- Balance between Cost and Environmental Benefits: To ensure that the FSEs were not financially burdened by OC San's FOG Source Control Program, OC San's established requirements that were most effective and balanced to achieve reasonable environmental benefits.
- Issuance of Waivers and Variances: To account for flexibility during the FOG Source Control Program implementation, OC San allowed for situations where extenuating circumstances allowed FSE to forego installing grease interceptors.
- Experiences from other FOG Source Control Programs nationwide: OC San evaluated several FOG Source Control Programs nationwide and used program elements/requirements that have been found to be effective and appropriate for our local setting.

What Plans Addressed the Residential FOG Contribution?

- After initial implementation of the FOG Source Control Program for FSEs, OC San conducted a residential outreach program in efforts to educate and inform residents about the effects of discharging FOG into the sewer system.

Appendix F6

FOG Source Control Program Frequently Asked Questions

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Fats, Oils, and Grease (FOG) Source Control Program: Frequently Asked Questions

The Orange County Sanitation District (OC San) adopted a Fats, Oils, and Grease Ordinance effective on January 1, 2005. Concurrently, OC San implemented a FOG Source Control Program to regulate discharges from Food Service Establishments (FSEs) such as restaurants. Following are frequently asked questions from FSEs impacted by this program.

Are FSEs required to have permits to discharge to the sewer system?

- **YES.** As of January 1, 2005, it became illegal for FSEs to discharge to the sewer system without a valid FOG Wastewater Discharge Permit (permit).

Is there any exemption from this permit requirement?

- **YES.** Limited food preparation establishments are not considered FSEs and are exempt from obtaining a permit. Limited food preparation establishments are those that are engage only in reheating, hot holding, or assembly of ready-to-eat food products and as a result, there is no wastewater discharge containing a significant amount of FOG.

Is there a permit fee and how much?

- **YES.** There is a $100 annual permit fee and a $100 noncompliance fee for each instance of noncompliance to recover the costs of program administration.

Are there additional fees?

- **NO.** Currently, FSEs are already paying user charges for treatment of wastewater discharged to the sewer, as part of their property taxes. There are no additional fees other than the permit fee and the existing user charges.

What are the major requirements of the permit?

- To reduce FOG discharges to the sewer from FSEs, following are the major requirements of the permit:
    - FSEs are required to implement Best Management Practices (BMPs) in their operations to minimize the discharge of FOG to the sewer system.
    - FSEs are required to pretreat their wastewater using grease interceptors to remove FOG prior to discharge to the sewer system. Some FSEs are granted waivers from this requirement; waivers may be re- issued or revoked on a case-by-case basis. Variances may also be issued to allow alternative pretreatment technology that is, at least, equally effective in controlling the FOG discharge in lieu of grease interceptors. Or, variances may be issued to FSEs able to demonstrate that it is impossible

or impracticable to install, operate, or maintain a grease interceptor.

- All FSEs required to install grease interceptors or equivalent devices are required to properly operate and maintain the pretreatment system.

What are Best Management Practices (BMPs)?

- BMPs are schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the introduction of FOG to the sewer system. OC San provides educational outreach material to FSEs regarding implementation of BMPs.
- BMPs help reduce the amount of FOG and solids going to grease interceptors resulting in less frequent cleaning, thus reducing maintenance costs.

Are all FSEs required to implement BMPs?

- **YES.** Implementation of BMPs is a basic and necessary requirement for all FSEs. The best way to stop FOG from building up in the sewer lines is to prevent it from entering the drains using kitchen BMPs. Implementation of BMPs may involve some minor expense to prevent FOG properly and consistently from getting discharged to the sewer system. BMPs are proven effective and economical tools to control FOG at the source.

Are FSEs required to install grease interceptors?

- Although the Ordinance requires FSEs to install grease interceptors, this requirement may be waived; Waivers will be issued to most FSEs, except for the following:
  - Newly constructed FSEs.
  - FSEs that undergo remodeling or a major change in operations.
  - FSEs that have caused or contributed to grease-related blockage in the sewer system, or which have sewer laterals connected to hotspots, or which have been determined to contribute significant FOG to the sewer system based on inspection or sampling.
- Waivers may be re-issued for those FSEs that have insignificant impact or may be revoked at any time when the FSE is determined to have significant impact.

Are FSEs going to be inspected by OC San?

- **YES.** OC San will conduct inspections of FSEs as part of its enforcement program to determine compliance with the Ordinance and permit requirements. Inspections will be conducted to evaluate the following:
  - Compliance with kitchen BMP requirements
  - Compliance with grease interceptor requirements for those who are required to have a grease interceptor.
- In lieu of routine kitchen inspections to evaluate implementation of BMPs, FSEs shall submit BMP Monitoring Reports semi-annually describing BMPs in place. Details are provided in the permit.
- FSEs required to have grease interceptors shall submit Grease Interceptor Wastehauling Reports semi-annually documenting grease interceptor wastehauling and maintenance activities. Manifests and/or reports of all these activities must be included with the Report.
- Grease interceptors will be inspected on a routine basis to evaluate compliance with the pump-out and maintenance requirements.

Are there penalties for noncompliance?

- **Yes**. Any person who violates any provision of the FOG Ordinance; or any permit condition, prohibition, or effluent limitation; or any suspension or revocation order shall be liable civilly for a penalty pursuant to Article 6 of the FOG Ordinance, for each day in which such violation occurs.
- OC San, by Order of the General Manager, may physically terminate sewer service on a term of any order of suspension or revocation of a permit or upon the failure of a person not holding a valid wastewater discharge permit to immediately cease discharge, whether direct or indirect, to OC San's sewer facilities after due notification.

Appendix F7

FOG Prohibitions

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Prohibitions Relating to Discharge of Fats, Oils, and Grease (FOG)

The following prohibitions apply to all Food Service Establishments:

Prohibition	Reason
Use of food grinders. Installation of food grinders in the plumbing system of new constructions of Food Service Establishments is prohibited. Furthermore, all food grinders shall be removed from all existing Food Service Establishments within 180 days after notification, except when expressly allowed by the FOG Control Program Manager.	Eliminating food grinders (garbage disposal) will reduce the volume of solids that enter a grease interceptor or the sewer. Food wastes that accumulate in the grease interceptor occupy space used to separate and remove grease, resulting in an increased cleaning frequency requirement, waste hauling costs, and potential blockages.
Use of additives. Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance, unless a specific written authorization from the FOG Control Program Manager is obtained.	Emulsifiers hinder FOG separation by dispersing FOG in the wastewater, which directly conflicts with the grease interceptor's role in separating and removing grease. Additives may also cause the interceptor to discharge its contents to the sewer.
Disposal of waste cooking oil into drainage pipes. All waste cooking oils shall be collected and stored properly in receptacles, such as barrels or drums, for recycling or other acceptable methods of disposal.	Disposal of waste cooking oil to the sewer will cause blockages. Recyclers in Orange County may recycle waste cooking oil. This is an opportunity for cost recovery.
Discharge of wastewater from dishwashers to any grease trap or grease interceptor.	Dishwashers that utilize temperatures in excess of 140°F will dissolve grease, which then resolidifies in the sewer as the water cools. This does not necessarily apply to dishwashers that use water temperatures less than 140°F.

Prohibition	Reason
Discharge of wastewater with temperatures in excess of 140˚F to any grease control device, including grease traps and grease interceptors.	Temperatures in excess of 140˚F will dissolve grease, which then resolidifies in the sanitary sewer as the water cools.
Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service, or vice versa.	Grease interceptors are intended to separate and remove FOG and should not contain other wastes that will interfere with its operations and maintenance.
Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system. Grease removed from grease interceptors shall be wastehauled periodically as part of the operation and maintenance requirements for grease interceptors.	This defeats the purpose of the interceptor. Accumulated grease, solids, and wastewater removed from interceptors must be properly disposed offsite periodically as part of the operation and maintenance requirements.
Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the total design hydraulic depth of the grease interceptor (25% Rule).	This is to ensure that the minimum hydraulic retention time and required hydraulic volume are maintained to effectively intercept and retain FOG discharged to the sewer system.

Appendix F8

General Best Management Practices for FOG

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

General Best Management Practices for Fats, Oils, and Grease (FOG)

Residual fats, oils, and grease (FOG) are byproducts that Food Service Establishments (FSEs) must constantly manage. Typically, FOG enters a facility's plumbing system from ware washing, floor cleaning, and equipment sanitation. Sanitary sewer systems are neither designed nor equipped to handle the FOG that accumulates on the interior of the municipal sewer collection system pipes. A large percentage of Orange County's sanitary sewer overflows (sewer spills) are the result of pipe blockages from FOG accumulation from residential, institutional, and commercial sources. The best way to manage FOG is to keep the material out of the plumbing systems. The following are suggestions for proper FOG management.

Wet Cleanup: The Status Quo

- It is common practice in the food service industry to use a water hose as a broom, and wash everything on the floor to the drain as a method of disposal. This method not only forces FOG into the wastewater stream, but also results in foods, detergents, disinfectants, waxes, insecticides, and other chemicals entering the sewer system. Even worse than this mixed wastewater entering the sewer system, it is sometimes hosed into the storm drain, where it goes directly into our waterways unfiltered and untreated - the same waterways we use for recreation, fishing, and to supply our drinking water. This practice is not only harmful to the environment, but it may be illegal, resulting in fines or criminal penalties.

Dry Cleanup: The Better Way!

- Rather than resort to the wet cleanup method of cleaning, OC San recommends the dry cleanup method. The "first pass" in equipment and utensil cleaning should be made with scrapers, squeegees, or absorbents to prevent the bulk of food materials from going down the drain. Do not pour grease, fats, or oils from cooking down the drain and do not use sinks to dispose of food scraps. Likewise, it is important to educate kitchen staff not to remove drain screens as this may allow paper or plastic cups, straws, and other utensils to enter the plumbing system during cleanup. The success of dry cleanup is dependent upon the behavior of the employees and availability of the tools for removal of food before washing. To practice dry cleanup:
    - Use rubber scrapers to remove FOG from cookware, utensils, chafing dishes, and serving ware.
    - Use food grade paper to soak up oil and grease under fryer baskets.
    - Use paper towels to wipe down work areas. Cloth towels will accumulate grease that will eventually end up in your drains from towel washing/rinsing.
    - Use kitty litter to absorb liquid spills. Sweep and dispose of the litter in the trash, if the spilled material is not a hazardous material.

Spill Prevention

- Preventing spills reduces the amount of waste on food preparation and serving areas that will require clean up. A dry workplace is safer for employees in avoiding slips, trips, and falls. For spill prevention:
    - Empty containers before they are full to avoid spills.
    - Use a cover to transport undersink grease control device contents to rendering barrels.
    - Provide employees with the proper tools (ladles, ample containers, etc.) to transport materials without spilling.
    - Keep a spill kit in food preparation areas.
    - Ensure the outside dumpster area is clean and the dumpster lid is closed.

Maintenance

- Maintenance is key to avoiding FOG blockages. For whatever method or technology is used to collect, filter and store FOG, ensure that equipment is regularly maintained. All staff should be aware of and trained to perform correct cleaning procedures, particularly for undersink grease control devices that are prone to break down due to improper maintenance. A daily and weekly maintenance schedule is highly recommended.
    - Contract with a management company to professionally clean large hood filters. Small hoods can be hand-cleaned with spray detergents and wiped down with cloths. Hood filters can be effectively cleaned by routinely spraying them with hot water with little or no detergent over the mop sink, which should be connected to a grease trap. After the hot water rinse (separately trapped), filter panels can go into the dishwater. For hoods to operate properly in the removal of grease-laden vapors, the ventilation system will also need to be balanced with sufficient make-up air.
    - Skim/filter fryer grease daily and change oil when necessary. Use a test kit provided by your grocery distributor rather than simply a “guess” to determine when to change oil. This extends the life of both the fryer and the oil. Build-up of carbon deposits on the bottom of the fryer acts as an insulator that forces the fryer to heat longer, thus causing the oil to break down sooner.
    - Collect fryer oil in an oil-rendering tank for disposal or transport it to a bulk oil-rendering tank instead of discharging it into a grease interceptor or waste drain.
    - Cleaning intervals depend upon the type of food establishment involved. Some facilities require monthly or once every two months cleaning. Establishments that operate a large number of fryers or handle a large number of fried foods such as chicken, along with ethnic food establishments may need at least monthly cleanings.
    - Develop a rotation system if multiple fryers are in use. Designate a single fryer for products that are particularly high in deposits and change out the oil in that one more often.

Oil & Grease Collection/Recycling

- FOG is a commodity which if handled properly can be treated as a valuable resource. See Fact Sheet on Restaurant Oil and Grease Rendering.

Garbage Disposal

- Businesses that use garbage disposals to dispose of food waste are simply transferring disposal from a landfill disposal to a wastewater treatment plant. Disposal of food waste via the sewer system is more costly than landfill disposal and acts as a disincentive to reduce generation of food waste or to separate food for donations, rendering, animal feed, or composting. Many business owners assume that water from their garbage disposal flows through their grease trap before discharge to the sewer system; however, in most cases, disposals are plumbed directly to black water systems, which bypass the grease trap.

Consumer Tip

- Buyers beware! When choosing a method of managing your oil and grease, ensure that it does what the vendor says it will do. Some technologies or “magic bugs” do not eliminate the problem but result in grease accumulations further down the sewer line. “Out of sight” is not “out of mind." Check the vendor's references before investing in technological and biological management methods. Please be aware that OC San prohibits the introduction of any additives into an FSE’s wastewater system for the purpose of emulsifying or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance, unless a specific written authorization from the FOG Control Program Manager is obtained.

Appendix F9

Kitchen Best Management Practices

OC SAN
ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Kitchen Best Management Practices (BMPs) for Fats, Oils, and Grease (FOG)

The best way to stop FOG from building up in sewer lines is to prevent it from entering your drains, by using Kitchen Best Management Practices (BMPs). The most common Kitchen BMPs are listed below:

Kitchen BMP		Reason	Benefits to Food Service Establishment
Train employees in kitchen BMPs, including the proper methods of FOG disposal. Provide refresher training every six months.		Employees are more willing to support an effort if they understand the importance of implementing BMPs to prevent sewer spills.	Subsequent benefits of BMPs will have a better chance of being implemented.
Display the appropriate “No Grease” signs or posters prominently in the workplace.		Signs serve as a constant reminder for employees working in kitchens.	These reminders will help minimize grease discharge to the traps and interceptors and reduce the cost of cleaning and disposal.
Install screens on all kitchen drains. Consider openings that are not more than 3/16 inch. Screens should be removable for frequent cleaning.		Drain screens prevent food particles containing FOG from entering the sewer system and causing sewer blockages.	This will reduce the amount of material going to grease removal devices. As a result, grease removal devices will require less frequent cleaning, thus reducing maintenance costs.

Kitchen BMP	Reason	Benefits to Food Service Establishment
Hot water over 140˚F from cooking or cleaning operations should not be put down a drain that is connected to a grease removal devices.	Temperatures in excess of 140˚F will dissolve grease, which may recongeal or solidify in the sanitary sewer collection system as the water cools down in temperature.	Using water less than 140˚F where applicable will reduce gas or electric energy costs for heating the water. This will also help prevent FOG “pass through” in grease control devices.
When transporting used FOG, don’t overfill containers and use covers.	If containers are overfull or lack covers, the FOG may spill over.	This will prevent FOG drips and spills.
Pour all cooking grease (yellow grease) and liquid oil from pots, pans, and fryers into a covered grease container for recycling. Use a permitted waste collection service or authorized rendering/recycling center and keep a log recording all collection activities.	Recycling reduces the amount of FOG discharged to the sewer. There are several waste oil rendering facilities throughout Southern California (reference Restaurant Oil and Grease Rendering Fact Sheet).	The FSE may be paid for the waste material, reducing the amount of waste/garbage it must pay to have it hauled away.
Scrape or dry-wipe excess food and solidified grease from pots, pans, fryers, utensils, screens and mats, then dispose of it in the trash.	By dry-wiping pots, pans, and dishware and disposing food wastes in proper recycle bins the material will not be sent to the grease control devices but instead go to the proper recycling facility.	This will reduce the amount of material going to grease control devices, which will require less frequent cleaning, thereby reducing maintenance cost.

Kitchen BMP	Reason	Benefits to Food Service Establishment
Dispose of organic waste by recycling and/or solid waste removal.	California businesses are required to separate organic waste from the trash and participate in an organics collection program in an effort to divert organic material away from landfills.	Recycling of organic waste will reduce the cost of solids waste disposal. Organic waste disposal will reduce the frequency and cost of grease removal device servicing.
Use “Spill Kits” – make your own spill kits with absorbent material such as absorbent pads or kitty litter. Keep them well-marked and accessible for cleaning spills. Dispose of used absorbent in the trash. Designate a key employee on each shift to monitor cleanup and restock the kits.	Absorbent materials can serve as an effective agent to absorb grease and oil.	This will reduce the amount of material going to grease control devices, which will require less frequent cleaning, reducing maintenance costs.
Routinely clean kitchen exhaust system filters/hoods. Dispose of waste from hoods and filters by emptying it into a drain connected to a grease control device if you have one, or have the hoods professionally maintained.	If grease and oil escape through the kitchen exhaust system, it can accumulate on the roof of the establishment and eventually enter the storm drain system when it rains.	The discharge of grease and oil to the storm drain system will degrade the water quality of receiving streams. In addition, it is a violation of water quality regulations, which might result in legal penalties or fines.

Appendix F10

Managing Food Materials

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Managing Food Materials

According to the U.S. Environmental Protection Agency (EPA), in the United States, food is the single largest category of material placed in municipal landfills, where it emits methane, a potent greenhouse gas with higher warming potential than carbon dioxide. Landfills are the third largest source of methane in the state and are contributing to the drought, wildfires and flooding that is being seen around the state and nation.

Food materials discharged to a wastewater treatment plant will dramatically increase the cost of wastewater treatment, and if released into storm drains, will significantly impact a creek or river's ability to sustain aquatic life forms. By diverting organic material from landfills to compost facilities, the amount of climate pollutants generated by our waste materials are being reduced.

Examples of what are considered food/organic waste are not limited to preparation wastes, uneaten portions, grease, batter waste, dairy products, beverages containing sugar, and dressings. These food materials are excellent candidates for reduction, recovery, and reuse. Reducing materials at their source, coupled with recovery, reuse, and recycling prevents pollution and reduces, and in some cases eliminates, treatment and disposal costs. A successful waste reduction program can result in cost savings and possible generation of revenues. These activities also contribute to a positive public image for the company, benefits to the community, and protection of the environment.

Additionally, an enforcement provision is in effect under California's compost law, which means throwing away food scraps rather than recycling could bring a fine. This fact sheet is provided to encourage businesses such as food service providers, processors, distributors, and merchandisers to minimize waste and recover/recycle food materials.

Reduction at the Start: Ordering and Inventory Controls

- Perhaps the most effective method for reducing waste is to prevent it in the first place. Proper control of raw goods, final products, and the waste streams associated with food preparation is an important source reduction technique. Improved ordering and inventory control significantly affect three major sources of waste resulting from improper inventory control: excess, out-of-date, and obsolete raw goods. Below are options for reduction at the start:
    - Order bulk supplies.
    - Terminate useless packaging from the vendor.
    - Refuse samples that will become waste.
    - Work with suppliers to return shipping materials and packaging.
    - Purchase reusable items.
    - Purchase only the amount of raw goods needed for a set period. This practice will help eliminate out-of-date and excess goods and products.
    - Develop a review and approval procedure for all raw goods and products purchased. The primary purchaser can regulate the quantity of materials purchased by other personnel to reduce excess and out-of-date inventory.
    - Clearly label all materials. Labels can indicate contents, storage/handling, and expiration dates.
    - Rotate perishable stocks at every delivery to minimize waste from spoilage, i.e., first-in, first-out.

- Consider offering half or smaller portions as an option, to reduce the amount of uneaten food.
- Develop an hourly or daily production chart to minimize over-prepping and unnecessary waste.
- Store leftover hot foods from different stations in separate containers rather than consolidating them to minimize the chance of spoilage.

Donation of Excess Food

- Do you have excess edible food? You can help reduce food insecurity and the amount of wasted food going to landfills. Food donation programs such as the OC Food Bank, a program of Community Action Partnership of Orange County, make donating simple. They can be contacted at **(714) 897-6670** or **www.capoc.org**. By donating food it helps achieve a winning menu of opportunity, showcasing a program where your staff can feel proud of being part of helping a neighbor in need, reduce food waste cost (recycling), and being good community partners.
- Additionally, state laws mandate certain food businesses to donate the maximum amount of edible food they would otherwise dispose to food recovery organizations.

Segregate Food Wastes for Beneficial Uses

- To increase their recyclable potential, food materials should be clean and free of mash such as paper, glass, and plastic. Also, depending upon the requirements of recyclers, solid food wastes should be separated from liquid food wastes to enhance their recyclability. Contact **www.calrecycle.ca.gov** for more information.

Rendering

- Free grease (yellow grease) is grease that has not been mixed with water. It is largely generated from pots, pans, grills, and deep fat fryers and comes from butter, lard, vegetable fats and oils, meats, nuts, and cereals. If kept out of the drains and handled separately, free grease may be rendered. Rendering facilities may purchase free grease and provide storage vessels and collection services. The market price depends upon factors such as volume, quality, and hauling distances. See fact sheets for Restaurant Oil and Grease Rendering and Best Management Practices for Fats, Oils, and Grease for further details about waste grease management.

Composting Food Wastes

- Composting is an excellent way to turn a costly disposal problem into a source of soil nutrient and potential income, reduce air and water pollution, and save landfill space. The use of compost in gardening and agriculture reduces soil runoff and reduces the need for using chemical fertilizers, which protects California's waterways.
- California law requires all businesses either subscribe to and participate in their jurisdiction's (city or county) organics curbside collection service or self-haul organic waste to a specified composting facility, community composting program, or other collection activity or program.

Appendix F11

Food Service Waste Reduction

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Food Service Waste Reduction

Today's food service establishments are constantly looking for ways to improve productivity and trim costs. Waste in any operation is generated as result of inefficiencies, and therefore, reducing waste creates a more efficient operation. Solid waste disposal, energy consumption, and wastewater make up most environmental challenges that restaurants must address as part of their business operations. This fact sheet is intended to provide tips on how food service establishments can reduce, reuse, and recycle these wastes.

Benefits of Waste Reduction Programs

- **Good Business:** Generally, waste reduction leads to increased operating efficiency and cost savings. Decreased solid waste generation reduces collection and disposal costs just as reducing electricity and water reduces utility bills. Waste minimization also may reduce purchasing costs.
- **Good Stewardship:** California is challenged with maintaining its clean waters, air, and land. All Californians have a responsibility to themselves, fellow citizens, and future generations to maintain a clean environment.
- **Customer Satisfaction:** Surveys show that Americans are very concerned about the environment. They appreciate restaurants and other businesses that make efforts to be more environmentally aware - at the table and the way business is conducted.

After you implement waste reduction measures, give yourself credit! Your efforts will not only attract customers, but they will also encourage other businesses to follow your example.

Implementing a Waste Reduction Program

- Once a restaurant has made a commitment to reduce waste, the manager or waste reduction team should assess all operations, such as food preparation, food service, purchasing, and janitorial activities to identify opportunities to reduce waste and conserve water and electricity. Ideas for protecting the environment and realizing the cost benefits of waste reduction should be responsibilities of all employees in all job functions.

  Once waste reduction opportunities are identified, employees should be trained so they are comfortable with implementing the changes. Training should be repeated periodically to ensure that new employees are included. An employee suggestion and awards program can be established to maintain enthusiasm for the program. The remainder of this fact sheet lists specific activities that restaurants can undertake to reduce waste.

Reduction and Reuse

- Avoid over-packaging for take-out orders.
- Place health department approved rubber mats around bussing and dish washing stations to reduce glass breakage.
- Work with suppliers to take back and reuse corrugated cardboard boxes, five-gallon buckets, and other packaging - if they will not take them back, recycle them, or donate buckets to customers, local schools, or churches. Do not reuse for contact with food.
- Use approved refillable condiment bottles (only after being rewashed and sanitized) instead of single-use packages. Refill them from bulk containers.

- Use reusable dishes instead of Styrofoam or other disposable ware to save on long-term purchasing costs.
- Use reusable take-home trays for regular customers.
- For take-out orders, offer condiments and straws upon request instead of self-serve.
- For dining customers, use bulk straw dispensers instead of individually wrapped straws, and place napkin dispensers on tables rather than in the central part of the dining room; people will generally take 1/3 as many napkins.
- Reduce menu printing costs where possible, for example, by reusing menus, eliminating paper inserts, using boards to post daily specials, and generating/posting QR code menus.
- Ask your carbonated beverage supplier to provide you with reusable syrup canisters rather than the bag-in-the box type of containers.
- Train employees on the proper use of cleaning agents for concentrates, and test for proper concentration. Most people use significantly more concentrate than is required to do the job.

Recycling

- Establish glass, plastic, and cardboard recycling with a local collector/sustainable waste service.
- Ensure staff is placing food waste in organic waste bins.
- Share the cost of a cardboard baler for recycling with neighboring business.
- Ensure staff is flattening tin and aluminum cans to reduce volume before placing in recycling bins.

Purchasing

- Choose environmentally friendly cleaning products and try to purchase cleaning agents in concentrate.
- Ask for and purchase products such as paper towels, toilet tissue, menus, order pads, cash register tapes, plastic bags, dish trays, rubber mats, brooms, and benches made from recycled materials.

Electricity Conservation

- Develop and implement a cleaning and maintenance program for all equipment. This program should include calibrating ovens and checking pipes for leaks.
- Clean refrigerator coils and change air conditioning filters regularly to help these appliances run more efficiently.
- Install motion or timer lights in restrooms, pantries, and freezer units. Lights can be set to go off after three to five minutes of inactivity.
- Set thermostats at reasonable levels.

Water Conservation

- Clean spills with a squeegee, broom, or vacuum.
- Install low-flow faucet adapters, and/or automatic turnoff faucets, and low-flow toilets in restrooms.
- Never hose material down the drain. This practice not only wastes water, but it contributes to organic loading at the wastewater treatment plant.
- Provide drinking water to customers only upon request.
- Replace rubber faucet gaskets with brass gaskets and automatic shut off nozzles to save thousands of gallons/year.

Fats, Oils, and Grease (FOG) Waste Management

- The Recycle Track Systems (RTS) estimates that 30-40 percent of the entire United States food supply goes to waste, and according to the Environmental Protection Agency (EPA) grease is responsible for a large percentage of all sewer overflows in the country. The best way to manage FOG is to keep it out of the sewer system by using Best Management Practices (BMPs). BMPs are activities, prohibitions of practices, maintenance procedures, and other management practices that reduce the discharge of FOG from the wastewater discharge. For details, see Fact Sheet for Best Management Practices for Fats, Oils, and Grease.

  Waste reduction offers costs savings that benefit both small and large operations. Once your waste reduction program is underway, track your waste reduction, cost savings, and get the word out! You do not have to do it all at once - choose actions that are doable, document your success, and then move on to the harder projects.

Appendix F12

Restaurant Oil and Grease Rendering

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Restaurant Oil and Grease Rendering

Improperly managed oil and grease from Food Service Establishments (FSEs) such as restaurants has become a significant problem for wastewater collection and treatment systems. Fats, oils, and grease (FOG) coat, congeal, and accumulate in pipes, pumps, and equipment, leading to the costly and hazardous flow of waste grease into drain lines, sewer lines, lift stations, drain fields, and Publicly Owned Treatment Works (POTWs). Improper disposal can result in high biological oxygen demand (BOD) and chemical oxygen demand (COD) levels, increased operating costs, and clogged collection systems. A large percentage of the reported sewer system overflow in Orange County is caused by FOG blockage of the sewers.

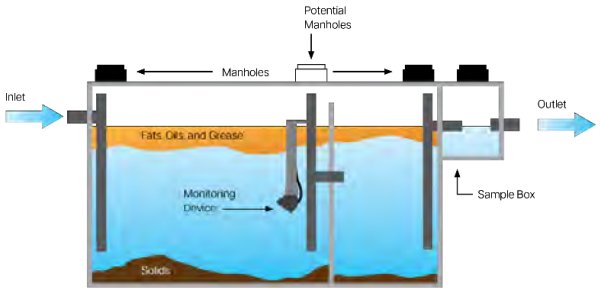
Different Types of Oils and Grease

- Recyclable grease is that used for or generated by cooking and has not been mixed with water. It is generated from pots, pans, grills, and deep fat fryers and comes from butter, lard, vegetable fat and oils, meats, nuts, and cereals. Recyclable grease should be kept out of the drains and handled separately. Rendering facilities may purchase recyclable grease and meat wastes and provide storage and collection. The market price depends upon factors such as volume, quality, demand, and hauling distances. The rendering services will process recyclable grease by sampling it for pesticides and other chemicals and filtering and volatizing impurities before reselling it. If the volume of the wastes generated from one FSE (restaurant or cafeteria) is too small for the rendering facility, businesses should explore the feasibility of setting up a cooperative collection among similar businesses.

Restaurant kitchen wastewater contains oil and grease that is collected in a grease interceptor or other grease removal device. Because fats coat, congeal, and accumulate on pipes and pumps and sometimes obstruct sewer lines, FSEs are required by most local governments to install and maintain grease interceptors. Specific information about grease interceptor maintenance is presented in the OC San's Fact Sheet for Grease Interceptors. Some rendering services and local septage haulers service or pump out these grease interceptors for a fee, and some services may reduce the pumping fee if the FSE is a recyclable grease customer.

Where Does Grease Go When It Leaves a Restaurant?

- A grease interceptor is designed to prevent grease, oil, solids, and other debris from entering the wastestream, where it becomes a problem by clogging sewers and disrupting the water flow in the system. The grease interceptor captures those wastes and contains them until a waste hauler or pumper service can properly dispose them.



A grease interceptor should be checked and maintained to ensure that it is working properly. Backups, odors, and drainage problems are signs that the grease interceptor is not functioning as it should. See OC San's Fact Sheet for Grease Interceptors for specific tips on proper maintenance of grease interceptors.

Grease Recycling

- While pretreating wastewater using grease interceptors, skimmers, separators, and process flow treatment systems such as carbon filtration or coagulation units, can greatly reduce the problem, source reduction of oil and grease must be the first course of action. Through dry cleanup and the development of an efficient collection system and rendering program, wastewater problems can be avoided. Rendering companies or “grease recyclers" will accept oil, grease, and other animal byproducts, including deep fry fat and bones, thereby turning a nuisance waste material into a beneficial product such as biodiesel, animal feed, and uses in industrial applications.

How is Waste Oil and Grease Recycled?

- Waste oil and grease is tested for pesticides and other contaminants. Material is placed in a settling tank to remove solids, heated in a vacuum to volatilize impurities, and is then sold to companies for use as animal feed additives, in soap production, oils, cosmetic and skin care products, and in composting.

Benefits of Rendering

- **Compliance**: Many communities have sewer use ordinances that severely limit the discharge of FOG in wastewater. New state policies are being enacted that will require more communities to develop sewer use ordinances and wastewater discharge limitations. Penalties may be incurred when higher concentrations are found. Rendering prevents grease from reaching the sewer system and thereby helps FSEs maintain compliance.
- **Cost Avoidance:** The charge for pumping out a grease interceptor is considerably more than the service fee charged by a renderer. Furthermore, with dry cleanup and other source reduction techniques, many FSEs are reducing their water consumption and sewer use and are saving money. Rendering also helps FSEs avoid discharge penalty charges.
- **Economic Incentives:** Renderers' service fees are low and often provided at no charge. In some cases, rendering companies are willing to pay for oil and grease from FSEs.
- **Environmental Savings**: Natural resources and energy are conserved through source reduction and recycling. FOG recycling keeps these materials from clogging municipal sewer lines, as well as using valuable landfill space and diverts it to a useful purpose.

Questions to Ask a Renderer

- When looking for an oil and grease renderer, it is important to ask the right questions, which may include:
    - Do you provide collection containers?
    - Do you provide transportation?
    - Can I expect revenue for my material? If not, what is your service fee?
    - What are your specifications? What constitutes contamination?
    - If there is a problem, who should I contact?
- Remember that FOG is a commodity and should be treated as a valuable resource that can and should be recycled whenever possible.

Where to Find Renderers:

- California’s Department of Resources Recycling and Recovery (CalRecycle)

  800-RECYCLE (732-9253)
  www.calrecycle.ca.gov

  OR

- California Department of Food and Agriculture (CDFA)

  916-654-0466
  www.cdfa.ca.gov

Appendix F13

Grease Interceptors

ORANGE COUNTY SANITATION DISTRICT

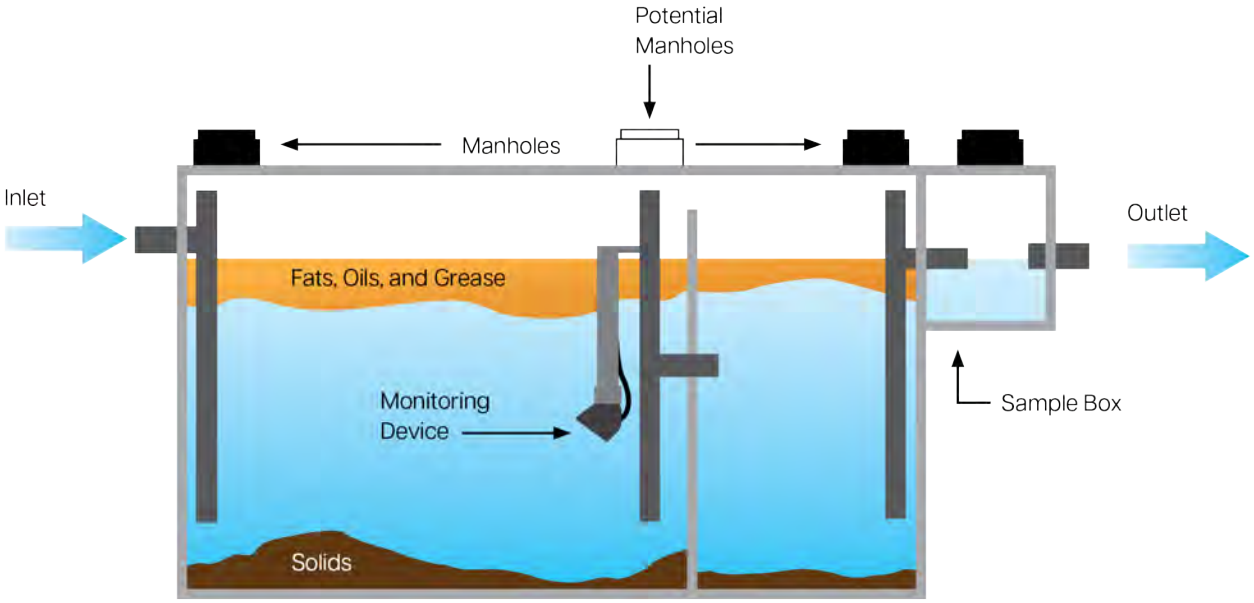
FACT SHEET

Grease Interceptors

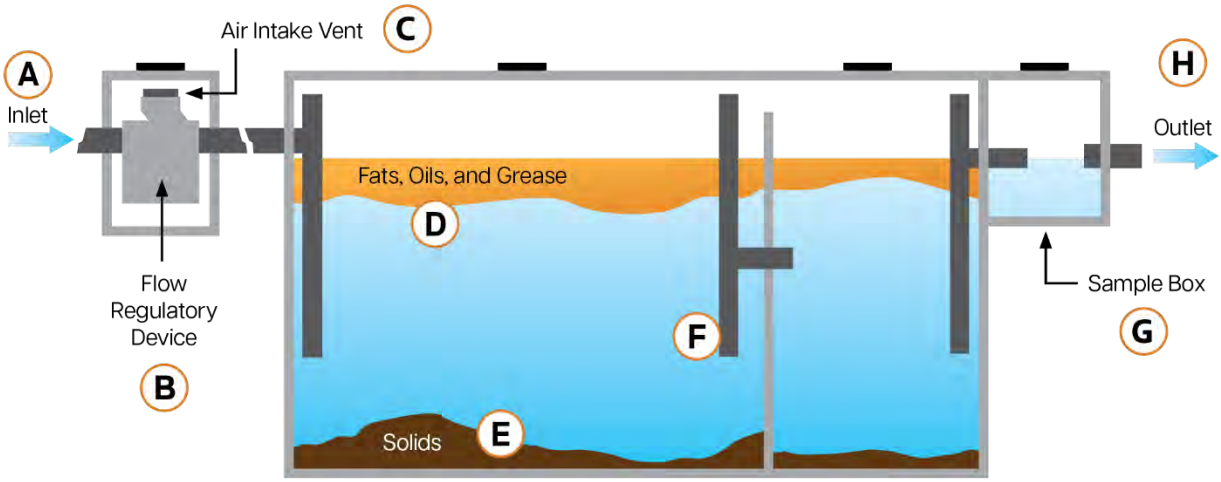
When fats, oils, and grease (FOG) enter the sewer, they create a variety of problems, such as sewer blockages and spills, which put the health and safety of the public at risk. Grease interceptors have played an important role in preventing accumulated FOG from clogging sewer lines. A grease interceptor is a proven and effective grease collection device, which when combined with Best Management Practices (BMPs), significantly reduces the amount of FOG entering the sewer.

What is a Grease Interceptor?

- A grease interceptor is a control device that is designed to collect and intercept FOG and food waste from wastewater discharged from Food Service Establishments (FSEs), until they can be removed and disposed by wastehauling. It is typically a large concrete box with two or three compartments and is usually installed underground outside FSEs.
- Grease interceptors separate FOG from wastewater by gravity. Since FOG weighs less than water, the grease floats on the water surface when given sufficient time.
- Grease interceptors are designed such that the wastewater flow is slowed down to allow sufficient time for FOG to separate. This allows FOG to collect as a thick mat on the surface inside the interceptor.



How It Works



A	Flow from undersink grease traps or directly from plumbing fixtures enters the grease interceptor. The Uniform Plumbing Code (UPC) requires that all flow entering the interceptor must enter through the inlet pipe.
B	An approved flow control or restricting device is installed to restrict the flow to the grease interceptor to the rated capacity of the interceptor.
C	An air intake valve allows air into the open space of the grease interceptor to prevent siphonage and back-pressure.
D	FOG floats on the water surface and accumulates behind the grease retaining fittings and the wall separating the compartments. FOG will be removed during routine grease interceptor cleaning.
E	Solids in the wastewater that do not float will be deposited on the bottom of the grease interceptor and will need to be removed during routine grease interceptor cleaning.
F	Grease retaining fittings extend down into the water to within 12 inches of the bottom of the interceptor. Because FOG floats, it generally does not enter the fitting and is not carried into the next compartment. The fittings also extend above the water surface to provide air relief.
G	Some interceptors have a sample box so that inspectors or employees of the FSE can periodically take effluent samples. Having a sample box is recommended by the UPC, but not required.
H	Flow exits the interceptor through the outlet pipe and continues to the sanitary sewer system.

Installation Considerations

- Install the grease interceptor as close as practical to the fixture(s) being served. This is important because every foot of piping between the fixture(s) and the interceptor is a potential maintenance problem.
- The grease interceptor should be in an accessible area such that cleaning and maintenance can be easily performed. The placement should allow the interceptor cover to be visible and easily removable for cleaning. Anticipate sufficient clearance for removal of the cover and baffle for cleaning.
- Plumbing containing discharges from dishwashers, and wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials should bypass the grease interceptor.
- A properly sized and designed grease interceptor may not work efficiently if it is installed incorrectly. A licensed plumbing contractor can handle all aspects of the interceptor installation which may include equipment procurement, plumbing, and in-ground installations that include excavations and concrete cutting/repair.
- The cost of installation will vary depending on the site. Cost factors include the size of the device, space, grade, proximity to a sewer line, and above-ground or in-ground installation.

Proper Maintenance

- Regular maintenance is essential to the proper operation of grease interceptors. Even the best designed and properly installed interceptors will fail when improperly maintained.
    - Grease interceptor maintenance, which is usually performed by permitted haulers or recyclers, consists of removing the entire volume (liquids and solids) from the grease interceptor and properly disposing of the material in accordance with all Federal, State, and/or local laws.
    - Grease interceptors must be fully pumped out and cleaned at a frequency such that the combined FOG and solids accumulation does not exceed 25% of the total interceptor design hydraulic depth. This is to ensure that the minimum hydraulic retention time and required available hydraulic volume are maintained to effectively intercept and retain FOG discharged from the facility.
    - OC San's FOG Ordinance requires FSEs to clean their grease interceptors at least every 6 months. Typically, FSEs are required to clean grease interceptors once every 3 months. The frequency may increase depending on the capacity of the device, the amount of FOG in the wastewater, and the degree to which the facility has contributed to blockages in the past.
    - Implementation of BMPs may reduce the required maintenance frequency for grease interceptors due to a reduction of FOG and solids loading on the interceptor, thereby reducing maintenance costs. Refer to the Fact Sheet for Kitchen BMPs that may be implemented.

Maintenance Procedures

- A proper grease interceptor maintenance procedure is outlined below:
    1. Contact a grease hauler or recycler for cleaning.
    2. Ensure that all flow to the interceptor is stopped by shutting the isolation valve in the inlet piping to the interceptor.
    3. Remove the lid and bail out any water in the trap or interceptor to facilitate cleaning.
    4. Remove baffles if possible.
    5. Dip the accumulated grease out of the interceptor and deposit in a watertight container.
    6. Pump out the settled solids and then the remaining liquids.
    7. Scrape the sides, the lid, and the baffles with a putty knife to remove as much of the grease as possible and deposit the grease into a watertight container.
    8. Replace the baffle and the lid.

Choosing a Grease Hauler

- When selecting a grease wastehauler, be aware that services and prices can vary. Minimum services should include:
    - Complete pumping and cleaning of the interceptor, rather than just skimming the FOG layer.
    - Deodorizing and thorough cleaning of affected areas, as necessary.
    - Disposal/reclamation at an approved location.
    - A manifest/receipt must be provided documenting pumping/maintenance activities; this document is an OC San FOG Wastewater Discharge Permit requirement.
- Representatives of FSEs should witness all cleaning and maintenance activities to verify that the interceptor is being fully cleaned and properly maintained.

Keeping Records

- Careful record-keeping is one of the best ways to ensure that the grease interceptor is being cleaned and maintained on a regular basis. A grease interceptor wastehauling logbook coupled with wastehauling/service manifests are OC San Wastewater Discharge Permit requirements and shall be kept onsite and readily available for inspection by OC San staff.

Appendix F14

Design Guidelines for Grease Interceptors

ORANGE COUNTY SANITATION DISTRICT

FACT SHEET

Design Guidelines for Grease Interceptors

The installation and use of a grease interceptor that is properly designed and sized for the type and size of the facility, is an important measure in ensuring that the facility does not contribute to the problems with the sewer system or experience back-ups in the facility itself. Food Service Establishments (FSEs) should weigh costs and benefits when evaluating grease interceptor design and capacity need. While the initial capital investment may be less with smaller capacity grease interceptor, pumping and maintenance fees may increase.

Plans for future expansions should be assessed since menu expansion, seating capacity expansion or menu changes impact the effectiveness of the grease interceptor.

Application

- Grease interceptors are mainly used in treating kitchen wastewater from FSEs and other similar institutions with large volumes of wastewater. Influents to grease interceptors usually contain high organic loads, including FOG and dissolved particles, as well as detergents and suspended solids. Sanitary wastewaters are not usually treated by grease interceptors. Wastewater with high solids loadings should not be discharged to grease interceptors as it can upset the interceptor performance and greatly increase both solids accumulation and the need for frequent pumpout.

  For details on how a grease interceptor works and maintenance of grease interceptors, please see Fact Sheet on Grease interceptors.

Basic Design Criteria

- Grease interceptors must be designed to satisfy four basic criteria to ensure effective separation:
  - **Time:** The grease interceptor must provide sufficient retention time for emulsified FOG to separate and float to the surface of the chamber.
  - **Temperature:** The grease interceptor must provide adequate volume to allow the wastewater to cool sufficiently for emulsified FOG to separate.
  - **Turbulence:** Turbulence through grease interceptors must be controlled so that the FOG and solids are not suspended in the wastewater. Turbulence control is especially important during high discharge rates.
  - **Tankage:** The grease interceptor must provide sufficient storage capacity for accumulated FOG and solids between cleanings.

Factors Affecting Grease Interceptor Performance

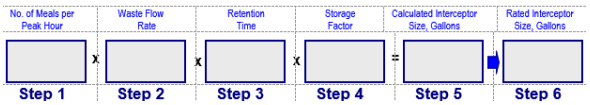
- **Velocity of Incoming Water:** A higher velocity of water will contribute to a more turbulent mixture. This will slow the FOG separation process, thereby reducing efficiency.
- **Ratio of FOG to Water:** The higher the ratio

of FOG particles to the water, the lower the efficiency of the interceptor.

- **Specific Gravity (Density) of FOG:** FOG has a lower specific gravity than water and will rise to the surface quickly. FOG-ladened food particles having a higher specific gravity than water will linger and accumulate at the bottom, eventually passing out of the interceptor.
- **Possible Presence of Detergents in the System:** Grease-cutting detergents will break the liquid grease into minute particles that can cause these liquids to pass through the interceptor.
- **Percentage of Maximum Flow Capacity:** If the maximum recommended flow is exceeded, the efficiency of the interceptor will decrease considerably.
- **Location of Grease Interceptor:** The interceptor should be located as close as possible to the source of FOG. Plumbing leading to the grease interceptor may become clogged if the wastewater cools prior to entering the grease interceptor.

Sizing Grease Interceptors

- Grease interceptors are designed and sized based on anticipated flow rates and organic load for maximum efficiency. The FOG Ordinance adopted by the Orange County Sanitation District requires grease interceptor sizing to conform to the Uniform Plumbing Code (UPC). To calculate the size of a grease interceptor needed by a FSE, refer to the following formula taken from Appendix H of the UPC **(see full worksheet on the following page):**



Grease Interceptor Design and Construction Guidelines

- Grease interceptors shall be placed as close as practical to the fixture(s) being served. It shall be located where it is always easily accessible for inspection, cleaning, and removal of accumulated grease.
- Minimum grease interceptor size shall be 750 gallons; the maximum size shall be 1500 gallons unless authorized by OC San in writing.
- Grease interceptors shall have two compartments:
    - The inlet compartment shall be 2/3 of the total capacity of the interceptor and in all cases shall be longer than the maximum inside width of the interceptor.
    - The outlet compartment shall have a minimum capacity of 1/3 of the total interceptor capacity. The liquid depth shall not be less than 2 feet 6 inches nor more than 6 feet.
- Access to each grease interceptor shall be provided by a manhole over the inlet and a manhole over the outlet. There shall also be an access manhole for each 10 feet of length for interceptors over 20 feet long. Manholes shall extend to grade, have a minimum size of 24 inches diameter or square opening, and shall have a gasketed cover at grade.
- The inlet and outlet shall have a baffle tee or similar flow device with a minimum cross-sectional area equal to the required cross-sectional area of the inlet. Each baffle shall extend from at least 4 inches above the liquid level to within at least 12 inches of the inside floor of the interceptor.
- Adequate partitions or baffles shall extend at least 6 inches above the liquid level. Flow from inlet compartment to outlet compartment shall be through a quarter bend, or similar device equivalent in cross sectional area to the inlet into the interceptor and shall extend down to within 12 inches of the inside floor.
- The inlet, outlet and main baffle shall have a free vent area equal to the required cross-sectional area of the inlet pipe.

For more details regarding construction, structural, and material requirements, consult Appendix H of the UPC.

Appendix G1

BMP Inspection Report

ORANGE COUNTY SANITATION DISTRICT

BEST MANAGEMENT PRACTICES INSPECTION REPORT
Resource Protection Division – FOG Program

Permit No.	Inspection Date:
FSE Name:	Inspector: Lori McKinley
Address:	Inspector Signature:
Contact Name/Title	

BMP COMPLIANCE CHECKLIST

Requirement	Status	Comment
Screens installed in all floor and sink drains?	Yes [ ] No [ ]	
Proper segregation and collection of waste cooking oil?	Yes [ ] No [ ]	
Disposal of all food waste in the trash (not down the drain)?	Yes [ ] No [ ]	
Oil decanted from kitchen exhaust filter wastewater to a grease interceptor or waste oil container?	Yes [ ] No [ ]	
Required kitchen signage posted?	Yes [ ] No [ ]	
Employee BMP Training Log complete and up-to-date?	Yes [ ] No [ ]	
Yellow Grease Pickup/Disposal Log complete and up-to-date?	Yes [ ] No [ ]	
Grease Interceptor Maintenance Log complete and up-to-date?	Yes [ ] No [ ]	

OTHER REQUIREMENTS

Food grinders eliminated?	Yes [ ] No [ ]	
Biological/chemical additives used for emulsifying grease eliminated?	Yes [ ] No [ ]	
Effluent discharge temperatures below 140° Fahrenheit?	Yes [ ] No [ ]	

INSPECTION FINDINGS

Other Findings/Deficiencies:

Corrective Action Notice Issued? Yes [ ] Not Applicable [ ]

Appendix G2

CAN (Corrective Action Notice)

ORANGE COUNTY SANITATION DISTRICT

FOG CORRECTIVE ACTION NOTICE

Date:	Time:	Permit Number:
Food Service Establishment (FSE):		
Address:		
FSE Contact/Title (Print):		

Based on the inspection of your establishment, the OC San Inspector has noted noncompliance with the Fats, Oils, and Grease (FOG) Ordinance as shown by the deficiencies checked below. Your establishment must take immediate action to correct the problem by implementing the required corrective action(s) by:

CORRECTIVE ACTION DUE DATE:_____

After this date, the OC San Inspector will re-inspect your establishment to verify that all necessary corrective measures have been taken.

FAILURE TO IMPLEMENT THE REQUIRED CORRECTIVE ACTION(S) WILL RESULT IN THE ISSUANCE OF A NOTICE OF VIOLATION AND IMPOSITION OF A NONCOMPLIANCE FEE IN THE AMOUNT OF $100.

DEFICIENCY	REQUIRED CORRECTIVE ACTION
PROHIBITIONS – Article 2.2	
[ ] Food Grinder installed in plumbing system	[ ] Remove food grinder
[ ] Use of an additive for the purpose of emulsifying FOG or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance.	[ ] Discontinue additive addition and remove any application equipment or apparatus.
GREASE INTERCEPTOR REQUIREMENTS – Articles 4.2 & 4.6	
[ ] Interceptor has not been maintained at a frequency established in the facility's FOG Wastewater Discharge Permit.	[ ] Conduct interceptor maintenance (pump-out contents).
[ ] Other	
BEST MANAGEMENT PRACTICES – Article 4.5	
[ ] Missing drain screens.	[ ] Install suitable screens in all drains.
[ ] Improper segregation of waste oil, or no waste oil container.	[ ] Provide suitable container and collect waste oil for recycling.
[ ] Improper disposal of solid food waste.	[ ] Dispose of all solid food waste in the trash, not down the drain.
[ ] Employee(s) not trained in Best Management Practices.	[ ] Train all employee(s) in Best Management Practices.
[ ] Proper maintenance of kitchen exhaust filters.	[ ] Decant oil from kitchen exhaust filter washwater to a grease interceptor or waste oil container.
[ ] Kitchen signage.	[ ] Post required kitchen signage.
[ ] Other	
RECORD KEEPING REQUIREMENTS – Article 5.1	
[ ] Missing/Incomplete grease interceptor cleaning/ maintenance log.	[ ] Conduct grease interceptor, grease trap, or grease control device cleaning/maintenance, as necessary, and provide copy of updated maintenance log.
[ ] Missing grease interceptor wastehauling manifests.	[ ] Provide copies of interceptor wastehauling manifests.
[ ] Missing/Incomplete employee BMP training log.	[ ] Conduct employee Best Management Practices training and provide copy of updated training log.
[ ] Missing/Incomplete yellow grease recycling log.	[ ] Provide receipts/manifests for yellow grease pick-up.
[ ] Other	
DENIAL OF ENTRY – Articles 5.2 & 5.3	
[ ] Refused entrance to authorized OC San personnel attempting to inspect facility.	[ ] Make necessary arrangements so that representatives of OC San shall be permitted to enter without delay.

[ ] Other Findings/Deficiencies:

_____

_____

_____

_____

ACKNOWLEDGEMENT OF RECEIPT OF CORRECTIVE ACTION NOTICE

FSE Contact Signature Date

Inspector Name Signature Date

Food Service Establishment Copy

APPLICABLE ARTICLES

ARTICLE 2.2 PROHIBITIONS

A. Installation of food grinders in the plumbing system of new construction of Food Service Establishments shall be prohibited. Furthermore, all food grinders shall be removed from all existing Food Service Establishments within 180 days of the effective date of this Ordinance, except when expressly allowed by the FOG Control manager.

B. Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying FOG or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance shall be prohibited, unless a specific written authorization from the FOG Control Manager is obtained.

ARTICLE 4.2 GREASE INTERCEPTOR REQUIREMENTS

All Food Service Establishments shall provide wastewater acceptable to OC San, under the requirements and standards established herein before discharging to any public sewer. Any Food Service Establishment required to provide FOG pretreatment shall install, operate and maintain an approved type and adequately-sized grease interceptor necessary to maintain compliance with the objectives of this ordinance.

ARTICLE 4.5 REQUIREMENTS FOR BEST MANAGEMENT PRACTICES

All Food Service Establishments shall implement Best Management Practices in accordance with the requirements and guidelines established by OC San under its FOG Control Program in an effort to minimize the discharge of FOG to the sewer.

ARTICLE 4.6 GREASE INTERCEPTOR MAINTENANCE REQUIREMENTS

Grease interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor which includes wastewater, accumulated FOG, floating materials, sludge and solids. Food Service Establishments may be required to submit data and information necessary to establish the grease interceptor maintenance frequency.

1. Grease interceptors shall be fully pumped out and cleaned at a frequency that the combined FOG and solids accumulation does not exceed 25% of the total design hydraulic depth of the grease interceptor.
2. All Food Service Establishments with a grease interceptor shall maintain their grease interceptor not less than every 6 months.
3. Grease interceptors shall be pumped out and cleaned quarterly when the frequency described in (1) has not been established.
4. If the grease interceptor, at any time, contains FOG and solids accumulation that does not meet the requirements described in (1), the Food Service Establishment shall be required to have the grease interceptor serviced immediately such that all fats, oils, grease, sludge, and other materials are completely removed from the grease interceptor. Wastewater, accumulated FOG, floating materials, sludge/solids, and other materials removed from the interceptor shall be disposed off site properly by wastehaulers in accordance with federal, state and/or local laws.

ARTICLE 5.1 MONITORING AND REPORTING CONDITIONS B. Record Keeping Requirements

The Permittee shall be required to keep all manifests, receipts and invoices of all cleaning, maintenance, grease removal of/from the grease control device, disposal carrier and disposal site location for no less than two years. The Permittee shall, upon request, make the manifests, receipts and invoices available to any OC San representative or inspector. These records may include:

1. A logbook of grease interceptor, grease trap, or grease control device cleaning and maintenance practices.
2. A record of Best Management Practices being implemented, including employee training.
3. Copies of records and manifests of wastehauling interceptor contents.
4. Records of sampling data and sludge height monitoring for FOG and solids accumulation in the grease interceptors.
5. Records of any spills and/or cleaning of the lateral or sewer system.
6. Any other information deemed appropriate by the FOG Control Program Manager to ensure compliance with this Ordinance.

ARTICLE 5.2 INSPECTION AND SAMPLING CONDIITONS

The FOG Control Manager may inspect or order the inspection and/or sampling of the wastewater discharges of any Food Service Establishment to determine whether the intent of the Ordinance is being met and the Permittee is complying with all requirements. The Permittee shall allow OC San access to the Food Service Establishment premises, during normal business hours, for purposes of inspecting the Food Service Establishment's grease control devices or interceptor, and/or reviewing the manifests, receipts and invoices relating to the cleaning, maintenance and inspection of the grease control devices or interceptor. Where a Food Services Establishment has security measures in force, the Permittee shall make necessary arrangements so that representatives of OC San shall be permitted to enter without delay for the purpose of performing their specific responsibilities.

ARTICLE 5.3 RIGHT OF ENTRY

Persons or occupants of premises where wastewater is created or discharged shall allow OC San, or its representatives, reasonable access to all parts of the wastewater-generating and disposal facilities for the purposes of inspection and sampling during all times the discharger's facility is open, operating, or any other reasonable time. No person shall interfere with, delay, resist or refuse entrance to authorized OC San personnel attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to OC San's sewer system. In the event of an emergency involving actual or imminent sanitary sewer overflow, OC San representatives may access adjoining businesses or properties which share a sewer system with a Food Service Establishment in order to prevent or remediate an actual or imminent sanitary sewer overflow.

ORANGE COUNTY SANITATION DISTRICT

FOG CORRECTIVE ACTION NOTICE

Date:	Time:	Permit Number:
Food Service Establishment (FSE):		
Address:		
FSE Contact/Title (Print):		

Based on the inspection of your establishment, the OC San Inspector has noted noncompliance with the Fats, Oils, and Grease (FOG) Ordinance as shown by the deficiencies checked below. Your establishment must take immediate action to correct the problem by implementing the required corrective action(s) by:

CORRECTIVE ACTION DUE DATE:_____

After this date, the OC San Inspector will re-inspect your establishment to verify that all necessary corrective measures have been taken.

FAILURE TO IMPLEMENT THE REQUIRED CORRECTIVE ACTION(S) WILL RESULT IN THE ISSUANCE OF A NOTICE OF VIOLATION AND IMPOSITION OF A NONCOMPLIANCE FEE IN THE AMOUNT OF $100.

DEFICIENCY	REQUIRED CORRECTIVE ACTION
PROHIBITIONS – Article 2.2	
[ ] Food Grinder installed in plumbing system	[ ] Remove food grinder
[ ] Use of an additive for the purpose of emulsifying FOG or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance.	[ ] Discontinue additive addition and remove any application equipment or apparatus.
GREASE INTERCEPTOR REQUIREMENTS – Articles 4.2 & 4.6	
[ ] Interceptor has not been maintained at a frequency established in the facility's FOG Wastewater Discharge Permit.	[ ] Conduct interceptor maintenance (pump-out contents).
[ ] Other	
BEST MANAGEMENT PRACTICES – Article 4.5	
[ ] Missing drain screens.	[ ] Install suitable screens in all drains.
[ ] Improper segregation of waste oil, or no waste oil container.	[ ] Provide suitable container and collect waste oil for recycling.
[ ] Improper disposal of solid food waste.	[ ] Dispose of all solid food waste in the trash, not down the drain.
[ ] Employee(s) not trained in Best Management Practices.	[ ] Train all employee(s) in Best Management Practices.
[ ] Proper maintenance of kitchen exhaust filters.	[ ] Decant oil from kitchen exhaust filter washwater to a grease interceptor or waste oil container.
[ ] Kitchen signage.	[ ] Post required kitchen signage.
[ ] Other	
RECORD KEEPING REQUIREMENTS – Article 5.1	
[ ] Missing/Incomplete grease interceptor cleaning/ maintenance log.	[ ] Conduct grease interceptor, grease trap, or grease control device cleaning/maintenance, as necessary, and provide copy of updated maintenance log.
[ ] Missing grease interceptor wastehauling manifests.	[ ] Provide copies of interceptor wastehauling manifests.
[ ] Missing/Incomplete employee BMP training log.	[ ] Conduct employee Best Management Practices training and provide copy of updated training log.
[ ] Missing/Incomplete yellow grease recycling log.	[ ] Provide receipts/manifests for yellow grease pick-up.
[ ] Other	
DENIAL OF ENTRY – Articles 5.2 & 5.3	
[ ] Refused entrance to authorized OC San personnel attempting to inspect facility.	[ ] Make necessary arrangements so that representatives of OC San shall be permitted to enter without delay.

[ ] Other Findings/Deficiencies:

_____

_____

_____

_____

ACKNOWLEDGEMENT OF RECEIPT OF CORRECTIVE ACTION NOTICE

FSE Contact Signature Date

Inspector Name Signature Date

OC San Copy

APPLICABLE ARTICLES

ARTICLE 2.2 PROHIBITIONS

A. Installation of food grinders in the plumbing system of new construction of Food Service Establishments shall be prohibited. Furthermore, all food grinders shall be removed from all existing Food Service Establishments within 180 days of the effective date of this Ordinance, except when expressly allowed by the FOG Control manager.

B. Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying FOG or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance shall be prohibited, unless a specific written authorization from the FOG Control Manager is obtained.

ARTICLE 4.2 GREASE INTERCEPTOR REQUIREMENTS

All Food Service Establishments shall provide wastewater acceptable to OC San, under the requirements and standards established herein before discharging to any public sewer. Any Food Service Establishment required to provide FOG pretreatment shall install, operate and maintain an approved type and adequately-sized grease interceptor necessary to maintain compliance with the objectives of this ordinance.

ARTICLE 4.5 REQUIREMENTS FOR BEST MANAGEMENT PRACTICES

All Food Service Establishments shall implement Best Management Practices in accordance with the requirements and guidelines established by OC San under its FOG Control Program in an effort to minimize the discharge of FOG to the sewer.

ARTICLE 4.6 GREASE INTERCEPTOR MAINTENANCE REQUIREMENTS

Grease interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor which includes wastewater, accumulated FOG, floating materials, sludge and solids. Food Service Establishments may be required to submit data and information necessary to establish the grease interceptor maintenance frequency.

1. Grease interceptors shall be fully pumped out and cleaned at a frequency that the combined FOG and solids accumulation does not exceed 25% of the total design hydraulic depth of the grease interceptor.
2. All Food Service Establishments with a grease interceptor shall maintain their grease interceptor not less than every 6 months.
3. Grease interceptors shall be pumped out and cleaned quarterly when the frequency described in (1) has not been established.
4. If the grease interceptor, at any time, contains FOG and solids accumulation that does not meet the requirements described in (1), the Food Service Establishment shall be required to have the grease interceptor serviced immediately such that all fats, oils, grease, sludge, and other materials are completely removed from the grease interceptor. Wastewater, accumulated FOG, floating materials, sludge/solids, and other materials removed from the interceptor shall be disposed off site properly by wastehaulers in accordance with federal, state and/or local laws.

ARTICLE 5.1 MONITORING AND REPORTING CONDITIONS B. Record Keeping Requirements

The Permittee shall be required to keep all manifests, receipts and invoices of all cleaning, maintenance, grease removal of/from the grease control device, disposal carrier and disposal site location for no less than two years. The Permittee shall, upon request, make the manifests, receipts and invoices available to any OC San representative or inspector. These records may include:

1. A logbook of grease interceptor, grease trap, or grease control device cleaning and maintenance practices.
2. A record of Best Management Practices being implemented, including employee training.
3. Copies of records and manifests of wastehauling interceptor contents.
4. Records of sampling data and sludge height monitoring for FOG and solids accumulation in the grease interceptors.
5. Records of any spills and/or cleaning of the lateral or sewer system.
6. Any other information deemed appropriate by the FOG Control Program Manager to ensure compliance with this Ordinance.

ARTICLE 5.2 INSPECTION AND SAMPLING CONDIITONS

The FOG Control Manager may inspect or order the inspection and/or sampling of the wastewater discharges of any Food Service Establishment to determine whether the intent of the Ordinance is being met and the Permittee is complying with all requirements. The Permittee shall allow OC San access to the Food Service Establishment premises, during normal business hours, for purposes of inspecting the Food Service Establishment's grease control devices or interceptor, and/or reviewing the manifests, receipts and invoices relating to the cleaning, maintenance and inspection of the grease control devices or interceptor. Where a Food Services Establishment has security measures in force, the Permittee shall make necessary arrangements so that representatives of OC San shall be permitted to enter without delay for the purpose of performing their specific responsibilities.

ARTICLE 5.3 RIGHT OF ENTRY

Persons or occupants of premises where wastewater is created or discharged shall allow OC San, or its representatives, reasonable access to all parts of the wastewater-generating and disposal facilities for the purposes of inspection and sampling during all times the discharger's facility is open, operating, or any other reasonable time. No person shall interfere with, delay, resist or refuse entrance to authorized OC San personnel attempting to inspect any facility involved directly or indirectly with a discharge of wastewater to OC San's sewer system. In the event of an emergency involving actual or imminent sanitary sewer overflow, OC San representatives may access adjoining businesses or properties which share a sewer system with a Food Service Establishment in order to prevent or remediate an actual or imminent sanitary sewer overflow.

Appendix G3

Certification of Hand Delivery

ORANGE COUNTY SANITATION DISTRICT

CERTIFICATION OF HAND DELIVERY

I,_____,

as a representative of the Orange County Sanitation District (OC San) personally hand-delivered

_____
(Article/Document Delivered)

To_____
(Recipient Name/Title)

Of_____ on_____
(Facility) (Date)

_____
(Signature)

I, _____
(Name/Title)

Of_____
(Facility)

Acknowledge that I have personally received_____
(Article/Document Delivered)

that was hand-delivered by the representative of OC San mentioned above on_____
(Date)

_____
(Signature)

Appendix H1

BMP Training Log

ORANGE COUNTY SANITATION DISTRICT

EMPLOYEE BMP TRAINING LOG

FACILITY NAME: **PERMIT NUMBER:**

TRAINING DATE	EMPLOYEE NAME (PRINT)	EMPLOYEE SIGNATURE	METHOD OF INSTRUCTION (check appropriate boxes)	TRAINER NAME (PRINT)	TRAINER INITIALS
			☐ Video ☐ Reading Materials ☐ Lecture		
			☐ Video ☐ Reading Materials ☐ Lecture		
			☐ Video ☐ Reading Materials ☐ Lecture		
			☐ Video ☐ Reading Materials ☐ Lecture		
			☐ Video ☐ Reading Materials ☐ Lecture		
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			☐ Video ☐ Reading Materials ☐ Lecture		
			☐ Video ☐ Reading Materials ☐ Lecture		
			☐ Video ☐ Reading Materials ☐ Lecture		

Appendix H2

GI Maintenance Log

ORANGE COUNTY SANITATION DISTRICT

GREASE INTERCEPTOR MAINTENANCE LOG

FACILITY NAME: **PERMIT NUMBER:**

DATE	SERVICE PROVIDER	VOLUME PUMPED (gallons)	TYPE OF SERVICE (rodding, jetting, repair, etc.)	SERVICE COMMENTS (baffles missing, other problems and observations)

Appendix H3

Yellow Grease Log

ORANGE COUNTY SANITATION DISTRICT

RECYCLABLE (YELLOW) GREASE PICKUP/DISPOSAL LOG

FACILITY NAME: **PERMIT NUMBER:**

DATE	RECYCLER NAME	DISPOSAL SITE	VOLUME COLLECTED (gallons)	SERVICE COMMENTS (problems, observations, etc)

Appendix I

FOG Permit Application Packet

ORANGE COUNTY SANITATION DISTRICT

APPLICATION FOR FATS, OILS, AND GREASE WASTEWATER DISCHARGE PERMIT

APPLICATION PACKAGE CHECKLIST

SUBMITTED (Please check appropriate box)

- ❑ PERMIT APPLICATION
- ❑ PERMIT FEE REMITTANCE: The permit fee is $200 for a 2-year permit duration. The permit fee must be remitted prior to the issuance of the permit.

Unless specifically instructed, the following drawings and information are required only for newly-constructed Food Service Establishments or for renovations of existing facilities costing $50,000 or more:

- ❑ Plot Plan
- ❑ Grease Interceptor Design Drawings
- ❑ Grease Interceptor Sizing Worksheet
- ❑ Other: _____

The items checked above were submitted.

_____

Applicant Signature Date

Note: This checklist must be submitted with the FOG Wastewater Discharge Permit Application.

Information and Instructions for Obtaining a

Fats, Oils, and Grease Wastewater Discharge Permit

OC SAN
ORANGE COUNTY SANITATION DISTRICT

THIS PERMIT APPLICATION PACKET CONTAINS INFORMATION ON:

I. Fats, Oils, and Grease (FOG) Wastewater Discharge Permit Program . . . . . Page 2

II. Permit Requirements for Discharging Wastewater from Food Service Establishments. . .Page 2

III. Food Service Establishments that Need a FOG Wastewater Discharge Permit . . . . . Page 2

IV. Facilities Exempt From Obtaining a FOG Wastewater Discharge Permit . . . . . .Page 2

V. Penalties for Discharging Without a Valid FOG Wastewater Discharge Permit . . . . . .Page 3

VI. Maintaining a Valid FOG Wastewater Discharge Permit . . . . Page 3

VII. FOG Wastewater Discharge Permit Conditions and Requirements . . . . . Page 4

VIII. FOG Wastewater Discharge Permit Duration and Renewals . . . . . Page 5

IX. FOG Wastewater Discharge Permit Fee . . . . . .Page 5

X. Facilities Requirements . . . . . .Page 5

XI. Applying for a FOG Wastewater Discharge Permit . . . . . .Page 7

XII. Where to Get Additional Information . . . . . .Page 7

XIII. Permit Application Review and Evaluation Process . . . . . Page 8

Appendix A - Specific Instructions to Fill Out a FOG Wastewater Discharge Permit Application (Appendix A) . . . . Page A-1

Appendix B - Guidelines on Drawing and Information Submittal Requirements. . . . . .Page B-1

Appendix C Design Guidelines for Grease Interceptors Page C-1

I. FATS, OILS, AND GREASE WASTEWATER DISCHARGE PERMIT PROGRAM

- The Orange County Sanitation District (OC San) administers a Fats, Oils, and Grease (FOG) Source Control Program to protect the public and the environment through the regulation of wastewater discharges from Food Service Establishments.

- A permit program is implemented to limit the discharge of FOG from Food Service Establishments by establishing prohibitions, requirements for implementation of kitchen best management practices, requirements for installation of grease interceptors when necessary, self-monitoring requirements, reporting requirements, and others.

II. PERMIT REQUIREMENTS FOR DISCHARGING WASTEWATER FROM FOOD SERVICE ESTABLISHMENTS

- OC San's *Fats, Oils, and Grease Ordinance* (FOG Ordinance) requires Food Service Establishments that desire to discharge wastewater to the sewer system to apply for a FOG Wastewater Discharge Permit (permit).

- All Food Service Establishments requiring a permit to discharge directly into OC San's sewerage facilities must file an application and pay the applicable fees pursuant to Sections 3.1 and 3.4 of OC San's FOG Ordinance.

III. FOOD SERVICE ESTABLISHMENTS THAT NEED FOG WASTEWATER DISCHARGE PERMIT

- Permits are required for Food Service Establishments within the jurisdictional boundaries of OC San, operating in a permanently constructed structure that is maintained, used, or operated for the purpose of storing, preparing, serving, or manufacturing, packaging, or otherwise handling food for sale to other entities, or for consumption by the public, its members or employees, and which has any process or device that uses or produces FOG, or grease vapors, steam, fumes, smoke or odors that are required to be removed by a Type I or Type II hood, as defined in the California Uniform Retail Food Service Establishments Law (CURFFL) Section 113785.

IV. FACILITIES EXEMPT FROM OBTAINING A FOG WASTEWATER DISCHARGE PERMIT

- Establishments engaged in limited food preparation are not considered as Food Service Establishments and are exempt from obtaining a permit. Limited Food Preparation Establishments are typically engaged only in reheating, hot holding or assembly of ready to eat food products and as a result, there is no wastewater discharge containing a

significant amount of FOG. A Limited Food Preparation Establishment does not include any operation that changes the form, flavor, or consistency of food.

V. PENALTIES FOR DISCHARGING WITHOUT A VALID FOG WASTEWATER DISCHARGE PERMIT

Facilities discharging without a valid permit are subject to the following penalties:

- Civil Penalties. Pursuant to the authority of California Government Code Sections 54739 - 54740, any person who violates any provision of OC San's FOG Ordinance shall be liable civilly for a sum not to exceed $25,000 per violation, for each day in which such violation occurs. Pursuant to the authority of the Clean Water Act, 33 U.S.C. Section 1251 et seq., any person who violates any provision of OCSD's FOG Ordinance shall be liable civilly for a sum not to exceed $25,000 per violation, for each day in which such violation occurs. Pursuant to California Government Code Sections 54740.5 and 54740.6, the OC San may impose administrative fines up to the greater of $5,000 per day or $10 per gallon for discharge violations.

- Criminal Penalties. Any person who violates any provision of the OC San's FOG Ordinance is guilty of a misdemeanor, which upon conviction is punishable by a fine not to exceed $1,000, or imprisonment for not more than thirty (30) days, or both. Each violation and each day in which a violation occurs may constitute a new and separate violation of OC San's FOG Ordinance and shall be subject to the penalties contained herein.

VI. MAINTAINING A VALID FOG WASTEWATER DISCHARGE PERMIT

An approved permit is no longer valid if any one of the following occurs:

- The Food Service Establishment has undergone a change in ownership.

- The Food Service Establishment has changed locations.

- Permit has expired.

Permits issued under the FOG Ordinance are for a specific user for a specific operation at a specific location. A new permit application must be filed when there is a change in ownership or when the Food Service Establishment moves to a different location. Permits are not transferable. Upon expiration of the permit, a permit renewal application must be submitted.

VII. FOG WASTEWATER DISCHARGE PERMIT CONDITIONS AND REQUIREMENTS

A permit contains all of the following conditions or limits:

- Limitations on discharge of FOG that may accumulate and/or cause or contribute blockages in the sewer system or at the lateral which connects the Food Service Establishment to the sewer system.

- Requirements for implementation of kitchen Best Management Practices and periodic reporting of status of implementation.

- Requirements for the Food Service Establishments to construct, operate and maintain, at its own expense, a grease interceptor. When applicable, a permit may contain a Conditional Waiver from the grease interceptor requirement.

- Requirements for proper maintenance of grease interceptors based on specified frequency and schedule, keeping maintenance logs and wastehauling records, and periodic submission of Grease Interceptor Wastehauling Reports.

- Additional requirements as otherwise determined to be reasonably appropriate by the FOG Control Program Manager to protect OC San's sewer system or as specified by other Regulatory Agencies.

- Other terms and conditions, which may be reasonably applicable to ensure compliance with the FOG Ordinance.

A permit contains all of the following prohibitions:

- Installation of food grinders in the plumbing system of new construction of Food Service Establishments, except when expressly allowed by the FOG Control Program Manager.

- Introduction of any additives into a Food Service Establishment's wastewater system for the purpose of emulsifying FOG or biologically/chemically treating FOG for grease remediation or as a supplement to interceptor maintenance, unless a specific written authorization from the FOG Control Program Manager is obtained.

- Disposal of waste cooking oil into drainage pipes. All waste cooking oil shall be collected and stored properly in receptacles such as barrels or drums for recycling or other acceptable methods of disposal.

- Discharge of wastewater from dishwashers to any grease trap or grease interceptor.

- Discharge of wastewater with temperatures in excess of 140˚F to any grease control device, including grease traps and grease interceptors.

- Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service, or vice versa.

- Discharge of any waste including FOG and solid materials removed from the grease control device to the sewer system. Grease removed from grease interceptors shall be waste hauled periodically as part of the operation and maintenance requirements for grease interceptors.

- Operation of grease interceptors with FOG and solids accumulation exceeding 25% of the design hydraulic depth of the grease interceptor (25% Rule).

VIII. FOG WASTEWATER DISCHARGE PERMIT DURATION AND RENEWALS

- Permits are normally issued for a period of two (2) years. The Food Service Establishment must apply for renewal of the permit in accordance with the provisions of OC San's FOG Ordinance, at least 60 days prior to the expiration of the permit, if the permit holder wishes to renew the permit.

IX. FOG WASTEWATER DISCHARGE PERMIT FEE

- The permit fee is $200 for a 2-year permit duration.
- The permit fee must be remitted prior to the issuance of a new permit. No permit will be issued prior to remittance of the permit fee.

X. FACILITIES REQUIREMENTS

- Requirements For Kitchen Best Management Practices - All Food Service Establishments are required to implement kitchen Best Management Practices to minimize the discharge of FOG to the sewer system. At a minimum, the following Best Management Practices must be implemented, when applicable:

    - Installation of drain screens. Drain screens shall be installed on all drainage pipes in food preparation areas.

    - Segregation and collection of waste cooking oil. All waste cooking oil shall be collected and stored properly in recycling receptacles such as barrels or drums. Such recycling receptacles shall be maintained properly to ensure that they do not leak. Licensed wastehaulers or an approved recycling facility must be used to dispose of waste cooking oil.

    - Disposal of food wastes. All food waste shall be disposed of directly into the trash or garbage, and not in sinks. Double-bagging food wastes that have the potential to leak in trash bins are highly recommended.

- Employee training. Employees of the Food Service Establishment shall be trained by ownership/management periodically as specified in the permit, on the following subjects:

  a) How to "dry wipe" pots, pans, dishware and work areas before washing to remove grease.

  b) How to properly dispose of food waste and solids in enclosed plastic bags prior to disposal in trash bins or containers to prevent leaking and odors.

  c) The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.

  d) How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.

  Training shall be documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time by the FOG Control Program Manager or an inspector.

- Maintenance of kitchen exhaust filters. Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed properly.

- Kitchen signage. Best management and waste minimization practices shall be posted visibly in the food preparation and dishwashing areas at all times.

- Grease Interceptor Requirements - Food Service Establishments are required to pretreat their wastewater using grease interceptors to remove FOG prior to discharge to the sewer system. Food Service Establishments required to provide FOG pretreatment shall install, operate, and maintain an approved type and adequately sized grease interceptor necessary to maintain compliance. Grease interceptor sizing and installation shall conform to the current edition of the Uniform Plumbing Code. Refer to Appendix C for more detailed information.

  An existing Food Service Establishment may obtain a Conditional Waiver from installation of a grease interceptor, if it can demonstrate that it has negligible FOG discharge and insignificant impact to the sewer system. See Section 2.6 of OC San's FOG Ordinance for more information.

- Grease Interceptor Maintenance Requirements - Grease Interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor which includes wastewater, accumulated FOG, floating materials, sludge and solids. All existing and newly installed grease interceptors shall be maintained in a manner consistent with a maintenance frequency approved by the FOG Control Program Manager.

XI. APPLYING FOR A FOG WASTEWATER DISCHARGE PERMIT

1. Complete the **Application for FOG Wastewater Discharge Permit**. Detailed instructions on how to fill out the permit application are provided in **Appendix A** of the information brochure.

2. If required, complete the **Drawings and Information Submittal Requirements** specified in **Appendix B**. Design Guidelines for Grease Interceptors can be found in Appendix C.

3. Fill out the **FOG Permit Application Package Check List** provided to ensure that all requirements have been completed. This must be submitted with your application.

4. Submit all the above requirements. **The complete package must be returned to:**

Orange County Sanitation District
Resource Protection Division - FOG Program
18480 Bandilier Circle
Fountain Valley, CA 92708
Attn: Lori McKinley

NOTE: OC San will not process the permit application if any of the above requirements are either missing or incomplete. Please make sure that all information required is complete to avoid any delays in the issuance of the permit. Discharging wastewater from a Food Service Establishment without a valid permit is a violation of OC San's FOG Ordinance and may be subject to fines and penalties.

XII. WHERE TO GET ADDITIONAL INFORMATION

- Should you have questions on how to fill out the permit application or on how to comply with the permit application requirements, please contact the following:

Lori McKinley
Principal Environmental Specialist
Phone: (714) 593-7505
E-mail: lmckinley@ocsan.gov

XIII. PERMIT APPLICATION REVIEW AND EVALUATION PROCESS

- The applicant will be notified of the receipt of permit application in writing.

- OC San will conduct an inspection of a new applicant's facility to verify the information provided in the permit application.

- A comprehensive review and evaluation will be conducted to identify any submittal deficiencies.

- If all requirements are satisfied, including the remittance of the permit fee, the Permit will be issued within approximately three weeks after receipt of the application.

APPENDIX A

SPECIFIC INSTRUCTIONS TO FILL OUT A FOG WASTEWATER DISCHARGE PERMIT APPLICATION

Clearly print or type the information requested and return the signed original to OC San. All questions must be answered. DO NOT LEAVE BLANKS. If the question is not applicable, indicate "N/A" on the form.

LINE A Enter the Food Service Establishment's official or legal name.

LINE B If the Food Service Establishment is doing business under a different name other than indicated in LINE A, enter the name.

LINE C Provide the address (physical location) of the Food Service Establishment where wastewater is being discharged.

LINE D Enter the Food Service Establishment's telephone number and email address at its physical location.

LINE E Check the appropriate box to indicate type of business entity. A sole proprietorship is a business owned by one person for profit. A partnership is a business owned by two or more persons for profit. A corporation is a business owned by shareholders.

LINE F Enter the name of owner, general partner, or chief executive officer. If the type of business is sole proprietorship, indicate the name of the sole proprietor. If the type of business is a partnership, list the name of a general partner. If the type of business is a corporation, list the name of the Chief Executive Officer or equivalent. Provide the title, address, phone number, and email address of the owner, partner, or chief executive officer.

LINE G Enter the name of the Designated Representative and Signatory who has been authorized by the corporate officer, general partner, or proprietor to be responsible for receiving notices and signing all correspondence and reports. Provide the title, address, phone number, and email address of the owner, partner, or chief executive officer. Note that all correspondence, permit, and notices from OC San will be sent to this person. The Designated Representative and Signatory is defined as follows:

1. A responsible corporate officer, if the business is a corporation. For the purpose of this paragraph, a responsible corporate officer means:

    A. a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

    b. the manager of one or more manufacturing, production, or operation facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

2. A general partner or proprietor if the business is a partnership or sole proprietorship respectively.

3. A duly authorized representative of the individual designated in paragraph (1) or (2) of this section if:

    a. the authorization is made in writing by the individual described in paragraph (1) or (2);

    b. the authorization specifies either an individual or a position having responsibility for the overall operation of the facility from which the wastewater discharge originates, such as the position of a manager, or a position of equivalent responsibility for environmental matters for the company; and

c. the written authorization is submitted to OC San.

LINE H Enter the name, title, phone number and email address of the person that OC San can contact during facility inspections.

LINE I Under the Type of Food Service Establishment column, check the box(es) that appropriately describes the type of food service provided in the facility. Under the Location column, check the box(es) the location of the facility.

LINE J Under the Food Processing Equipment column, check box(es) corresponding to equipment used to prepare/cook food in your facility and indicate the quantity for each. Likewise, do the same thing for the Kitchen Equipment column.

LINE K For each day of operation, indicate start/stop hours when the facility is open for business or check the appropriate box when the facility is open 24 hours or when it is closed.

LINE L Provide the following miscellaneous information:

No. of Employees – total number of employees in the facility
Seating capacity – the number of seats available for dining inside and outside the facility
Average No. of Meals served during Peak Hour – indicate the average number of meals served during the busiest hour. If the facility is close to being full during the peak hour, this should approach or at the most equivalent to the total seating capacity.
Do you wash plates – indicate whether dishes used in the facility are washed.
Chain Status – Indicate if the facility belongs to a chain of restaurants or an an independent facility.
Seating – Indicate whether the facility sit-down dining facility or a take-out only facility or both.

LINE M Indicate whether or not your facility is already in operation at the sewer address indicated. If not, enter the date when you anticipate to start operation.

LINE N Indicate whether or not a grease interceptor is used in your facility. A grease interceptor is device typically underground and located outside a Food Service Establishment designed to collect, contain, or remove food wastes, fats, oils, and grease from the wastestream prior to discharge to the sewer. This is not to be confused with a grease trap which is a device typically located inside a Food Service Establishment or under a sink designed to collect smaller quantities of fats, oils, and grease.

LINE O Provide the name, address, phone number, and email of the owner of the premises.

LINE P The permit application must be signed and dated by the Owner, a General Partner, or Chief Executive Officer identified in Line F.

LINE Q Provide the name, address, phone number, and email address of the person that OC San can contact if there are questions regarding the permit application.

APPENDIX B

GUIDELINES ON DRAWING AND INFORMATION SUBMITTAL REQUIREMENTS

All drawings shall clearly convey all the information required and shall have good contrast, clear background, and legible labeling. Drawings shall have a minimum dimension of 11 " x 17" and shall not exceed a maximum dimension of 30" x 42". Three sets of the following are required:

I. Plot Plan

II. Grease Interceptor Information and Drawings

I. PLOT PLAN

The Plot Plan shall provide information identifying the location of the Food Service Establishment relative to the streets and surrounding area, show general dining and kitchen areas, and provide information on the general piping connections for incoming water and wastewater discharged to the sewer. As a minimum requirement, the drawing shall be drawn to scale and shall clearly identify each of the following:

a. Map orientation or North arrow.

b. Name of Food Service Establishment and address, drawing name and number, scale size, date drawn/revised, name of person approving the drawings and approval signatures.

c. Legend for symbols used.

d. The property lines, building outline and location with respect to streets. Identify relative location of suite for multi-tenant buildings.

e. All general work areas including the dining and kitchen areas.

f. The overall building dimensions and work area dimensions.

g. All floor drains and sewer connections.

h. Above-ground and below-ground waste/wastewater piping and sewer connection to the city's main sewer line. In some cases, this may entail illustrating your facility's access to the city sewer via common private sewer line(s).

i. All water meter locations.

k. Location of grease interceptor.

Failure to clearly show the above minimum requirements may result in your application being returned for correction of deficiencies, which may delay permit issuance.

II. GREASE INTERCEPTOR DETAIL INFORMATION AND DRAWINGS

The grease interceptor design shall conform to the Design Guidelines described in Appendix C.

A. Grease Interceptor Sizing Worksheet

The Grease Interceptor Sizing Worksheet shown on the following page must be completed and submitted with the grease interceptor drawing.

B. Grease Interceptor Drawing

The Grease Interceptor Drawing shall provide details of the interceptor. At a minimum, the drawing shall be drawn to scale and shall provide different views of the interceptor (front and side elevations, and plan view) to show, at a minimum, the following:

a. Influent line
b. Vents
c. Access manholes
d. Primary chamber with inlet/outlet piping
e. Secondary chamber with inlet/outlet piping
f. Grease interceptor discharge line
g. Baffles
h. Dimensions

In addition to the above, the drawing shall also include the following information:

a. Name of Food Service Establishment and address
b. Approval signatures and dates
c. Name of manufacturer and model
d. Rated hydraulic capacity of the grease interceptor in gallons

Grease Interceptor Sizing Worksheet

Name of Food Service Establishment	Contact Person for this worksheet	Name
Address		Phone Email:

Follow these six simple steps to determine size of grease interceptor:

Enter Results from each Step Here	No. of Meals per Peak Hour		Waste Flow Rate		Retention Time		Storage Factor		Calculated Interceptor Size, Gallons		Rated Interceptor Size, Gallons
		x		x		x		=			
	Step 1		Step 2		Step 3		Step 4		Step 5		Step 6

Step 1

Number of Meals per Peak Hour (Recommended Formula)

Seating Capacity		Meal Factor		Meals per peak hour
	x		=	

Establishment Type	Meal Factor
○ Fast Food (45 min)	1.33
○ Restaurant (60 min)	1.00
○ Leisure Dining (90 min)	0.67
○ Dinner Club (120 min)	0.50

Notes:

Step 2

Waste Flow Rate (Add all the apply)

Condition	Waste Flow Rate
☐ With a dishwashing machine	6 gallons
☐ Without a dishwashing machine	5 gallons
☐ Single service kitchen (Disposable Dishes and Utensils)	2 gallons
☐ Food waste disposer (Grinder)	1 gallon
Total Waste Flow Rate ⇨	

Notes:

Step 3

Retention Time

○ Commercial kitchen waste Dishwasher	2.5 hours
○ Single service kitchen Single serving	1.5 hours

Notes:

Step 4

Storage Factor

Fully equipped commercial kitchen

○ 8-hr operation	1
○ 16-hr operation	2
○ 24-hr operation	3
○ Single-Service Kitchen	1.5

Notes:

Step 5

Calculate Hydraulic Capacity

Multiply the values obtained from steps 1, 2, 3 and 4. The result is the minimum approximate grease interceptor size for this application.

Notes:

Step 6

Select Grease Interceptor Size

Using the approximate required hydraulic capacity from Step 5, select an appropriate size as recommended by the manufacturer.

Notes:

Minimum Size: 750 gallons

APPENDIX C

DESIGN GUIDELINES FOR GREASE INTERCEPTORS

The installation and use of a grease interceptor that is properly designed and sized for the type and size of the Food Service Establishment (FSE), is an important measure in ensuring that an FSE does not contribute with blockages in the sewer system or experience back-ups in the facility itself. Food Service Establishments should weigh costs and benefits when evaluating grease interceptor design and capacity need. While the initial capital investment may be less with smaller capacity grease interceptor, pumping and maintenance fees may increase. Plans for future expansion should be considered since menu expansion, seating capacity expansion or menu changes impact the effectiveness of the grease interceptor.

I. APPLICATION

Grease interceptors are mainly used in treating kitchen wastewater from Food Service Establishments and other similar institutions with a large volume of wastewater. Influent to grease interceptors usually contains high organic loads, including FOG and dissolved particles, as well as detergents and suspended solids. Sanitary wastewaters are not usually treated by grease interceptors. Wastewater with high solids loadings should not be discharged to grease interceptors as it can upset the interceptor performance and greatly increase both solids accumulation and the need for frequent pump out.

II. BASIC DESIGN CRITERIA

In order to ensure effective separation, grease interceptors must be designed to satisfy four basic criteria:

- Time. The grease interceptor must provide sufficient retention time for emulsified FOG to separate and float to the surface of the chamber.
- Temperature. The grease interceptor must provide adequate volume to allow the wastewater to cool sufficiently for emulsified FOG to separate.
- Turbulence. Turbulence through grease interceptors must be controlled so that the FOG and solids are not suspended in the wastewater. Turbulence control is especially important during peak flow discharge periods.
- Tankage. The grease interceptor must provide sufficient storage capacity for accumulated FOG and solids between cleanings.

III. FACTORS AFFECTING GREASE INTERCEPTOR PERFORMANCE

- Velocity of Incoming Water. A high velocity wastewater flow causes turbulence. This will slow the FOG separation process, thereby reducing the grease interceptor efficiency.
- Ratio of FOG to Water. The higher the ratio of FOG particles to the water, the lower the efficiency of the interceptor.
- Specific Gravity (Density) of FOG. FOG has a lower specific gravity than water and will rise to the surface quickly. FOG-ladened food particles having a higher specific gravity than water will linger and accumulate at the bottom, eventually passing out of the interceptor.
- Possible Presence of Detergents in the System. Grease-cutting detergents will break the liquid grease into minute particles that can cause these liquids to pass through the interceptor.

- **Percentage of Maximum Flow Capacity.** If the maximum recommended flow is exceeded, the efficiency of the interceptor will decrease considerably.
- **Location of Grease Interceptor.** The interceptor should be located as close as possible to the source of FOG. Plumbing leading to the grease interceptor may become clogged if the wastewater cools prior to entering the grease interceptor.

IV. SIZING GREASE INTERCEPTORS

Grease interceptors are designed and sized for maximum efficiency based on anticipated flow rates and organic load. The FOG Ordinance adopted by the Orange County Sanitation District requires grease interceptor sizing to conform to the **Uniform Plumbing Code**. Contact your city building department to enquire about interceptor sizing and installation criteria. To calculate the size of a grease interceptor needed by a Food Service Establishment, refer to the following formula taken from Appendix H of the Uniform Plumbing Code (see Grease Interceptor Sizing Worksheet):

No. of Meals per peak hour	x	Waste Flow Rate	x	Retention Time	x	Storage Factor	=	Interceptor Size (Liquid Capacity)

V. GREASE INTERCEPTOR DESIGN AND CONSTRUCTION GUIDELINES

- Grease interceptors shall be placed as close as practical to the fixture(s) being served. It shall be located where it is easily accessible at all times for inspection, cleaning, and removal of accumulated grease.
- Minimum grease interceptor size shall be 750 gallons; the maximum size shall be 1500 gallons. Use multiple interceptors for sizes more than 1500 gallons.
- Grease interceptors shall have two compartments. The inlet compartment shall be 2/3 of the total capacity of the interceptor and in all cases shall be longer than the maximum inside width of the interceptor. The outlet compartment shall have a capacity of 1/3 of the total interceptor capacity. The liquid depth shall not be less than 2 feet 6 inches nor more than 6 feet.
- Access to each grease interceptor shall be provided by a manhole over the inlet and a manhole over the outlet. There shall also be an access manhole for each 10 feet of length for interceptors over 20 feet long. Manholes shall extend to grade, have a minimum size of 24 inches diameter or square opening, and shall have a gasketed cover at grade.
- The inlet and outlet shall have a baffle tee or similar flow device with a minimum cross sectional area equal to the required cross sectional area of the inlet. Each baffle shall extend from at least 4 inches above the liquid level to within at least 12 inches of the inside floor of the interceptor.
- Adequate partitions or baffles shall extend at least 6 inches above the liquid level. Flow from inlet compartment to outlet compartment shall be through a quarter bend, or similar device equivalent in cross sectional area to the inlet into the interceptor, and shall extend down to within 12 inches of the inside floor.
- The Inlet, outlet and main baffle shall have a free vent area equal to the required cross sectional area of the inlet pipe.

For more details regarding construction, structural, and material requirements, consult Appendix H of the UPC.

ORANGE COUNTY SANITATION DISTRICT

APPLICATION FOR FATS, OILS, AND GREASE (FOG) WASTEWATER DISCHARGE PERMIT FOR FOOD SERVICE ESTABLISHMENTS

Instructions: For the Orange County Sanitation District (OC San) to properly evaluate, process, and issue a Fats, Oils, and Grease (FOG) Wastewater Discharge Permit, the applicant must provide a complete permit application.

- The Permit Application Form must be filled out completely. Your application will be returned to you if there is any missing information. Please write N/A if the information being requested does not apply.
- The Permit Application must be signed by an official company representative. OC San will return your permit application if it is not signed by the proper company official.
- The permit fee must be paid prior to the issuance of the permit. All required Drawings and Information described in the information brochure must be submitted with this application. Complete the checklist provided to ensure that all requirements are satisfied.

OC San will not process incomplete Permit Applications. Please refer to Appendix A of the information brochure for detailed instructions for completing this Application Form. Clearly print or type the information requested.

Section I – General Information

A Applicant _____
Corporation or Food Service Establishment Name

B Doing Business as _____
Food Service Establishment Name used at Sewer Service Address Listed Below

C Sewer Service Address _____
Street City State Zip Code

D Phone Number _____ E-mail Address _____

E Is your establishment a ☐ sole proprietorship? ☐ partnership? ☐ corporation?

F Name of Owner, a General Partner, or Chief Executive Officer

_____
Name Title

_____
Street City State Zip Code

_____
Phone Number Email Address

G Name of Designated Representative and Signatory for the facility who can be served with notices and is responsible for signing all correspondence and reports. All correspondence, including certified mail, will be sent to this representative (this person must meet the requirements detailed in the instructions provided in Appendix A):

☐ Please check if this is the same person identified in Line F or provide the information below:

_____
Name Title

_____
Street City State Zip Code

_____
Phone Number Email Address

H Facility Contact During Inspections

Name _____ Title _____

Phone Number _____ Email Address _____

Section II – Facility Operational Characteristics

I Please check descriptions that represent your facility.

Type of Food Service Establishment		Location	
☐ Fast Food Restaurant	☐ Ice Cream Shop	☐Stand-alone Restaurant	☐ Hospital
☐ Full Service Restaurant	☐ Cocktails/Bar	☐Strip Mall Attached	☐ Nursing Home
☐ Buffet	☐ Catering	☐ Mall/Food Court	☐ Hotel/Motel
☐ Take Out Facility (only)	☐ Food Packager	☐ School	☐ Supermarket
☐ Coffee Shop	☐ Meat Processor	☐ Club/Organization	☐ Religious Institution
☐ Bakery		☐ Company/Office Building	☐ Prison
☐ Cafeteria	☐ Other _____	☐ Stadium/Amusement Park	☐ Other _____

J Please indicate each item that you currently have in your facility and the quantity of each.

Food Processing Equipment				Kitchen Equipment			
	Qty		Qty		Qty		Qty
☐ Deep Fryer	_____	☐ Rotisserie	_____	☐ Dishwasher	_____	☐ Other Equipment (list below)	
☐ Charbroiler	_____	☐ Stove	_____	☐ Pre-rinse sink	_____		
☐ Griddle	_____	☐ Wok	_____	☐ Mop Sink	_____	_____	_____
☐ Grill	_____	☐ Other	_____	☐ Floor Drains	_____	_____	_____
☐ Oven	_____	☐ Other	_____	☐ Garbage Disposal	_____	_____	_____

K Please indicate operating schedule:

Days of Operation	Hours of Operation
Monday	Start: _____ Stop:_____ Start:_____ Stop:_____ or ☐ 24 Hours or ☐ Closed
Tuesday	Start: _____ Stop:_____ Start:_____ Stop:_____ or ☐ 24 Hours or ☐ Closed
Wednesday	Start: _____ Stop:_____ Start:_____ Stop:_____ or ☐ 24 Hours or ☐ Closed
Thursday	Start: _____ Stop:_____ Start:_____ Stop:_____ or ☐ 24 Hours or ☐ Closed
Friday	Start: _____ Stop:_____ Start:_____ Stop:_____ or ☐ 24 Hours or ☐ Closed
Saturday	Start: _____ Stop:_____ Start:_____ Stop:_____ or ☐ 24 Hours or ☐ Closed
Sunday	Start: _____ Stop:_____ Start:_____ Stop:_____ or ☐ 24 Hours or ☐ Closed

L Please provide the following miscellaneous information regarding your operations:

Miscellaneous Information			
No. of Employees		Do you wash plates?	☐ Yes ☐ No
Seating Capacity (Inside)		Chain Status	☐ Chain ☐ Independent
Seating Capacity (Outside)		Seating	☐ Sit-down ☐ Take-out ☐ Both
Average No. of meals served during peak hour			

Section III – Facility Information

M Are you currently operating your business from the sewer address indicated? ☐ Yes ☐ No

If the answer is No, indicate the date you plan to begin operation: _____

N Do you have a grease interceptor in this facility? ☐ Yes ☐ No
(see detailed instructions in Appendix A for definition of grease interceptor)

O Property Owner

Name

Street City State Zip Code

Phone Number Email Address

Section IV – Certification

I have personally examined and am familiar with the information submitted in the attached document, and I hereby certify under penalty of law that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment..

I certify that upon issuance of the permit, this firm's operation and its resultant wastewater discharge will achieve consistent compliance with OC San's FOG Ordinance and applicable federal and local wastewater discharge requirements. If the wastewater discharge does not meet all the applicable regulations, the company will modify its operations, install wastewater pretreatment equipment, or do whatever is necessary to meet discharge requirements.

P Certification of Owner, a General Partner, or Chief Executive Officer

Name Title

Signature Date

Section V – Contact Information for this Application

Q Name of the person to contact concerning information provided in this application

Name	Phone		
Street	City	State	Zip Code

Section VI – Mailing Information

Mail the completed application to:

Orange County Sanitation District
Resource Protection Division - FOG Program
18480 Bandilier Circle
Fountain Valley, CA 92708

APPENDIX G1

FOG Control Program

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
	09/26/19	M. Seiler	• Reviewed – no changes
	09/24/20	L. McKinley	• Reviewed – no changes
	09/19/21	L. McKinley	• Reviewed – no changes
	09/22/22	L. McKinley	• Reviewed – no changes
	09/20/23	L. McKinley	• Reviewed – no changes
	09/17/24	L. McKinley	• Reviewed – no changes
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Fats, Oils, and Grease Control Program

Basis for Program Development, Program Components, and Policies

Abstract

Identifying the guiding principles and developing program components for effectively controlling the discharge of fats, oils, and grease (FOG) will define the implementation strategy necessary for a successful source control program. This is an attempt to establish OCSD's FOG Control Program to determine policies/guidelines and associated regulations that need to be in place to effectively enforce the program. In writing the Ordinance, the FOG Control Program should be considered to ensure that the regulations established are comprehensive and can be practically implemented to achieve the desired end results.

JE/MT 1/04

CONTENTS

PURPOSE 1

BASIS FOR DEVELOPING FOG CONTROL PROGRAM 2
- Pursuing an Equitable FOG Control Program 2
- FOG Control Essentials 3
- Considerations for Developing OCSD's FOG Control Program 3
- Practical Considerations for Establishing Requirements for FOG Control: Balancing Cost and Benefits 4
  - Requirements for Installation of Grease Interceptors 5
  - Requirements for Implementation of BMPs 6
- Regulatory Considerations 6
  - Use of Numerical Limits for Controlling FOG Discharge 6
  - Use of Performance Standards for Regulating FSEs 6
  - Use of Grease Interceptor Liquid Depth as an Action Level for Controlling FOG Pass-through 7
  - Use of Visual Observations of FSEs' Lateral for Requiring Grease Interceptors 8
  - Issuance of Waiver for Interceptor Requirement During the Three-year Conditional Stay for Existing FSEs 8
- Technical Considerations 9
  - Interceptor Sizing Consideration 9
  - Determining Interceptor Cleaning Frequency 9

BASIC REQUIREMENTS OF THE FOG CONTROL PROGRAM.....11
- Backbone Requirements 11
- Permit Requirements 12
- Issuance of Variance and Waivers 13
- Prohibitions 15
- Facilities Requirements 15
- Record-keeping and Reporting Requirements 18

PURPOSE

The purpose of the Fats, Oils, and Grease (FOG) Control Program is to prevent blockages of the sanitary sewer lines that can cause sanitary sewer overflows (SSOs) by establishing control mechanisms that will establish regulations and policies for the disposal of FOG from Food Service Establishments (FSEs). The control mechanisms will comprise of the FOG Ordinance (Ordinance) and FOG Wastewater Discharge Permit (permit), which shall define general prohibitions and restrictions on discharges, facilities requirements, administrative requirements, procedures for recovering costs associated with FOG discharges and blockages, and enforcement tools for implementing the program.

In addition to establishing control mechanisms, the FOG Control Program will also include an enforcement management system to address the fundamental requirements necessary to regulate FSEs; obtain and evaluate information on FSE compliance; identify violations; select appropriate enforcement action; establish time frames for implementation; and resolve noncompliance in a timely, fair and consistent manner.

The discharge of FOG to the sewer system from FSEs will be effectively controlled through the FOG Control Program by:

Administering an extensive permitting program to regulate wastewater discharges from FSEs;

Tracking compliance through inspection of FSEs, reviewing Kitchen Best Management Practices (BMPs) and Grease Interceptor Maintenance Practices, and monitoring wastewater discharges;

Evaluating and screening the results of inspection and reports to identify violations;

Consistently responding to all types of violations to ensure long-term compliance; and

Requiring FSEs, when applicable, to pretreat wastewater to reduce FOG prior to discharge to the sewer system.

BASIS FOR DEVELOPING FOG CONTROL PROGRAM

Pursuing an Equitable FOG Control Program

A good FOG Control Program should consistently succeed in keeping FOG discharges below acceptable levels to protect wastewater collection systems from clogging and causing sanitary system overflows (SSOs). Since the problem is caused significantly by FSEs discharging FOG, FSEs share a major responsibility for the consequences of their FOG discharges.

It is OCSD's objective to develop and implement a FOG Control Program that is equitable by:

Requiring all FSEs to reduce the level of their FOG discharge through implementation of Best Management Practices (BMPs) and installation of appropriate/adequate grease interceptor/FOG control device, among other requirements necessary for an effective FOG control

Establishing specific permit requirements for reducing FOG discharges by considering the quantity of FOG generated by the FSE and its potential impact to the collection system; establishing requirements that are effective to achieve the desired environmental results while considering costs incurred by FSEs, considering requirements with sound technical basis; establishing practical requirements tailored individually to each FSE based on established criteria versus a "one size fits all" set of requirements

Establishing basic user fees and any additional user fees that may be imposed for discharges above acceptable levels to recover costs of additional maintenance required beyond normal; imposing mitigation fees for FSEs where installation of adequate grease interceptor/FOG control device is not feasible

Recovering cost of FOG Control Program, which includes inspections, sampling, program administration and maintenance, educational outreach, etc.

Implementing a FOG Control Program that addresses all FSEs that are sources of FOG and is consistent among all FSEs.

Sewer blockages are largely dependent on the quantity of FOG being discharged from FSEs, but are also dependent on other factors such as the size of the sewer line, pipe material, number of dischargers to the line, type of dischargers, topography (slope), age and condition of the sewer lines, etc. Sewer conditions contributing to blockages can be corrected by the sewer agency; however, any capital improvement will take a longer time to implement. Although more frequent sewer cleaning and maintenance is one of the solutions, a balance between the frequency of cleaning and the public cost involved must also be maintained. In the interest of protecting public health, the immediate burden is placed on significant FOG dischargers (FSEs) to control and reduce their FOG discharges in conjunction with a practical sewer cleaning and maintenance schedule by the sewer agency, while capital improvements of the collections facilities are undertaken.

FOG Control Essentials

There are two essential elements for effectively controlling the discharge of FOG:

Pretreatment through installation, operation, and maintenance of a properly designed and adequately sized grease interceptor. The use of a properly maintained grease interceptor has been shown to be the most effective conventional FOG control technology. However, because of space restrictions and/or cost-prohibitive retrofits for existing FSEs, its implementation becomes a complicated issue. While other FOG control devices may be used when the installation of a grease interceptor is not feasible, an evaluation must be conducted to ensure that its efficacy is, at least, equivalent to that of a grease interceptor.

Implementation of Best Management Practices (BMPs). BMPs are practical measures that when implemented will significantly reduce the quantities of FOG released from FSEs. When practiced consistently, BMPs help reduce FOG loading on the grease interceptor/FOG control device. As a result, the performance of the grease interceptor/FOG control device is optimized and improved, with its maintenance frequency reduced, as well. BMPs include proper grease disposal and handling and proper kitchen practices for minimizing the discharge of FOG at the source.

OCSD will implement the above as basic general requirements, among other requirements that will facilitate enforcement of these essentials. When appropriate, deviation from the pretreatment requirement will be considered, to apply practicality while maintaining consistency.

Considerations for Developing OCSD's FOG Control Program

OCSD's long-term FOG Control Program will consist of full implementation of the essential requirements as discussed above to all new and existing FSEs. Although it is ideal to require all FSEs to install adequate grease interceptors or equivalent FOG control devices, considerations should be made for existing FSEs. Existing FSEs may have not been required to install an approved grease interceptor when they first began operations, and therefore, it is anticipated that retrofitting problems will be encountered. Because of this, it is an extremely difficult and complex issue to initially deal with all dischargers on an equitable and consistent basis and, at the same time, immediately accomplish the ideal environmental improvement required. Clearly, there is a need for an interim program that will evolve and mature towards the ideal goal. Initially, this will involve a compromise between approaching the desired environmental results and impending priorities, while being flexible and practical in implementing the

immediate requirements for controlling significant FOG discharges.

OCSD will implement an interim FOG Control Program, which will occur during the first three years of its inception. During this period, existing FSEs that meet established criteria may be allowed to operate without a grease interceptor or equivalent FOG control device. This is a delay in implementation (conditional stay) to allow flexibility for existing FSEs to plan and schedule the required retrofit within a three-year period. The interim program will focus particularly on the implementation of requirements that will result in the most significant environmental improvements, gradually maturing and progressing towards the ideal (long-term) program to achieve the desired environmental results. Public costs will be incurred for high frequency cleaning of the local sewers until the FOG control devices are installed by FSEs.

Practical Considerations for Establishing Requirements for FOG Control: Balancing Cost and Benefits

The interim FOG Control Program policies to be developed should facilitate the maximum beneficial public use of the sewer system while at the same time preventing blockages of the sewer system resulting from discharges of FOG. The primary and bottom line concern for all FSEs is the cost of installing an effective FOG control device and the cost associated with its operation and maintenance. While it is ideal for every FSE to have an adequate grease interceptor or equivalent FOG control device, it is important to weigh the costs and the benefits. This is certainly a major consideration specifically for existing FSEs that were not required to install an approved grease interceptor or FOG control device when they first began operations, but now may be subjected to cost-prohibitive retrofits.

Current FOG pretreatment technology typically takes the form of grease traps or grease interceptors. The grease trap is a smaller grease handling device found in the kitchen area of the FSE, while a grease interceptor is usually a large, in-ground, usually concrete, tankage found outside the facility. Due to their small size, grease traps need to be emptied more often than grease interceptors to be effective. Grease traps have very limited effect and should, therefore, be used to reduce FOG loading on grease interceptors. A properly designed grease interceptor is a proven and effective FOG collection device when properly maintained and is considered the Best Conventional Technology (BCT) for FOG control. For this reason, the installation of a grease interceptor is an ideal requirement for all FSEs to minimize FOG discharges to the sewer. The cost to purchase and install a medium-sized interceptor (1500 gallons) for a new FSE is approximately $8,000; for a retrofit in an existing FSE, the cost ranges from $10,000 to $15,000.

In maintaining a balance between cost and benefit, the ideal requirement for all FSEs to have an adequate FOG separation and removal device in the form of a grease interceptor is a long-term goal, and will occur after the first three years from

the initial implementation of the program. Therefore, the initial thrust of the program should focus on prioritization and identification of FSEs for which the full requirements for a grease interceptor will be implemented. Immediate implementation of a "one size fits all" requirement for installation of grease interceptors is impractical; therefore, the extent of requirements to be implemented should vary for each FSE based on a practical approach that considers cost, and benefit. Immediate implementation of the grease interceptor requirement for existing FSEs that have significant impacts on sewer blockages may entail a high cost but the environmental benefits derived are significant. Delaying this requirement for existing FSEs that have considerably low impact will be a lesser priority and will allow FSEs to comply within a reasonable amount of time.

In developing the FOG Control Program, the following considerations are taken into account and serve as the basis for developing policies.

Requirements for Installation of Grease Interceptors

Existing FSEs

For existing FSEs, the initial approach should consist of prioritization to require full installation of adequate grease interceptors for those facilities that are discharging to sewer lines known to be the source of SSOs or sewer lines where frequent cleaning is required. This is a "site specific prioritization" based on specific locations where the sewer lines have been identified as "hot spots". Because there are potentials for developing new hot spots, a preventive approach is also necessary. The approach should not be restricted to site specific prioritization but should also be extended to prioritization based on the amount or quantity of FOG generation from any FSE, as indicated by the nature and magnitude of the operation. Based on this method of prioritization, the cost impact for those FSEs that are affected is balanced by the apparent immediate benefit of preventing blockages and sewer spills where it is a real concern.

Conditional waivers to install grease interceptors may be granted to FSEs that are able to demonstrate that their FOG discharge is insignificant and has no impact to the sewer system. This conditional waiver may also be granted to existing FSEs during the three-year period of conditional stay. A conditional variance to allow alternative pretreatment technology in lieu of a grease interceptor, but equivalent in performance and effectiveness, may also be granted to FSEs demonstrating that the installation of a grease interceptor is not feasible. When a conditional variance cannot be granted, a Waiver with a Grease Disposal Mitigation Fee may be allowed. The fee will be used to recover the additional cost of maintenance and cleaning associated with the elevated FOG discharge due to the FSE's inability to install the required grease interceptor or equivalent FOG control device. The Grease Disposal Mitigation Fee should be established such that FSEs do not get an economic advantage for opting to pay the mitigation fee rather than installing the grease interceptor. Therefore, it should, at a minimum, be equivalent to the cost of installing

a new grease interceptor and associated costs for cleaning and maintenance.

New FSEs

For new FSEs, it is expected that the full requirement to install a grease interceptor will be implemented, since there is a full opportunity to plan for the new installation with the cost component being part of the facility's initial capital investment. Because FSEs conducting a major remodeling have a similar opportunity, the same requirement for new FSEs should be implemented. Details of the criteria for defining remodeling should be addressed by the Ordinance.

Requirements for Implementation of BMPs

In addition to pretreatment, another basic component of the FOG control program is the application of BMPs to control generation of FOG from the source. At a minimum, **all FSEs** should be required to implement enforceable BMPs. Acceptable BMPs should be defined in the policy.

Regulatory Considerations

Use of Numerical Limits for Controlling FOG Discharge

Numerical effluent limits have been used traditionally as a tool for monitoring discharges for most of the pollutants. When federal limits have not been defined, local limits that are technically based are developed. In the case of FOG where no federal limit has been defined, a local limit is necessary. However, because of difficulties associated in establishing a technically based limit for FOG at this time, alternative methods for controlling FOG discharges that are also effective will be adopted until such time that a technically based FOG limit can be established. As discussed in the following sections, OCSD will implement alternative methods for monitoring FOG discharges from FSEs that will primarily focus on establishing performance standards, action levels as indicated by the depth of solids/FOG build-up in the existing interceptor, and procedures for visual inspection of FOG build-up through CCTV.

Use of Performance Standards for Regulating FSEs

1. BMP Performance Standards - The ability of FSEs to consistently implement BMPs is an important aspect of the FOG control program. The effectiveness of the efforts of FSEs to reduce their FOG discharges could have been easily determined if the actual discharge level can be compared to an established numerical limit (pretreatment standard). In the absence of a FOG numerical

limit, however, establishing performance standards based on consistent implementation of enforceable BMPs can be utilized. This means that compliance evaluations will be based on the FSEs' ability to meet established performance standards for consistently implementing BMPs. As an example, specific minimum BMPs will be required for each FSE, as specified in its permit, which will be enforced. OCSD will monitor FSEs' compliance by requiring periodic submittal of BMP implementation status reports (signed by the responsible officer under penalty of perjury) and verifying submitted information through inspections. Depending on available resources, OCSD will have the flexibility to conduct thorough verification or spot checking of BMPs. Appropriate enforcement procedures will be implemented when FSEs fail to comply with the requirement.

2. Maintenance Performance Standards – Like the BMP Performance Standards, establishing Performance Standards for ensuring proper maintenance of the grease interceptor/FOG control device is also important. This ensures that FSEs adhere to the established maintenance schedule. Compliance can be monitored by implementing a notification requirement whenever maintenance is performed in accordance with a predetermined schedule (performance standard). This information may also be verified through wastehaulers. Notice of Violations may be issued when an FSE fails to comply with the required maintenance schedule and/or notification requirement.

Use of Grease Interceptor Liquid Depth as an Action Level for Controlling FOG Pass-through

For FSEs with grease interceptors, an alternative indicator that can be used to evaluate compliance with the required pretreatment equipment maintenance is by measuring the level of solids and FOG accumulation in the grease interceptors. Excessive levels of FOG and solids accumulation in grease interceptors diminishes removal efficiency, eventually resulting in FOG passing through the equipment and discharged to the sewer. Therefore, establishing an interceptor liquid depth action level will provide another method for controlling FOG discharges. Based on a minimum allowable liquid level established as a performance standard, compliance monitoring and evaluation may be conducted by measuring the sludge height using a sludge judge or an electronic height measuring device to obtain the solid-free liquid level. It is suggested to establish the sludge height performance standard based on the 25% rule which requires that grease interceptors be pumped-in-full when the total accumulation of surface FOG (including floating solids) and settled solids reaches 25% of the grease interceptor's overall liquid depth. This provides an alternative method for controlling the amount of FOG discharge other than actual measurements of effluent concentration. With the use of an interceptor liquid depth action level, compliance can be monitored and enforcement actions, which may include escalation of interceptor maintenance frequency, may be imposed.

Use of Visual Observations of FSEs' Lateral for Requiring Grease Interceptors

Visual observation of the FSE's lateral is the most accurate indicator of a facility's impact as a result of discharging FOG at significant levels that cause sewer blockage. This can also be used to establish action levels that would trigger the requirement for installation of grease interceptor. While this is accurate, it entails the use of CCTV at the public's expense to actually get a photograph or video of the FOG accumulation in the laterals and downstream. Depending on the availability of resources, this monitoring method can prove to be useful in controlling FOG discharge. There are occasions, however, when a clean lateral may not necessarily represent the absence of FOG discharge. The use of additives or discharge of solvents that emulsify grease can camouflage a significantly high FOG discharge.

Issuance of Waiver for Interceptor Requirement During the Three-year Conditional Stay for Existing FSEs

As discussed above, the requirement for all FSEs to have a grease interceptor is an ideal requirement that would most likely result in the maximum removal of grease prior to discharge to the sewer. However, based on the considerations mentioned above for existing FSEs and the need to balance cost versus benefit, the interim FOG control program for requiring grease interceptor will initially focus on FSEs which have significant impact to the sewer system. This does not mean, however, that the rest of the FSEs are exempt from the requirement. Since the long-term goal is to eventually have all FSEs install an adequate grease interceptor, the requirement should remain but held in abeyance through a waiver.

From the implementation standpoint, it is more effective to impose the requirements on all permittees right at the beginning and issue/revoke conditional waivers as needed than do the opposite. As changes in FSE operations impacting FOG discharge are encountered such as business expansion, waivers may be revoked. Revocation of waivers will be driven by changes in the criteria for issuing the waiver, in response to a more stringent requirement to further control FOG due to continuing SSOs and imminent threat to public health. The criteria for issuing waivers will be set under OCSD's policy and waivers issued will be reviewed for re-issuance based on a specific frequency that will be established in the FOG Control Policies. The criteria for waiver issuance to existing FSEs may include:

- Average daily FOG discharge less than prevailing FOG action level
- Location of FSE is not considered a hot spot
- Satisfactory compliance with required BMPs
- Compliance with all permit requirements and prohibitions
- Absence of indicators that the FSE's FOG discharge has significant impact to the sewer

Technical Considerations

Interceptor Sizing Consideration

Currently, there are different methods available for sizing grease interceptors. The sizes will vary considerably depending on the method used. It is suggested that until an acceptable sizing method is adopted, the use of the Uniform Plumbing Code (UPC) formula should be used. Although this may result in a larger interceptor, it is conservative and is universally accepted. Deriving a new formula that is technically justified will require a considerable amount of research and study, which should include obtaining data for the local condition. A minimum size interceptor should be established; 750 gallons minimum volume is recommended. Interceptor sizes from 375 to 750 gallons should require the minimum volume of 750 gallons. 375 gallons is recommended as a de minimis value for requiring interceptors; i.e., installation requiring less than 375 gal may be exempt. When the UPC sizing calculation exceeds 1000 gallons, the calculation should be compared with other formulas to ensure that the interceptor is not oversized. Engineering judgment should be used when there are large discrepancies by also considering other factors such as menu, frequency of use of drainage fixture units, etc., to determine the final size of the interceptor.

Determining Interceptor Cleaning Frequency

The cleaning frequency should depend upon the FSEs' type of operation and is, therefore, expected to vary. The frequency for cleaning interceptors is affected by a lot of factors and varies from FSE to FSE. Although frequent grease interceptor cleaning is desirable, a balance between cost and benefit should be maintained. Because this is an important issue for FSEs due to the cost involved, as well as for OCSD as it affects the success of the FOG control program, it is very important to establish a cleaning frequency requirement that is practical and effective. Therefore, this issue must be addressed appropriately. The use of a "one size fits all" cleaning frequency may seem very easy to manage from the regulatory standpoint, but can be either impractical and/or cost prohibitive for some FSEs or too lax for other FSEs. Specifying a cleaning frequency for each FSE that reflects a representative time when cleaning is actually needed is ideal but the determination for establishing frequency may be more involved. The following procedure will be used for establishing required cleaning frequency:

1. Grease interceptors should be pumped out (pumped-in-full) and cleaned at a frequency such that the combined FOG and solids accumulation does not exceed 25% of the total liquid depth of the grease interceptor. This is to ensure that the minimum hydraulic retention time and required available volume is maintained to effectively intercept and retain FOG discharged to the sewer system.

2. Grease interceptors should be pumped out and cleaned quarterly when the

frequency described in (1) has not been established. This standard default cleaning frequency was established based on the most common or typical frequency found to be effective for most FSEs. This frequency is used only for the purpose of establishing a default cleaning frequency initially, but will be changed accordingly to reflect a more representative frequency based on actual data. The maintenance frequency shall be adjusted when sufficient data have been obtained to establish an average frequency based on the requirements described in (1) and guidelines in the FOG Control Policies. OCSD may change the maintenance frequency at any time to reflect changes in actual operating conditions in accordance with the FOG Control Policies. Based on the actual generation of FOG from the FSE, the maintenance frequency may increase or decrease.

3. FSEs may submit a request to change the maintenance frequency at any time. The FSE has the burden of responsibility to demonstrate that the requested change in frequency reflects actual operating conditions based on the average FOG accumulation over time and meets the requirements described in (1), and that it is in full compliance with the conditions of its permit and the Ordinance. Upon determination by the FOG Control Program Manager that requested revision is justified, the permit will be revised accordingly to reflect the change in maintenance frequency.

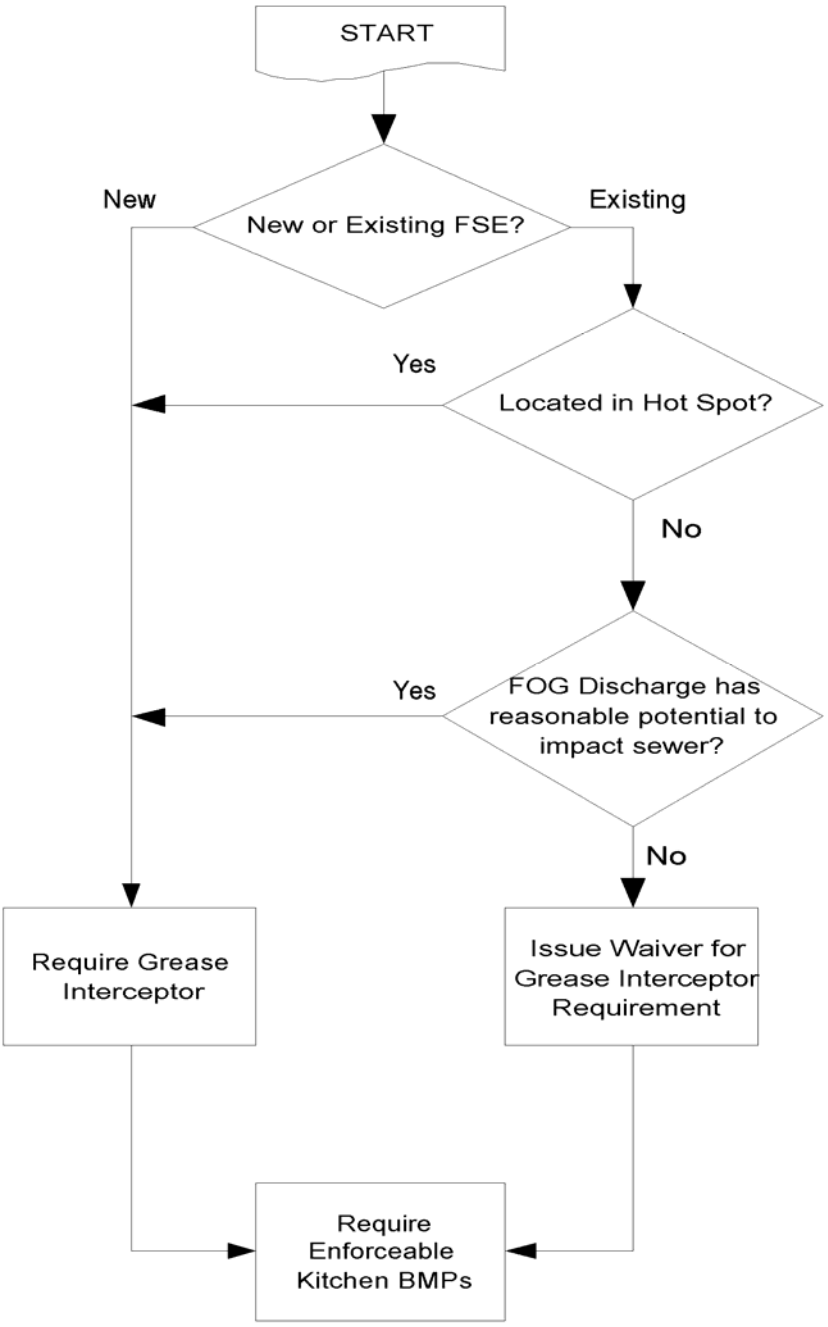
4. All FSEs with a grease interceptor will be required to maintain their grease interceptor at least every 6 months.

Routine inspection to monitor liquid depth to verify the FSE's ability to maintain liquid depth above the action level will serve as a check whether cleaning frequencies previously established are still applicable or need to be re-adjusted.

BASIC REQUIREMENTS OF THE FOG CONTROL PROGRAM

Backbone Requirements

The following diagram depicts the flowchart for determining the basic requirements that will be specified in the permit for the interim FOG Control Program (first three years of implementation):



By the end of the three-year interim period, all existing FSEs are expected to have installed grease interceptors unless a waiver is obtained.

Permit Requirements

1. FOG Wastewater Discharge Permit Required. All FSEs shall be required to obtain a permit and pay the associated permit processing fee. Permit duration is four years. FSEs shall apply for renewal prior to permit expiration as specified in the Permit. Permits are non-transferable.
2. BMPs Required. Permittees shall implement enforceable kitchen BMPs as a standard basic requirement. BMP Implementation Status Reports shall be submitted to OCSD periodically as specified in the permit in order to monitor continuous and routine implementation of BMPs.
3. FOG Pretreatment Required. FSEs are required to install, operate and maintain an approved type and adequately sized grease interceptor fixtures, equipment, and drain lines located in the food preparation and clean up areas of FSEs that are sources of FOG discharges shall be connected to the grease interceptor.

   A. New FSEs

      New FSEs shall install grease interceptors prior to commencing discharge of wastewater to the sewer system.

   B. Existing FSEs

      For existing FSEs, the requirement to install and to properly operate and maintain a grease interceptor may be conditionally stayed, that is, delayed in its implementation by the FOG Control Manager for a maximum period of three years from the effective date of this Ordinance (3-year Amortization Period). Terms and conditions for application of a stay to an FSE shall be set forth in the permit.

      Existing FSEs that have reasonable potential to adversely impact the sewer system or have sewer laterals connected to hot spots, as determined by the FOG Control Program Manager, shall install grease interceptors.

      Existing FSEs undergoing remodeling or a change in operation as defined in the Ordinance, or FSEs which change ownership, shall be required to install a grease interceptor.

Issuance of Variance and Waivers

1. Variance from Grease Interceptor Requirements

   A variance to allow alternative pretreatment technology that is, at least, equally effective in controlling the FOG discharge in lieu of a grease interceptor may be granted to FSEs demonstrating that it is impossible or impracticable to install, operate or maintain a grease interceptor. The FOG Control Program Manager's determination to grant a variance will be based upon, but not limited to, evaluation of the following conditions:

   There is no adequate space for installation and/or maintenance of a grease interceptor.

   There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.

   The FSE can justify that the alternative pretreatment technology is equivalent or better than a grease interceptor in controlling its FOG discharge. In addition, the FSE must be able to demonstrate, after installation of the proposed alternative pretreatment, its effectiveness to control FOG discharge through downstream visual monitoring (CCTV) of the sewer system, for at least three months, at its own expense. A Variance may be granted if the results show no apparent accumulation of FOG in its lateral and/or tributary downstream sewer lines.

2. Conditional Waiver from Installation of Grease Interceptor

   A conditional waiver from installation of a grease interceptor may be granted for FSEs that have been determined to have negligible FOG discharge and insignificant impact to the sewer system. The FOG Control Program Manager's determination to grant or revoke a conditional waiver shall be based upon, but not limited to, evaluation of the following conditions:

   Quantity of FOG discharge as measured or as indicated by the size of FSE based on seating capacity, number of meals served menu, water usage, etc.

   Adequacy of implementation of BMPs and compliance history

   Sewer size, grade, condition based on visual information(CCTV), FOG deposition in the sewer by the FSE, and history of maintenance and blockages/sewage spills in the receiving sewer system

Changes in operation that significantly affects FOG discharge

Any other condition deemed appropriate by the FOG Control Program Manager

3. Waiver from Grease Interceptor Installation with a Grease Disposal Mitigation Fee

For FSEs where the installation of grease interceptor is not feasible and no equivalent alternative pretreatment can be installed, a waiver from the grease interceptor requirement may be granted with the imposition of a Grease Disposal Mitigation Fee as described in the Ordinance. The FOG Control Program Manager's determination to grant the waiver with a Grease Disposal Mitigation Fee will be based upon, but not limited to, evaluation of the following conditions:

There is no adequate space for installation and/or maintenance of a grease interceptor.

There is no adequate slope for gravity flow between kitchen plumbing fixtures and the grease interceptor and/or between the grease interceptor and the private collection lines or the public sewer.

A variance from grease interceptor installation to allow alternative pretreatment technology cannot be granted.

4. Application for Waiver or Variance of Requirement for Grease Interceptor

An FSE may submit an application for waiver or variance from the grease interceptor requirement to the FOG Control Program Manager. The FSE bears the burden of demonstrating, to the FOG Control Program Manager's satisfaction, that the installation of a grease interceptor is not feasible or applicable. Upon determination by the FOG Control Program Manager that reasons are sufficient to justify a variance or waiver, the permit will be issued or revised to include the variance or waiver and relieve the FSE from the requirement. Terms and conditions for issuance of a variance to an FSE shall be set forth in the permit. A waiver or variance may be revoked at any time when any of the terms and conditions for its issuance is no longer satisfied.

Prohibitions

The following prohibitions shall apply to all FSEs:

1. Installation of food grinders in the plumbing system of new FSEs shall be prohibited. Furthermore, all food grinders shall be removed from all existing FSEs within 180 days of the effective date of the Ordinance, except when expressly allowed by the FOG Control Program Manager.

2. Introduction of any additives into an FSE's wastewater system for the purpose of emulsifying FOG is prohibited, unless a specific written authorization from the FOG Control Program Manager is obtained.

3. Disposal of waste cooking oil into drainage pipes is prohibited. All waste cooking oils shall be collected and stored properly in receptacles such as barrels or drums for recycling by the FSE.

4. Discharge of wastewater from dishwashers to any grease trap or grease interceptor is prohibited.

5. Discharge of wastewater with temperatures in excess of 140˚F to any FOG control device, including grease traps and grease interceptors, is prohibited.

6. The use of biological additives for grease remediation or as a supplement to interceptor maintenance, without prior authorization from the FOG Control Program Manager, is prohibited.

7. Discharge of wastes from toilets, urinals, wash basins, and other fixtures containing fecal materials to sewer lines intended for grease interceptor service is prohibited.

8. Discharge of any waste including FOG and solid materials removed from the FOG control device to the sewer system is prohibited. Materials removed from grease interceptors shall be wastehauled periodically as part of the operation and maintenance requirements.

Facilities Requirements

1. Grease Interceptor Requirements

   Any FSE required to pretreat shall install, operate, and maintain an approved type and adequately sized grease interceptor necessary to

maintain compliance with the objectives of the Ordinance.

Grease interceptor sizing and installation shall conform to the current edition of the Uniform Plumbing Code. Grease interceptors shall be constructed in accordance with the design approved by the FOG Control Manager and shall have a minimum of two compartments with fittings designed for grease retention.

The grease interceptor shall be installed at a location where it shall be at all times easily accessible for inspection, cleaning, and removal of accumulated materials.

Access manholes, with a minimum diameter of 24 inches, shall be provided over each grease interceptor chamber and sanitary tee. The access manholes shall extend at least to finished grade and be designed and maintained to prevent water inflow or infiltration. The manholes shall also have readily removable covers to facilitate inspection, grease removal, and wastewater sampling activities.

2. Grease Trap Requirements

FSEs may be required to install grease traps in the waste line leading from drains, sink, and other fixtures or equipment where grease may be introduced into the sewer system in quantities that can cause blockage.

Sizing and installation of grease traps shall conform to the current edition of the Uniform Plumbing Code.

Grease traps shall be maintained in efficient operating conditions by removing accumulated grease on a daily basis.

Grease traps shall be maintained free of all food residues and any FOG waste removed during the cleaning and scraping process.

Grease traps shall be inspected periodically to check for leaking seams and pipes, and for effective operation of the baffles and flow regulating device. Grease traps and their baffles shall be maintained free of all caked-on FOG and waste. Removable baffles shall be removed and cleaned during the maintenance process.

Dishwashers and food waste disposal unit shall not be connected to or discharge into any grease trap.

3. Monitoring Facilities Requirements

FSEs may be required to construct and maintain in proper operating condition at the FSEs' sole expense, flow monitoring, constituent monitoring and/or sampling facilities.

4. Requirements for Best Management Practices

All FSEs shall be required, at a minimum, to comply with the following BMPs, when applicable:

Installation of drain screens. Drain screens shall be installed on all drainage pipes in food preparation areas.

Segregation and collection of waste cooking oil. All waste cooking oil shall be collected and stored properly in recycling receptacles such as barrels or drums. Such recycling receptacles shall be maintained properly to ensure they do not leak. Licensed haulers or an approved recycling facility must be used to dispose of waste cooking oil.

Disposal of food waste. All food waste shall be disposed of directly into the trash or garbage, and not in sinks.

Employee training. Employees of the FSE shall be trained within 180 days of the effective date of the Ordinance, and twice each calendar year thereafter, on the following subjects:

- How to "dry wipe" pots, pans, dishware and work areas before washing to remove grease.
- How to properly dispose of food waste and solids in enclosed plastic bags prior to disposal in trash bins or containers to prevent leaking and odors.
- The location and use of absorption products to clean under fryer baskets and other locations where grease may be spilled or dripped.
- How to properly dispose of grease or oils from cooking equipment into a grease receptacle such as a barrel or drum without spilling.

Training shall be documented and employee signatures retained indicating each employee's attendance and understanding of the practices reviewed. Training records shall be available for review at any reasonable time OCSD or other authorized inspector.

Maintenance of kitchen exhaust filters. Filters shall be cleaned as frequently as necessary to be maintained in good operating condition. The wastewater generated from cleaning the exhaust filter shall be disposed properly.

Kitchen Signage. Best management and waste minimization practices shall be posted conspicuously in the food preparation and dishwashing areas at all times.

5. Grease Interceptor Maintenance Requirements

Grease Interceptors shall be maintained in efficient operating condition by periodic removal of the full content of the interceptor which includes wastewater, accumulated FOG, floating materials, sludge and solids.

All existing and newly installed grease interceptors shall be maintained in a manner consistent with a maintenance frequency specified in the permit.

No FOG that has accumulated in a grease interceptor shall be allowed to pass into any sewer lateral, sewer system, storm drain, or public right of way during maintenance activities.

FSEs with grease interceptors may be required to submit data and information necessary to establish the maintenance frequency grease interceptors.

Record-keeping and Reporting Requirements

FSEs shall be required to keep records and submit or make available for review, the following documents to OCSD, upon request:

1. A logbook of grease interceptor or grease trap cleaning and maintenance practices and BMPs implemented.

2. Copies of records and manifests of hauled waste FOG or hauled interceptor wastewater.

3. Periodic BMP Reports and Grease Interceptor Maintenance Reports as specified in the permit.

4. Any required self-monitoring reports or sampling data as specified in the permit.

5. Any other information deemed appropriate by the FOG Control Manager.

APPENDIX G2

OCHCA Inspection Agreement

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	11/21/05		Original
1	09/26/19	M. Seiler	• Reviewed – no changes
2	09/24/20	L. McKinley	• Reviewed – no changes
3	09/19/21	L. McKinley	• Reviewed – no changes
4	09/22/22	L. McKinley	• Reviewed – no changes
5	09/20/23	L. McKinley	• Reviewed – no changes
6	09/17/24	L. Mckinley	• Reviewed – no changes
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AGREEMENT FOR PROVISION OF
ENVIRONMENTAL HEALTH SERVICES
BETWEEN
COUNTY OF ORANGE
AND
ORANGE COUNTY SANITATION DISTRICT

THIS AGREEMENT entered into this 10th day of January 2006, which date is enumerated for purposes of reference only, is by and between the COUNTY OF ORANGE, a political subdivision of the State of California (COUNTY) and ORANGE COUNTY SANITATION DISTRICT, a special district of the State of California (DISTRICT)

W I T N E S S E T H:

WHEREAS, the California Regional Water Quality Control Board-Santa Ana Region, Region 8 ("RB8") has adopted Order No. R8-2002-0014, General Waste Discharge Requirements (the "Order"), requiring cities and local wastewater agencies within its jurisdiction in northern and central Orange County to develop site-specific sewer system management plans to reduce sewer system overflows ("SSOs");

WHEREAS, the Order names OCSD as one of 31 Co-Permittees and as a facilitator agency to assist in obtaining regional compliance with the Order by Co-Permittees. The Co-Permittees include 16 cities and 13 local wastewater agencies, including 2 existing military bases, that provide sewer service in northern and central Orange County (although the City of Los Alamitos is named in the Order, the RB8 is expected to remove it from the Order because it does not provide sewer service in its jurisdiction; sewer service in Los Alamitos is provided by the Rossmoor-Los Alamitos Area Sewer District, a Co-Permittee);

WHEREAS, the Co-Permittees are individually required by the Order to develop a Sewer System Management Plan to provide the framework as well as specific management guidance to prevent, control, mitigate, track, and report sewer spills including, but not limited to, funding, staffing, training plans, and enforcement of site-specific Fats, Oils, and Grease (FOG) Control Programs when indicated;

WHEREAS, DISTRICT and Co-Permittees have established their own FOG Control Programs applicable to food service establishments to comply with the Order;

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WHEREAS, the FOG Control Programs of most Co-Permittees closely follow the FOG Control Program adopted by DISTRICT pursuant to DISTRICT's model FOG Control Ordinance;

WHEREAS, COUNTY serves as the Health Officer of the Cities within COUNTY, and contracts to provide Environmental Health Services to the Cities, including inspections of food service establishments;

WHEREAS, DISTRICT is the local sewer agency for County of Orange Unincorporated Area 7 north of the City of Tustin and the DISTRICT owned and operated parts of City of Tustin, and other areas where parcels may be directly connected to the DISTRICT's regional collection system, and wishes to contract with COUNTY for the provision of food service establishment inspection services described herein;

WHEREAS, DISTRICT is coordinating the extension of such Kitchen Best Management Practices (BMPs) screening inspection services to food service establishments within the jurisdiction of Co-Permittees who wish to participate in a jointly coordinated effort to implement the RB8 Order and monitor and control SSOs; and

WHEREAS, COUNTY is agreeable to the rendering of such services on the terms and conditions hereinafter set forth with DISTRICT acting as the lead contracting agency for the participating Co-Permittees:

NOW, THEREFORE, IT IS MUTUALLY AGREED AS FOLLOWS:

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CONTENTS

PARAGRAPH		PAGE
I.	Alteration of Terms	4
II.	Indemnification	4
III.	Notices	4
IV.	Payments	5
V.	Services	5
VI.	Severability	6
VII.	Status of County	6
VIII.	Term	7
IX.	Termination	7
X.	Waiver of Default or Breach	8
	Signature Page	9

EXHIBIT A

I.	Field Functions	1
II.	Administrative Functions	1
III.	Training	2

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I. ALTERATION OF TERMS

This Agreement, together with Exhibit A attached hereto and incorporated herein by reference fully expresses all understanding of COUNTY and DISTRICT with respect to the subject matter of this Agreement, and shall constitute the total Agreement between the parties for these purposes. No addition to, or alteration of, the terms of this Agreement, whether written or verbal, shall be valid unless made in writing and formally approved and executed by the parties.

II. INDEMNIFICATION

A. MUTUAL INDEMNIFICATION

1. Each party agrees to indemnify and hold harmless the other party, its officers, agents, and employees from all liability, claims, losses, and demands, including defense costs, whether resulting from court action or otherwise, arising out of the acts or omissions of the indemnifying party, its officers, agents, or employees, or the condition of property used in the performance of this Agreement.

2. Each party agrees to provide the indemnifying party with written notification of any claim within thirty (30) days of notice thereof, to allow the indemnifying party control over the defense and settlement of the claim, and to cooperate with the indemnifying party in its defense.

B. THIRD-PARTY INDEMNIFICATION

1. Prior to COUNTY extending the services hereunder within the jurisdiction of any Co-Permittee, DISTRICT in its coordination function shall first secure an indemnification agreement identical in the scope and form provided for herein from each such Co-Permittee indemnifying COUNTY from all liability, claims, losses, and demands, including defense costs, arising out of each such Co-Permittee's acts or omissions in the performance of services provided for in this Agreement.

III. NOTICES

A. Unless otherwise specified, all notices, claims, correspondence, and/or reports authorized or required by this Agreement shall be effective when:

1. Written and deposited in the United States mail, first class postage prepaid and addressed as follows:

DISTRICT: General Manager
Orange County Sanitation District
P.O. Box 8127
Fountain Valley, CA 92728-8127

COUNTY: Director Health Care Agency
County of Orange Health Care Agency
405 W. 5th Street, 7th Floor
Santa Ana, CA 92701

2. Accepted by U.S. Postal Service Express Mail, Federal Express, United Parcel Service, or other expedited delivery service; or

3. Faxed, transmission confirmed.

B. Termination Notices shall be effective when written and deposited in the United States mail, certified, return receipt requested; when faxed, transmission confirmed; or when accepted by U.S. Postal Service Express Mail, Federal Express, United Parcel Service, or other expedited delivery service and addressed as specified in subparagraph A. above.

C. For the purposes of this Agreement, any notice to be provided by COUNTY may be given by Health Care Agency Director or his/her authorized representative.

IV. PAYMENTS

A. In consideration of the services provided hereunder, including services which may be extended to participating Co-Permittees, DISTRICT agrees to pay COUNTY the fees or rates adopted by the Orange County Board of Supervisors in effect at the time that such services were rendered. It is understood by the parties that such fees and rates are only for the purpose of meeting COUNTY'S cost associated with providing the services.

1. COUNTY shall invoice DISTRICT for such services quarterly and payment to COUNTY should be released by DISTRICT no later than thirty (30) days after receipt of the invoice, unless DISTRICT requests clarification or correction of the invoice within the same period. Failure of DISTRICT to reimburse COUNTY may be considered a breach of the terms of this Agreement and may result in termination of this Agreement.

2. COUNTY shall give DISTRICT a minimum of thirty (30) days notice of any change in fees or rates adopted by the Orange County Board of Supervisors.

B. All fees or rates collected by COUNTY from DISTRICT shall be paid to and deposited in the County Treasury and become property of COUNTY.

V. SERVICES

A. DISTRICT shall designate the Health Care Agency Director or his/her designee as an Inspector under DISTRICT's FOG Control Program applicable to food service establishments. DISTRICT agrees that the Health Care Agency Director or his/her designee, shall have all the powers and authority associated with the position of Inspector within DISTRICT and shall, at no cost to COUNTY, have access to any and all information and records as well as assistance from officers and employees of DISTRICT necessary to perform services to be provided pursuant to this Agreement. Where the services hereunder are to be extended to any participating Co-Permittee, DISTRICT shall in its coordination function secure a similar designation and delegation of authority to the Health Care Agency Director or his/her designee, by the participating Co-Permittee.

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Furthermore, DISTRICT shall ensure that the participating Co-Permittees' FOG Control Programs are substantially similar to DISTRICT's FOG Control Program to ensure uniformity among participating agencies.

B. The Health Care Agency Director or his/her designee shall perform all environmental health services as described in Exhibit A related to the implementation of DISTRICT's and participating Co-Permittees' FOG Control Programs applicable to food service establishments. DISTRICT and COUNTY may amend this Agreement, in writing, to reflect any additions or deletions of DISTRICT ordinances to be implemented by the Health Care Agency Director or his/her designee. In the event of such additions or deletions, DISTRICT shall in its coordination function ensure that each participating Co-Permittee adopt similar additions or deletions to ensure uniformity among participating agencies.

1. It is agreed that nothing in this Agreement shall be construed as binding DISTRICT to demand of COUNTY, or as requiring COUNTY to perform any particular number of inspections or visits except for the annual inspection identified in Exhibit A. Services under this Agreement may be denied to DISTRICT if the Health Care Agency Director or his/her designee determines that appropriate personnel or other resources are unavailable or the Health Care Agency Director or his/her designee does not have legal capacity to act or perform a particular function or functions.

2. COUNTY shall furnish all necessary labor, supervision, equipment, communication services, facilities, and supplies necessary to perform the scope of work and level of services to be provided.

3. The Health Care Agency Director or his/her designee shall not perform any code enforcement functions and shall not enforce any building code, electrical code, or plumbing code and shall not enforce any vector control functions assumed by the Orange County Vector Control District for which these functions are provided pursuant to an agreement with COUNTY dated December 17, 1974.

VI. SEVERABILITY

If a court of competent jurisdiction declares any provision of this Agreement or application thereof to any person or circumstances to be invalid or if any provision of this Agreement contravenes any Federal, State, or County statute, ordinance, or regulation, the remaining provisions of this Agreement or the application thereof shall remain valid, in full force and effect, and to that extent the provisions of this Agreement are severable.

VII. STATUS OF COUNTY

COUNTY shall be wholly responsible for the manner in which it performs the services required of it by the terms of this Agreement. COUNTY is entirely responsible for compensating staff and consultants employed by COUNTY. This Agreement shall not be construed as creating the relationship of employer and employee, or principal and agent, between COUNTY and DISTRICT or any of COUNTY's employees, agents, or subcontractors. COUNTY assumes exclusively the responsibility for the acts of its employees, agents, or subcontractors as they relate to the services to be provided during

the course and scope of their employment. COUNTY, its employees, agents, or subcontractors shall not be entitled to any rights or privileges of DISTRICT employees and shall not be considered in any manner to be DISTRICT employees. Where the services hereunder are to be extended to any participating Co-Permittee, DISTRICT shall in its coordination function secure a similar stipulation by the participating Co-Permittee.

VIII. TERM

A. The term of this Agreement shall commence on January 10, 2006, and shall remain in effect until such time as it is terminated in accordance with the Termination Paragraph of this Agreement; provided, however, the parties shall be obligated to perform such duties as would normally extend beyond this term including, but not limited to, obligations with respect to confidentiality, indemnification, audits, reporting, and accounting.

B. In the event of termination of this Agreement, the Health Care Agency Director or his/her designee shall have no obligation to implement environmental health services as described in Exhibit A of DISTRICT or of any participating Co-Permittee. Where the services hereunder are to be extended to any participating Co-Permittee, DISTRICT shall in its coordination function secure a similar stipulation by the participating Co-Permittee.

IX. TERMINATION

A. TERMINATION WITHOUT CAUSE

1. Either party may terminate this Agreement, without cause, upon no less than one hundred eighty (180) days written notice given the other party.

B. TERMINATION FOR CAUSE

1. Either party may terminate this Agreement upon five (5) days written notice given the other, if either party fails to perform any of the terms of this Agreement, provided the allegedly breaching party has been given written notice of the alleged breach and has failed to cure the alleged breach within thirty (30) days.

C. CONTINGENT FUNDING

1. Any obligation of COUNTY under this Agreement is contingent upon the following:

a) The continued availability of Federal, State, or COUNTY funds for reimbursement of COUNTY's expenditures, and

b) Inclusion of sufficient funding for the services hereunder in the applicable budget approved by the Board of Supervisors.

2. In the event such funding is subsequently reduced or terminated, COUNTY may terminate this Agreement, or reduce or eliminate services, upon thirty (30) days written notice given DISTRICT.

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D. NON-EXCLUSIVE RIGHTS The rights and remedies of either party provided in this Termination paragraph shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

X. WAIVER OF DEFAULT OR BREACH

Waiver of any default by either party shall not be considered a waiver of any subsequent default. Waiver of any breach by either party of any provision of this Agreement shall not be considered a waiver of any subsequent breach. Waiver of any default or any breach by either party shall not be considered a modification of the terms of this Agreement.

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IN WITNESS WHEREOF, the parties have executed this Agreement, in the County of Orange, State of California.

ORANGE COUNTY SANITATION DISTRICT

BY: _____ DATED: _____

TITLE: Chairperson

COUNTY OF ORANGE

BY: _____ DATED: _____
CHAIRMAN OF THE BOARD OF SUPERVISORS

SIGNED AND CERTIFIED THAT A COPY
OF THIS DOCUMENT HAS BEEN DELIVERED
TO THE CHAIRMAN OF THE BOARD.

_____ DATED: _____
DARLENE J. BLOOM
Clerk of the Board of Supervisors
of Orange County, California

APPROVED AS TO FORM
OFFICE OF THE COUNTY COUNSEL
ORANGE COUNTY, CALIFORNIA

BY: _____ DATED: _____
DEPUTY
//

EXHIBIT A
SERVICES TO BE PROVIDED BY
COUNTY OF ORANGE, HEALTH CARE AGENCY
FOOD PROTECTION PROGRAM

I. FIELD FUNCTIONS

Conduct one food service establishment FOG Control Program Kitchen BMP screening inspection annually. Inspections will be conducted at those facilities identified in the COUNTY Food Protection Program inventory as unpackaged food facilities. Environmental Health Specialists will report observations of noncompliance to DISTRICT; no FOG separation/containment/interceptor equipment inspections, follow up inspections, enforcement actions, additional inspection information, or joint inspections will be made or required. COUNTY will provide DISTRICT with the inventory (names and addresses) of unpackaged food facilities. DISTRICT will provide COUNTY the jurisdictional boundaries of the participating agencies and provide a listing of the inventoried unpackaged food facilities within the boundaries of each participating agency. Kitchen Best Management Practices (BMPs) screening inspections shall:

1. Verify the removal of garbage disposals
2. Verify the use of drain screens (sinks, floor sinks, floor drains)
3. Review fats, oils, and grease maintenance logs or manifests
4. Verify the presence of kitchen signage outlining proper grease disposal and dry scraping of dishes
5. Verify the presence of Kitchen BMP Training records
6. Verify use of FOG recycling containers (yellow grease and proof of recycling records)
7. Provide education and outreach that will consist of disseminating literature provided by the DISTRICT
8. Observe evidence of improper FOG disposal within the food service establishments

II. ADMINISTRATIVE FUNCTIONS

COUNTY will report Kitchen BMPs observations to one centralized location agreed to between COUNTY and DISTRICT. COUNTY will revise the Food Facility Inspection Report by adding fields pertaining to Kitchen BMPs observations. COUNTY will create a database query that identifies all the unpackaged food facilities that received Kitchen BMPs screening inspection and transfer to the DISTRICT annually. COUNTY will perform quality assurance on Kitchen BMP data prior to transfer to DISTRICT. However, DISTRICT may periodically audit COUNTY's records to ensure that all the appropriate data is being procured, processed, and transferred. Kitchen BMP screening inspection observation data will be provided no later than the 15th of the month following an inspection. COUNTY will transfer screening inspection data electronically to DISTRICT or other mutually agreed upon

mechanism. COUNTY will perform program evaluations periodically to ensure that each facility requiring an inspection has received one within the specified time period and to review time values.

III. TRAINING

COUNTY will create a training presentation for COUNTY Food Protection Program staff. COUNTY will provide training to the COUNTY Food Protection Program staff on Kitchen BMP screening inspections and allow DISTRICT and their program-related designees and contracted Co-Permittees to observe. Refresher training will be left to the discretion of COUNTY. COUNTY will incorporate Kitchen BMP screening components into the new Specialist-training program.

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APPENDIX G3

Orange County Fog Program Survey and Contact List

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	12/19/11		Original
1	09/26/12		•
2	10/28/13		•
3	11/15/14		•
4	09/22/15	M. Seiler	• Minor change to contact list
5	12/15/15	M. Seiler	• Added City of Placentia FOG Program Control Manager to contact list • New IRWD FOG Control Program Manager added to contact list
6	09/28/16	M. Seiler	• Updated to split Tustin into separate Northwest and Southeast areas and add East Orange County Water District contact information.
7	03/22/18	M. Seiler	• Updated contact info for Orange, La Palma and Stanton
8	03/25/19	M. Seiler	• Updated contact info
9	09/26/19	M. Seiler	• Updated contact info
10	09/24/20	L. McKinley	• Updated contact info
11	09/19/21	L. McKinley	• Updated contact info
12	09/22/22	L. McKinley	• Updated contact info
13	09/20/23	L. McKinley	• Updated contact info
14	09/17/24	L. McKinley	• Updated contact info
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Orange County Fog Program Survey

LOCALITY	FOG PERMIT	BMP LOG	G.I. MAINT. LOG	STAFF INSPECTION	CONTRACT INSPECTION	OCHCA INSPECTION	ORDINANCE	ENFORCEMENT	G.I. INSTALLATION REQUIREMENT
Anaheim	✗	✓	✓	✓	✗	✓	✓	✓	✓*
Brea	✓	✓	✓	✓	✗	✗	✓	✓	✓*
Buena Park	✓no-fee	✓	✓	✓	✓	✓	✓	✓	✓
Costa Mesa Sanitary District	✓annual	✓	✓	✓	✓	✓	✓	✓	✓
Cypress	✓annual	✓	✓	✗	✓	✗	✓	✓	✓*
East Orange County Water District* **	✓	✓	✓	✗	✓	✓	✓	✓	✓
Fountain Valley	✗	✓	✓	✓	✗	✓	✓	✓	✓*
Fullerton	✓annual	✓	✓	✓	✓	✗	✓	✓	✓*
Garden Grove	✗	✓	✓	✓	✗	✗	✓	✓	✓
Huntington Beach	✗	✓	✓	✓	✗	✗	✓	✓	✓*
Irvine	See Irvine Ranch Water District								
Irvine Ranch Water District	✓no-fee	✓	✓	✓	✓	✗	✓	✓	✓*
La Habra	✓annual	✓	✓	✓	✗	✓	✓	✓	✓*
La Palma	✓	✓	✓	✗	✓	✗	✓	✓	✓*
Los Alamitos	✓annual	✓	✓	✗	✓	✗	✓	✗	✓*
Midway City Sanitary District	✗	✓	✓	✗	✓ g.i. only	✗	✓	✓	✗**
Newport Beach	✗	✓	✓	✗	✓	✗	✓	✓	✓*
Northwest Tustin	See East Orange County Water District								
Orange	✗	✓	✓	✓	✗	✓	✓	✗	✓*
Orange County Sanitation District	✓	✓	✓	✓	✓	✓	✓	✓	✓
Placentia	✓✗	✓	✓	✓✗	✓	✓	✓	✓	✓*
Santa Ana	✗ waiver	✓	✓	✗	✓	✓	✓	✓	✓*
Seal Beach	✓	✓	✓	✗	✓	✗	✓	✓	✓*
Southeast Tustin	See Irvine Ranch Water District								
Stanton	✓no-fee	✓	✓	✗	✓	✗	✓	✓	✓*
Sunset Beach Sanitary District	✗	✓	✓	✗	✗	✓	✓	✗	✓*
Villa Park	✗	✗	✗	✗	✗	✓	✗	✗	✓*
Westminster	See Midway City Sanitary District								
Yorba Linda	See Yorba Linda Water District								
Yorba Linda Water District**	✓annual	✓	✓	✓	✗	✗	✓	✗	✓*

* New FSE or significant remodel only.
** Agency does not duplicate local city functions such as issuing building permits or plumbing code enforcement.
*** Owns sewer assets in Northwest Tustin as of August 2016.
**** Owns all City of Yorba Linda sewer assets as of July 2011. Yorba Linda Water District covers a portion of East Placentia.

Revised 9/22/22

FOG Control Program Contact List

AGENCY	CONTACT (TITLE)	PHONE	E-MAIL
Anaheim	Mark Dickinson (Code Enforcement Supervisor)	714-765-4195	mdickinson@anaheim.net
Brea	Michael Ho (Public Works Director)	714-990-7698	michaelh@ci.brea.ca.us
Buena Park	Joe Hunt (Senior Management Analyst)	714-562-3500	jhunt@buenapark.com
Costa Mesa Sanitary District	Mark Esquer (District Engineer)	949-645-8400	mesquer@cmsd.ca.gov
Cypress	Mike Smith (Water Quality Manager)	714-229-6752	waterquality@cypressca.org
East Orange County Water District* **	Cheryl Krantz (Management Analyst)	714-538-0334	ckrantz@eocwd.com
Fountain Valley	Lia Gountoumas (Environmental Services Administrator)	714-593-4441	lia.gountoumas@fountainvalley.gov
Fullerton	Jonathon Cuevas (Source Control Inspector)	714-738-3350	jonathonc@ci.fullerton.ca.us
Garden Grove	A.J. Holmon (Streets and Environmental Manager)	714-741-5956	ajh@ci.garden-grove.ca.us
Huntington Beach	Jim Merid (Environmental Specialist)	714-374-1548	jmerid@surfcity-hb.org
Irvine Ranch Water District	Isabel Melendez (Scientist – Regulatory Compliance)	949-453-5816	melendez@irwd.com
La Habra	Brian Jones (Water/Sewer Manager)	562-905-9792	bjones@lahabraca.gov
La Palma	Carlo Nafarrete (Maintenance Supervisor)	714-690-3312	carlon@cityoflapalma.org
Rossmoor/Los Alamitos Sewer District	Sarah Borbon (General Manager)	562-431-2223	losalsewerdistrict@gmail.com
Midway City Sanitary District	Nick Castro (Director of Operations/Safety)	714-893-3553	ncastro@mcsandst.com
Newport Beach	Mike Lynch (Wastewater Supervisor)	949-718-3415	mlynch@city.newport-beach.ca.us
Orange	Mike Carney (Environmental Program Manager)	714-744-5557	mcarney@cityoforange.org
Orange County Sanitation District	Lori McKinley (Principal Environmental Specialist)	714-593-7505	lmckinley@ocsan.gov
Placentia	Elsa Robinson (Management Analyst)	714-993-8148	erobinson@placentia.org
Santa Ana	Jaime Arias (Principal Civil Engineer)	714-647-3379	jarias@santa-ana.org
Seal Beach	David Spitz (Associate Engineer)	562-431-2527 ext. 1331	dspitz@sealbeachca.gov
Stanton	Cesar Rangel (Public Works Director/City Engineer)	714-890-4203	crangel@ci.stanton.ca.us
Sunset Beach Sanitary District	Jim Caslin (Superintendent)	714-330-3728	cptcas@aol.com
Villa Park	Mahrooz Ilhanipour (City Engineer)	714-998-1500	mahrooz@villapark.org
Yorba Linda Water District	Ariel Bacani (Engineering Technician)	714-701-3111	abacani@ylwd.com

APPENDIX H

Asset Management Plan

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	11/05/11		•
2	04/04/14		•
	07/11/19	J. Fenton	• Reviewed – no changes
3	07/08/20	C. Falzone	• Updated Asset Management Plan
4	09/20/21	T. Edwards	• Updated Asset Management Plan
5	09/19/22	T. Edwards	• Updated Asset Management Plan to 2021
6	09/21/23	T. Edwards	• Updated Asset Management Plan to 2022
6	09/19/24	T. Edwards	• Updated Asset Management Plan to 2023
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Asset Management Plan

2023

OC SAN
ORANGE COUNTY SANITATION DISTRICT

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Contents

Acronyms and Abbreviations ..... **v**

Executive Summary **ES-1**
Asset Management Plan Intent and Purpose ES-1
Overview of OC San's Infrastructure ES-1
State of OC San's Infrastructure ES-3
Budgetary Considerations ES-9

1 Introduction **1**
1.1 Overview of OC San's Infrastructure 4
1.1.1 Collection System 6
1.1.2 Reclamation and Treatment Plant System 7
1.1.3 Outfall System 9
1.2 Facility Valuation 9
1.3 Asset Management Organization 10
1.3.1 Major Assets 12
1.3.2 Remaining Useful Life 13
1.3.3 Predictive Maintenance 13
1.3.4 Preventive and Corrective Maintenance 15
1.4 Reference 16

2 State of OC San's Infrastructure **17**
2.1 Asset Management System Summaries 17
2.2 Area Asset Management Summaries 23

3 Program Monitoring and Improvements **124**
3.1 Program Monitoring 124
3.1.1 Data 125
3.2 Program Metrics 125
3.2.1 Proactive Maintenance Percent 125
3.2.2 Break-In Percent 128
3.2.3 Maintenance Costs and Labor Hours 131
3.2.4 Collection Level of Service Results 136
3.3 Maintenance Planning 137
3.3.1 Projected Maintenance Costs 138
3.4 Asset Management Program Accomplishments 138
3.4.1 Condition Assessment Program 138
3.4.2 Collection System Assets 140
3.4.3 Central Generation Facility Planning 142
3.4.4 Treatment Plant Projects and Planning Studies 142
3.5 Asset Management Program Improvement Opportunities 143
3.5.1 Improvement Opportunities 144

4 Budgetary Considerations **146**
4.1 Capital Improvement Expenditures 146
4.2 Maintenance Expenditures 147
4.2.1 Five-Year Historical Maintenance Expenditures 147
4.2.2 Three-Year Look-Ahead Maintenance Expenditures 149

List of Figures

Figure ES-1-1. OC San's Service Area ES-2
Figure ES-1-2. Facility Valuation by Location ES-3
Figure ES-1-3. Plant No. 1 Process Area – Remaining Useful Life Score Map ES-5
Figure ES-1-4. Plant No. 2 Process Area – Remaining Useful Life Score Map ES-6
Figure ES-1-5. Collection System Pump Station – Remaining Useful Life Score Map ES-7
Figure ES-1-6. Collection System Pipelines and Manholes – Remaining Useful Life Score Map ES-8
Figure ES-1-7. 20-Year CIP Outlay ES-9
Figure 1-1. OC San's Service Area 5
Figure 1-2. Facility Valuation by Area 10
Figure 1-3. Roles in Asset Management 11
Figure 1-4. PdM Summary 14
Figure 2-1. Plant No. 1 Process Area – Remaining Useful Life Score Map 19
Figure 2-2. Plant No. 2 Process Area – Remaining Useful Life Score Map 20
Figure 2-3. Collection System Pump Station – Remaining Useful Life Score Map 21
Figure 2-4. Collection System Pipeline and Manholes – Remaining Useful Life Score Map 22
Figure 2-5. Area Asset Management Summary Structure 24
Figure 3-1. Electrical Emergency Work Orders 130
Figure 3-2. Mechanical Emergency Work Orders 131
Figure 3-3. Graph of Maintenance Costs (Materials and Services) at Plant No. 1 132
Figure 3-4. Graph of Maintenance Labor Hours at Plant No. 1 132
Figure 3-5. Graph of Maintenance Costs (Materials and Services) at Plant No. 2 133
Figure 3-6. Graph of Maintenance Labor Hours at Plant No. 2 134
Figure 3-7. Graph of Pump Station Maintenance Costs (Materials and Services) 135
Figure 3-8. Graph of Pump Station Maintenance Labor Hours 136
Figure 3-9. PM Workorder Broken Down by Both Craft and Frequency 138
Figure 3-10. Condition Assessment Contract Expenditures 139
Figure 4-1. 20-Year CIP Outlay 146
Figure 4-2. FY 2023–2024 CIP Outlay by Process – $288.6 Million 147
Figure 4-3. Five-Year Historical Maintenance Costs for Treatment Plants 148
Figure 4-4. Five-Year Historical Maintenance Costs for Collection System 148

List of Tables

Table ES-1-1. Plant No. 1 Remaining Useful Life and Replacement Value Summary ES-5
Table ES-1-2. Plant No. 2 Remaining Useful Life and Replacement Value Summary ES-6
Table ES-1-3. Pump Station and Force Main Remaining Useful Life and Replacement Value Summary ES-7
Table ES-1-4. Collection System Pipelines and Manholes Remaining Useful Life and Replacement Value Summary ES-8
Table 1-1. Linkage between Asset Management Plan and Other Planning Activities 3
Table 1-2. Pump Station Design Capacity 7
Table 1-3. Plant No. 1 Dry/Wet Weather Design Capacity 8
Table 1-4. Plant No. 2 Dry/Wet Weather Design Capacity 8
Table 1-5. Remaining Useful Life Score versus Remaining Useful Life 13
Table 2-1. Plant No. 1 Remaining Useful Life and Replacement Value Summary 19
Table 2-2. Plant No. 2 Remaining Useful Life and Replacement Value Summary 20
Table 2-3. Pump Station and Force Main Remaining Useful Life and Replacement Value Summary 21
Table 2-4. Collection System Pipelines and Manholes Remaining Useful Life and Replacement Value Summary 22
Table 3-1. Proactive Maintenance Percent for Reclamation Plant No. 1 125
Table 3-2. Proactive Maintenance Percent for Reclamation Plant No. 2 126
Table 3-3. Proactive Maintenance Percent for Pump Stations 126
Table 3-4. Annual Average Proactive Work for Process Areas 127
Table 3-5. Break-in Percent for Reclamation Plant No. 1 128
Table 3-6. Break-in Percent for Reclamation Plant No. 2 129
Table 3-7. Break-in Percent for Pump Stations 129
Table 3-8. Annual Average of Break-in Percent for Process Areas 130
Table 3-9. Collection Level of Service Results 137
Table 3-10. Projected Maintenance Costs Next Fiscal Year 138
Table 4-1. Projected Annual Expenditures 150

List of Appendices

Appendix A Plant No. 1 Process Areas Map
Appendix B Plant No. 1 Process Diagram
Appendix C Plant No. 2 Process Areas Map
Appendix D Plant No. 2 Process Diagram – After GWRS Expansion
Appendix E AM KPI Supplemental Information

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Acronyms and Abbreviations

Acronym or Abbreviation	Meaning
Ø	Diameter
®	Registered Trademark
ADWF	Average Dry Weather Flow
AM	Asset Management
AMP	Asset Management Plan
AS	Activated Sludge
AS1	Activated Sludge 1
AS2	Activated Sludge 2
BB	Blower Building
BI	Business Intelligence
Board	Orange County Sanitation District Board of Directors
CCTV	Closed-Circuit Television
Cen Gen	Central Generation Facility
CCI	Construction Cost Index
Chem.	Chemical Injection System
CIP	Capital Improvement Program
CIPP	Cured-in-Place Pipe
CM	Corrective Maintenance
CoF	Consequence of Failure
CP	Control Panel
CTS	Co-Thickened Sludge
CWPS	City Water Pump Station
DAFT	Dissolved Air Flotation Thickener
DC	Distribution Center
Demo	Demolish
DIP	Ductile Iron Pipe
DOT	U.S. Department of Transportation
E&I	Electrical and Instrumentation
EAM	Enterprise Asset Management
EBDB	East Basin Distribution Box
EJB	Effluent Junction Box

Acronym or Abbreviation	Meaning
Elec.	Electrical
EPSA	Effluent Pump Station Annex
FE	Facilities Engineering
$FeCl_3$	Ferric Chloride
FRP	Fiberglass Reinforced Plastic
FY	Fiscal Year
Gen Set	Generator Set
GWRS	Groundwater Replenishment System
H_2S	Hydrogen Sulfide
HCl	Hydrochloric Acid
HDPE	High-Density Polyethylene
HP	Horsepower
HPOAS	High-Purity Oxygen-Activated Sludge
HR	Human Resources
HVAC	Heating, Ventilation, and Air Conditioning
HW	Headworks
I&C	Instrumentation and Controls
IDGP	Interplant Digester Gas Pipeline
Inst.	Instrument
IPE	Interplant Trunk E
JB	Junction Box
JSA	Junction Structure A
KPI	Key Performance Indicator
kV	Kilovolt(s)
kVA	Kilovolt-Ampere
kW	Kilowatt(s)
LEL	Lower Explosive Limit
LoF	Likelihood of Failure
LOFLO	Low Flow
LOX	Liquid Oxygen
M&D	Metering and Diversion
MCC	Motor Control Center

Acronym or Abbreviation	Meaning
MGD	Million Gallon(s) Per Day
mi.	Miles
ML	Mixed Liquor
MP	Maintenance Project
MSP	Main Sewage Pump
MTBF	Mean Time between Failure
N/A	Not Applicable
NaOH	Sodium Hydroxide
NASSCO	National Association of Sewer Service Companies
No.	Number
#	Number
NPDES	National Pollutant Discharge Elimination System
NSC	North Scrubber Complex
O&M	Operations and Maintenance
OC San	Orange County Sanitation District
OCWD	Orange County Water District
OEM	Original Equipment Manufacturer
OOBS	Ocean Outfall Booster Station
OPT	Optimization
OSHA	Occupational Safety and Health Administration
OXI	Oxidizer
P1	Plant No. 1
P2	Plant No. 2
PB	Power Building
PC	Primary Clarifier
PdM	Predictive Maintenance
PE	Primary Effluent
PEDB	Primary Effluent Distribution Box
PEDB-1	Primary Effluent Distribution Box 1
PEDB-2	Primary Effluent Distribution Box 2
PEJB	Primary Effluent Junction Box
PEJB-1	Primary Effluent Junction Box 1

Acronym or Abbreviation	Meaning
PEJB-2	Primary Effluent Junction Box 2
PEPS	Primary Effluent Pump Station
Phys.	Physical Injection System
PISB	Primary Influent Splitter Box
PLC	Programmable Logic Controller
PM	Preventive Maintenance
PRN	Project Request Number
PS	Pump Station
PSB	Primary Sedimentation Basin
psi	Pound(s) Per Square Inch
PVC	Polyvinyl Chloride
PWPS	Plant Water Pump Station
PWWF	Peak Wet Weather Flow
RAS	Return-Activated Sludge
RCM	Reliability-Centered Maintenance
RCP	Reinforced Concrete Pipe
RFID	Radio Frequency Identification
ROCCS	Regional Odor and Corrosion Control System
RSS	Return Secondary Sludge
RUL	Remaining Useful Life
RWQCB	Regional Water Quality Control Board
SALS	Steve Anderson Lift Station
SARI	Santa Ana River Interceptor
SBF	Sludge Blending Facility
SC	Secondary Clarifier
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison
SCR	Selective Catalytic Reduction
SC/SR	Solids Contact/Solids Reaeration
SE	Secondary Effluent
SEJB	Secondary Effluent Junction Box
SPF	Standby Power Facility

Acronym or Abbreviation	Meaning
Sq.	Square
SR	Secondary Return
SSC	South Scrubber Complex
SSO	Sanitary Sewer Overflow
T&D	Thickening and Dewatering
TBD	To Be Determined
TF	Trickling Filter
TFPS	Trickling Filter Pump Station
TF/SC	Trickling Filter/Solids Contact
TFSC	Trickling Filter Secondary Clarifier
TFSE	Trickling Filter Secondary Effluent
TFSEJB-2	Trickling Filter Secondary Effluent Junction Box 2
TL	Trunkline
TPAD	Temperature-Phased Anaerobic Digester
TRUL	Theoretical Remaining Useful Life
TWAS	Thickened Waste-Activated Sludge
UPS	Uninterruptible Power Supply
V	Volt(s)
VCP	Vitrified Clay Pipe
VDC	Volt(s) of Direct Current
VFD	Variable Frequency Drive
WAS	Waste-Activated Sludge
WSS	Waste Secondary Sludge
WSSPS	Waste Sidestream Pump Station

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Executive Summary

Asset Management Plan Intent and Purpose

The Orange County Sanitation District (OC San) Asset Management Plan (AMP) is a tactical document that captures OC San's organizational structure, maintenance plans, and capital improvement plan implementation on an annual basis. This document will continue to change in content and structure to reflect our efforts for continual improvement and to meet the needs of stakeholders.

Safe and reliable infrastructure and process equipment are essential to providing industry leading wastewater collection and management, while achieving our mission and vision statements. We manage asset reliability, mitigate risk, and ensure the quality of our delivered services according to the following stated intent for our Asset Management Program:

OC San will know the condition of assets we own and will have a plan to operate and maintain these assets to deliver the required level of service, at the lowest life cycle cost, with an acceptable level of risk.

Overview of OC San's Infrastructure

OC San owns and operates wastewater collection system infrastructure, as well as two resource recovery and wastewater treatment facilities located in Fountain Valley and Huntington Beach. Our collection system infrastructure includes 388 miles of regional trunk sewer pipelines and 15 pump stations throughout the OC San service area (Figure ES-1-1). Wastewater is conveyed to Reclamation Plant Number (No.) 1 in Fountain Valley and Treatment Plant No. 2 in Huntington Beach. These facilities treat an average daily wastewater flow of 185 million gallons per day, serving over 2.6 million people in central and northern Orange County, California.

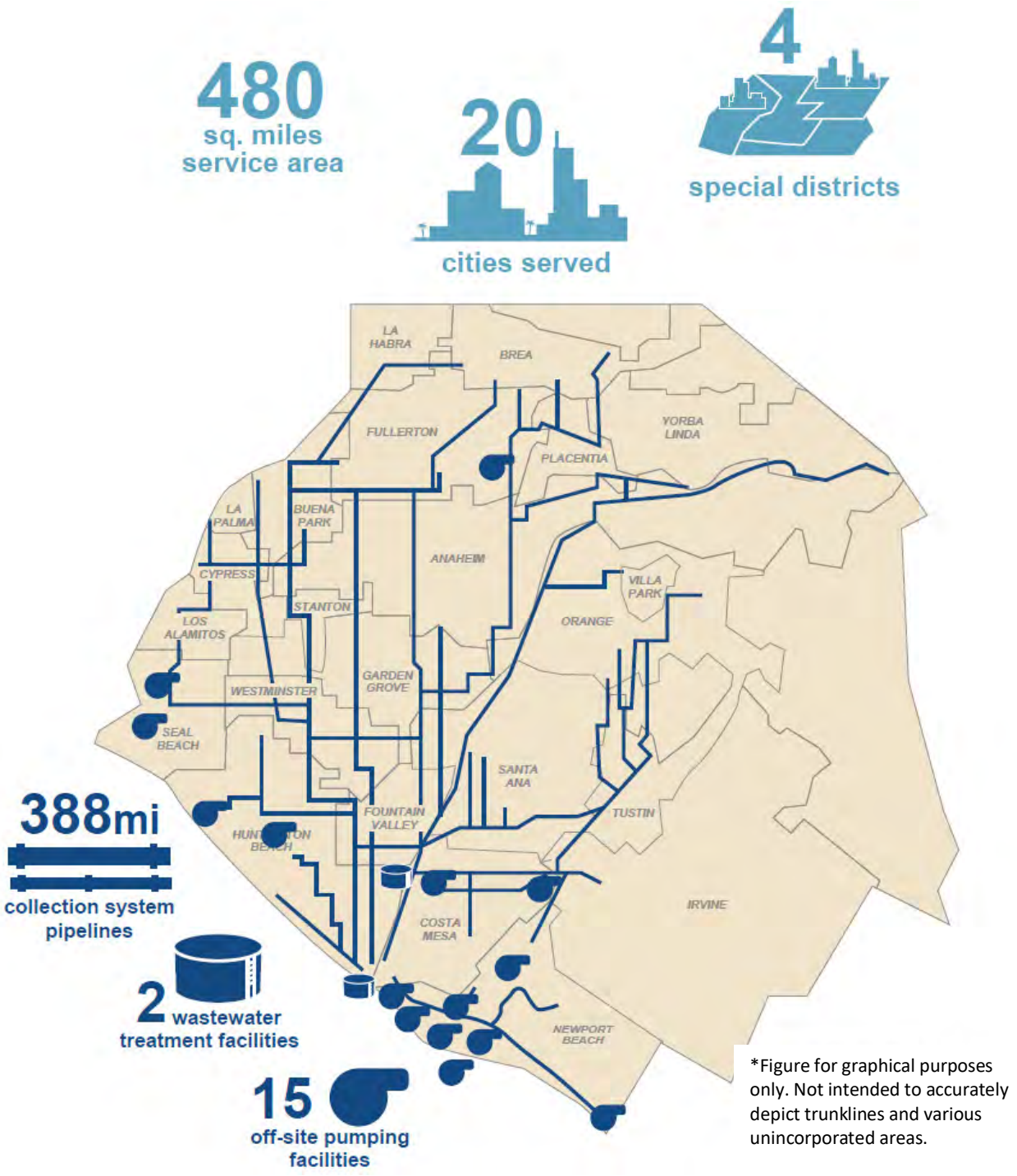


Figure ES-1-1. OC San's Service Area

Acronym Key:

mi = mile(s)
sq. = square

Figure ES-1-2 shows the facility valuation by asset system for OC San's wastewater infrastructure. The original valuation was prepared as part of the 2017 Facilities Master Plan. The estimated replacement value in Fiscal Year (FY) 2023–2024 is $12.6 billion based on the Engineering News-Record Construction Cost Index increases since the 2017 Facilities Master Plan.

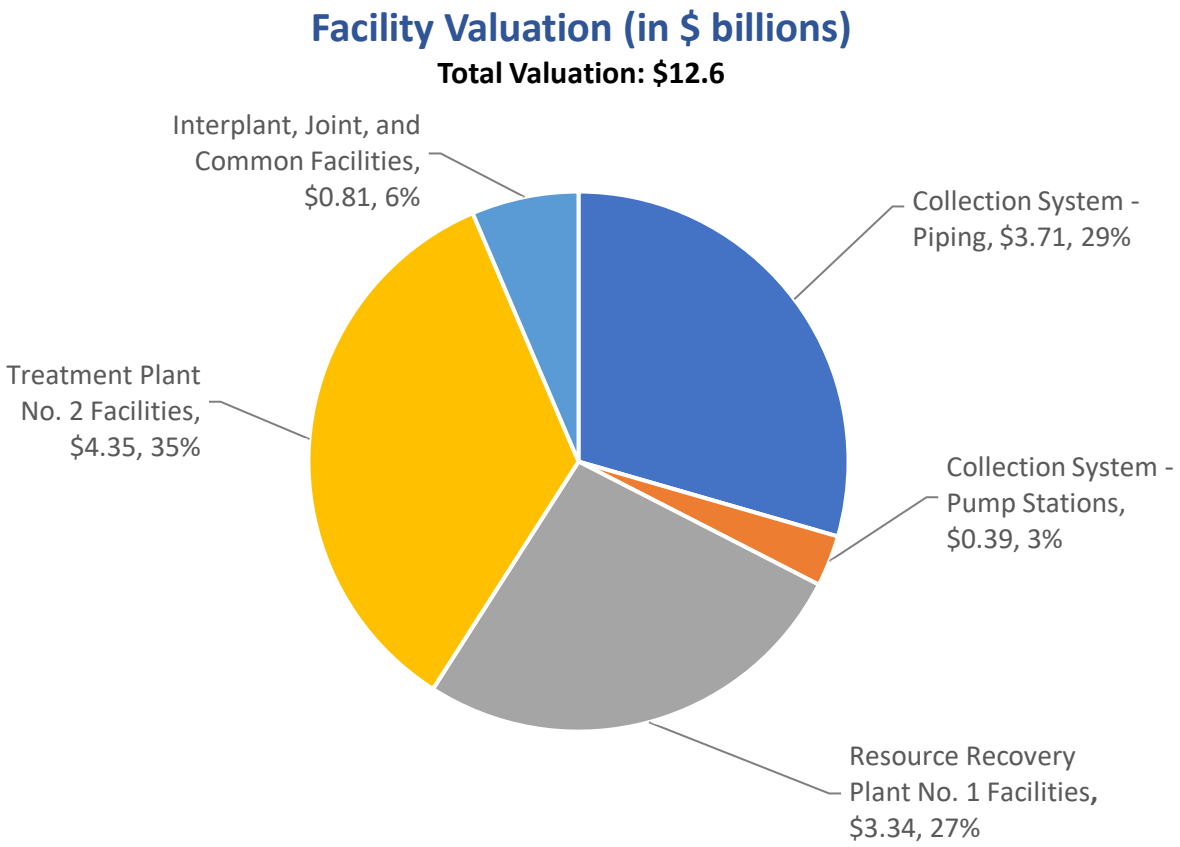


Figure ES-1-2. Facility Valuation by Location

State of OC San's Infrastructure

The following system-level summary tables and condition score maps provide a high-level overview of the Area Asset Management (AM) Summaries contained in Section 2. The system-level summaries are organized as follows:

- Plant No. 1 (Figure ES-1-3 and Table ES-1-1)
- Plant No. 2 (Figure ES-1-4 and Table ES-1-2)
- Collection System – Pump Stations and Newport Force Mains (Figure ES-1-5 and Table ES-1-3)
- Collection System – Pipelines and Manholes (Figure ES-1-6 and Table ES-1-4)

The system-level summaries generally include the following fields:

- **Area No.:** Number that corresponds to individual plant asset areas. Plant No. 1 asset areas are numbers 10 to 19, and Plant No. 2 asset areas are numbers 20 to 29.
- **Area Name:** Name of asset area.
- **Average Remaining Useful Life (RUL) Score**: Estimated average RUL score for each discipline (civil, structural, mechanical, electrical, and instrumentation) or area based on an average of the RUL scores provided by Asset Engineers in the detailed Area AM Summaries.
- **Percentage of RUL Scores with 4s or 5s**: Percentage based on total number of RUL asset scores assigned to each area in the detailed Area AM Summaries. The percentage is an alternate metric for the overall condition of the area and equipment. A RUL score of 5 indicates fewer than 5 years of useful life remains for an asset or set of assets. A RUL score of 4 indicates 5 to 10 years of useful life remains for an asset or a set of assets.
- **Replacement Value ($ millions)**: Process area replacement value from the facility valuation.

ASSET MANAGEMENT SYSTEM SUMMARY – PLANT NO. 1 OVERVIEW

Figure ES-1-3. Plant No. 1 Process Area – Remaining Useful Life Score Map

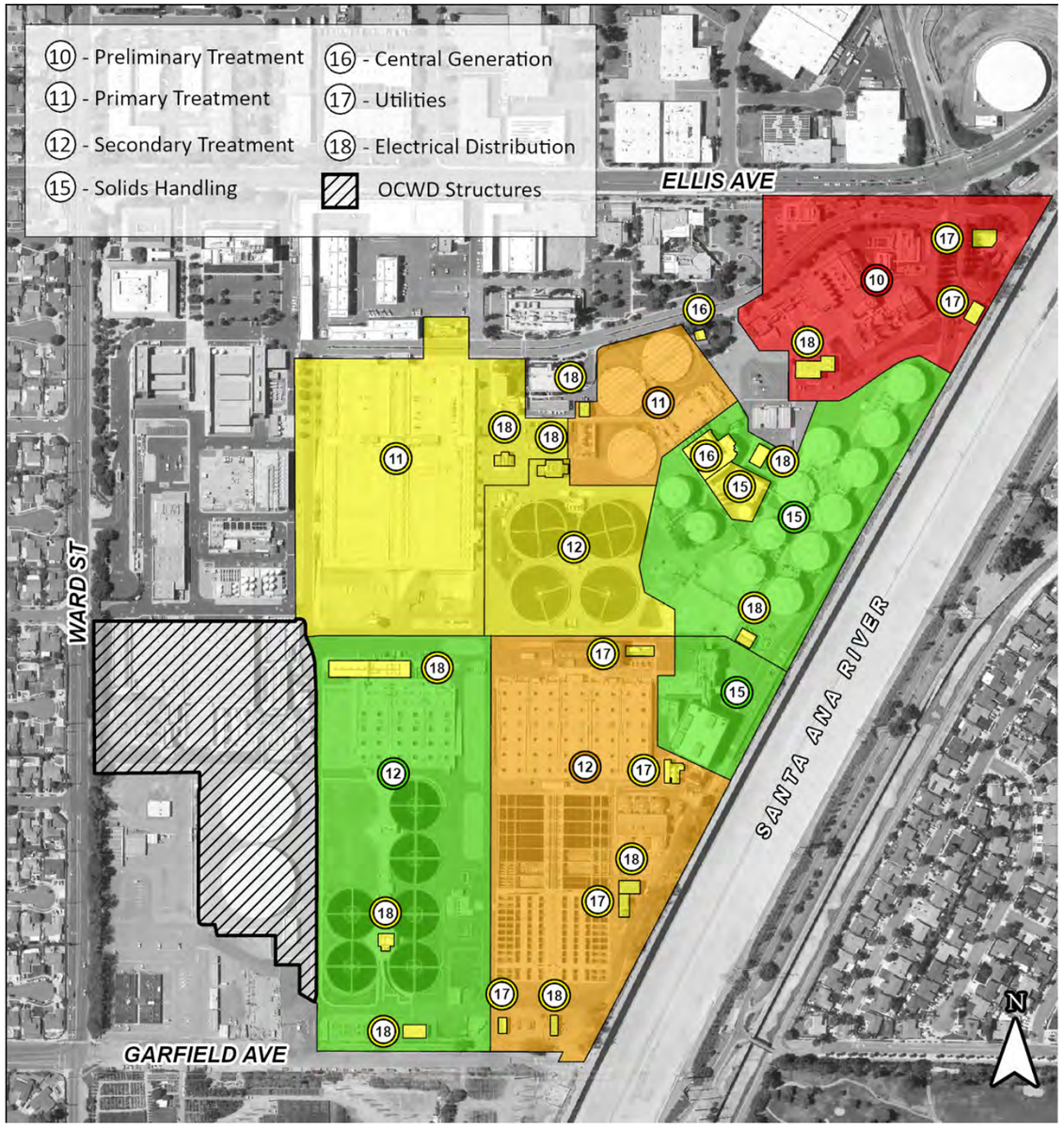


Table ES-1-1. Plant No. 1 Remaining Useful Life and Replacement Value Summary

Area No.	Area Name	Average Remaining Useful Life Score						Percentage of RUL Scores with 4s or 5s	Replacement Value ($ millions, in 2023 dollars)
		Civil	Structural	Mechanical	Electrical	Instrumentation	All Assets		
10	Preliminary Treatment	2	3	5	5	5	5	64%	$416
11	Primary Treatment - Basins (1–5)	4	3	4	5	4	4	71%	$115
11	Primary Treatment - Basins (6–31)	3	3	4	3	3	3	21%	$420
12	Secondary Treatment - Activated Sludge 1 (AS1)	3	3	4	4	5	4	63%	$649
12	Secondary Treatment - Activated Sludge 2 (AS2)	1	1	2	3	2	2	3%	$401
12	Secondary Treatment - Trickling Filter	1	1	4	4	3	3	19%	$73
14	Interplant[a]	2	2	2		1	2	12%	$809
15	Solids Handling - Digesters	2	1	3	2	2	2	2%	$274
15	Solids Handling – Thickening & Dewatering (T&D) Facilities	1	1	2	2	2	2	5%	$204
15	Solids Handling - Gas Handling[a]		3	3	3	3	3	23%	$40
16	Central Generation[a]		1	4	4	3	3	54%	$183
17	Utilities	3	1	3	3	3	3	8%	$209
18	Electrical Distribution[a]				3		3	40%	$88
19	Occupied Buildings	*Refer to Asset Management System Summary – Area 19*							$268
	Plant No. 1 Total							**32%**	**$4,149**

RUL Legend:

RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

Acronym Key:

AS1 = Activated Sludge Plant No. 1; AS2 = Activated Sludge Plant No. 2; OCWD = Orange County Water District; RUL = Remaining Useful Life; T&D = Thickening and Dewatering

[a] White box with diagonal line indicates there are no assets assigned to this discipline within this process area.

ASSET MANAGEMENT SYSTEM SUMMARY – PLANT NO. 2 OVERVIEW

Figure ES-1-4. Plant No. 2 Process Area – Remaining Useful Life Score Map

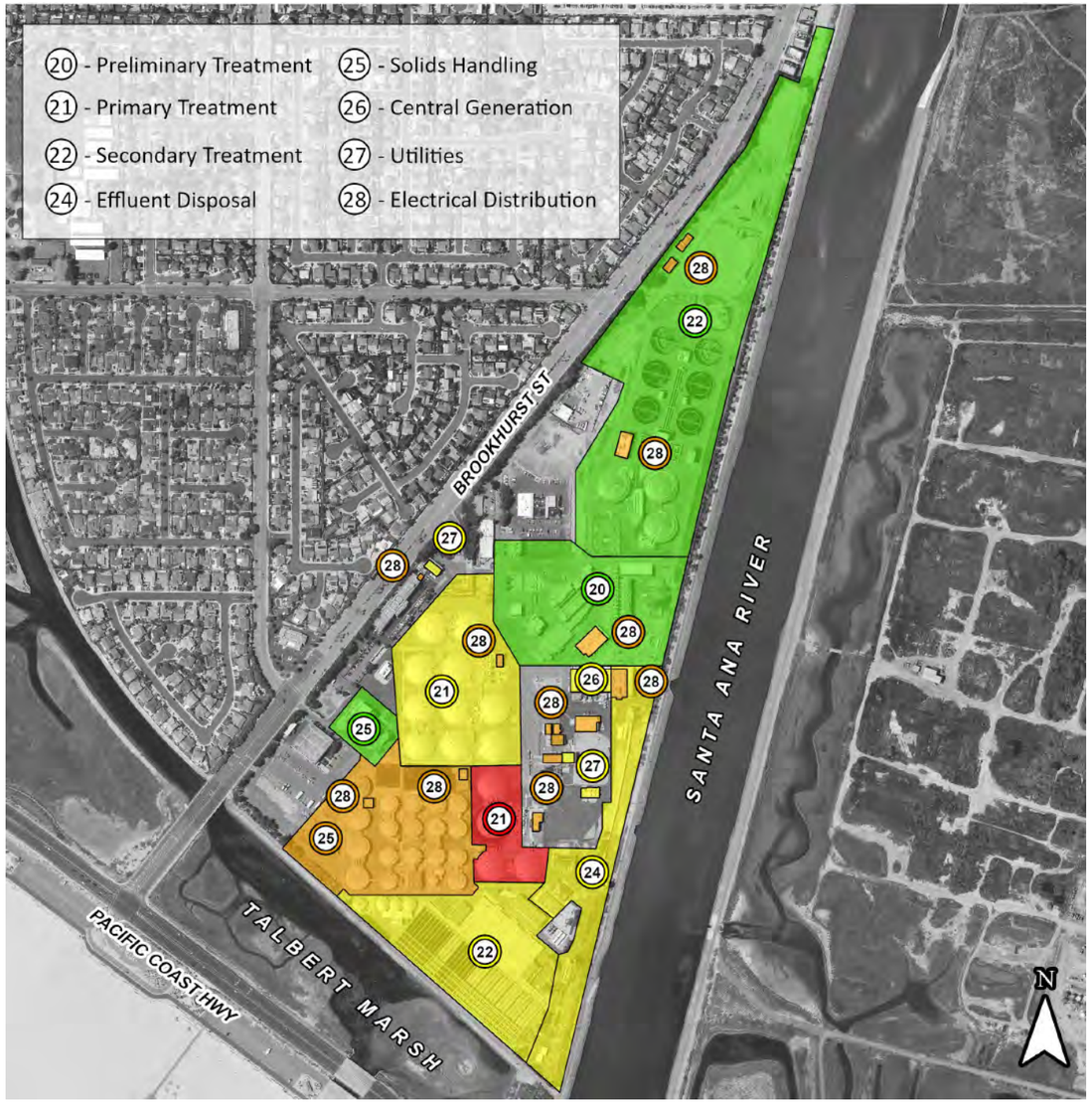


Table ES-1-2. Plant No. 2 Remaining Useful Life and Replacement Value Summary

Area No.	Area Name	Average Remaining Useful Life Score						Percentage of RUL Scores with 4s or 5s	Replacement Value ($ millions, in 2023 dollars)
		Civil	Structural	Mechanical	Electrical	Instrumentation	All Assets		
20	Preliminary Treatment	1	1	3	3	2	2	10%	$384
21	Primary Treatment - A Side	5	5	5	4	4	5	100%	$179
21	Primary Treatment - B & C Side	4	3	3	3	3	3	20%	$359
22	Secondary Treatment - Activated Sludge (AS)	3	3	3	4	3	3	27%	$659
22	Secondary Treatment – Dissolved Air Flotation Thickener (DAFT)	4	1	2	3	3	3	5%	$62
22	Secondary Treatment - Trickling Filter	2	1	2	3	3	2	1%	$368
24	Effluent Disposal	2	2	3	4	4	3	31%	$968
25	Solids Handling - Digesters	4	4	4	4	4	4	70%	$382
25	Solids Handling - Facilities	2	1	2	3	3	2	3%	$198
25	Solids Handling - Gas Handling[a]		3	3	4	3	4	44%	$40
26	Central Generation[a]		1	4	4	3	3	54%	$391
27	Utilities	3	2	3	3	3	3	5%	$116
28	Electrical Distribution[a]				4		4	68%	$86
29	Occupied Buildings	*Refer to Asset Management System Summary - Area 29*							$157
	Plant No. 2 Total							**40%**	**$4,349**

RUL Legend:

RUL < 5 years **RUL 5–10 years** **RUL 11–15 years** **RUL 16–20 years** **RUL > 20 years**

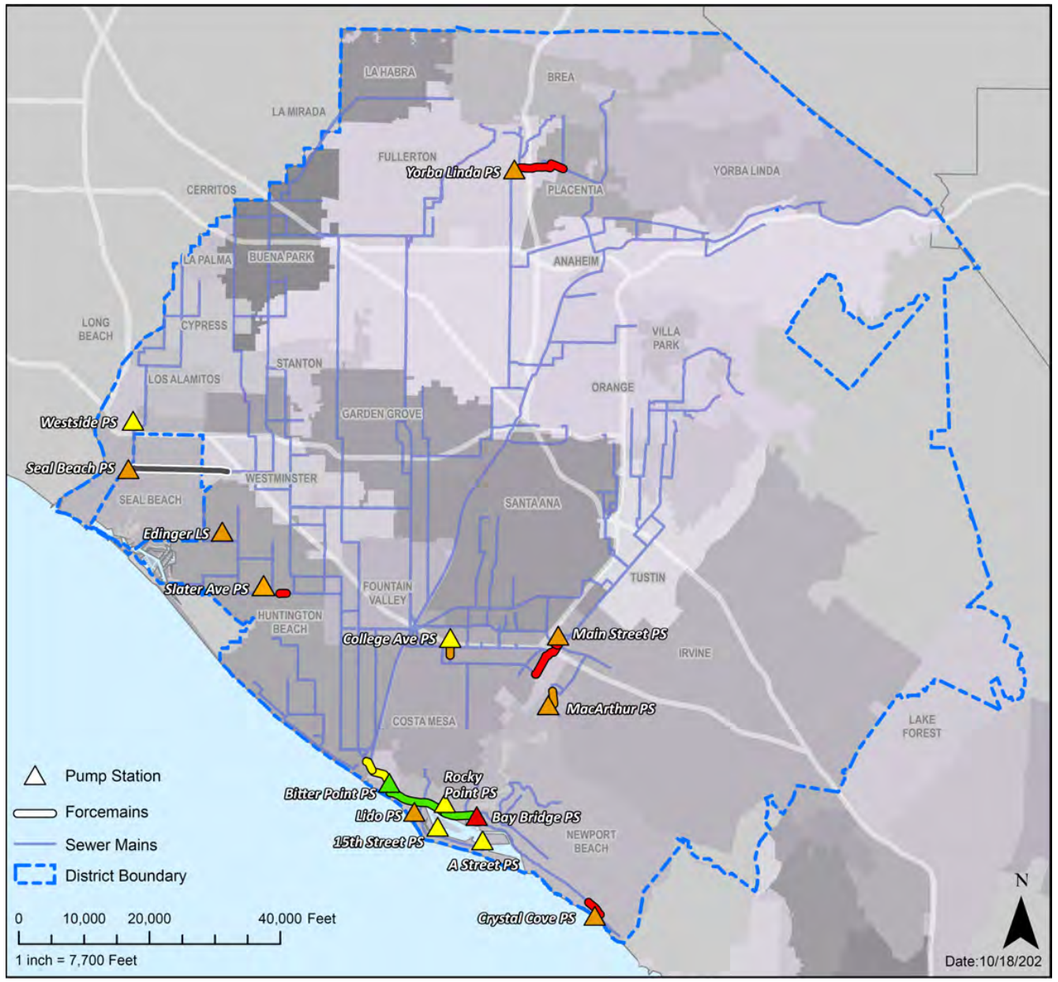
Acronym Key:

AS = Activated Sludge; DAFT = Dissolved Air Flotation Thickener; RUL = Remaining Useful Life

[a] White box with diagonal line indicates there are no assets assigned to this discipline within this process area.

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM PUMP STATION OVERVIEW

Figure ES-1-5. Collection System Pump Station – Remaining Useful Life Score Map



Note: Not all pump station force mains are shown on this map. Only longer force mains are shown. Scores for force mains come from actual force main scores in Chapter 2.

Table ES-1-3. Pump Station and Force Main Remaining Useful Life and Replacement Value Summary

Pump Station	Average Remaining Useful Life Score						Percentage of RUL Scores with 4s or 5s	Replacement Value ($ millions, in 2023 dollars)
	Civil	Structural	Mechanical	Electrical	Instrumentation	All Assets		
15th Street	3	4	4	3	3	3	33%	$16
A Street	3	4	4	3	3	3	25%	$14
Bay Bridge	5	4	5	4	3	5	85%	$39
Bitter Point	3	3	2	2	3	2	15%	$37
College	4	3	3	2	3	3	25%	$28
Crystal Cove	5	4	3	4	2	4	42%	$3
Edinger	5	4	3	4	4	4	64%	$15
Lido	4	4	4	4	3	4	58%	$23
MacArthur	4	5	4	4	3	4	91%	$19
Main Street	5	3	4	3	4	4	46%	$51
Rocky Point	3	3	3	3	4	3	15%	$18
Slater	5	4	4	3	4	4	38%	$41
Seal Beach	1	4	5	5	4	4	83%	$48
Westside	5	3	3	2	3	3	15%	$35
Yorba Linda	5	4	4	4	4	4	73%	Not valued
Newport Force Mains[a]	2					2	0%	
Total							**46%**	**$387**

RUL Legend:

RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

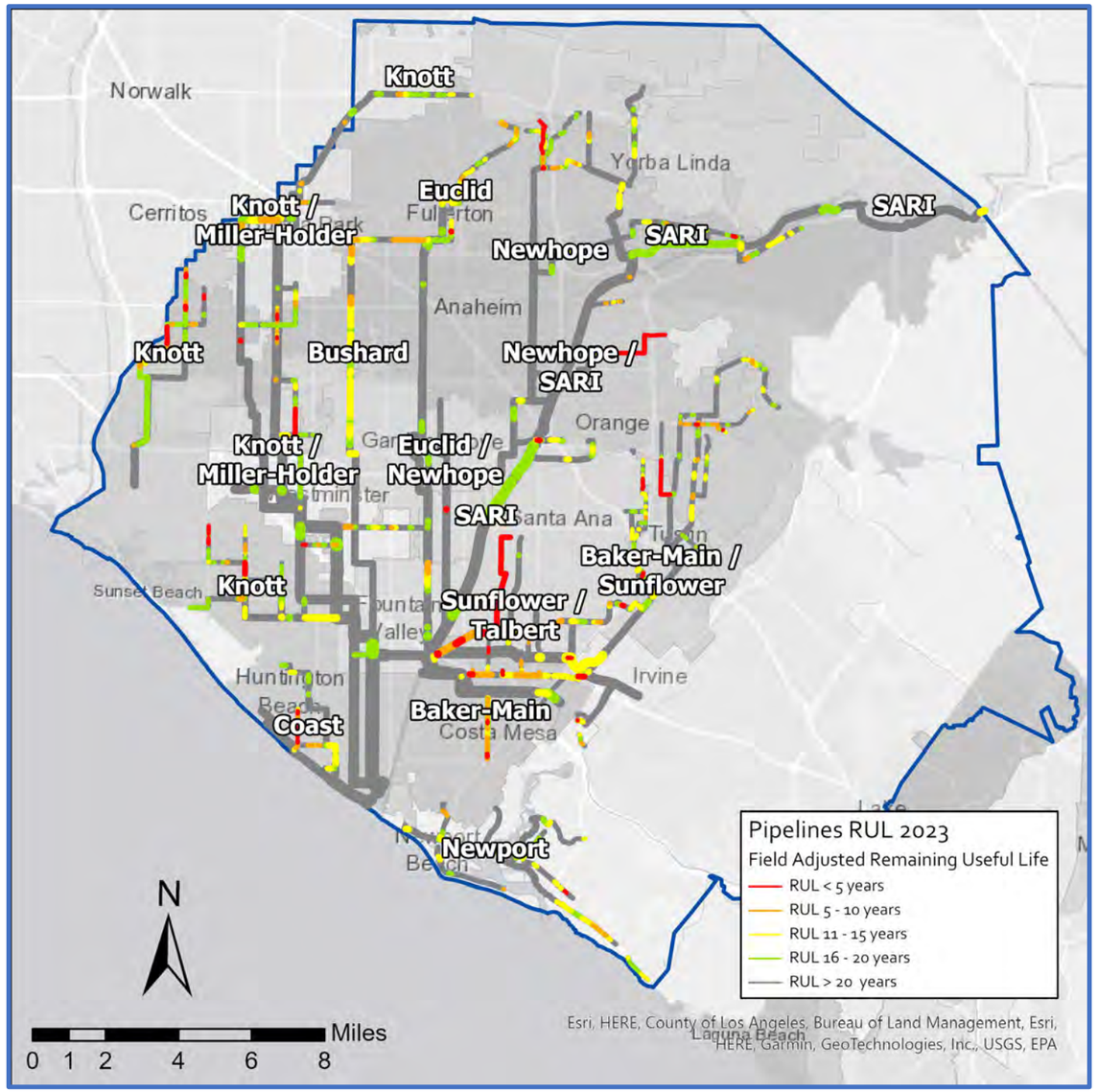
Acronym Key:

PS = Pump Station; RUL = Remaining Useful Life

[a] White box with diagonal line indicates there are no assets assigned to this discipline within this process area.

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM PIPELINES AND MANHOLES OVERVIEW

Figure ES-1-6. Collection System Pipelines and Manholes – Remaining Useful Life Score Map



Note: Only pipelines are shown on this map for clarity. Refer to Collections System Manholes Remaining Useful Life Score Map in Chapter 2 Area Asset Management Summaries.

Table ES-1-4. Collection System Pipelines and Manholes Remaining Useful Life and Replacement Value Summary

Trunklines (TLs)	No. of Pipes with RUL Scores of 4 or 5	Miles of Pipes with RUL Scores of 4 or 5	Percentage of Pipes RUL Scores of 4s or 5s (By Length)	No. of Manholes with RUL Scores of 4s or 5s	Percentage of Manhole RUL Scores of 4s or 5s	Replacement Value ($ millions, in 2023 dollars)[a]
Baker-Main	82	5.70	14%	-[b]	-[b]	$318
Bushard	7	0.81	4%	3	1%	$279
Coast	16	1.05	9%	-[b]	-[b]	$114
Euclid	7	0.79	2%	69	16%	$311
Interplant[c]	0	0.00	0%	-[b]	-[b]	$133
Knott	46	3.19	5%	-[b]	-[b]	$721
Miller-Holder	21	1.56	5%	42	16%	$341
Newhope	22	1.64	6%	85	24%	$241
Newport	11	0.76	4%	28	7%	$249
Santa Ana River Interceptor	54	2.64	5%	158	28%	$595
Sunflower	12	0.55	2%	-[b]	-[b]	$346
Talbert	77	5.93	71%	-[b]	-[b]	$66
Total	**355**	**24.62**	**7%**	**385**	**9%**	**$3,714**

RUL Legend:

RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

Acronym Key:

IPE = Interplant Trunk Line E; SARI = Santa Ana River Interceptor

[a] The abandoned pipelines at the Airbase ($6,366,516) and the Harvard Area Trunk Sewer ($191,784) areas are not included in the total.

[b] Only trunks with greater than 50% manhole inspections completed are included in this table and in the Asset Management System Summaries.

[c] Interplant Trunk in this table refers only to IPE assets. Interplant Trunk assets are included with Knott Trunk in its Asset Management System Summary.

Budgetary Considerations

The AMP focuses on documenting short- to long-term planning of maintenance and capital improvement projects to support effective budget development and sustainable operations for robust planning purposes. OC San has been striving to identify more accurately medium- to long-term capital cash flow requirements.

The FY 2023–2024 Budget Update, the second year of the 2-year budget adopted in June 2022, includes updates to the 20-year Capital Improvement Program (CIP) outlay. Figure ES-1-7 includes current and projected CIP projects.

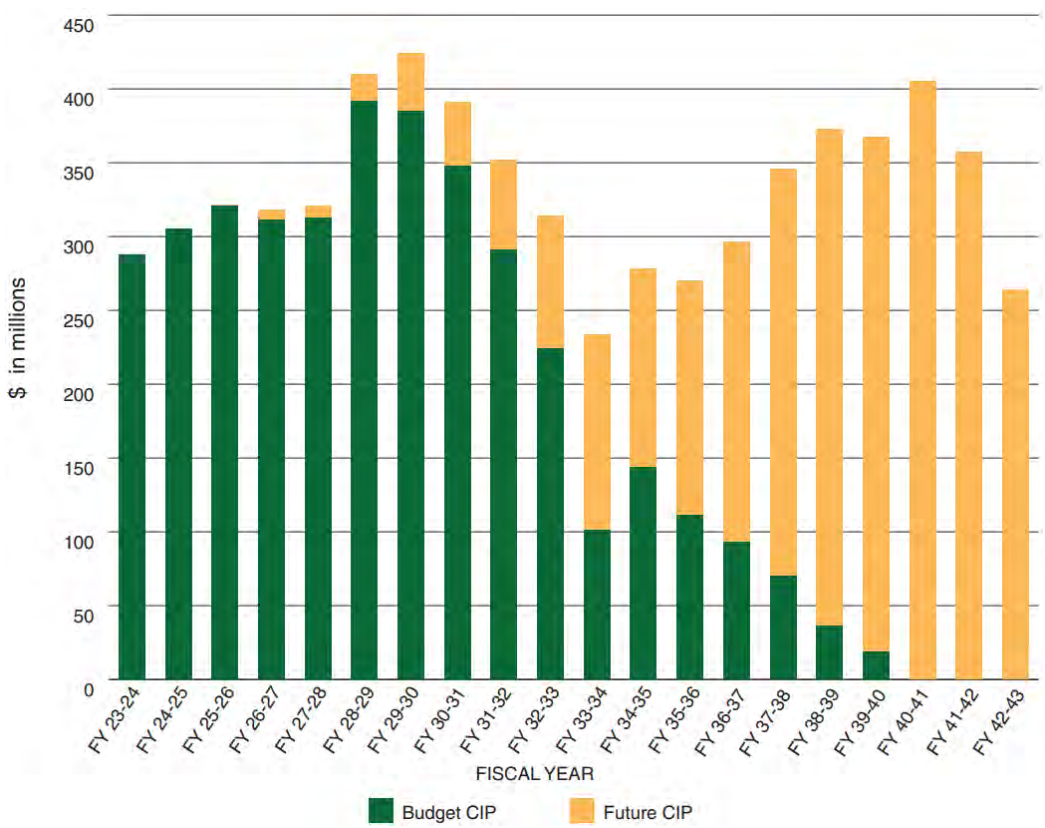


Figure ES-1-7. 20-Year CIP Outlay

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1 Introduction

The Orange County Sanitation District (OC San) Board of Directors (Board) developed mission and vision statements to clearly communicate OC San's purpose to our stakeholders and to articulate OC San's organizational objectives. OC San's vision supports our mission by expressing what we strive to achieve now and into the future.

Our Mission

To protect public health and the environment by providing effective wastewater collection, treatment, and recycling.

Our Vision

Orange County Sanitation District will be a leader in:

- *Providing reliable, responsive, and affordable services in line with customer needs and expectations.*
- *Protecting public health and the environment utilizing all practical and effective means for wastewater, energy, and solids resource recovery.*
- *Continually seeking efficiencies to ensure that the public's money is well spent.*
- *Communicating our mission and strategies with those we serve and all other stakeholders.*
- *Partnering with others to benefit our customers, this region, and our industry.*
- *Creating the best possible workforce in terms of safety, productivity, customer service, and training.*

Through improved and robust asset management practices, we are better able to coordinate and plan actions to ensure our collection system, treatment, and resource recovery infrastructure is safe and reliable, and meets the rigorous level of service embodied by our mission statement.

In November 2019, OC San's strategic planning process resulted in the creation of an asset management policy and asset management initiatives. Collectively, the policy and initiatives make up OC San's asset management strategy.

Asset Management Policy

OC San will assess and manage the collection system and treatment plant systems and assets to improve resilience and reliability while lowering life cycle costs. This will be accomplished through adaptive operation, coordinated maintenance and condition assessment, and planned capital investment. Staff will balance maintenance, refurbishment, and replacement strategies to maximize useful life, system availability, and efficiency.

Asset Management Initiatives

- *Create an annual Asset Management Plan documenting the condition of the collection system and treatment plants, and upcoming maintenance or capital projects.*
- *Coordinate the efforts of Operations, Collections, Mechanical Maintenance, Electrical Maintenance, Instrument Maintenance, and Engineering through process teams to assure the OC San's resources are focused on the high priority work functions.*
- *Maintain a 20-year forecast of all CIP projects needed to maintain or upgrade OC San's nearly $12.6 billion in assets on a prioritized risk basis to establish rate structures.*

The Asset Management Plan (AMP) is a living document that describes constantly evolving operation strategies, maintenance and refurbishment plans and adaptations, and CIP implementation initially captured in the Facilities Master Plan and revised on an annual basis through the budgeting process. The information included in the AMP encompasses the breadth of information needed to successfully align the capital and operational planning activities necessary to meet the Asset Management Program objectives. The key objectives that are built into the Asset Management Program include the following:

1) Take a proactive approach to repair, rehabilitate, and replace
2) Ensure assets are reliable and operating when needed.
3) Minimize unplanned outages and equipment downtime.
4) Manage risks associated with asset or service impairment through asset performance optimization.
5) Develop cost-effective management strategies for the long term.
6) Strive to implement world-class asset management strategies through continual improvement in our asset management practices.

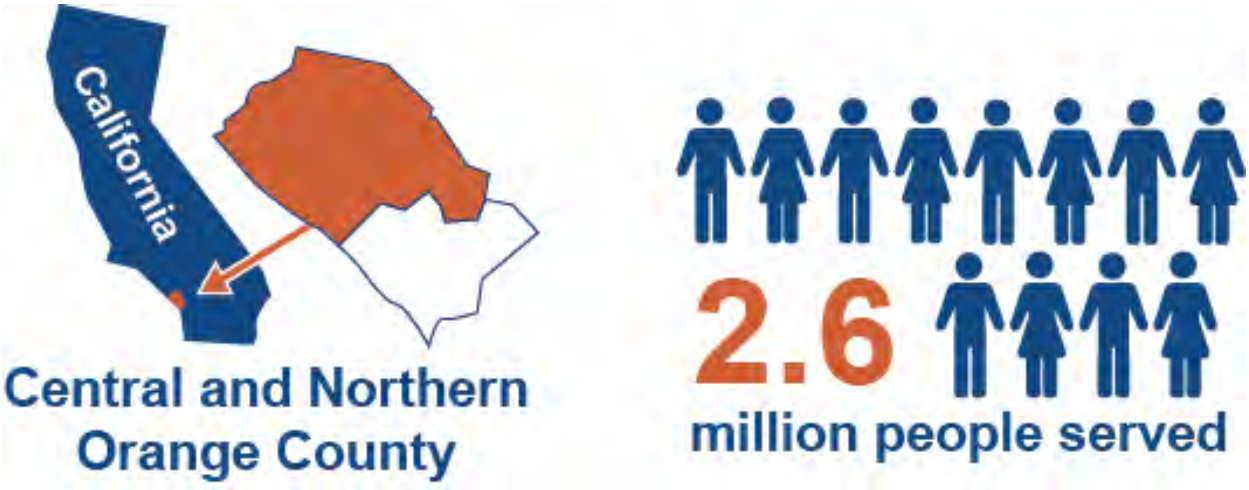
The AMP is a key component of OC San's overall planning activities. It aligns with OC San's Strategic Plan and the Facilities Master Plan (inclusive of the projects identified therein), while identifying potential and new opportunities that may require funding in the budget development process. Table 1-1 describes the relationship of the AMP with the other planning activities.

Table 1-1. Linkage between Asset Management Plan and Other Planning Activities

Planning Activity	Description	Planning Horizon	Update Cycle
Strategic Plan	Defines the strategic initiatives to be pursued by OC San and provides a basis for long-term financial, capital, and operating planning. The AMP aligns with Strategic Plan goals and objectives.	5- to 10-year	Biennial
Facilities Master Plan	Identifies long-term capital improvement plans to address treatment and collection system infrastructure improvement needs. Projects identified in the Facilities Master Plan are incorporated into the AMP and refined as appropriate.	20-year	Varies
Asset Management Plan	Documents the overall condition of treatment and collection system assets and plans to address key condition and performance issues to ensure assets meet OC San's levels of service.	1-year 5-year 10-year and greater	Annual
Budget Book	Lays out the framework of OC San's activities and serves as a source of information for our Board of Directors, rate payers, and employees. It includes operational, capital, and debt service expenditures necessary to support our mission and to execute the Strategic Plan adopted by our Board of Directors. The AMP identifies new operational, maintenance, and capital improvement activities for consideration during the budget development process.	2-year	Annual

1.1 Overview of OC San's Infrastructure

OC San is responsible for providing wastewater collection, treatment, and recycling services to over 2.6 million people in central and northern Orange County, California. OC San's two resource recovery and wastewater treatment facilities treat an average daily wastewater flow of 185 million gallons per day (MGD) from residential, commercial, and industrial sources.



In addition to our plant facilities, OC San owns and operates wastewater collection system infrastructure. Our collection system infrastructure includes 388 miles of regional trunk sewer pipelines and 15 pump stations throughout OC San's service area (Figure 1-1). Wastewater is conveyed via the collection system to Reclamation Plant Number (No.) 1 in Fountain Valley, and Treatment Plant No. 2 in Huntington Beach, where resource recovery and wastewater treatment take place.

OC San's treatment plants operate under a regulatory permit from the Regional Water Quality Control Board (RWQCB). This authority is established through the National Pollutant Discharge Elimination System (NPDES) that permits the discharge of treated wastewater through an ocean outfall system to the Pacific Ocean. While some treated water is released 5 miles offshore through a deep-water ocean outfall system, most is recovered and delivered to the Orange County Water District (OCWD). OCWD further treats OC San's effluent using the Groundwater Replenishment System (GWRS), which improves the effluent water quality to drinking water standards for groundwater recharge and irrigation purposes. The following sections briefly describe the key systems under OC San's management.

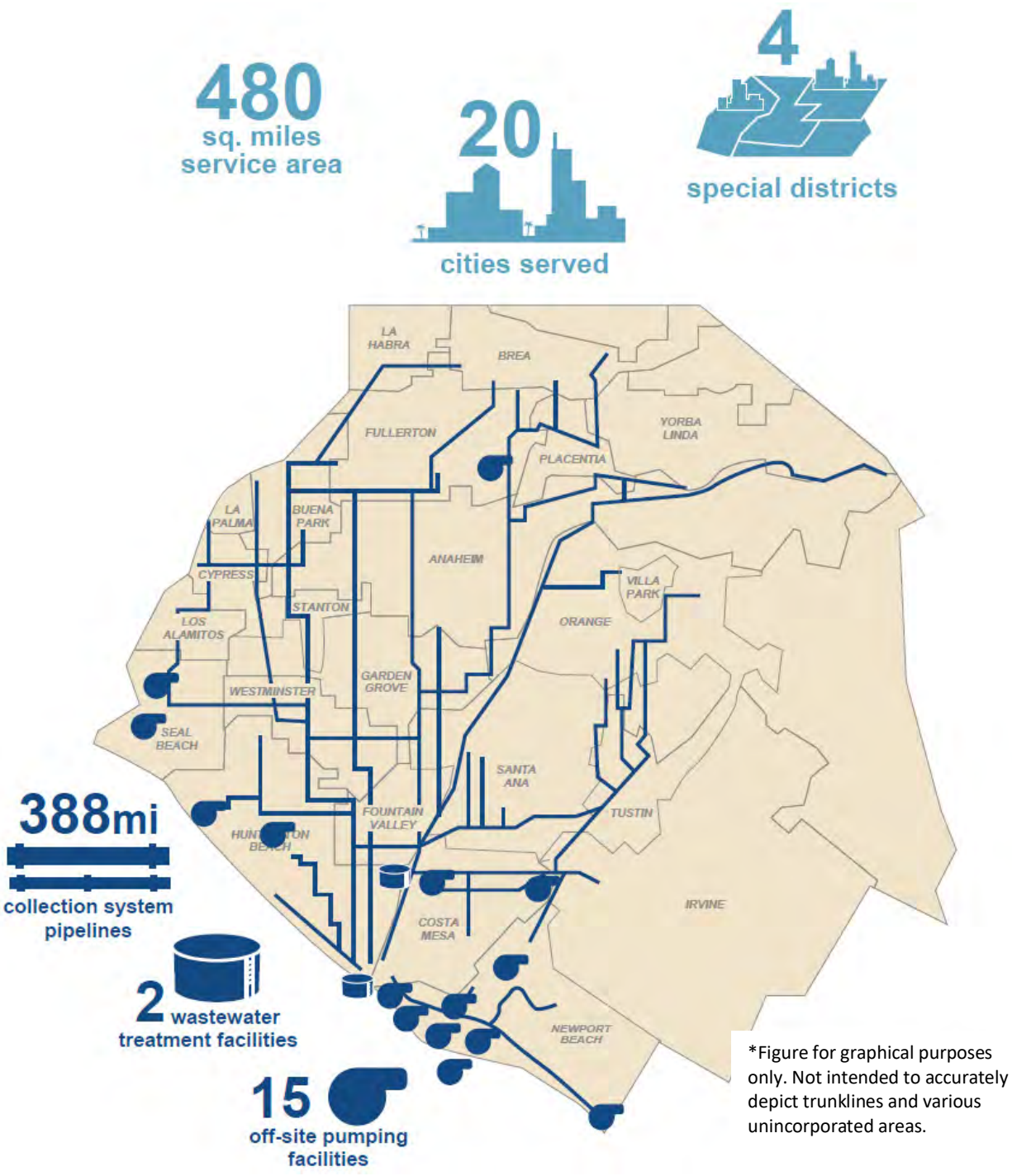
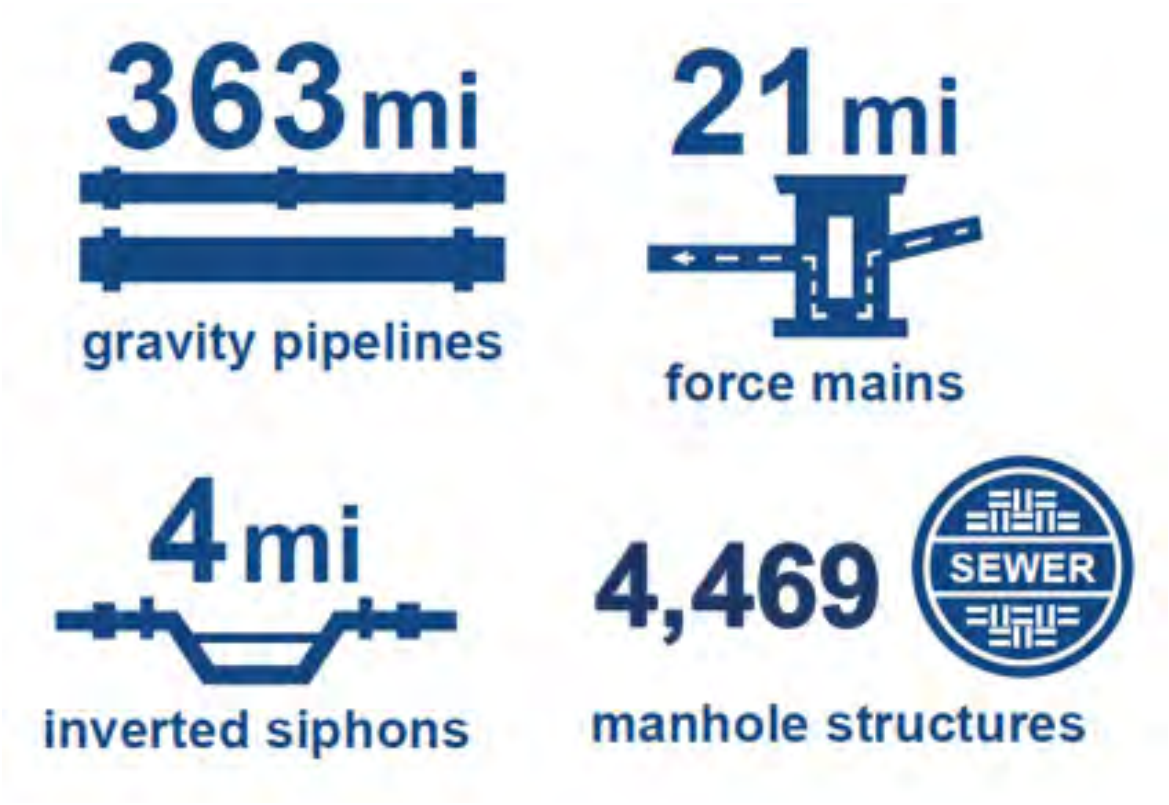


Figure 1-1. OC San's Service Area

1.1.1 Collection System

OC San's collection system serves as a regional conveyance system, collecting and conveying wastewater flows from 20 cities, 4 special districts, and various unincorporated areas, and accommodates dry weather urban runoff. OC San's 388 miles of collection system pipelines and 15 pump stations are spread throughout northern Orange County and include 363 miles of gravity pipelines, 21 miles of force mains, 4 miles of inverted siphons, and 4,469 manhole structures.



OC San has worked with member city and agency staff to understand future development plans and flow estimates, and has collected historical inflow and infiltration rates during wet weather events to assure adequate flow-carrying capability exists in each trunk sewer system. OC San also factors in the effects of drought and lower domestic water usage rates to make sure the sewers operate properly at low-flow rates. Table 1-2 summarizes the design capacities of the pump stations.

Table 1-2. Pump Station Design Capacity

Pump Station	Location	Design Capacity (MGD)
Bitter Point	Newport Beach	39.4
Rocky Point	Newport Beach	6.5
Bay Bridge	Newport Beach	18.2
Crystal Cove	Newport Beach	0.8
Lido	Newport Beach	5.5
15th Street	Newport Beach	2.6
A Street	Newport Beach	1.4
MacArthur	Newport Beach	3.6
Main Street	Irvine	60
Seal Beach	Seal Beach	31.7
Slater	Huntington Beach	28.8
Westside	Los Alamitos	21.6
Edinger	Huntington Beach	2.5
College Avenue	Costa Mesa	8
Yorba Linda	Fullerton	11.5

1.1.2 Reclamation and Treatment Plant System

OC San owns and operates two wastewater treatment plants that serve two primary functions: treatment and reclamation. Reclamation Plant No. 1 (Plant No. 1) is located in the City of Fountain Valley, approximately 4 miles inland of the Pacific Ocean and adjacent to the Santa Ana River. Influent wastewater entering Plant No. 1 passes through a flow metering and diversion structure, mechanical bar screens, grit chambers, and primary basins, before going to one of two air-activated sludge processes, or trickling filters (TFs), and secondary clarifiers. Thereafter, secondary effluent is diverted to OCWD's facilities for tertiary treatment before reuse. The remaining flow goes to the Plant No. 2 ocean outfall system. For a summary of Plant No. 1 design capacity, please refer to Table 1-3. For a map of the facilities and more detailed understanding of how Plant No. 1 treatment processes work together, please refer to Appendices A and B, respectively.

Solids treatment at Plant No. 1 includes co-thickening of primary and secondary sludge, followed by anaerobic digestion process and centrifuge dewatering of digested sludge to produce Class B biosolids. Digester gas produced at Plant No. 1 is collected, cleaned, compressed, and transferred via a closed piping system to the Central Power Generation Facility as a renewable fuel for energy generation, and is interconnected to the Plant 2 facility. In addition, Plant No. 1 includes facilities for odor control and chemical addition to support the aforementioned processes.

Treatment Plant No. 2 (Plant No. 2) is located in the City of Huntington Beach, adjacent to the Santa Ana River and east of Pacific Coast Highway. Raw sewage flow entering Plant No. 2 passes through a flow metering structure, mechanical bar screens, and grit removal chambers. Flow then passes through primary basins before being split between the oxygen-activated sludge secondary treatment facility or the TFs/solids contact basins.

With the construction of the Groundwater Replenishment System (GWRS) final expansion and associated projects completed in 2023, Plant No. 2 reclaimable secondary effluent together with Plant No. 1 secondary effluent is diverting most of its treated water to OCWD for advanced treatment and groundwater injection. For a summary of Plant No. 2 design capacity, please refer to Table 1-4. For a map of the facilities and more detailed understanding of how Plant No. 2 treatment processes work together, before and after the final expansion of the GWRS, please refer to Appendices C, D, and E, respectively.

Solids treatment at Plant No. 2 includes dissolved air flotation thickening of waste-activated sludge (WAS) and secondary sludge, anaerobic sludge digestion of primary and thickened secondary sludge, and centrifuge dewatering of digested sludge to produce Class B biosolids. Plant No. 2 also has facilities for odor control and chemical addition. Digester gas produced at Plant No. 2 is collected, compressed, cleaned, and distributed to the Central Power Generation System as a renewable fuel for energy generation. Compressed digester gas can be shared between the plants through the interplant digester gas line.

Table 1-3. Plant No. 1 Dry/Wet Weather Design Capacity

Treatment Processes	ADWF Capacity (MGD)	PWWF Capacity (MGD)	Notes
Headworks	220	320	After MSP replacement by P1-105, with four duty pumps in service and one standby
Primary	153	352	With one circular and two rectangular PCs out of service
Secondary	182	345	With all basins, TFs, and clarifiers in service

Table 1-4. Plant No. 2 Dry/Wet Weather Design Capacity

Treatment Processes	ADWF Capacity (MGD)	PWWF Capacity (MGD)	Notes
Headworks	144	322	After P2-122, with three large and two small duty pumps in service, and one large pump and one small pump on standby
Primary	156	312	With one PC out of service
Secondary	150	317	With all basins, TFs, and clarifiers in service

Acronym Key:

ADWF = average dry weather flow; MSP = main sewage pump; PC = primary clarifier; PWWF = peak wet weather flow

1.1.3 Outfall System

The ocean outfall system includes three discharge structures: Outfall No. 1 (Discharge Point 002), Outfall No. 2 (Discharge Point 001), and the Santa Ana River Emergency Overflow Weirs (Discharge Point 003).

Outfall No. 2 serves as the primary ocean outfall, discharging treated wastewater approximately 5 miles offshore at a depth of approximately 200 feet. It began service in 1971. A comprehensive assessment was completed and based on the findings a rehabilitation project is in progress to ensure the outfall's reliability for many years to come.

Outfall No. 1 serves as an emergency outfall and primary backup to Outfall No. 2, discharging treated wastewater over a mile offshore at a depth of approximately 65 feet. It was originally constructed in 1954 and was later modified in 1965. Outfall No. 1 serves as a primary backup to Outfall No. 2. OC San's NPDES permit specifies that this outfall can be used only in the case of an emergency or during planned maintenance activities. This outfall will also go through a comprehensive assessment in the near future.

The outfall system has two Santa Ana River Emergency Overflow Weirs at Plant No. 2, which discharge directly to the Santa Ana River. These weirs are for extreme emergency use only and serve as a secondary backup to the primary outfall facilities, ensuring the safety and welfare of the community at large.

1.2 Facility Valuation

As part of the 2017 Facilities Master Plan, OC San commissioned an engineering study to determine the 2017 valuation of all OC San capital facilities, including Plant No. 1, Plant No. 2, interplant and joint treatment facilities, and the collection system (including sewer pipelines and pump stations). The estimated replacement value in Fiscal Year (FY) 2023–2024 is $12.6 billion

based on the Engineering News-Record Construction Cost Index (CCI) increases since the 2017 Facilities Master Plan.

Figure 1-2 shows the valuation information, presented in five general subprocess areas:

- Collections Systems Piping
- Collection Systems Pump Stations
- Reclamation Plant No. 1 Facilities
- Treatment Plant No. 2 Facilities
- Interplant, Joint, and Common Facilities

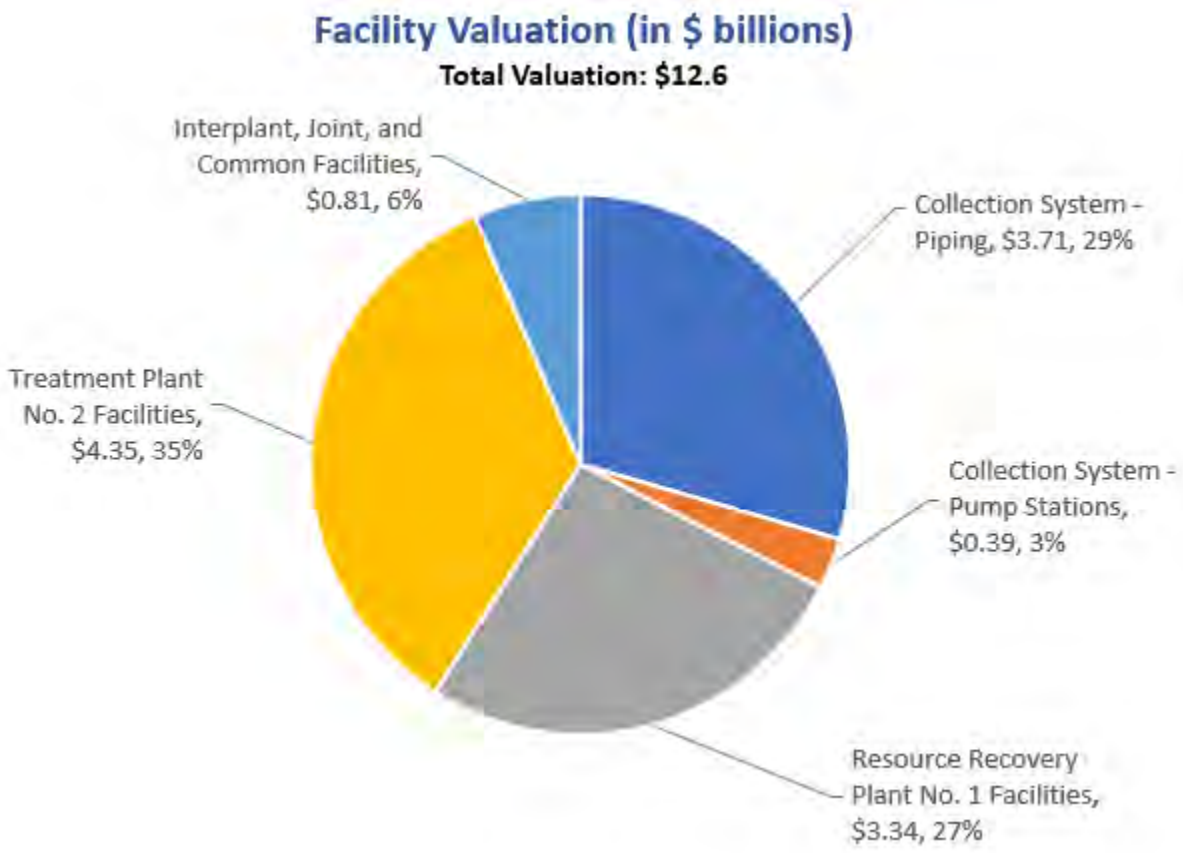


Figure 1-2. Facility Valuation by Area

1.3 Asset Management Organization

Asset management is an essential part of OC San and our overall mission to deliver safe, economical, and reliable wastewater treatment services. Every part of our organization is involved in some aspect of asset management and ensuring that assets are designed, constructed, operated, and maintained to reliably deliver the required level of service to our customers. Through a very collaborative effort, each group plays an important role in ensuring that the individual asset management initiatives are properly executed (Figure 1-3).

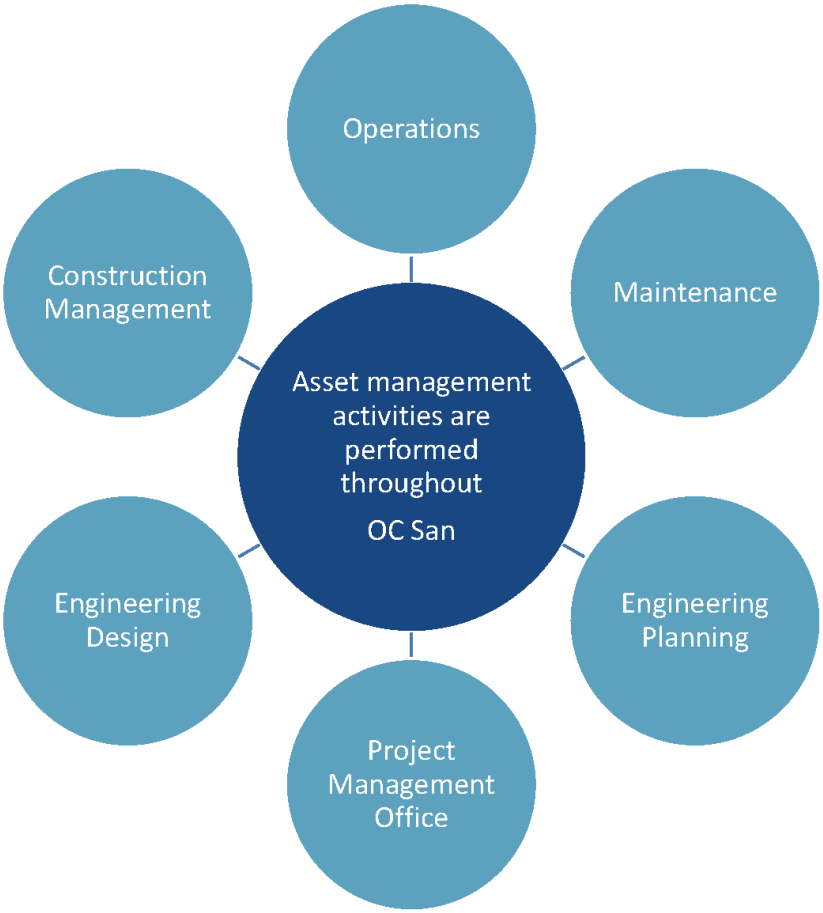


Figure 1-3. Roles in Asset Management

- **Operations** operates and monitors assets and infrastructure that convey, treat, process, and recover resources.
- **Maintenance** performs proactive, corrective, and restorative activities in a planned setting to maintain asset reliability and capacity, collectively referred to as reliability-centered maintenance (RCM). The goals of RCM involve implementing well-coordinated maintenance strategies to ensure OC San's assets will operate at the required level of service.
- **Engineering Planning** provides engineering support for short- and long-term management of assets, while working toward asset management objectives.
- **Engineering Project Management** manages the design and construction of new facilities and the rehabilitation of older facilities. The Small Projects Delivery Team within the Project Management Office is responsible for the design and construction management of facilities and maintenance projects.
- **Engineering Design** ensures projects and assets are designed in accordance with engineering standards and codes and meet stakeholder needs.

- **Construction Management** ensures assets are constructed in accordance with contract requirements.
- **Information Technology** ensures all assets commissioned through projects are included in the Enterprise Asset Management (EAM) database.

To fulfill our commitment to our ratepayers to provide safe and reliable services, OC San's Asset Management Program is structured to align the Engineering and Operations and Maintenance (O&M) departments. OC San's Asset Management Group, within the Engineering Planning Division, consists of nine Asset Engineers assigned to the various process areas in the treatment plants and collection system. They are responsible for understanding the key issues or concerns related to the condition of OC San's assets and for developing and coordinating plans or strategies to ensure that the assets operate reliably and are functioning properly. The Asset Engineers, assigned to their respective process or collection system area(s), work closely with the O&M Area Team members to maintain familiarity with all aspects that may affect the operation, condition, process, and/or maintenance-related issues within their assigned areas. The Operations Team focuses on operating of assets to extend equipment life and minimize energy and chemical use, while meeting all regulatory and level of service requirements. The Maintenance Team is committed to maintaining installed assets in a ready state for Operations and balancing planned maintenance activities with the CIP.

Collectively, the Area Teams work together to reach the goal of providing the required level of service to our customers at the lowest life cycle cost with an acceptable level of risk. This strategy involves a significant investment in internal coordination but ensures that we are properly assessing risks, solving problems, and processing deficiencies in a timely manner.

1.3.1 Major Assets

A "major asset" is defined as any asset that is specifically tracked, monitored, or recorded for the purposes of fulfilling the directives as defined by the AMP. While a major asset is typically defined as a higher-level assembly of simple assets, a major asset can be composed of other assets. For example, while collectively a clarifier can be called a major asset, it is composed of other assets such as pumps, drive mechanisms, motors, etc. Similarly, for buried assets, a system of pipe segments known as a trunkline can be called a major asset. The Asset Engineer uses the term major asset to differentiate and communicate for purposes related to the execution of the AMP, which includes developing short-, medium-, and long-term plans for each process area. It should be noted here that "major assets" are sometimes simply referred to as "assets" for simplicity purposes. Here are some examples of tests that are used to differentiate between a major asset and merely an asset:

- Does it perform a substantial role in the collection, treatment, or effluent process?
- Does its direct use help us to meet level of service and quality metrics?
- Does it require a predictive, proactive, or preventive maintenance service approach to facilitate its management?
- Does its failure present a large impact on a process or system?
- Is its reliability pertinent to the operation of the plant?
- Does its function, or lack thereof, present a detriment to plant performance metrics?
- Is it critical to the operation of the plant?

- Does it have a propensity to affect or influence the safety of the plant?
- Does it directly influence our plant permit compliance?

There are other variations of the definition of an "asset" outside of the AMP. These variations are typically minor and unique to the identifying group based on specific goals and objectives. For example, some variations in the definition exist between those defined in the AMP and by the Maintenance and Finance Departments. The Maintenance definition of an asset serves the Maintenance Department goals and objectives by providing a means to properly track and maintain those assets using an EAM system, Maximo®. Furthermore, the AMP definition of an "asset" deviates from the Finance and Accounting Department's commonly used meaning of an asset, because that definition is relative to accounting practices for tax purposes. In summary, the Asset Management, Maintenance, and Finance groups look at and define assets somewhat differently, albeit minimally in some cases, and it is important to identify those similarities and differences.

1.3.2 Remaining Useful Life

An asset's RUL is the estimated time remaining until the asset cannot be reliably maintained and fails to provide the required level of service. Failure includes structural failure as well as operational/service failure. The Asset Management Program converts RUL into RUL scoring for each asset on a scale of 1 to 5 per Table 1-5.

Table 1-5. Remaining Useful Life Score versus Remaining Useful Life

RUL Score	5	4	3	2	1
RUL	< 5 years	5–10 years	11–15 years	16–20 years	> 20 years

Asset Engineers determine the RUL of major assets based on a variety of factors:

- Expected RUL from original installation, repair, or rehabilitation date(s) and regular maintenance activities based on historical data (when available)
- Condition assessments, including manned or remote inspections as applicable
- O&M field observations and recommendations
- Performance, maintenance, and reliability history, including condition monitoring reports from the Maintenance Reliability Group
- Regular field inspections of asset areas
- Engineering judgment

1.3.3 Predictive Maintenance

In asset management, Predictive Maintenance (PdM) strategies are used to regularly monitor the condition of assets. OC San's Maintenance Reliability Group implements the PdM Program, which collects data through condition monitoring, enabling the real-time performance of assets. The premise of PdM is a proactive approach that minimizes unexpected breakdowns, reduces repair cost, extends the Mean Time Between Failure (MTBF), monitors the actual equipment health through quantifiable means, and performs advanced analysis and failure detection (Figure 1-4). In addition, when sudden changes or variations in the process manifest, they are often found during the regular Maintenance Reliability rounds as part of the group's everyday work. The ability to monitor equipment lends itself to helping Maintenance optimize intervals

between corrective repairs, minimizing the number and cost of unscheduled repairs created by machine-train failures, improving the overall equipment reliability, and assisting the Asset Management Group with accurately determining an asset's RUL.

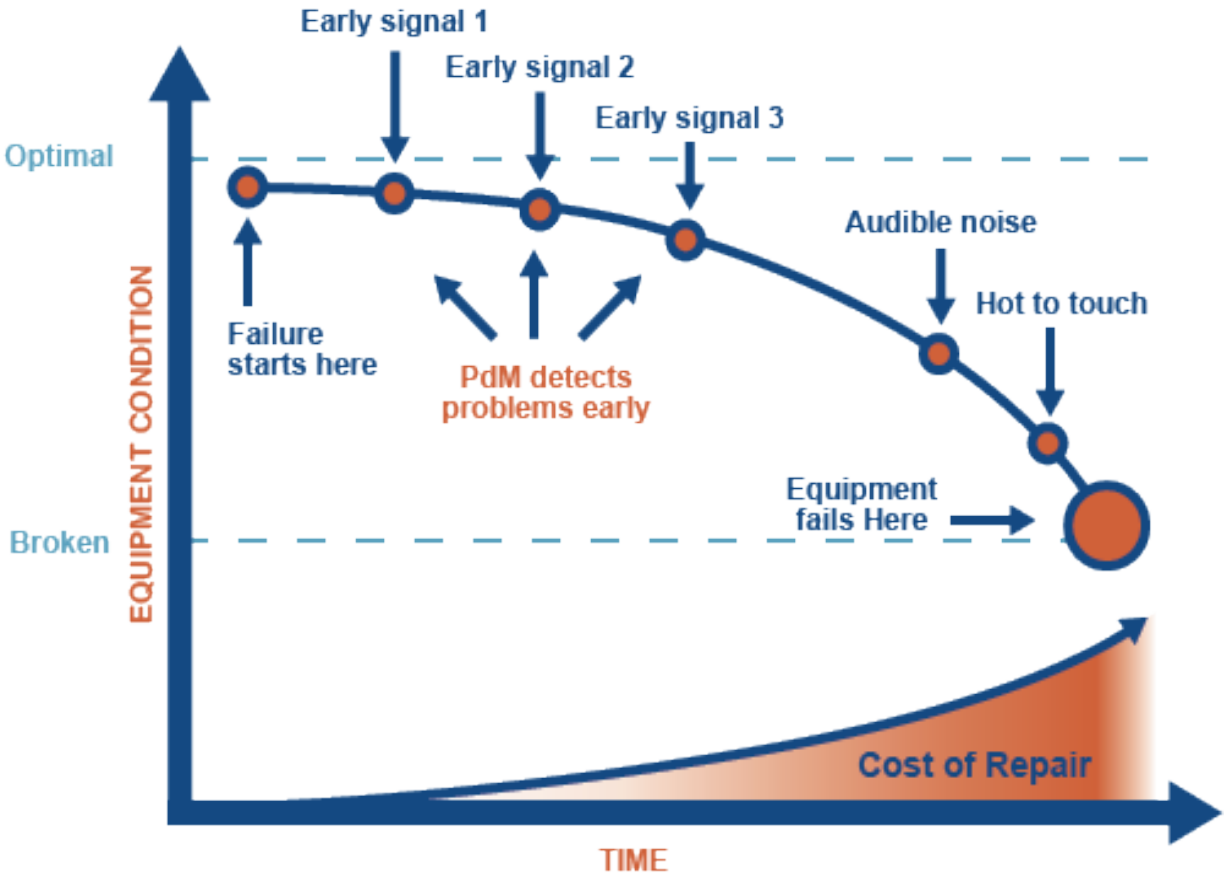


Figure 1-4. PdM Summary

1.3.3.1 Mechanical Discipline

The mechanical discipline involves variance trending of the PdM test results, which includes the following:

- Vibration analysis to measure imbalance in rotating equipment
- Oil analysis to predict lubricant and equipment degradation
- Airborne ultrasound
- Infrared thermograph to detect hot spots
- Iris™ motion camera (measures deflection and displacement)

In addition to PdM activities for mechanical equipment, OC San also uses laser alignment techniques to enhance rotating machinery accuracy to increase the machinery's operating life span.

1.3.3.2 Electrical Discipline

The electrical PdM Program includes the following tests:

- Oil analysis for transformers
- Ultrasound to detect arcing
- Infrared thermography to detect hot spots
- Circuit breakers and protective relays testing
- Motor circuit analysis for large and small motors to determine motor stator health, broken rotor bars, deteriorating motor connections, and any impending failure trends
- Medium-voltage feeder cable testing to determine the health of cables and insulation

1.3.3.3 Civil Discipline

The civil aspect of PdM includes the following:

- Closed-circuit television (CCTV) assessments of buried pipe and manhole structures
- Sonar assessments of inverted siphons
- Structural sampling, testing, and analysis of concrete assets
- Water level monitoring - debris accumulation prediction in the collection system

1.3.4 Preventive and Corrective Maintenance

Beyond the advanced PdM strategies, OC San also performs time and cycle-based preventive maintenance (PM) and corrective maintenance (CM) activities. It is these activities that, if well implemented, greatly extend the life of the assets. Recognizing the importance of these efforts, OC San has dedicated the following two groups of skilled individuals to reinforce and sustain the following activities:

- OC San has created a PM Optimization Group that is tasked with conducting in-depth assessments to optimize preventive maintenance strategies for new and existing assets and to establish maintenance approaches and strategies for assets installed by CIPs prior to beneficial occupancy. The PM Optimization Program tracks, maintains, and manages assets throughout their life cycles, from design, construction, commissioning, beneficial occupancy, operation, and maintenance to the eventual decommissioning or replacement of those assets. This ensures that the asset life cycle is maximized with the lowest risk to process failure by achieving the intended reliability, at the lowest possible cost, and maximizing equipment availability.
- The Maintenance Planning Group drives reliability and effectiveness in the craft-based maintenance work groups they support by ensuring that work groups have sufficient ready-to-execute work with appropriate resources such as tools, materials, labor, and job plans. Maintenance Specialists in this group are responsible for managing blanket maintenance service contracts, planning and scheduling maintenance activities, optimizing PM activities within Maximo® (which includes fine-tuning job plans based on input received from field staff, leads, and Maintenance Supervisors and Engineers), and coordinating complex maintenance activities involving shutdowns and outages.

OC San's PM and CM programs are staffed to address the long-term reliable performance of civil, mechanical, electrical, and instrumentation assets. PM and CM activities specific to these disciplines are an integral part of OC San's maintenance program. The following lists provide examples of tasks performed; however, they are not meant to be inclusive of all maintenance responsibilities.

1.3.4.1 Civil Discipline

PM and CM activities include:

- Cleaning of civil facilities and pipelines (collection system)
- Chemical conditioning of the sewage to reduce corrosion and control odors
- Minor repairs
- Application and repair of coatings
- Maintenance and testing of cathodic protection systems

1.3.4.2 Mechanical, Electrical, and Instrumentation Disciplines

PM and CM activities include:

- Valve and gate exercising program comprising more than 264 PM tasks for over 1,650 valves and gates in both plants and collection system
- Equipment rotation program to ensure equipment wear is predictable
- Adjustments and mechanical alignments
- Equipment rebuilding and regular testing
- Changing of lubricants and filters
- Electrical equipment cleaning and tightening
- Electrical power distribution equipment
- Circuit breakers and protective relays
- Sensors and meters calibration

1.4 Reference

Society for Maintenance and Reliability Professionals (SMRP). 2013. *Maintenance and Reliability Best Practices.* 4th Edition.

2 State of OC San's Infrastructure

The Area Asset Management (AM) Summaries are intended to summarize the condition of major assets, identify key issues for further investigation, and summarize maintenance and CIP projects planned over the next 10 to 15 years. The approach for developing the AM Summaries is to assemble a list of major assets, document key issues, define the average remaining useful lives of these assets, and identify OC San's plan to address performance and reliability issues of these assets over the 1-, 5-, and 10-year planning horizons. Each month, Asset Engineers present one or more of the AM Summaries to the AM Council; over the course of a year all the process areas, pump stations, and collection systems are presented. The Area AM Summaries are updated as needed and incorporated into the AMP, which is published annually.

2.1 Asset Management System Summaries

The following system-level summaries provide a high-level overview of the Area AM Summaries contained in Section 2.2. The RUL scores are an average of the RUL scores for that discipline within that process area. Detailed condition scores are presented in the Area AM Summaries. The system-level summaries are organized by the following:

- Plant No. 1
- Plant No. 2
- Collection System – Pump Stations
- Collection System – Pipelines and Manholes

The system-level summaries include an area map (Figures 2-1 through 2-4) showing the general layout of the process areas or collection system, and a table (Tables 2-1 through 2-4) with the following fields:

- **Area No.:** Number that corresponds to individual plant asset areas. Plant No. 1 asset areas are numbered 10 to 19, and Plant No. 2 asset areas are numbered 20 to 29.
- **Area Name:** Name of asset area.
- **Average RUL Score:** Estimated average RUL score for each discipline (civil, structural, mechanical, electrical, and instrumentation) or area based on an average of the RUL scores provided by Asset Engineers in the detailed Area AM Summaries.
- **Percentage of RUL Scores with 4s or 5s:** Percentage based on total number of RUL scores assigned to each area by Asset Engineers in the detailed Area AM Summaries. The percentage is an alternate metric for the overall condition of the area.
- **Replacement Value ($ million):** Process area replacement value in FY 2023–2024 dollars based on the Engineering News-Record CCI increases since the 2017 Facilities Master Plan.

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ASSET MANAGEMENT SYSTEM SUMMARY – PLANT NO. 1 OVERVIEW

Figure 2-1. Plant No. 1 Process Area – Remaining Useful Life Score Map

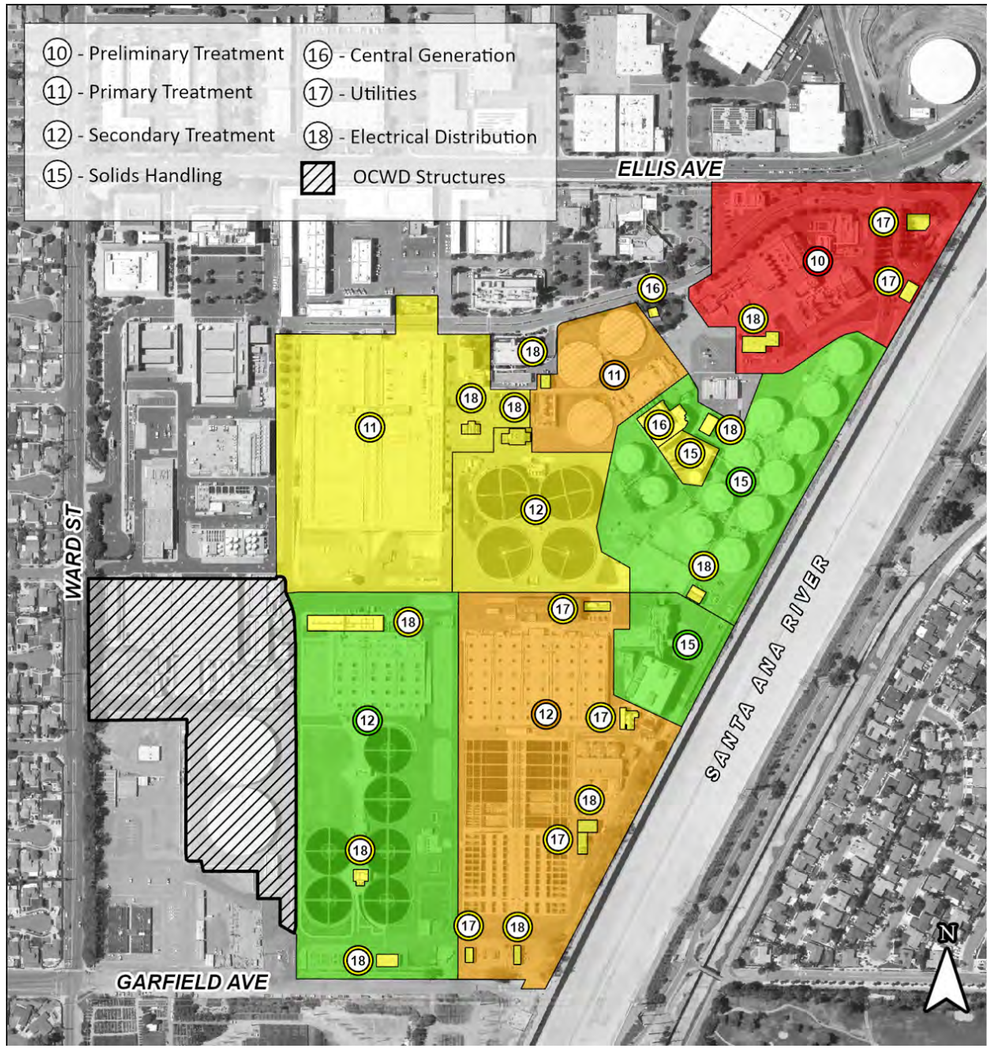


Table 2-1. Plant No. 1 Remaining Useful Life and Replacement Value Summary

Area No.	Area Name	Average Remaining Useful Life Score						Percentage of RUL Scores with 4s or 5s	Replacement Value ($ millions, in 2023 Dollars)
		Civil	Structural	Mechanical	Electrical	Instrumentation	All Assets		
10	Preliminary Treatment	2	3	5	5	5	5	64%	$416
11	Primary Treatment - Basins (1–5)	4	3	4	5	4	4	71%	$115
11	Primary Treatment - Basins (6–31)	3	3	4	3	3	3	21%	$420
12	Secondary Treatment – Activated Sludge 1 (AS-1)	3	3	4	4	5	4	63%	$649
12	Secondary Treatment – Activated Sludge 2 (AS-2)	1	1	2	3	2	2	3%	$401
12	Secondary Treatment – Trickling Filter	1	1	4	4	3	3	19%	$73
14	Interplant[a]	2	2	2		1	2	12%	$809
15	Solids Handling - Digesters	2	1	3	2	2	2	2%	$274
15	Solids Handling – Thickening & Dewatering (T&D) Facilities	1	1	2	2	2	2	5%	$204
15	Solids Handling - Gas Handling[a]		3	3	3	3	3	23%	$40
16	Central Generation[a]		1	4	4	3	3	54%	$183
17	Utilities	3	1	3	3	3	3	8%	$209
18	Electrical Distribution[a]				3		3	40%	$88
19	Occupied Buildings	*Refer to Asset Management System Summary - Area 19*							$268
	Plant No. 1 Total							**32%**	**$4,149**

[a] White box with diagonal line indicates there are no assets assigned to this discipline within this process area.

RUL Legend:

RUL < 5 years **RUL 5–10 years** **RUL 11–15 years** **RUL 16–20 years** **RUL > 20 years**

Acronym Key:

AS1 = Activated Sludge Plant No. 1; AS2 = Activated Sludge Plant No. 2; OCWD = Orange County Water District; RUL = Remaining Useful Life; T&D = Thickening and Dewatering

ASSET MANAGEMENT SYSTEM SUMMARY – PLANT NO. 2 OVERVIEW

Figure 2-2. Plant No. 2 Process Area – Remaining Useful Life Score Map

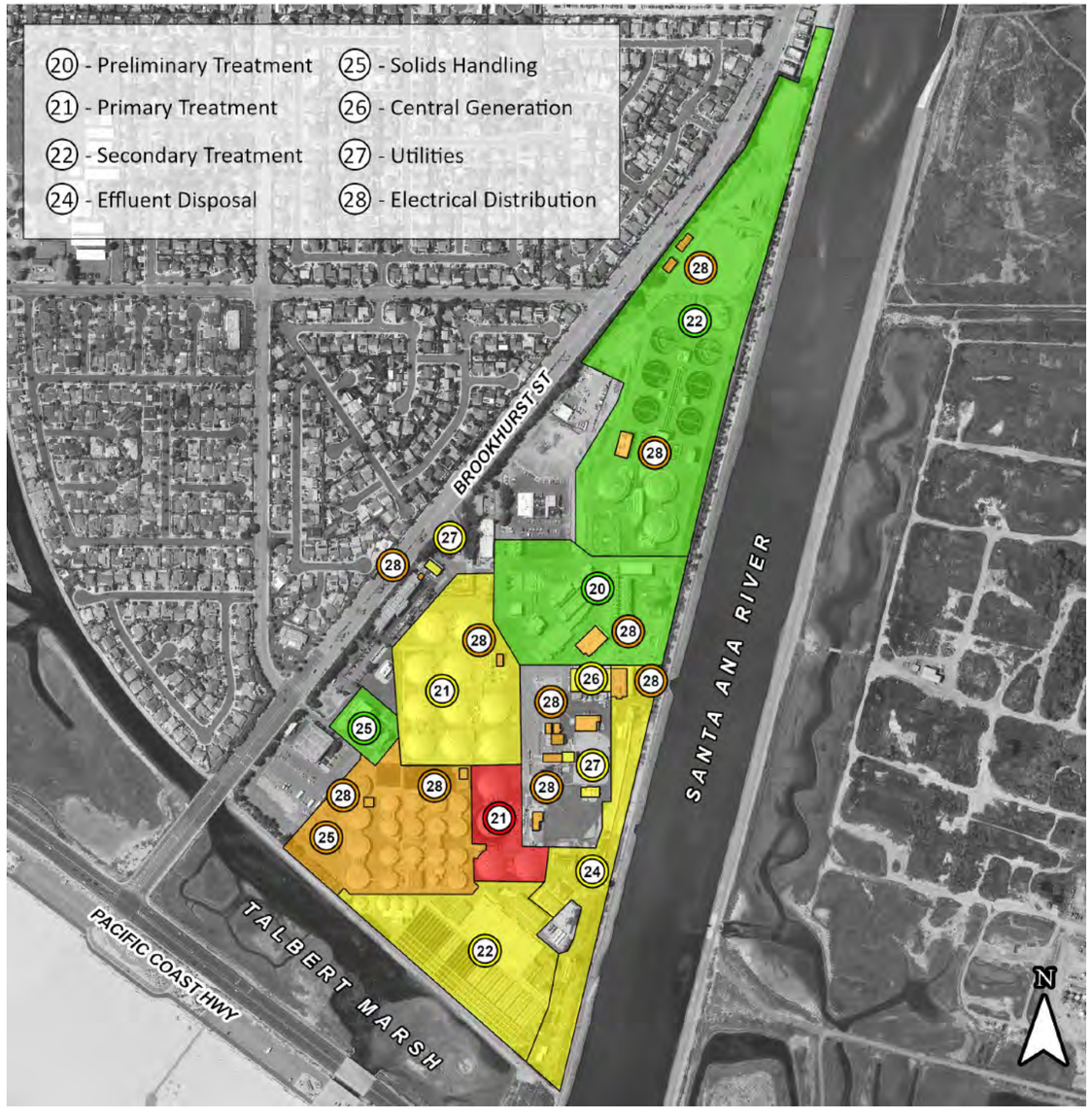


Table 2-2. Plant No. 2 Remaining Useful Life and Replacement Value Summary

Area No.	Area Name	Average Remaining Useful Life Score						Percentage of RUL Scores with 4s or 5s	Replacement Value ($ millions, in 2023 Dollars)
		Civil	Structural	Mechanical	Electrical	Instrumentation	All Assets		
20	Preliminary Treatment	1	1	3	3	2	2	10%	$384
21	Primary Treatment - A Side	5	5	5	4	4	5	100%	$179
21	Primary Treatment - B & C Side	4	3	3	3	3	3	20%	$359
22	Secondary Treatment – Activated Sludge	3	3	3	4	3	3	27%	$659
22	Secondary Treatment - DAFT	4	1	2	3	3	3	5%	$62
22	Secondary Treatment – Trickling Filter	2	1	2	3	3	2	1%	$368
24	Effluent Disposal	2	2	3	4	4	3	31%	$968
25	Solids Handling - Digesters	4	4	4	4	4	4	70%	$382
25	Solids Handling - Facilities	2	1	2	3	3	2	3%	$198
25	Solids Handling - Gas Handling[a]		3	3	4	3	4	44%	$40
26	Central Generation[a]		1	4	4	3	3	54%	$391
27	Utilities	3	2	3	3	3	3	5%	$116
28	Electrical Distribution[a]				4		4	68%	$86
29	Occupied Buildings	*Refer to Asset Management System Summary - Area 29*							$157
	Plant No. 2 Total							**40%**	**$4,349**

[a] White box with diagonal line indicates there are no assets assigned to this discipline within this process area.

RUL Legend:

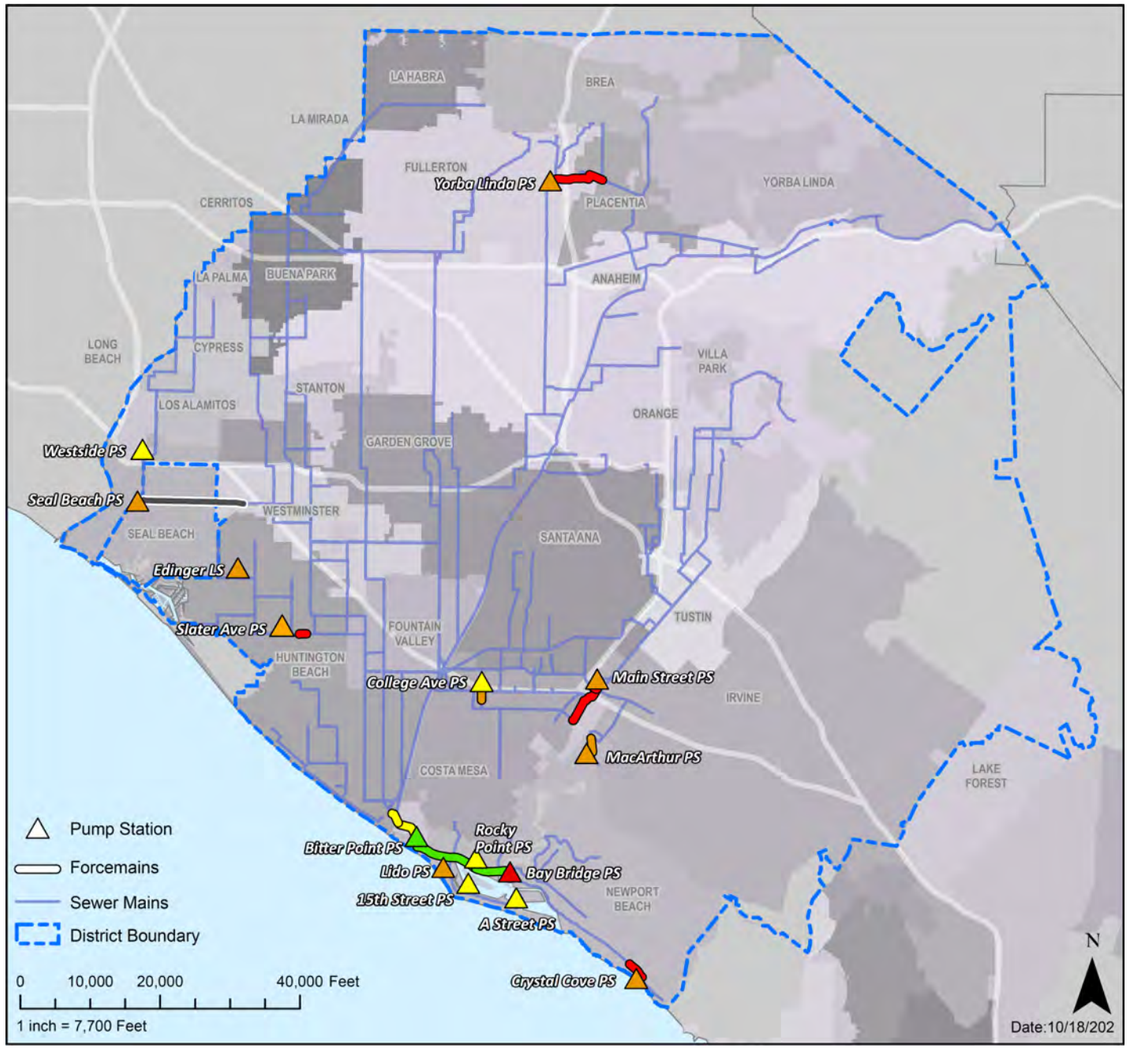
RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

Acronym Key:

DAFT = Dissolved Air Flotation Thickener; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM PUMP STATION OVERVIEW

Figure 2-3. Collection System Pump Station – Remaining Useful Life Score Map



Note: Not all pump station force mains are shown on this map. Only longer force mains are shown.

Table 2-3. Pump Station and Force Main Remaining Useful Life and Replacement Value Summary

Pump Station	Average Remaining Useful Life Score						Percentage of RUL Scores with 4s or 5s	Replacement Value ($ millions, in 2023 Dollars)
	Civil	Structural	Mechanical	Electrical	Instrumentation	All Assets		
15th Street	3	4	4	3	3	3	33%	$16
A Street	3	4	4	3	3	3	25%	$14
Bay Bridge	5	4	5	4	3	5	85%	$39
Bitter Point	3	3	2	2	3	2	15%	$37
College	4	3	3	2	3	3	25%	$28
Crystal Cove	5	4	3	4	2	4	42%	$3
Edinger	5	4	3	4	4	4	64%	$15
Lido	4	4	4	4	3	4	58%	$23
MacArthur	4	5	4	4	3	4	91%	$19
Main Street	5	3	4	3	4	4	46%	$51
Rocky Point	3	3	3	3	4	3	15%	$18
Slater	5	4	4	3	4	4	38%	$41
Seal Beach	1	4	5	5	4	4	83%	$48
Westside	5	3	3	2	3	3	15%	$35
Yorba Linda	5	4	4	4	4	4	73%	Not valued
Newport Force Mains[a]	2					2	0%	
Total							**46%**	**$387**

[a] White box with diagonal line indicates there are no assets assigned to this discipline within this process area.

RUL Legend:

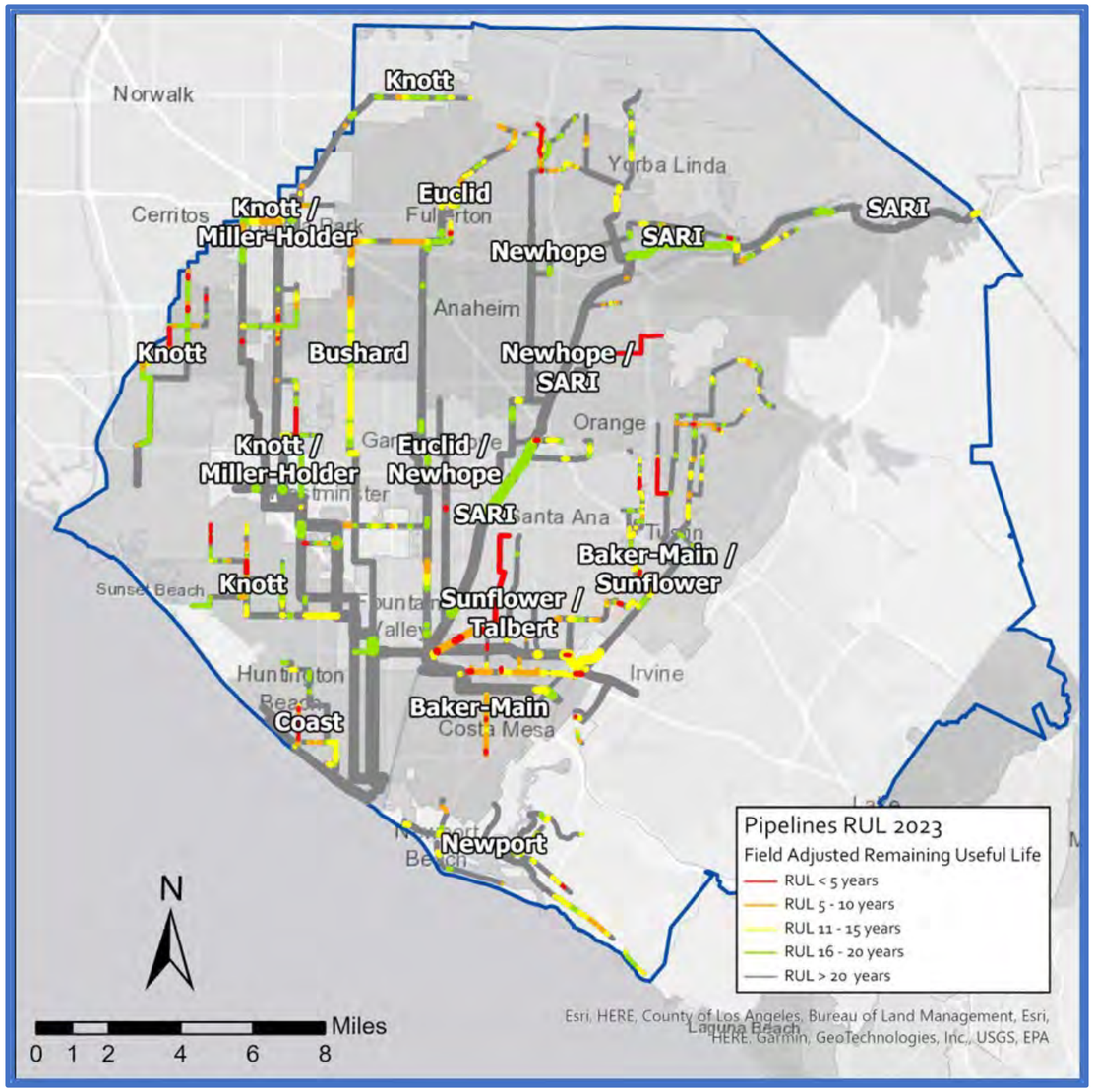
RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

Acronym Key:

PS = Pump Station; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM PIPELINES AND MANHOLES OVERVIEW

Figure 2-4. Collection System Pipeline and Manholes – Remaining Useful Life Score Map



Note: Only pipelines are shown on this map for clarity. Refer to Collections System Manholes Remaining Useful Life Score Map in Chapter 2, Area Asset Management Summaries.

Table 2-4. Collection System Pipelines and Manholes Remaining Useful Life and Replacement Value Summary

Trunklines (TL)	No. of Pipes with RUL Scores of 4 or 5	Miles of Pipes with RUL Scores of 4 or 5	Percentage of Pipes RUL Scores of 4s or 5s (By Length)	No. of Manholes with RUL Scores of 4s or 5s	Percentage of Manhole RUL Scores of 4s or 5s	Replacement Value ($ Millions, in 2023 Dollars)[a]
Baker-Main	82	5.70	14%	-[b]	-[b]	$318
Bushard	7	0.81	4%	3	1%	$279
Coast	16	1.05	9%	-[b]	-[b]	$114
Euclid	7	0.79	2%	69	16%	$311
Interplant[c]	0	0.00	0%	-[b]	-[b]	$133
Knott	46	3.19	5%	-[b]	-[b]	$721
Miller-Holder	21	1.56	5%	42	16%	$341
Newhope	22	1.64	6%	85	24%	$241
Newport	11	0.76	4%	28	7%	$249
Santa Ana River Interceptor	54	2.64	5%	158	28%	$595
Sunflower	12	0.55	2%	-[b]	-[b]	$346
Talbert	77	5.93	71%	-[b]	-[b]	$66
Total	**355**	**24.62**	**7%**	**385**	**9%**	**$3,714**

[a] The abandoned pipelines at the Airbase ($6,366,516) and the Harvard Area Trunk Sewer ($191,784) areas are not included in the total.
[b] Only trunks with greater than 50% manhole inspections completed are included in this table and in the Asset Management System Summaries.
[c] Interplant Trunk in this table refers only to IPE assets. Interplant Trunk assets are included with Knott Trunk in its Asset Management System Summary.

RUL Legend:

RUL < 5 years **RUL 5–10 years** **RUL 11–15 years** **RUL 16–20 years** **RUL > 20 years**

Acronym Key:

IPE = Interplant Trunk E; RUL = Remaining Useful Life; SARI = Santa Ana River Interceptor

2.2 Area Asset Management Summaries

The following AM Summaries document the current state of process areas in both plants and the collection system. The remainder of this section contains the AM Summaries organized as follows:

Plant No. 1 Asset Management Summaries

- Preliminary Treatment
- Primary Treatment
- Secondary Treatment – AS
- Secondary Treatment – TFs
- Interplant
- Solids Handling – Digesters
- Solids Handling – Facilities
- Central (Power) Generation
- Utilities
- Electrical Distribution
- Miscellaneous and Occupied Buildings

Plant No. 2 Asset Management Summaries

- Preliminary Treatment
- Primary Treatment
- Secondary Treatment – AS
- Secondary Treatment – Trickling Filters/Solids Contact
- Effluent Disposal
- Solids Handling – Digesters
- Solids Handling – Facilities
- Central (Power) Generation
- Utilities
- Electrical Distribution
- Miscellaneous and Occupied Buildings

Collection System Asset Management Summaries

- Pump Stations
- Pipelines and Manholes

The AM Summaries are built around a common structure. This structure provides a framework for continued use and development of the summaries. Key structure elements for AM Summaries are shown on Figure 2-5.

Figure 2-5. Area Asset Management Summary Structure

Plant No. 1 Asset Management Summaries

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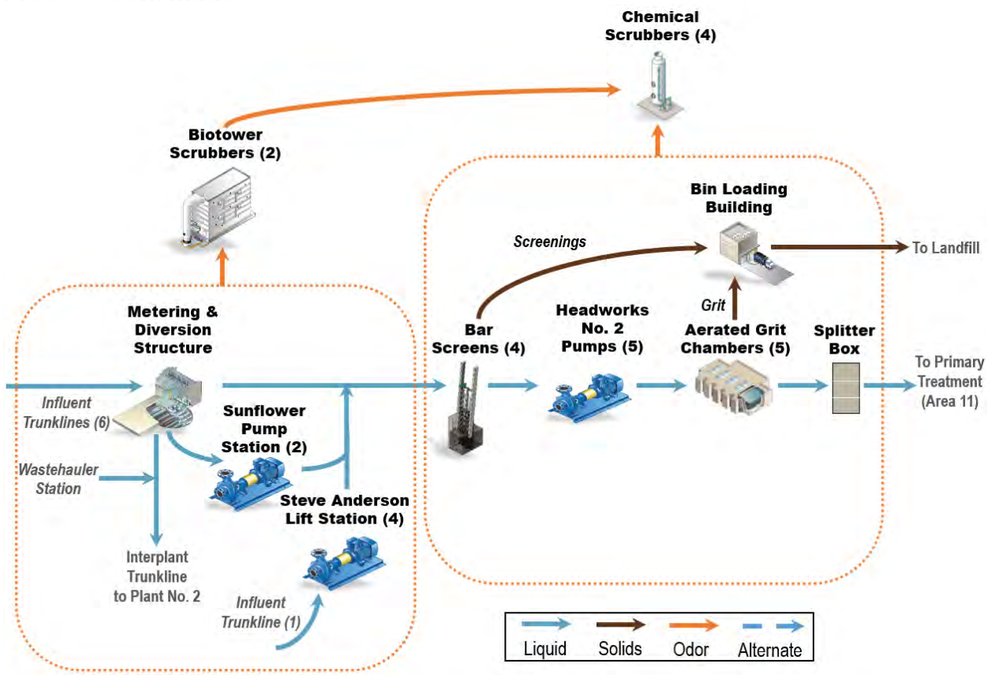
ASSET MANAGEMENT SYSTEM SUMMARY – AREA 10 – PLANT NO. 1 PRELIMINARY TREATMENT

Process Schematic



Major Assets Remaining Useful Life

Asset Type	Metering & Diversion	Sunflower Pump Station	Steve Andersen Lift Station	Barscreens	Main Sewage Pumps	Grit Chamber	Splitter Box	Bin Loading	Odor Control	Wastehauler Station
Civil										
Effluent Piping	-	-	-	-	-	-	2*	-	-	-
Structural										
General	2	3	1	2	2	2	3	3	3	3
Mechanical										
Piping	5	-	1	-	2*	-	-	-	-	3
Gates/Valves	5	5	2	5	5	5	5	-	5	2
Gearboxes	-	5	-	3	-	-	-	5	-	-
Screens	-	-	-	4	-	-	-	-	-	-
Pumps	-	4	2	-	4	-	-	-	5	-
Conveyors	-	-	-	5	-	-	-	4	-	-
Fans/Blowers	4	4	2	4	5	5	-*	5	5	2
Electrical										
Operators	5	-	-	-	-	-	5	-	-	-
Motors	-	4	1	3	5	-	-	5	-	-
VFDs	-	-	3*	-	5	-	-	-	4	-
MCCs	5	5	2	5	5	5	-	5	5	4
Instrumentation										
General	5	5	3	5	4	-	5	-	5	4

Note: (*) RUL scores that may not reflect most recent development. RUL scores will be updated in the next revision.

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

MCC = Motor Control Center
RUL = Remaining Useful Life
VFD = Variable Frequency Drive

Major Assets	Quantities
Metering & Diversion	
Flowmeters	7
Gates	29
Sunflower Pump Station	
Screw Pumps	2
Motors	2
Gearboxes	2
Lube Oil Systems	2
Gates	3
Steve Anderson Lift Station	
Main Pump/Motor/VFD	4
Drain Pumps	2
Sump Pumps	4
Flowmeter	1

Major Assets	Quantities
Barscreens	
5/8" Barscreens	2
1" Barscreens	2
Gates	21
Fans	4
Main Sewage Pumps	
Pump/Motor/VFD	5
Gates	15
Splitter Box	
Slide Gates	5
Weir Gates	15
Flowmeters	3

Major Assets	Quantities
Grit Chambers	
Grit Chambers	5
Bulk Gates	18
Slide Gates	15
Flap Gates	5
Blowers	3
Bin Loading	
Paddle Conveyors	2
Belt Conveyor	1
Fans	3

Major Assets	Quantities
Odor Control	
Bioscrubbers	2
Chemical Scrubbers	4
Fans	6
Recirculation Pumps	12
Chemical Tanks	4
Wastehauler Station	
Flushing System/Tank	1
Barrier Arm	1
Fan	1

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 10 – PLANT NO. 1 PRELIMINARY TREATMENT

Key Issues

Key Issues	Actions and Recommendations
• **Headworks Maintainability** – The P1-105 Project will rehabilitate most assets throughout the preliminary treatment area; however, the construction completion date is February 2028. Some assets have very little remaining life or have failed already and will need interim solutions before they are addressed by the project, such as exhaust fans, the hydrogen sulfide (H_2S) monitoring system, and grit paddles.	• Continue to actively monitor the condition of aging assets scheduled for repairs/replacement under P1-105 and develop temporary/minimal solutions as applicable until a permanent solution is provided by P1-105.
• **Sunflower Pump Station** – This pump station is equipped with two screw pumps, which are experiencing issues with bearings and gear boxes. These assets in the pump station are approaching the end of their useful lives.	• FE19-04 is planned to replace Pump No. 1 with associated gear box, bearings, and couplings and rehabilitate the concrete trough. The project will also upgrade electrical and instrumentations required for successful operation of Pump No. 1. Pump No. 2 will be replaced by a separate project (FE19-04 Phase 2) after P1-105 construction completion in 2028.
• **Wastehauler Station** – The station currently lacks an appropriate office building for the staff and that has raised some safety and security concerns.	• FE20-01 will improve the safety and security of the Wastehauler Station by installing entrance and exit gates with a radio frequency identification (RFID) system, providing an office facility for the staff, and installation of two automated sampling systems to collect samples from wastehauler trucks.
• **Steve Anderson Lift Station HVAC** – Both HVAC and condensing units have passed their useful lives with excessive corrosion and reliability issues. Critical electrical and controls at the station are in danger of failure due to heat and humidity levels if these units are not replaced in a timely manner.	• PRN-00953 will replace the existing HVAC and condensing units with new units of the same/similar design to ensure that the systems will continue to maintain adequate temperature and humidity for critical electrical equipment in the building that serves the Ellis Avenue Trunk.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
P1-105	Headworks Rehabilitation at Plant No. 1	Headworks	• Rehabilitate structures of impacted facilities, replace mechanical/electrical/instrumentation as needed throughout impacted facilities, improve grit handling.															
FE19-04	Sunflower Pump Replacement at Plant No. 1	Sunflower Pump Station	• Rehabilitate Sunflower Pump Station and replace pump #1															
PRN-00443	Sunflower Pump Replacement at Plant No. 1 – Pump #2	Sunflower Pump Station	• Replace pump #2 at the Sunflower Pump Station															
PRN-00953	SALS HVAC Replacement at Plant 1	Steve Anderson Lift Station	• Replace existing HVAC split system units (#1 and #2) with like units.															
FE20-01	Wastehauler Station Safety and Security Improvements	Wastehauler Station	• Install automatic samplers, RFID entrance system, and office trailer.															
X-102	Wastehauler Facility Improvements	Wastehauler Station	• Demolish abandoned wastehauler pump station and provide permanent building for staff.															
X-044	Steve Anderson Lift Station Rehabilitation	Steve Anderson Lift Station	• Rehabilitate or replace mechanical, electrical, and instrumentation.															
N/A	Replacement of Bioscrubber Media at Plant 1	TL & M&D Odor Control	• Replace scrubber media for odor control bioscrubbers.															

Types of Project Legend:

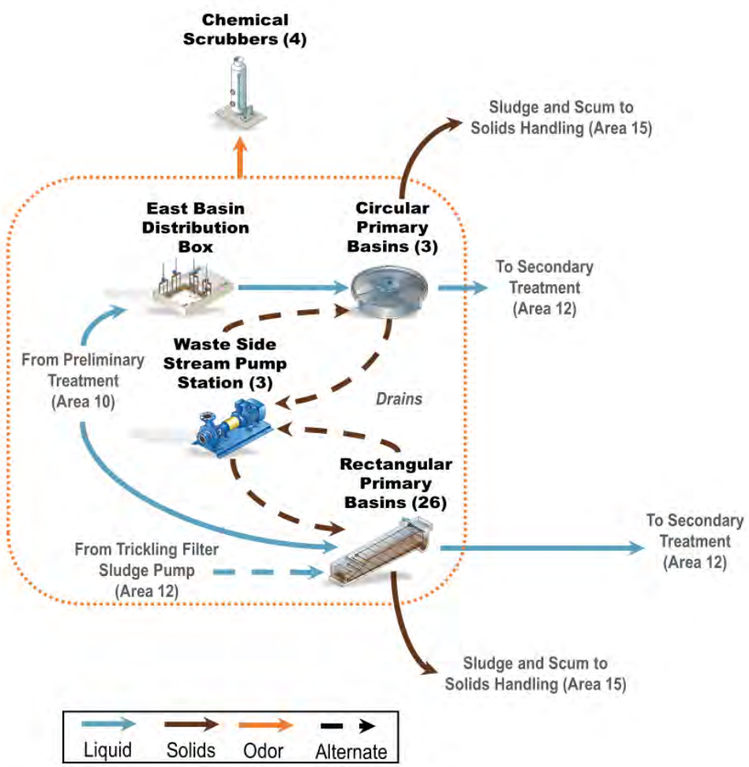
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Program; FY = Fiscal Year; N/A = not applicable; HVAC = heating, ventilation, and air conditioning; LEL = Lower Explosive Limit; M&D = Metering and Diversion; RFID = Radio Frequency Identification; SALS = Steve Anderson Lift Station; TL = trunkline

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 11 – PLANT NO. 1 PRIMARY TREATMENT

Process Schematic



Note: Primary Basins No. 1 and No. 2 are not shown. The facilities are available for emergency capacity during high flows and are scheduled to be demolished within the next 10 years.

Major Assets Remaining Useful Life

Asset Type	EBDB	PEDB -1	PEJB	PSB 1-2	PSB 3-5	PSB 6-15	PSB 16-31	PISB	Centerfeed Channels	WSSPS-1	Phys. Chem.	Odor Control
Civil												
Effluent Piping	4	5	4	5	4	3	3	-	-	3	-	-
Structural												
Structures	5	4	1	3*	3	2	2	4	3	3	3	3
Cover	-	-	-	3*	3	2	2	2	3	-	-	-
Mechanical												
Piping	-	-	-	-	-	-	-	-	-	3	3	-
Gates/Valves	3	4	3	5	5	3	3	5	3	3	3	3
Sludge/Scum Collection System	-	-	-	5	5	3	3	-	-	-	-	-
Sludge Pumping System	-	-	-	5	4	3	4	-	-	5	-	-
Scum Pumping System	-	-	-	5	4	5	5	-	-	-	-	-
Electrical												
Process – MCC, VFDs	-	-	-	5	5	2	2	2	-	5	3	4
Instrumentation												
PLC, Flow Meters	-	3	-	5	4	3	3	3	-	3	3	5

Note: (*) RUL scores that may not reflect most recent development. RUL scores will be updated in the next revision.

RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Major Assets	Quantities
Rectangular Primary Basins	
Basins	26
Thickened Sludge Pumps	9
Dilute Sludge Pumps	4
Dilute Sludge Sumps	2
Scum Pumps	12
Scum Pits	6

Major Assets	Quantities
Circular Primary Basins	
Basins	3
Sludge Pumps	4
Scum Pumps	3
Chemicals	
Polymer Tanks	4
$FeCl_3$ Tanks	1

Major Assets	Quantities
Waste Sidestream Pump Station 1	
Pumps	3
Primary Odor Scrubber Complex	
Chemical Scrubbers	4
HCl Tanks	1
HCl Pumps	2
NaOH Tanks	1

Major Assets	Quantities
Primary Odor Scrubber Complex	
NaOH Pumps	5
Bleach Tanks	1
Bleach Pumps	8

Acronym Key:
Chem. = Chemical Injection System; EBDB = East Basin Distribution Box; $FeCl_3$ = Ferric Chloride; HCl = Hydrochloric Acid; MCC = Motor Control Center; NaOH = Sodium Hydroxide; PEDB = Primary Effluent Distribution Box; PEDB-1 = Primary Effluent Distribution Box 1; PEJB = Primary Effluent Junction Box; Phys. = Physical Injection System; PISB = Primary Influent Splitter Box; PLC = Programmable Logic Controller; PSB = Primary Sedimentation Basin; RUL = Remaining Useful Life; VFD = Variable Frequency Drive; WSSPS = Waste Sidestream Pump Station

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 11 – PLANT NO. 1 PRIMARY TREATMENT

Key Issues

Key Issues	Actions and Recommendations
• **Rectangular Primary Basins 6–31** – The rectangular primary basins experience relatively frequent issues with mechanical part replacement and sludge pumping systems that require maintenance. These issues require ongoing attention from Maintenance and can affect Plant No. 1's treatment capacity.	• Project P1-133 is planned to address rectangular primary basin reliability and replace launders in the PISB and sludge pumps for primary basins 17–31, and improve the lighting in the area. • X-017 is the future project that will rehabilitate the basins and improve the scum removal system. • Inspecting some areas such as center/influent feed channels remains a challenge. Operation and maintenance need to perform regular preventive maintenance on scum pits and pumps to prevent scum accumulation in the basins, especially during times when capacity is reduced by construction.
• **Rectangular Primary Basins 6–31 Scum Pumps** – The scum pumps are approaching the end of their useful lives. The pumps are also obsolete and replaced parts are difficult to find and have long lead time.	• PRN-00939 will replace the obsolete scum pumps to improve station reliability and availability.
• **Construction Sequencing** – There are many upcoming projects that will perform work on the Plant No. 1 primary treatment system. These projects are largely interdependent and will temporarily impact the primary capacity at Plant No. 1.	• Project P1-126, which will replace the circular basins at P1, is dependent on the schedule of P1-105. Additionally, P1-133, which is improving the reliability of rectangular basins, must be completed prior to the start of P1-126. The X-017 project, which is the future project that will rehabilitate rectangular primary basins completely, can start only after completion of P1-126. Due to all these interdependencies, it is important to continue to holistically assess the primary treatment capacity, especially if project schedules change.
• **Circular Primary Basins 3–5 Leakages** – Junction Structure A (JSA) was leaking through the recently installed bulkhead by P1-105 on demolished Headworks No. 1. There are also potential leakages along the 72-inch piping from the splitter box to the circular basins that led to water collecting inside the basins.	• Coating work on the installed bulkhead and the remaining two pipe joints was completed to provide a watertight seal on the installed bulkhead at the Junction Structure A. However, additional testing and assessment need to be performed to address a new weak point at a different location that appeared after the bulkhead hydrotest. • After the work on West PISB is completed (P1-105), perform dye tests/use CCTV on the 72-inch piping to/from Junction Structure A to identify the weak points and determine a path forward.
• **Scum Management** – The scum collection system in rectangular primary basins have been experiencing operational issues such as trapped scum in various locations, overflow and failure of scum tipping troughs, and clogs in the scum pits and scum pumps.	• PRN-00563 will perform a comprehensive evaluation of the scum collection system and provides recommendations. The study will take the results of previous research studies such as RE19-01 Primary Scum Equipment Evaluation at Plant No. 1 into consideration.
• **WSSPS Pump Ragging** – The pump station has been experiencing increased ragging issues due to the headworks shutdown scheduled for the P1-105 construction. The pumps are approaching the end of their useful lives.	• PRN-00914 will replace one of the WSSPS pumps with a chopper type pump to test the performance the new pump type for this service to mitigate the ragging issues and improve the station's reliability. • Upon improved performance, the other two pumps will be replaced with similar chopper pumps through a subsequent project. • X-006 is the future project that will rehabilitate the pump station and increase the station's capacity.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
PRN-00563	P1-33/37 Scum Study	Primary Basins 6–31	• Perform a study to determine the best solution to the various scum system issues, such as issues for the scum pumping system.															
PRN-00939	PC 6–31 Scum Pump Replacement at Plant No. 1	Primary Basins 6–31	• Replace all 12 existing obsolete scum pumps with new pumps. • Modify pump suction/discharge piping and associated relief valves and steam piping.															
PRN-00914	WSSPS Pump Replacement at Plant No. 1	Waste Sidestream Pump Station	• Replace one of the WSSPS pumps with a chopper pump type to test out new pump type.															
P1-133	Primary Sedimentation Basins (PSBs) Numbers 6–31 Reliability Improvements at Plant No. 1	Primary Basins 6–31	• Upgrade the sludge pumping system. Perform structural repair of launders in PISB. Repair foul air system. • Provide adequate lighting and ventilation alarm improvements to meet current codes.															
P1-126	Primary Clarifiers Replacements and Improvements at Plant No. 1	Primary Basins 3, 4, and 5	• Replace Primary Basins 3, 4, and 5 and primary scrubber system. Rehabilitate associated conveyance pipes and structures. Demolish Primary Basins 1–2.															
X-017	Plant No. 1 Primary Clarifiers 6–31 Rehabilitation	Primary Basins 6–31	• Major rehabilitation of Primary Basins 6–31.															
X-006	Waste Sidestream Pump Station Rehabilitation	Waste Sidestream Pump Station	• Pump station rehabilitation and capacity increase.															

Types of Project Legend:

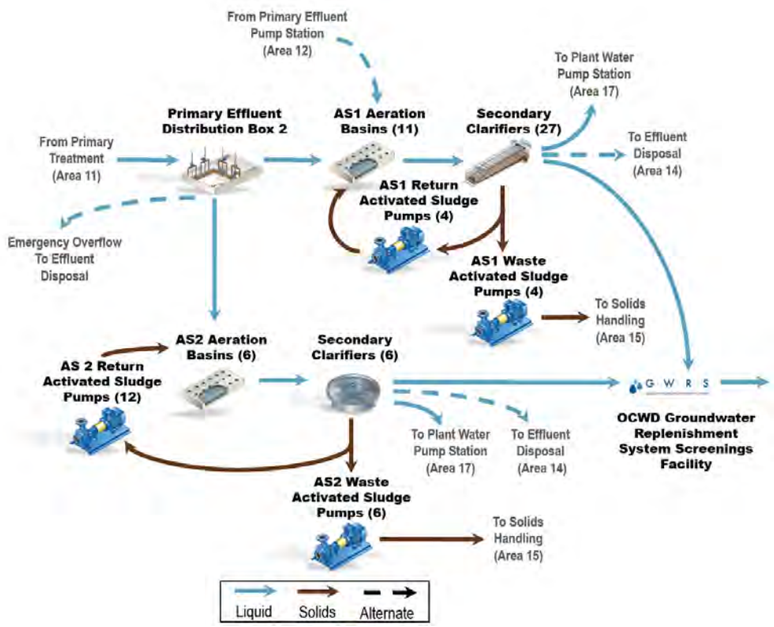
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CCTV = closed-circuit television; CIP = Capital Improvement Program; FY = Fiscal Year; GWRS = Groundwater Replenishment System; MGD = Million Gallons per Day; OC San = Orange County Sanitation District; OCWD = Orange County Water District; PISB = Primary Influent Splitter Box; PSB = Primary Sedimentation Basin

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 12 – PLANT NO. 1 SECONDARY TREATMENT – ACTIVATED SLUDGE

Process Schematic



Key Issues – AS1 and AS2

Key Issues	Actions and Recommendations
• **Primary Effluent Pump Station**	• Pumps were rebuilt but do not meet the design pump capacity. • PEPS will be demolished by P1-126 project to allow gravity flow into AS1.
• **Activated Sludge Plant No. 1 – AS1 is an aging facility**	• Condition assessments show corrosion on the reactor wall. Baffle wall supports and vertical airpipes have corrosion in some of the basins. • RAS piping has severe corrosion and will be replaced by FE20-03. • Maintenance is monitoring and replacing the instrumentation equipment as needed.
• **Activated Sludge Basins Diffusers**	• Diffusers are starting to degrade. Maintenance will replace in kind at AS2. P1-140 will replace AS1 diffusers.
• **S1 Blower Controls**	• The blower control system is obsolete and requires an upgrade to operate efficiently. P1-140 will replace blowers and control systems.
• **AS1 Waste-activated Sludge Pumps**	• Pumps have reached the end of useful life and two pumps do not meet pumping capacity required. Will be replaced under P1-140.

Major Assets Remaining Useful Life

Asset Type	PEPS	Blower Building 1	AS1 Aeration Basins	AS1 Clarifiers	AS1 RAS PS	AS1 WAS	AS2 PEPS 2	AS2 Blowers	AS2 Aeration Basins	AS2 Clarifiers	AS2 RAS/WAS PS	WSSPS 2	PEDB-2	AS1 & AS2 Junction Boxes	DAFTs	DAFTs Polymer System
Civil																
Effluent Piping	4	3	3	3	5	3	1	-	-	-	-	-	1	1	4	
Structural																
Buildings	3	3	-	-	4	-	-	1	-	-	-	-	-	-	4	-
Structures	3	3	3	3	-	-	1	-	1	1	-	1	1	1	4	5
Mechanical																
Piping	3	3	4	4	5	3	-	2	2	2	2	2	-	-	5	5
Pumps	5	-	-	-	4	4	-	-	-	-	3	3	-	-	5	5
Diffusers	-	-	4	-	-	-	-	-	4	-	-	-	-	-	-	-
Mixers	-	-	4	-	-	-	-	-	2	-	-	-	-	-	-	-
Solids Collector Mechanism	-	-	-	4	-	-	-	-	-	2	-	-	-	-	5	-
Blowers	-	4	-	-	-	-		2	-	-	-	-	-	-	-	-
Drain Gates & Inlet Gates	-	-	4	4	-	-	1	-	2	2	-	-	2	-	-	-
HVAC & Ventilation	4	4	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Chemical/Polymer Facility	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5
Electrical																
Variable Frequency Drives	3	-	3	3	3	3	-	-	3	3	3	3	-	-	4	4
Motor Control Centers	4	-	4	4	4	4	-	-	2	2	2	2	-	-	4	4
Instrumentation																
PLCs, Flow Meters	5	5	5	5	5	5	-	2	2	2	2	2	-	-	5	5

RUL Legend:

RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

Acronym Key:
AS1 = Activated Sludge Plant No. 1; AS2 = Activated Sludge Plant No. 2; DAFT = Dissolved Air Flotation Thickener; HVAC = Heating, Ventilation, and Air Conditioning; OCWD = Orange County Water District; PEDB-1 = Primary Effluent Distribution Box 1; PEDB-2 = Primary Effluent Distribution Box 2; PEPS = Primary Effluent Pump Station; PEPS 2 = Primary Effluent Pump Station 2; PLC = Programmable Logic Controller; PS = Pump Station; PWPS = Plant Water Pump Station; RAS = Return Activated Sludge; RUL = Remaining Useful Life; WAS = Waste-activated Sludge; WSSPS2 = Waste Sidestream Pump Station 2

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 12 – PLANT NO. 1 SECONDARY TREATMENT – ACTIVATED SLUDGE

Major Assets

Major Assets	Quantities
Primary Effluent Pump Station	
Building	1
Wet Well	1
Pumps	3
Discharge Valves	3
AS1 Aeration Basins	
Aeration Basins	10
Inlet Gates	10
AS1 Blower Building 1	
Blower Building	1
Blowers	5

Major Assets	Quantities
AS1 Secondary Clarifiers (SCs)	
Secondary Clarifiers	26
Inlet Gates	78
Sludge Collectors	52
Secondary Clarifiers	26
AS1 RAS PS/WAS PS	
RAS PS Building	1
RAS Pumps	5
WAS Pumps	4
Primary Effluent Pump Station 2	
Structure	1
Gate	1

Major Assets	Quantities
AS2 Aeration Basins	
Aeration Basins	6
Inlet Gates	6
AS2 Blower Building 2	
Blower Building	1
Blowers	4
AS2 Secondary Clarifiers	
Secondary Clarifiers	6
Sludge Collectors	6
AS2 RAS PS/WAS PS	
RAS/WAS Pumps	12/6
Surface Wasting Pumps	6
Scum Pumps	6

Major Assets	Quantities
Waste Side Stream Pump Station 2	
Pumps	2
Structure	1
Primary Effluent Distribution Box 1	
Structure	1
Gates	1
Primary Effluent Distribution Box 2	
Structure	1
Gates	11
AS1 and AS2 Junction Boxes	
Junction Box Structures	8

Major Assets	Quantities
Dissolved Air Flotation Thickeners	
Concrete Tanks	6
Mechanical Sweep	6
Recycle Pumps	12
Retention Tank	6
TWAS Pumps	12
DAFTs Polymer System	
Storage Tank	2
Mix Tank	2
Polymer Transfer Pumps	2
Feed Pumps	6

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
FE20-03	Return-Activated Sludge (RAS) Discharge Piping Replacement at Activated Sludge Plant No. 1	AS1 RAS Pipe Discharge	• Replace the RAS discharge pipe located in Basins 3 and 8.															
P1-126	Primary Clarifiers Replacements and Improvements at Plant No. 1	PEPS	• Remove all equipment in PEPS. Gravity feed primary effluent from new primary Basins 3,4, and 5															
P1-140	Activated Sludge 1 and Secondary Clarifier Rehabilitation	AS1 Aeration Basin, Clarifiers, and Blowers	• Major rehabilitation of all mechanical, electrical, and instrumentation assets including the blower system.															
TBD	AS2 Diffuser Replacement	AS2	• Diffuser replacement															

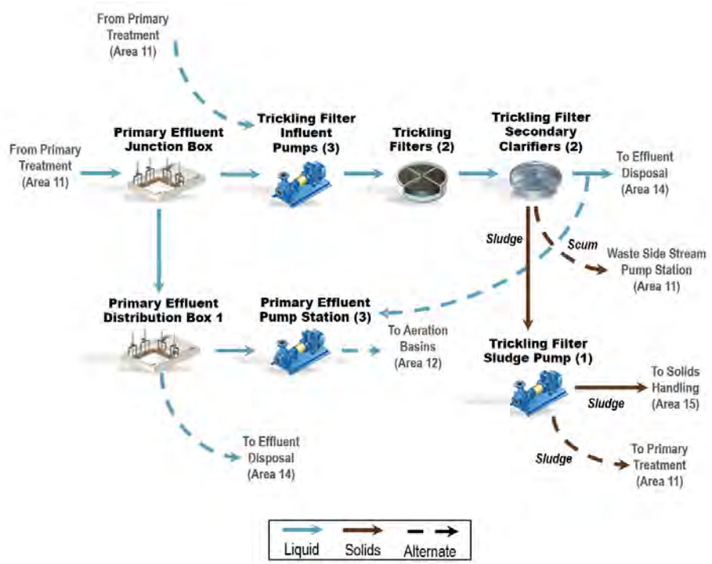
Types of Project Legend:

CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:
AS1 = Activated Sludge Plant No. 1; AS2 = Activated Sludge Plant No. 2; CIP = Capital Improvement Program;
DAFT = Dissolved Air Flotation Thickener; FY = Fiscal Year; PEPS = Primary Effluent Pump Station;
PS = Pump Station; RAS = Return-activated Sludge; SC = Secondary Clarifier; TWAS = Thickened Waste-activated Sludge;
WAS = Waste-activated Sludge

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 12 – PLANT NO. 1 SECONDARY TREATMENT – TRICKLING FILTERS

Process Schematic



Major Assets

Major Assets	Quantities
Trickling Filter Pump Station	
Structure	1
Trickling Filter Pumps	3
Trickling Filters	
Trickling Filter Basins	2
Rotary Distributor	2
Recirculation Fans	8
Secondary Clarifiers	
Circular Clarifiers	2
Sludge Collector	2
Sludge Pump	1
Junction Boxes	
Structure	6

Major Assets Remaining Useful Life

Asset Type	Trickling Filter Pump Station	Trickling Filters	Secondary Clarifiers	Sludge Pump Station	Junction Boxes
Civil					
Effluent Piping	1	1	1	-	1
Structural					
Buildings	-	1	1	-	-
Structures	1	1	1	1	1
Mechanical					
Pumps	3	-	3	5	-
Distributor Drive	-	3	-	-	-
Ventilation Fans	-	3	-	-	-
Trickling Filter Media	-	5	-	-	-
Clarifier Moving Mechanism	-	-	3	-	-
Valves, Gates	3	-	5	-	3
Electrical					
Motor Control Centers	3	4	-	3	-
Variable Frequency Drives	5	3	-	5	-
Instrumentation					
PLCs and Flow Meters	3	3	3	3	-

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

PLC = Programmable Logic Controller

RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 12 – PLANT NO. 1 SECONDARY TREATMENT – TRICKLING FILTERS

Key Issues

Key Issues	Actions and Recommendations
• **Trickling Filter Sludge Pumps** – Currently, only one sludge pump is in service.	• Project FE19-03 will replace the trickling filter's sludge pump with two sludge pumps and VFDs and remove the scum pumps.
• **Trickling Filter Influent Pumps** – VFDs are obsolete and need to be replaced. Replacement parts are not available.	• FR1-0011 will replace the VFDs and add a second source of power from the Switchgear TFB bus to VFD #1.
• **Trickling Filters Snail Control** – Permanent caustic dosing is needed at trickling filters pump station for snail control. Currently, temporary totes are used to dose caustic into the wet well.	• PRN-00414 was approved to add pumps to the caustic tank in the primary scrubber area and trench a pipe to the trickling filters pump wet well. This project has been included in the P1-126 project scope.
• **Trickling Filter Valve Replacement** – Drain valve and stem for trickling filter clarifier 2 need to be replaced.	• Project FR1-0017 will replace 12-inch trickling filter clarifier 2 drain valve and valve stem.
• **Trickling Filter Media** – Trickling filters at Plant No. 1 have been in operation for over 17 years. The filter media is nearing the end of its useful life and the trickling filter lining and coatings systems are starting to fail.	• Project P1-142 will replace the trickling filter media and repair coating failures, and may replace the rotating assembly as needed upon confirmation of a condition assessment to extend the overall reliability and useful life of the trickling filters. • X-015 is the future project that will perform major rehabilitation of the trickling filter area.
• **Trickling Filter Odor Control** – Increase in odor complaints may be due to the trickling filter operation. Operations has reduced flow to the trickling filters to control odors.	• A planning study will be established for the trickling filters to determine the best solution/approach to minimizing odor at the trickling filters, which may include covering the trickling filters and adding odor control.

Current and Future Projects

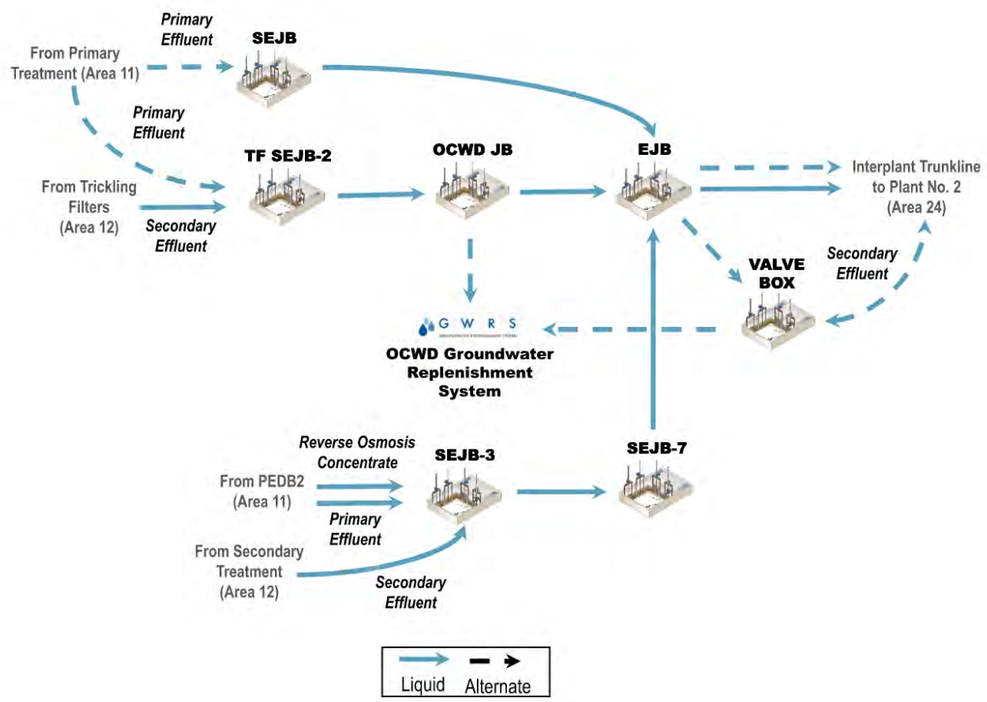
Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
FE19-03	FE19-03 Trickling Filter Sludge and Scum Pumps Replacement at Plant No. 1	Sludge pumping	• Replace the sludge pump with two new pumps and remove three scum pumps.															
P1-126 (PRN-00414)	Primary Sedimentation Basins Numbers 3–5 Replacement at Plant 1	Trickling Filters Pump Station	• Project P1-126 will install permanent caustic dosing pumps and pipes to dose caustic to the trickling filters. Currently, Operations is using caustic totes.															
P1-142	Trickling Filter Rehabilitation at Plant 1	Trickling Filters	• Replace the trickling filter media, repair coating failures, and inspect/replace rotating assembly as needed.															
FR1-0017	Trickling Filter Valve Replacement at Plant No. 1	Trickling Filters Secondary Clarifier 2	• Replace drain valve and stem for trickling filters Secondary Clarifier 2.															
FR1-0011	Plant No. 1 Trickling Filter Pumps VFD replacement (three pumps)	Trickling Filters Pump Station	• Replace the obsolete VFDs on the trickling filter influent pumps.															
X-015	Trickling Filters Facilities Rehabilitation at Plant No. 1	Major rehabilitation project	• Replace the trickling filter feed pumps, distribution arms and media, and secondary clarifier mechanisms.	➔ Project starts in 2040														
N/A	Trickling Filter Odor Control Planning Study at Plant No. 1	Trickling Filters	• Perform a study to determine the best solution/approach to minimizing odor at the trickling filters.															

Types of Project Legend:
- **CIP - Planning**
- **CIP - Design**
- **CIP - Construction**
- **Maintenance Project**

Acronym Key:
CIP = Capital Improvement Program; FY = Fiscal Year; VFD = Variable Frequency Drive

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 14 – PLANT NO. 1 INTERPLANT

Process Schematic



Major Assets Remaining Useful Life

Asset Type	Plant No. 1 Facility									Santa Ana Corridor						
	EJB	TFSEJB-2	SEJB	SEJB-3	SEJB-7	PEJB-1	66" PE/SE	84" PE/SE	108" PE/SE	66" PE/SE	84" PE/SE	120" PE/SE	Digester Gas Line	Ellis Corridor	Brookhurst Corridor	Bushard Corridor
Civil																
Pipeline	-	-	-	-	-	-	4	3	1	1	1	1	3	1	1	-
Structural																
Structure	1	1	3	1	1	4	-	-	-	-	-	-	-	-	-	-
Mechanical																
Sluice Gates	2	-	-	3	1	5	-	-	-	-	-	-	-	-	-	-
Butterfly Valves	2	3	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Ball Valves	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Instrumentation																
Fiber Optic	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	1

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

EJB = Effluent Junction Box
mi = Mile(s)
JB = Junction Box
OCWD = Orange County Water District
PE = Primary Effluent
PEJB-1 = Primary Effluent Junction Box 1
RUL = Remaining Useful Life
SE = Secondary Effluent
SEJB = Secondary Effluent Junction Box
SEJB-3 = Secondary Effluent Junction Box 3
SEJB-7 = Secondary Effluent Junction Box 7
TF = Trickling Filter
TFSEJB-2 = Trickling Filter Secondary Effluent Junction Box 2

Major Assets

Major Assets	Quantities
Plant No. 1 Facility	
Large Diameter Piping	1.1 mi
Junction Boxes	6
Gates	17
Butterfly Valves	9

Major Assets	Quantities
Santa Ana Corridor	
Large Diameter Piping	10.6 mi
Digester Gas Piping	3.9 mi
Fiber Optic Communication	3.2 mi
Ball Valves	2

Major Assets	Quantities
Ellis Corridor	
Large Diameter Piping	1.2 mi
Fiber Optic Communication	0.8 mi
Brookhurst Corridor	
Large Diameter Piping	3.8 mi
Bushard Corridor	
Fiber Optic Communication	4.1 mi

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 14 – PLANT NO. 1 INTERPLANT

Key Issues

Key Issues	Actions and Recommendations
• **Interplant Digester Gas Line Deficiencies** – Surface corrosion of various severity in all blow off vaults; water intrusion in Vaults 1–4; Vault 4 outside existing utility easement; measurable gas leaks in Vaults 4, 7, 8, and 10; access difficulties to Vaults 8 and 9; structural damage to Vault 10; lack of dedicated blowdown valves; and lack of pressure relief between the DOT valves.	• OC San completed interim blow off leak repairs at Vault 10 and capped Vaults 3 to 8 in September 2022. Project FRJ-0003 will repair, replace (or relocate), and abandon blow off vaults. The project also includes installing blowdown valve manifolds and pressure relief for the IDGP.
• **Santa Ana Corridor Soil Erosion (PRN-00935)** – Soil loss has been occurring in the unprotected slopes along the interplant utility corridor paralleling the Santa Ana River for many years. Soil erosion is directly affecting blow off Vault 5 on the Interplant Digester Gas Line. There are significant reaches of pipeline that appear to lack adequate cover for pipeline protection.	• OC San has approved a new planning study PRN-00935 to perform a slope erosion analysis with various field investigations; review slope stabilization alternatives; and identify, compare, and rank conceptual design alternatives. This effort includes developing a new plan and profile for the pipeline to pinpoint areas of inadequate cover and provide the basis of design to resolve the issue(s). Based on the recommendations a proposed improvement project will be developed.
• **PEJB-1** – The sluice gates in PEJB-1 are in very poor condition and no longer properly seal. PEJB-1 structure is also in poor condition.	• Rehabilitation of the PEJB-1 structure and replacement of existing sluice gates with new ones are included in the scope of Project P1-126.
• **66-inch IPP** – 66-inch pipelines between PEJB-1 and EJB are in poor condition per 2021 condition assessment. Conditions have not changed significantly since 2009.	• Perform a reassessment in 2026. Project X-125 will rehabilitate the 66-inch pipelines between PEJB-1 and EJB.
• **Uninspected Assets** – The 108-inch pipelines to EJB, SEJB-3 structure and gates, and SEJB-7 structure and gates have not had formal condition assessments since construction.	• Given theoretical RUL, condition assessments for the 108-inch pipelines to EJB, SEJB-3 structure and gates, and SEJB-7 structure and gates are planned for 2024.

Current and Future Projects

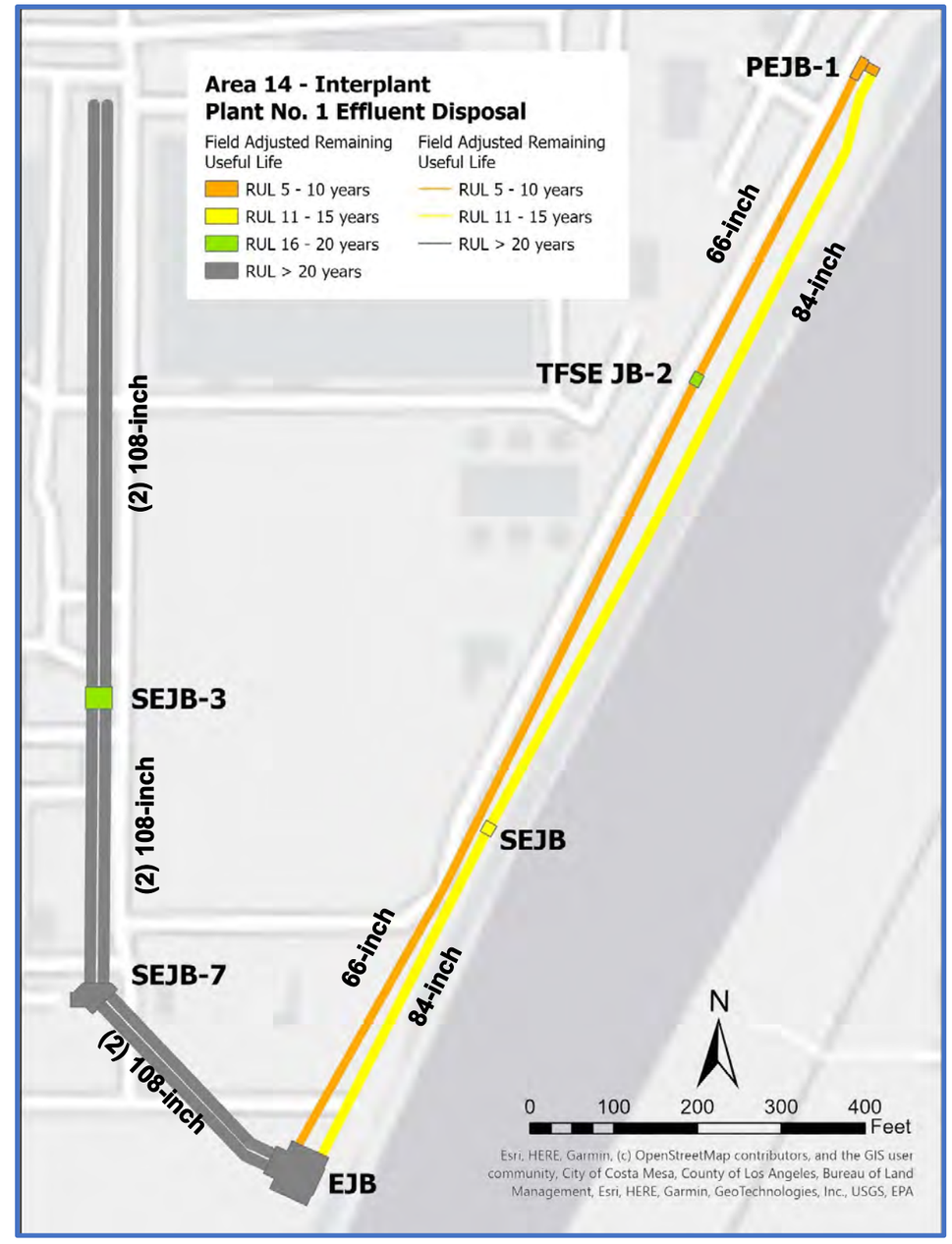
Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
FRJ-0003	Interplant Gas Line Blow Off Repairs	Digester Gas Piping	• Blow off repair, replacement, and/or abandonment, add blowdown valves at DOT ball valves, and IDGP pressure relief															
PRN-00935	Interplant Digester Gas Pipeline Slope Stabilization Study	Digester Gas Piping	• Slope erosion analysis and conceptual design of slope stabilization alternatives to define recommended improvement project and rebuild adequate cover over pipe															
P1-126	Primary Sedimentation Basins No. 3-5 Replacement at Plant No. 1	PEJB-1	• Includes rehabilitating the PEJB-1 structure and replacing existing sluice gates															
X-125	66-Inch Interplant Pipelines Rehabilitation at Plant 1	66" PE/SE	• Rehabilitate the Plant No. 1 66-inch piping															
X-118	84-inch Interplant Pipelines Rehabilitation at Plant 1	84" PE/SE, SEJB	• Rehabilitate the Plant No. 1 84-inch piping and SEJB															
X-015	Trickling Filters Rehabilitation at Plant 1	TFSE JB-2	• Includes rehabilitating the TFSE JB-2 structure and existing butterfly valve															

Types of Project Legend:
CIP - Planning | CIP - Design | CIP - Construction | Maintenance Project

Acronym Key:
CIP = Capital Improvement Program; DOT = U.S. Department of Transportation; EJB = Effluent Junction Box; FOC = Fiber Optic Cable; FY = Fiscal Year; GWRS = Groundwater Replenishment System; IDGP = Interplant Digester Gas Pipeline; IPP = Interplant Piping; LOFLO = Low Flow; PE = Primary Effluent;PEJB-1 = Primary Effluent Junction Box 1; RUL = Remaining Useful Life; SE = Secondary Effluent; SEJB-3 = Secondary Effluent Junction Box 3; SEJB-7 = Secondary Effluent Junction Box 7; TFSE = Trickling Filter Secondary Effluent

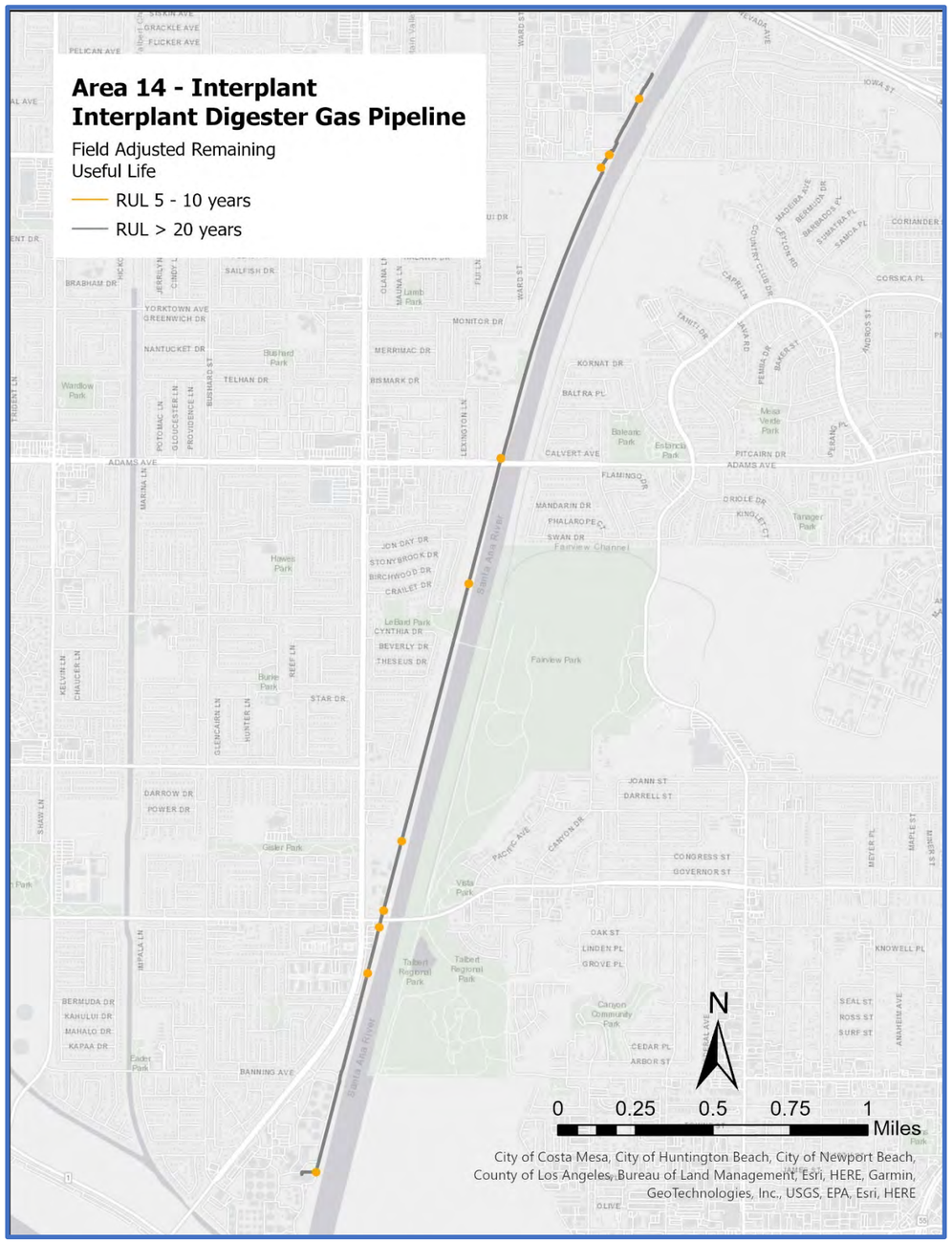
ASSET MANAGEMENT SYSTEM SUMMARY – AREA 14 – PLANT NO. 1 INTERPLANT

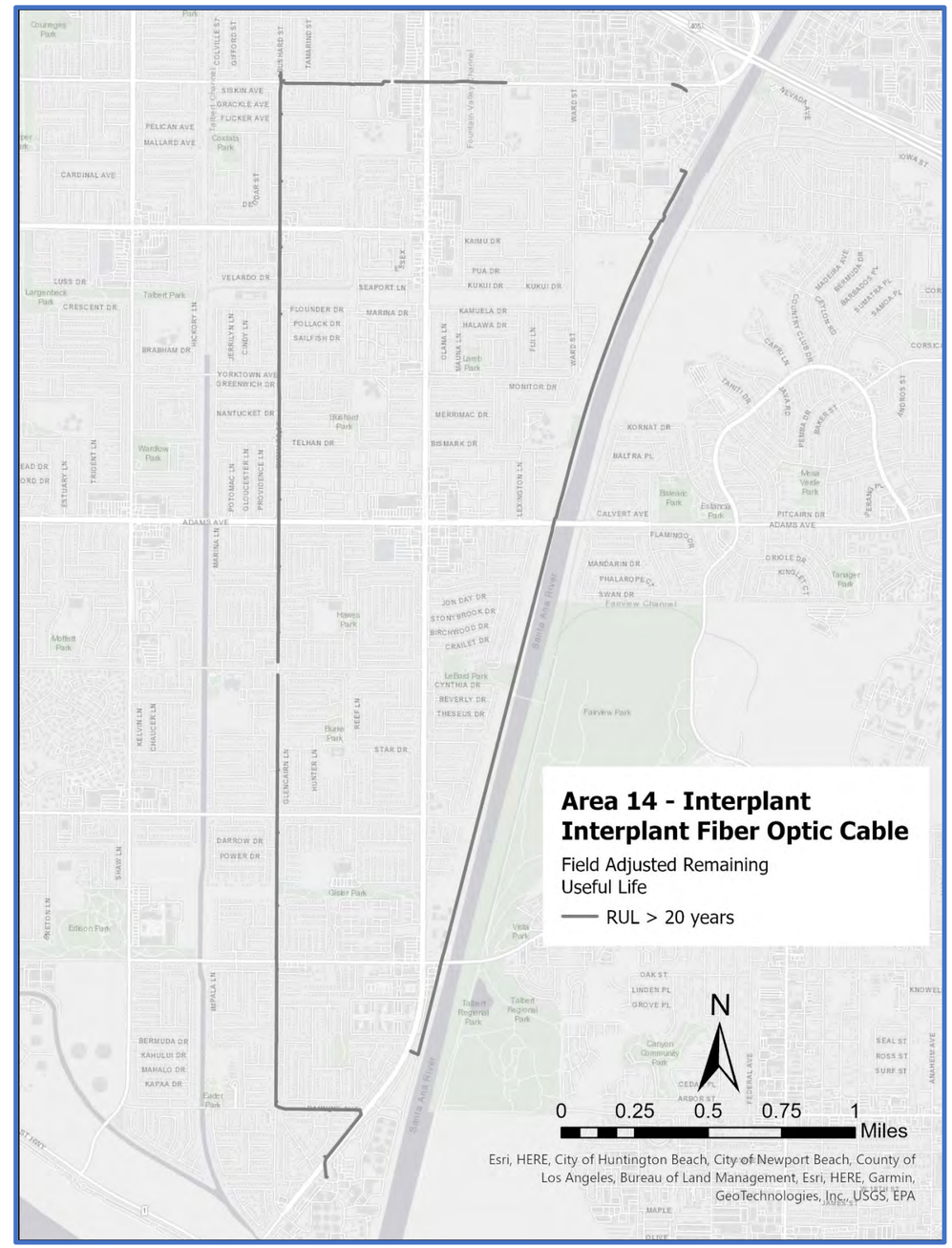
Remaining Useful Life Maps



ASSET MANAGEMENT SYSTEM SUMMARY – AREA 14 – PLANT NO. 1 INTERPLANT

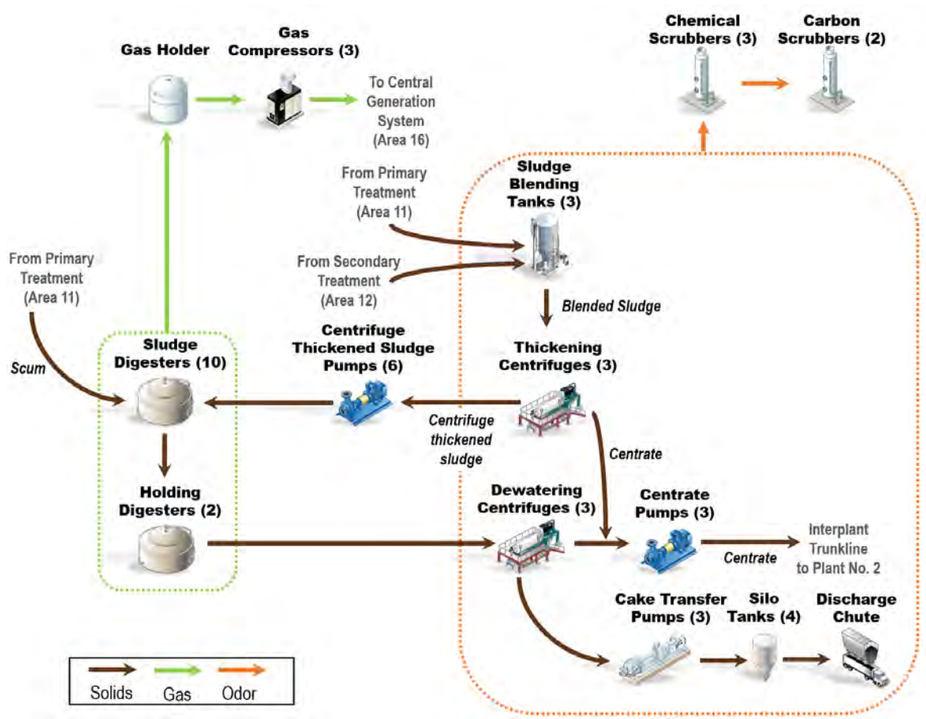
Remaining Useful Life Maps





ASSET MANAGEMENT SYSTEM SUMMARY – AREA 15 – PLANT NO. 1 SOLIDS HANDLING – DIGESTERS

Process Schematic



Major Assets

Major Assets	Quantities
Anaerobic Digesters	
Digesters (7–16)	10
Holding Digesters (5 & 6)	2
Sludge Mixing Pumps	22
Grinders	10+3
Sludge Recirculation Pumps	10
Hot Water Circulation Pumps	10

Major Assets	Quantities
Anaerobic Digesters (Continued)	
Heat Exchangers	10
Bottom Sludge Pumps	5
Digesters Transfer Pumps	3
Ferric System	
Storage Tanks	2
Feed Pumps	2

Major Assets Remaining Useful Life

Asset Type	Digester 5	Digester 6	Digester 7	Digester 8	Digester 9	Digester 10	Digester 11	Digester 12	Digester 13	Digester 14	Digester 15	Digester 16	Ferric System
Civil													
Effluent Piping	2	2	2	2	2	2	2	2	2	2	2	2	-
Structural													
Digester	1	1	1	1	1	1	1	1	1	1	1	1	-
Mechanical													
Piping	2	2	2	2	2	2	2	2	2	2	2	2	2
Chemical Pumps	-	-	-	-	-	-	-	-	-	-	-	-	4
Ferric Control System	-	-	-	-	-	-	-	-	-	-	-	-	4
Sludge Mixing Pumps	3	3	3	3	3	3	3	3	3	3	3	3	-
Sludge Recirculation & Heating System	-	-	3	3	3	3	3	3	3	3	3	3	-
Hot Water System	-	-	3	3	3	3	3	3	3	3	3	3	-
Sludge Transfer Pumps	3		3		3		3		3		3		-
Electrical													
Motor Control Centers	2	2	2	2	2	2	2	2	2	2	2	2	-
Instrumentation													
PLCs & Flow Meters	2	2	2	2	2	2	2	2	2	2	2	2	-

RUL Legend:

RUL < 5 years **RUL 5–10 years** **RUL 11–15 years** **RUL 16–20 years** **RUL > 20 years**

Acronym Key:
PLC = Programmable Logic Controller; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 15 – PLANT NO. 1 SOLIDS HANDLING – DIGESTERS

Key Issues

Key Issues	Actions and Recommendations
• **Ferric Chloride Addition** – Piping, pumps, storage tanks, and injection pipes have reached the end of their useful lives. The ferric system needs to have the ability to dose ferric to more than one digester at a time.	• Project P1-135 replaced most of the ferric piping from the pumps to the injection pipe at the digester. Injection system needs to be upsized at the injection point, which will be done when digesters are taken out of service for cleaning. The ferric pumps and storage tank will be replaced by project P1-105.
• **Structures** – Seismic risk.	• The PS15-06 Seismic Evaluation of Structures at Plant No. 1 and Plant No. 2 has identified lateral spread as the main seismic risk for the digesters and structures close to the Santa Ana River (Project No. X-109).
• **Structures** – In the past year, two digesters had leaks at wall pipe penetrations and the wall of the digester.	• Digester condition assessment will be evaluating pipe penetrations and include repairs as needed.
• **Digester Mixing** – With thicker sludge sent to the digesters, the two existing high-rate pumps are needed to mix the sludge. Any failure of the mixing pumps—even short repairs—will affect the digester mixing efficiency.	• A planning study is needed to evaluate the mixing system considering the co-thickened sludge density and pump repairs.

Current and Future Projects

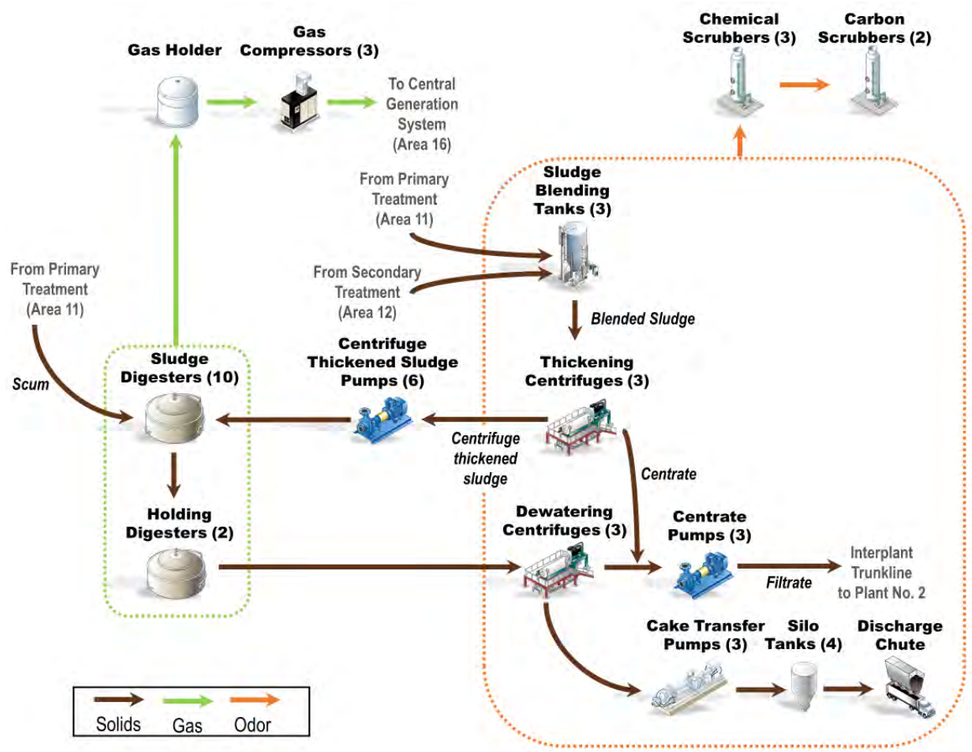
Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 36/36	FY 36/37	FY 37/38
N/A	Digester Cleaning and Inspection	Ongoing maintenance activity	• Clean the digesters and perform preventive condition assessment, inspections, and incidental repairs every 5 to 7 years.															
X-120	Digester Rehabilitation/Replacement at Plant 1	All digesters and holders	• Major rehabilitation or replacement of all digesters.															
X-109	Lateral Spreading Mitigation at Plant No. 1	All digesters and holders	• To protect process facilities from structural and foundation failure during a seismic event.															

Types of Project Legend:
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:
CIP = Capital Improvement Program; FY = Fiscal Year; N/A = Not Applicable

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 15 – PLANT NO. 1 SOLIDS HANDLING – FACILITIES

Process Schematic



Major Assets Remaining Useful Life

Asset Type	Sludge Blending Facility (SBF)	Thickening System	Dewatering System	Dewatering Odor Control	Truck Loading	Boiler System	Gas Handling	Gas Holder	Gas Flares
Civil									
Effluent Piping	1	1	1	-	1	-	-	-	-
Structural									
Structures	1	-	-	-	1-	-	3	3	-
Buildings	-	1	1	-	1-	2	-	-	-
Mechanical									
Piping & Valve	-	1	1	1	1	3	3	3	-
Pumps & Grinders	2	2	2	3	2	-	-	-	-
Boiler & Heat Exchangers	-	-	-	-	2	-	-	-	-
Centrifuges	-	2	2	-	-	-	-	-	-
Chemical/polymer System	-	1	1	2	-	-	-	-	-
Carbon Unit	-	-	-	2	-	-	-	-	-
Gas Compressors	-	-	-	-	-	3	-	-	-
Gas Dryer	-	-	-	-	-	4	-	-	-
Silo Cake Conveyors	-	-	-	-	1	-	-	-	-
Silo Sliding Frames	-	-	-	-	1	-	-	-	-
Electrical									
Variable Frequency Drives	2	4	4	-	2	-	-	-	-
Motor Control Centers	1	1	1	1	1	2	4	-	-
Instrumentation									
PLCs & Flow Meters	2	2	2	2	2	2	4	-	-

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:
RUL = Remaining Useful Life
PLC = Programmable Logic Controller
SBF = Sludge Blending Facility

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 15 – PLANT NO. 1 SOLIDS HANDLING – FACILITIES

Major Assets

Major Assets	Quantities
Thickening System	
Sludge Blending Tanks	3
Thickening Grinders	3
Centrifuge Feed Pumps	3
Thickening Centrifuges	3
Thickened Sludge Wet Wells	3
Thickened Sludge Pumps	6

Major Assets	Quantities
Thickening System (Continued)	
Centrate Wet Well	1
Centrate Pumps	3
Chemical Equipment	
Thickening Polymer Feed Pumps	3
Dewatering Polymer Feed Pumps	3

Major Assets	Quantities
Chemical Equipment (Continued)	
Polymer Mixing/Aging Tank	6
Polymer Make-Down Unit	4
Dewatering System	
Dewatering Grinders	2
Centrifuge Feed Pumps	3
Dewatering Centrifuges	3
Cake Transfer Pumps	3

Major Assets	Quantities
Dewatering Odor Control	
Three-Stage Packed Tower Scrubbers	3
Carbon Media	2
Truck Loading	
Cake Storage Silos	4
Cake Silo Transfer Pumps	4
Standby Truck Loading Bay	1

Major Assets	Quantities
Gas Handling	
Low Pressure Gas Holder	1
Gas Compressors	3
Gas Dryer	2
Gas Flares	3
Boiler	1

Key Issues

Key Issues	Actions and Recommendations
• **Thickening and Dewatering Maintainability of the Equipment** – Various improvements are needed for equipment access for maintenance.	• Most of the improvements will be done by Maintenance. • FE21-04 small project for safety improvements. FE22-01 small project regarding equipment access and platform installation. • FR1-0018 will replace the diverter gate.
• **Gas Handling System** – Gas compressor system is aging and needs reliability improvements such as regular equipment overhauls.	• Project J-124 Digester Gas Facilities will rehabilitate or replace aging assets. • Gas compressor repairs and overhauls will be performed by Maintenance.
• **Refrigerated Gas Dryer** – Out of service. Currently, gas goes through a chilled water heat exchanger and condensate drops out.	• The refrigerated gas dryer system will be replaced by the FE23-01 Project.
• **Plant Water Piping** – Corrosion from plant water on equipment is causing premature wear on pumps and piping failures.	• PS20-09 will evaluate the plant water and make recommendations to improve the water quality and reduce corrosivity of the water.

Current and Future Projects

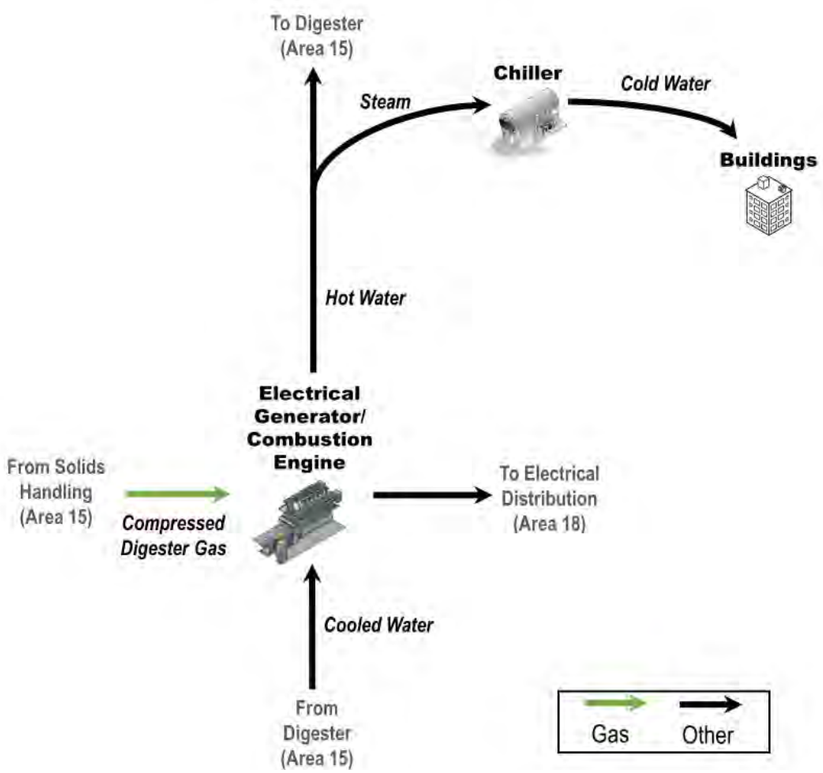
Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
J-124	Digester Gas Facilities Rehabilitation	Gas compressors, dryers, and flares	• Project J-124 Digester Gas Facilities will rehabilitate and replace aging assets															
FE21-04	Handrail Installation at the Thickening and Dewatering Building	Thickening and dewatering building	• Improve safety outside of the T&D building															
FE22-01	Platform Modifications for Process Areas at Plant No. 1 and No. 2	Truck loading slide frame	• Improve access to the equipment for maintenance activities															
FR1-0018	Dewatering Centrifuge Diverter Gate Improvements at Plant No. 1	Dewatering diverter gate	• Replacement of three diverter gates on the cake chute assemblies															
FE23-01	Digester Gas Compressor Dryer Replacements at Plant No. 1 and No. 2	Gas dryers	• Replacement of gas dryers															
PS20-09	Thickening and Dewatering Plant Water Study	Thickening and dewatering building	• The study will evaluate the plant water used at the T&D building and determine why the water is causing corrosion on equipment															
RE20-06	Co-thickened Sludge Pump Trial	Co-thickening pumps	• Field test a rotary lobe pump in place of the progressive cavity CTS pump.															

Types of Project Legend:
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:
CIP = Capital Improvement Program; CTS = Co-thickened sludge; FY = Fiscal Year; T&D = Thickening and Dewatering

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 16 – PLANT NO. 1 CENTRAL GENERATION

Process Schematic



Major Assets Remaining Useful Life

Asset Type	Engine Generator #1	Engine Generator #2	Engine Generator #3	Absorption Chiller #1	Absorption Chiller #2	Deaerator Vessel	Heat Recovery Boiler #1	Heat Recovery Boiler #2	Heat Recovery Boiler #3	OXI Catalyst	SCR Catalyst	Urea Injection System	Starting Air Compressor #1	Starting Air Compressor #2	Inst. Air Compressor #1	Inst. Air Compressor #2	Battery Backup	Building Elevator	Plant Water Piping	Miscellaneous
Structural																				
Buildings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Mechanical																				
General	3	5	5	4	4	4	4	4	4	3	3	3	4	4	5	5	-	1	5	-
HVAC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Lube Oil System	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical																				
General	3	5	5	-	-	-	-	-	-	-	-	3	3	3	4	4	5	1	-	-
Switchgear	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Instrumentation																				
General	4	4	4	4	4	3	3	3	3	3	3	3	3	3	4	4	-	1	-	-

RUL Legend:

RUL < 5 years **RUL 5–10 years** **RUL 11–15 years** **RUL 16–20 years** **RUL > 20 years**

Acronym Key:
HVAC = Heating, Ventilation, and Air Conditioning; Inst. = Instrument; OXI = Oxidizer; RUL = Remaining Useful Life; SCR = Selective Catalytic Reduction

Major Assets

Major Assets	Quantities
Engine Generator	
Gas Engine (12 Cylinders)	3
Electrical Generator	3
Engine Lube Oil System	3
Cooling System	
Absorption Chiller	2
Deaerator Vessel	1

Major Assets	Quantities
Engine Emission Control	
OXI Catalyst	3
SCR Catalyst	3
Urea Injection System	3
Heat Recovery System	
Heat Recovery Boiler	3

Major Assets	Quantities
Building	
Elevator	1
Piping	Various
HVAC	
Ventilation Exhaust Fans	5
Air Compressors	
Engine Starting Air	2
Instrument Air	2

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 16 – PLANT NO. 1 CENTRAL GENERATION

Key Issues

Key Issues	Actions and Recommendations
• **Gas Engine Generator Set Reliability** – Aging components and systems required to operate the Central Generation Engines are creating reliability issues and need to be addressed.	• Engine #1 overhaul completed. J-135 will overall remaining engines and engine generators (P1-127).
• **Switch Gear Reliability** – The switchgear is aging and needs to be replaced for reliability purposes.	• Replace existing aging and obsolete electrical equipment (P1-136).
• **Plant Water Piping** – The plant water (that is, cooling water) piping has degraded and needs replacement.	• Replace all plant cooling water piping in the basement of Central Generation (FE19-02).
• **Backup Battery System** – The batteries used to provide backup power for switching of the switch gear during a loss of power events have reached the end of their useful lives.	• Replace the lead acid batteries and their respective battery chargers with a suitable backup battery system (FR1-0005).
• **Engine PLC Upgrade** – The existing engine PLCs are obsolete.	• Pilot test a new engine PLC, and replace obsolete PLCs with new ones (AI-169).
• **Engine Protection System and Diagnostics** – Engine diagnostic capability improvement needed.	• Upgrade the Engine Condition Monitoring System and include diagnostic capabilities (PRN-00915).
• **Exhaust Heat Recovery Boilers** – The boilers need to be inspected both internally and externally.	• Inspect and repair Boiler pressure vessels as required to maintain desired performance attributes (AI-194).
• **Engine Ignition Control System Obsolescence Repair** – The existing engine controls are aging and obsolete.	• Install new ignition control systems onto each engine genset (AI-225).

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
P1-127	Central Generation Rehabilitation at Plant No. 1	Central Generation	• Rehabilitation of engine generator support systems.															
P1-136	12.47-kV Switchgear Replacement at Central Generation at Plant No. 1	Central Generation Electrical System	• Replace existing obsolete electrical equipment.															
FE19-02	Central Generation Plant Water Pipe Replacement at Plant No. 1	Plant Water Piping	• Replace existing plant water piping with new.															
J-135B	Engine and Generator Overhauls at Plant Numbers 1 and 2	Engine Generator	• Perform top/bottom end engine overhauls.															
FR1-0005	Central Generation and 12-kV Service Center Switchgear Battery System Upgrades	Battery Backup	• Replace the existing backup batteries for the 12-kV switch gear.															
PRN-00915	Engine Protection System Upgrade	Engine Generator	• Upgrade the Engine Condition Monitoring System and include diagnostic capabilities.															
AI-194	Exhaust Heat Recovery Boiler Repair	Heat Recovery System	• Inspect and repair boiler pressure vessels as required to maintain desired performance attributes.															
AI-225	Engine Ignition Control System Obsolescence Repair	Engine Generator	• Install new ignition control systems onto each engine genset.															
AI-169	Engine PLC Upgrade	Engine Generator	• Pilot test a new engine PLC and replace obsolete PLCs with new ones.															

Types of Project Legend:

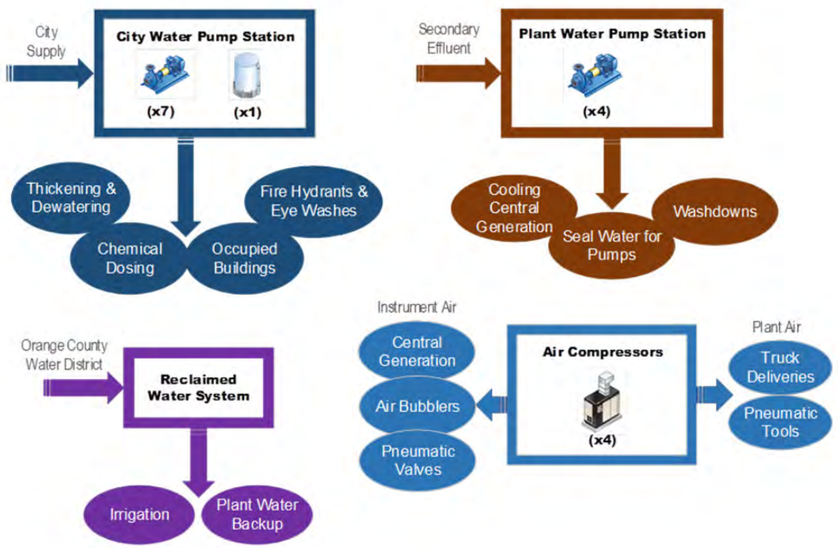
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Program; FY = Fiscal Year; Gen Set = Generator Set; HVAC = Heating, Ventilation, and Air Conditioning; kV = Kilovolt; OXI = Oxidizer; PLC = Programmable Logic Controller; RUL = Remaining Useful Life; SCR = Selective Catalytic Reduction

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 17 – PLANT NO. 1 UTILITIES

Process Schematic



Major Assets

Major Assets	Quantities
City Water	
Pumps	7
Tanks	3
Piping	10.6 Miles
Plant Water	
Pumps	4
Strainers	3
Piping	12.5 Miles
Reclaimed Water	
Piping	5.4 Miles
Plant Air	
Compressors	4
Plant Air Piping	4 Miles
Instrument Air Piping	3.5 Miles

Major Assets Remaining Useful Life

Asset Type	City Water System	Plant Water System	Reclaimed Water Piping	Plant Air Systems
Civil				
Piping	3	4	2	3
Structural				
Pump Station	1	1	-	-
Tanks	2	-	-	-
Mechanical				
Pumps	3	4	-	-
Strainers	-	3	-	-
Compressors	-	-	-	3
Ventilation System	2	3	-	-
Electrical				
Motor Control Centers	2	2	-	-
Variable Frequency Drives	3	3	-	-
Instrumentation				
PLCs, Flowmeters	3	3	-	3

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:
RUL = Remaining Useful Life
PLC = Programmable Logic Controller

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 17 – PLANT NO. 1 UTILITIES

Key Issues

Key Issues	Actions and Recommendations
• **Plant/Instrument Air Lines** – Excessive condensate and oversized piping causing large pressure drop, reducing compressor redundancy.	• Future small projects to be created to address oversized piping and several dead ends within the system.
• **City Water** – There is no redundancy in the system.	• PRN-0541 City Water Demand Flow Study to provide options.
• **Plant Water** – Piping failures throughout the system due to the corrosive nature of plant water. Current ductile iron pipes are corroding prematurely. Aging pipes also a contributing factor.	• FE19-02 will address corroded plant water piping at Cen Gen and FE20-05 will address recent plant water pipe failures at the secondary clarifiers.
• **Air Compressors** – Plant and Instrument Air supply issues due to the lack of air compressors. Current air compressors are not adequate to meet the current plant needs.	• P1-105 will add 2 new 100 HP compressors at headworks (1 Duty and 1 Standby). FE18-06 will replace the existing 10 HP air compressors at Cen Gen.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36
FE18-06	Instrument Air Compressors at Central Generation	Central Generation	• Replace Instrument Air compressors at Central Generation.													
P1-105	Headworks Rehabilitation at Plant No. 1	City Water Pump Station, Plant air compressors, plant air lines	• Refeed city water pumps from new power building and replace current compressor at headworks with two new compressors. • Replace plant air lines in headworks.													
FE20-05	Plant Water Piping Replacement at Secondary Clarifiers	Secondary Clarifiers	• Replace corroded and failing plant water piping around the AS1 secondary clarifiers.													
P1-126	Primary Clarifier Replacement and Improvement	Primary Clarifier	• Replace aging plant water pipes near primary clarifiers.													
PRN-00743	Plant No. 1 Plant Water Station Replacement Study	Plant Water Station	• Phase 2 of the Plant Water Study will evaluate locations for a new plant water station that uses water from AS1 and AS2 for increased reliability.													
PRN-00541	City Water Demand Flow Assessment at Plant No. 1	City Water Pump Station	• Study to determine current and future city water needs. Will be combined with PRN-00743.													
X-038	City Water Pump Station Replacement	City Water Pump Station	• Replace City Water Pump Station.													
X-039	Plant Water Pump Station Rehabilitation	Plant Water Pump Station	• Rehabilitate Plant Water Pump Station.													
PS20-09	Plant Water Study at T&D Building	T&D Building & Plant Water Station	• The study will evaluate plant water quality chemistry and corrosivity and recommend changes or treatment to improve water quality.													
PRN-0743	Plant and Reclaimed Water Study	Plant Water and Reclaimed Water Facilities	• Study to evaluate water demands and system capacity to meet future needs long term.													

Types of Project Legend:

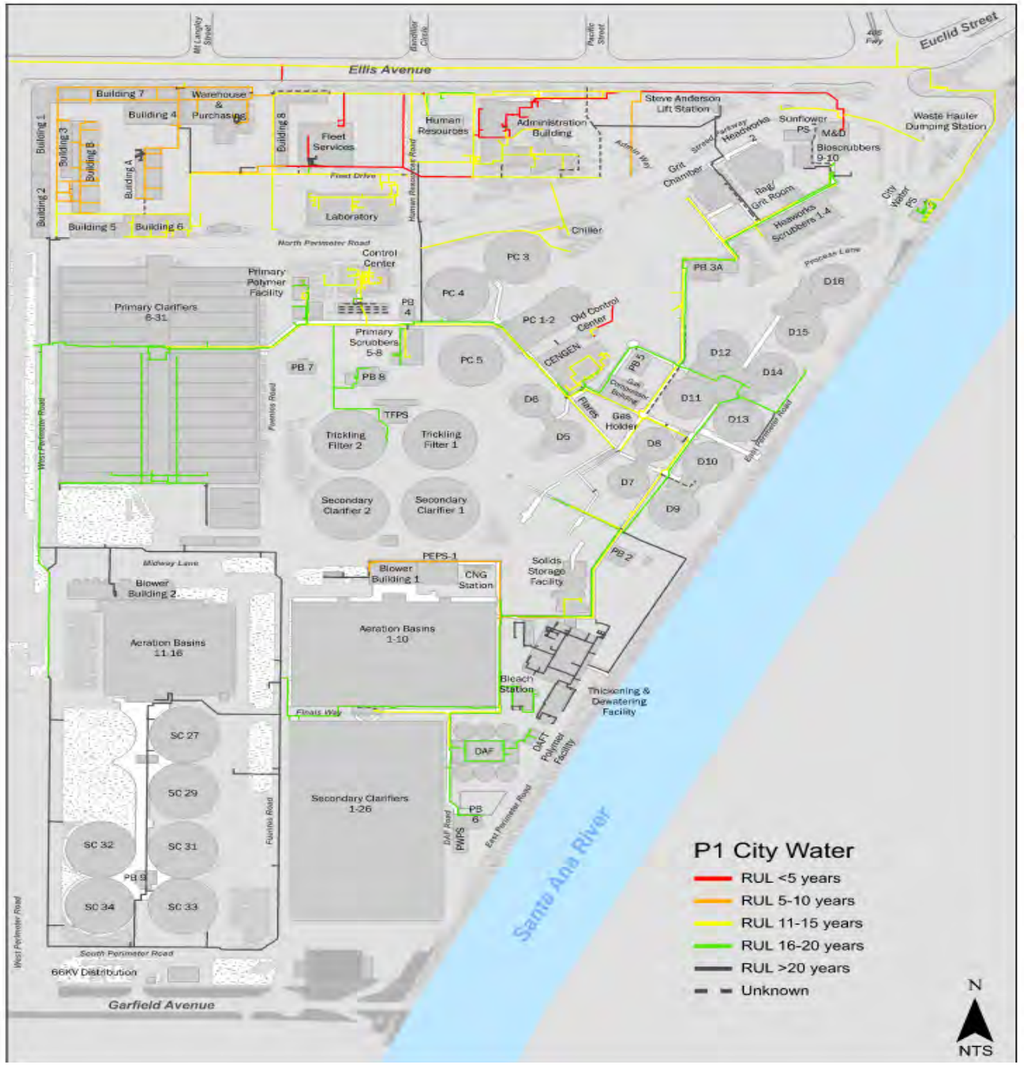
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

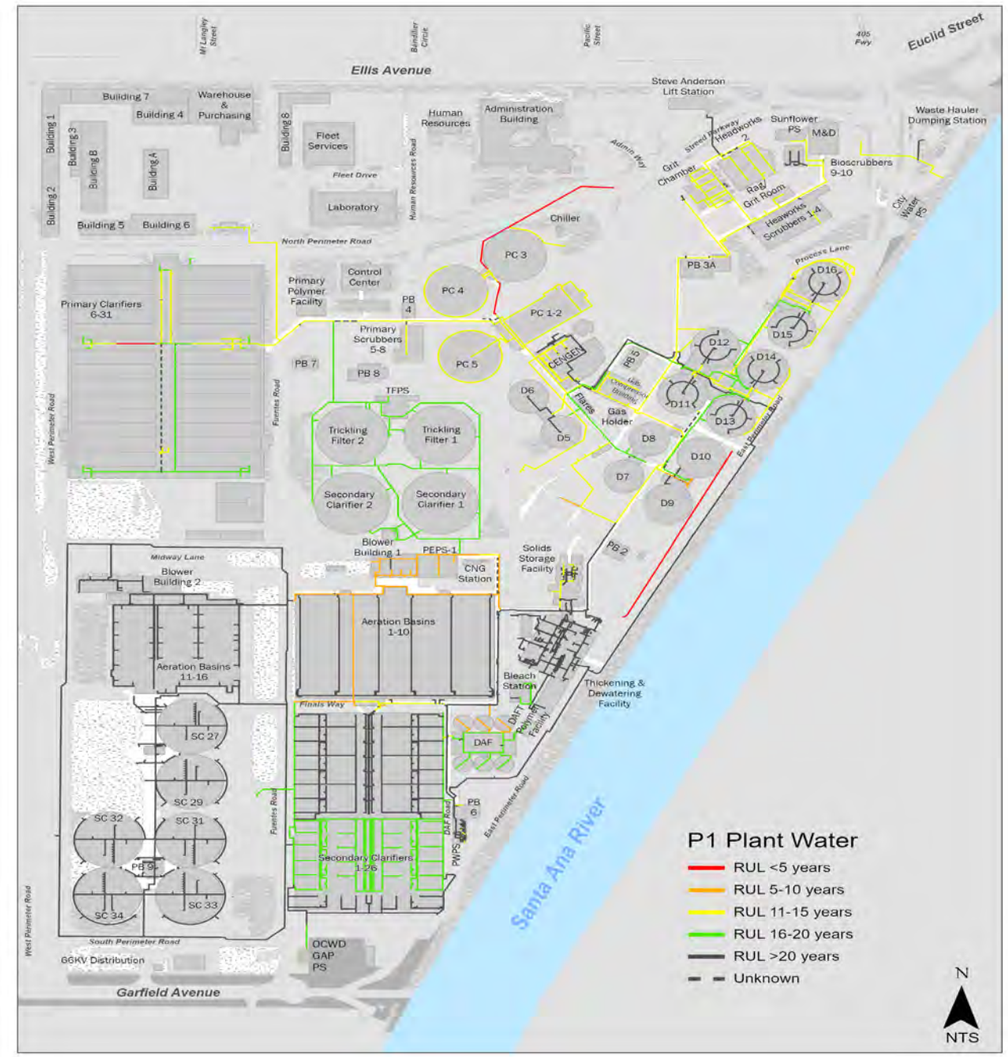
Acronym Key:

AS1 = Activated Sludge 1; Cen Gen = Central Generation Facility; CIP = Capital Improvement Program; FE = Facilities Engineering; FY = Fiscal Year; HDPE = High-Density Polyethylene Resin; HP = Horsepower; OC San = Orange County Sanitation District; OCWD = Orange County Water District; T&D = Thickening and Dewatering

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 17 – PLANT NO. 1 UTILITIES

Remaining Useful Life of Utility Infrastructure





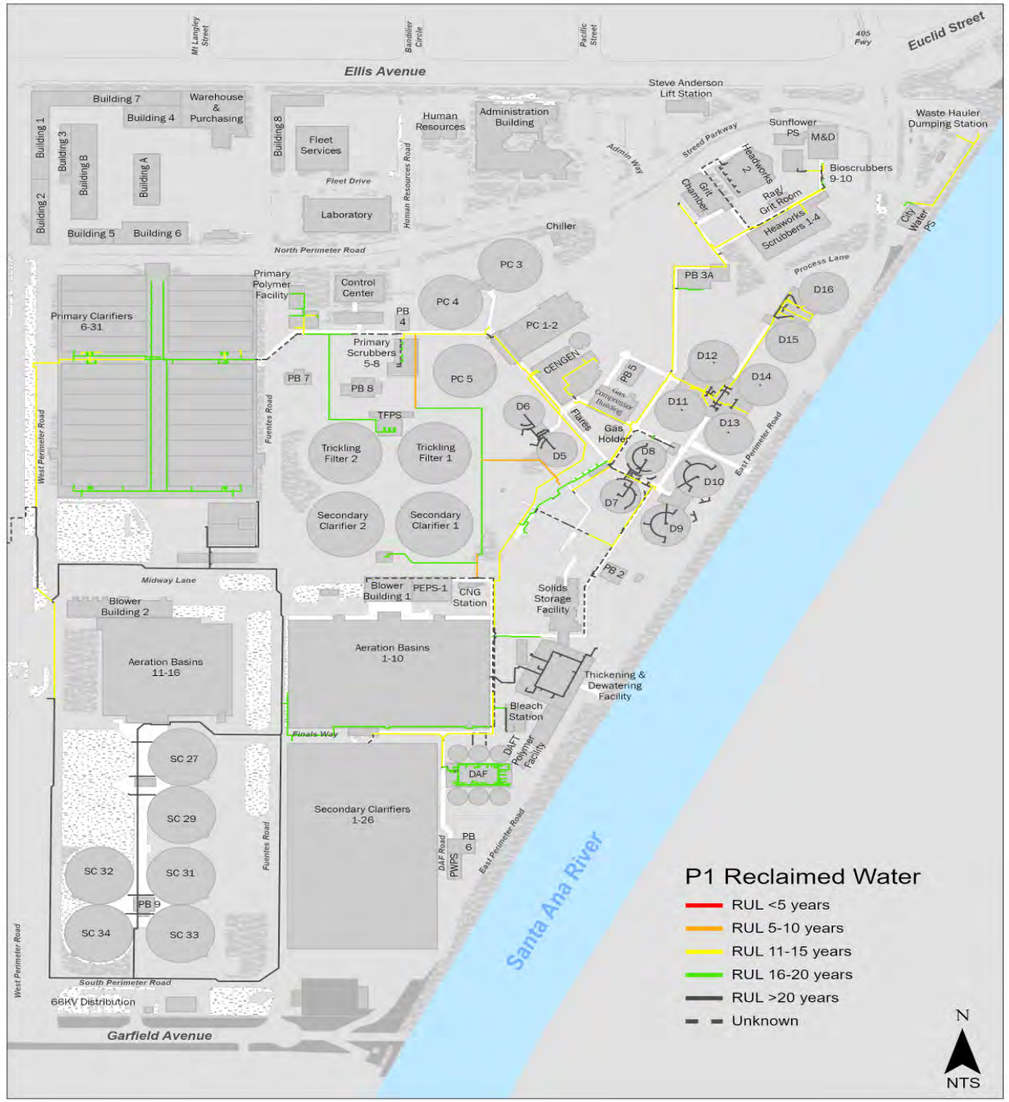
RUL Legend:

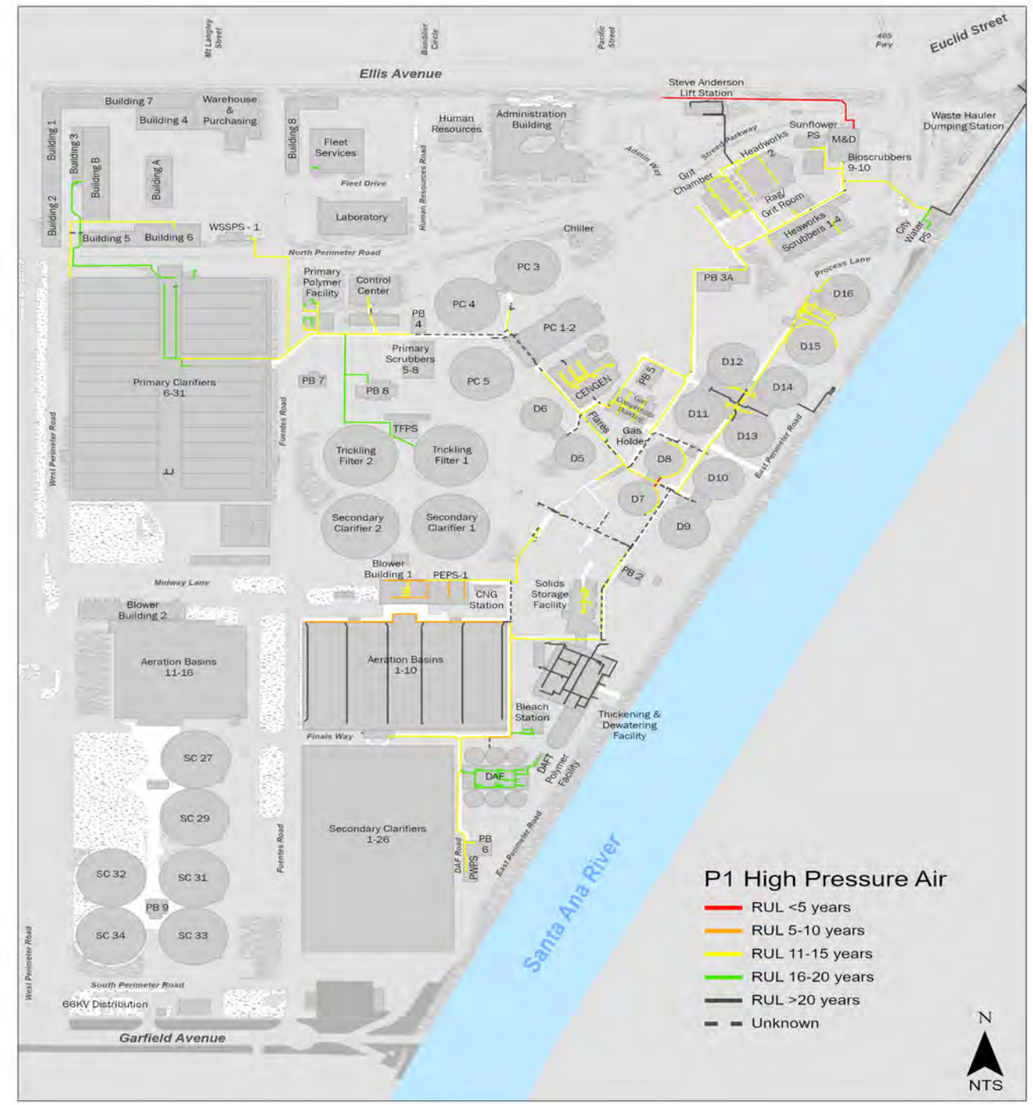
RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

Acronym Key:
RUL = Remaining Useful Life
RUL is based solely on age of pipe

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 17 – PLANT NO. 1 UTILITIES

Remaining Useful Life of Utility Infrastructure





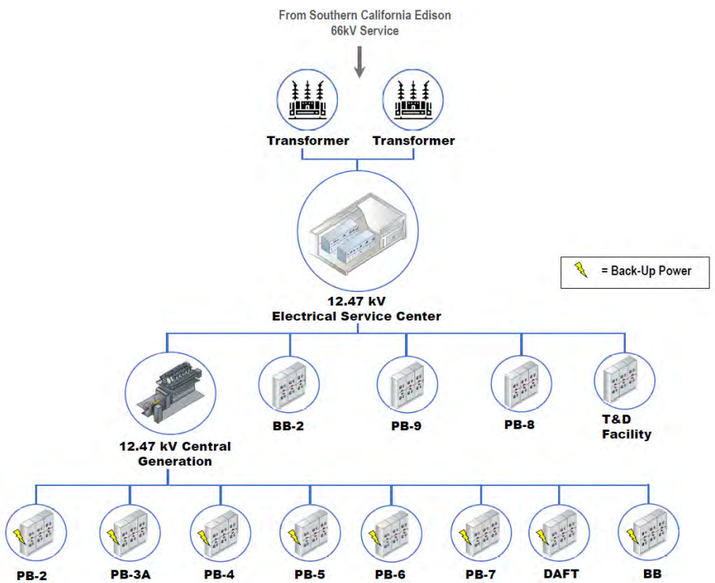
RUL Legend:

RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

Acronym Key:
RUL = Remaining Useful Life
RUL is based solely on age of pipe

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 18 – PLANT NO. 1 ELECTRICAL DISTRIBUTION

Process Schematic



Major Assets

Major Assets	Quantities
Transformers	40
Standby Generators	8
12-kV and 5-kV Switchgears	16
480-V Switchgears	38
125-VDC and 24-VDC Battery Systems	25
UPS	24

Major Assets Remaining Useful Life

Asset Type	Service Center	Cen Gen	PB-2	PB-3A	PB-4	PB-5	PB-6	PB-7	PB-8	PB-9	DAFT	Blower Bldg.-1	Blower Bldg.-2	T&D Facility
Tier I – 12.47-kV Primary Distribution Level														
Transformers: 12.47/4.16 kV	-	-	-	-	-	-	-	-	-	-	-	3	1	1
Transformers: 12.47/0.48 kV	4	4	3	3	3	2	3	1	2	1	3	3	1	1
12.47-kV Switchgears	4	4	4	4	4	4	4	-	-	-	-	-	3	1
12.47-kV Transfer Switchers	3	-	-	-	-	-	-	-	-	-	-	-	-	-
12.47-kV Load Interrupter Switches	3	-	4	4	3	-	-	1	1	1	3	3	-	-
12.47-kV Feeders	1	4	4	4	4	4	4	1	1	1	3	3	1	1
Tier II – 4.16-kV Distribution Level														
4.16-kV Switchgears	-	-	-	-	-	-	-	-	-	-	-	3	1	-
4.16-kV Feeders	-	-	-	-	-	-	-	-	-	-	-	3	1	-
Tier IV – 480-V Distribution Level														
480-V Switchgears	-	4	3	4	-	2	4	1	1	1	3	3	1	1
Transfer Switches	-	-	2	2	4	-	2	-	-	-	4	4	1	-
Generators	-	-	5	5	5	-	-	1	1	-	-	5	-	-
Tier V – Uninterruptible Power Supply														
UPSs Individual	-	2	-	5	-	-	4	-	3	2	4	3	2	-
Tier VI – 125-VDC and 24-VDC Battery Systems														
125-VDC Chargers	5	5	5	5	-	2	4	3	3	2	3	-	3	1
125-VDC Batteries	5	5	5	5	-	3	4	3	3	3	3	-	3	3
24-VDC Chargers	-	5	5	5	5	-	-	3	3	-	-	3	-	1
24-VDC Batteries	-	5	5	5	5	-	-	3	3	-	-	3	-	3
Generator Controls														
Generator Controls	-	5	5	5	5	-	-	1	1	-	-	5	-	-

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

BB = Blower Building
Bldg. = Building
Cen Gen = Central Generation Facility
DAFT = Dissolved Air Flotation Thickener
kV = Kilovolt(s)
PB = Power Building
RUL = Remaining Useful Life
T&D = Thickening and Dewatering
V = Volt(s)
VDC = Volts of Direct Current
UPS = Uninterruptible Power Supply

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 18 – PLANT NO. 1 ELECTRICAL DISTRIBUTION

Key Issues

Key Issues	Actions and Recommendations
• **12-kV Feeders** – Aging cables need to continue to be monitored and tested.	• Three-year Service Contract (S-2019-1107B)/MP-320 for testing aging medium voltage cables expires 2023 and a similar contract will be executed for 2024.
• **480-V Feeders** – Cable failures result in process equipment losing power.	• FR1-0011 and FR1-0023 will replace failed cables. Additional testing will be done to proactively identify cable issues before they fail.
• **Variable Frequency Drive** – Models are becoming obsolete and are unsupported by the manufacturer.	• Developed VFD Replacement Strategy. Plant No. 1 obsoleted VFDs will be addressed under FR1-0011 and FR1-0016 Projects. FR1-0016 is in construction and is replacing VFDs at Waste Sidestream Pump Station.
• **Battery Chargers and Batteries** – Aging and obsolescence.	• Project FR1-0005 will replace critical batteries and chargers at 12-kV Service Center and Cen Gen. • PRN-00897 will replace battery systems for Power Buildings 6 and 8.
• **Circuit Breaker and Protective Relay Testing** – Periodic testing of circuit breakers and protective relays is required by InterNational Electrical Testing Association.	• It is recommended that Engineering develop a plan to keep Electrical Transient Analyzer Program model updated, and new task order is developed to contract a testing company to perform periodic testing over a span of time, which can be renewed without the need to rewrite the scope.
• **Laboratory Power Reliability** – The lab has been experiencing outages, putting OC San at risk for noncompliance.	• J-133 Laboratory Replacement is not scheduled to be completed until 2032. Project is being developed to address the power reliability issues.
• **Stand-by Power Policy** – No standby power policy to maintain permit compliance and prevent adverse treatment capability during plant power outages.	• PS21-04 will develop a standby power policy and plan to maintain OC San operations and permit compliance during loss of power.
• **Load Shedding** – Currently some secondary treatment processes do not have backup power from generators.	• J-98 Project will provide capability for Plant No. 1 load shedding to implement this along with Emergency Operation Procedures.
• **Auto Transferring Scheme** – Undervoltage Auto Transferring Scheme upgrades at Plant No. 1 Blower Building 2 and Power Building 9 (current auto transferring scheme does not work correctly; must switch over manually).	• J-98 will upgrade auto transferring scheme and aging protective relays per latest OC San Standards for Blower Building 2 and Power Building 9 12.47-kV, 4.16-kV, and 480-V switchgears.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 35/36	FY 36/37	FY 37/38
FR1-0005	Cen Gen and 12-kV Service Center Switchgear Battery System Upgrades at Plant No. 1	Plant No. 1 Power Distribution	• Replace existing obsolete 125-VDC and 24-VDC batteries and battery chargers.														
FR1-0011	P1 VFD Replacement at Plant No. 1	CWPS, RAS, DAFT, TF	• Replacement of existing obsolete Plant No. 1 CWPS, RAS, TF VFDs with new VFDs.														
FR1-0016	Waste Sidestream Pump Station VFD Replacements at Plant No. 1	WSSPS	• Replacement of existing obsolete Plant No. 1 WSSPS with new VFDs.														
FR1-0023	Secondary Effluent Cable Replacement	Secondary Effluent Junction Box Gate Valves	• This project will replace failed cables for two Secondary Effluent Junction Box Gate Valves.														
P1-132	Uninterruptable Power Supply Improvements at Plant No. 1	Plant No. 1 multiple UPS Loads	• This project will provide a new regional UPS at Power Building 8 to provide critical power to facilities in the northwest region of Plant No. 1.														

Current and Future Projects (Continued)

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 35/36	FY 36/37	FY 37/38
P1-105	Headworks Rehabilitation at Plant No. 1	Plant No. 1 Headworks, Bars Screen, Metering Structure, Power Buildings	• Project will rehabilitate/upgrade Plant No. 1 Headworks and will replace most of the electrical power distribution systems and equipment in Power Building 3A. Project will construct new Power Building 3 and new Headworks Standby Power Building.														
J-98	Electrical Power Distribution System Improvements	Various Plant No. 1 and Plant No. 2 condition based electrical distribution systems	• Project will perform various electrical distribution system improvements at various areas throughout Plant No. 1. The scope covers both 480-V and 12-kV switchgear, motor control centers, breakers, conductors, load shedding, and arc flash mitigation.														
FE19-01	Pump Station Portable Generator Connectors	Power Building 5 Standby Power Connection	• This project includes the addition of standby power connection at Power Building 5.														
P1-126	Primary Sedimentation Basins Nos. 3–5 Replacement at Plant No. 1	Plant No. 1 Power Distribution	• Demolish Power Building 4 diesel generator, refeed standby loads from Power Building 8.														
P1-136	12.47-kV Switchgear replacement at Plant No. 1 Central Generation and Service Center	Plant No. 1 Power Distribution	• The project will replace existing 12.47-kV electrical switchgears at the Plant No. 1 Central Generation facility and Service Center.														
PS21-04	Energy and Digester Gas Master Plan	Plant No. 1 and Plant No. 2 Power Generation and Standby Power	• Develop a standby power policy, load shedding and power restart philosophy, and energy resiliency and independence plan.														
PRN-00897	125-VDC Battery Replacement at Plant No. 1 and No. 2	125-VDC Battery Systems at Plant 1	• This project will replace obsolete battery systems at Plant No. 1 Power Buildings 6 and 8.														
P1-140	Activated Sludge 1 and Secondary Clarifier Rehabilitation	Power Building 2, 12-kV Distribution	• Major rehabilitation of all mechanical, electrical, and instrumentation assets including the blower system.														
J-124	Digester Gas Facilities Replacement	Power Building 5 12-kV Switchgear	• Project J-124 Digester Gas Facilities will rehabilitate and replace aging assets.														
J-133	Laboratory Replacement at Plant No. 1	Lab Power Feed	• This project will replace the Central Laboratory building at Plant No. 1.														
X-039	PWPS Rehabilitation at Plant No. 1	Power Building 6 Electrical Equipment	• Replace 3 pumps installed under P1-34-2. Replace controls associated with the Plant Water Pump Station.														

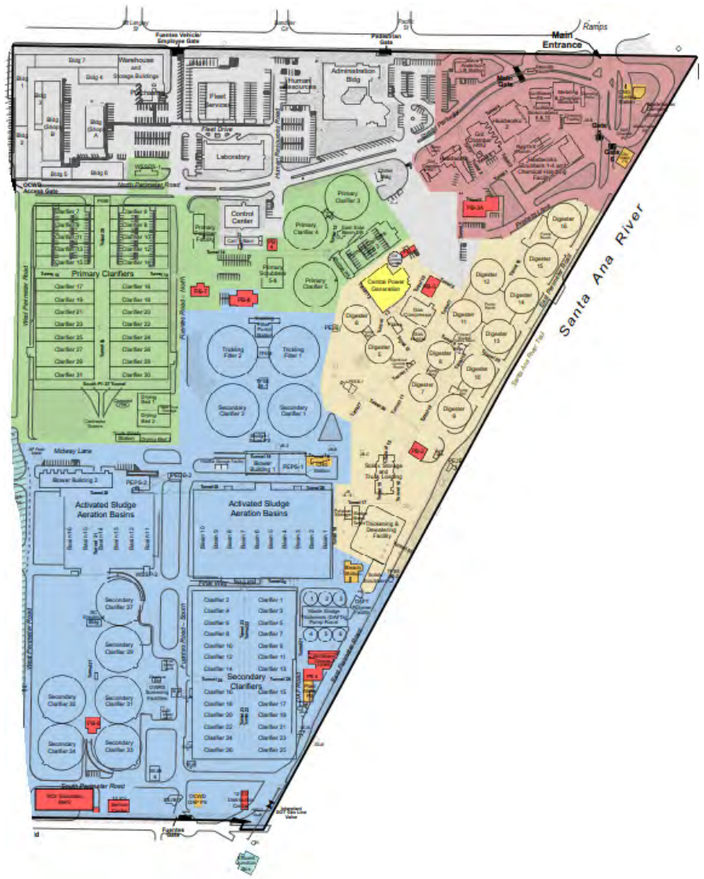
Types of Project Legend:

- **CIP - Planning**
- **CIP - Design**
- **CIP - Construction**
- **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Program; CWPS = City Water Pump Station; DAFT = Dissolved Air Flotation Thickener; DC = Direct Current; FE= Facilities Engineering; FY = Fiscal Year; HVAC = Heating, Ventilation, and Air Conditioning; kV = Kilovolt(s); kW = Kilowatt(s); MCC = Motor Control Center; P1 = Plant No. 1; P2 = Plant No. 2; PWPS = Plant Water Pump Station; RAS = Return Activated Sludge; T&D = Thickening and Dewatering; UPS = Uninterruptible Power Supply; TF = Trickling Filter; V = Volt(s); VDC = Volts of Direct Current; VFD = Variable Frequency Drive; WSS = Waste Sidestream; WSSPS = Waste Sidestream Pump Station

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 19 – PLANT NO. 1 OCCUPIED & POWER BUILDINGS



Asset RUL Legend:

- **RUL < 5 years**
- **RUL 5–10 years**
- **RUL 11–15 years**
- **RUL 16–20 years**
- **RUL > 20 years**

Acronym Key:

HVAC = Heating, Ventilation, and Air Conditioning

kV = Kilovolt(s)

N/A = Not Applicable

RUL = Remaining Useful Life

TBD = To Be Determined

V = Volt(s)

Major Assets Remaining Useful Life

Plant 1-Infrastructure Non-Process	Building Roof	Building Electrical	HVAC	Structural (Visual)	Seismic (PS15-06)	Elevator
Building "Shop" A	1	3	4	1	2	N/A
Building "Shop" B	2	4	4	1	4	N/A
Fleet Services	3	2	4	1	4	N/A
Building 1	2	3	N/A	1	N/A	N/A
Building 2	2	3	N/A	1	N/A	N/A
Building 3	2	3	N/A	1	4	N/A
Building 4	2	2	4	1	N/A	N/A
Building 5	2	3	4	1	5	N/A
Building 6	2	3	4	1	5	3
Building 7	2	3	4	1	N/A	N/A
Building 8	2	3	N/A	1	N/A	N/A
Cart Barn	4	3	N/A	TBD	TBD	N/A
Laboratory	3	4	5	1	5	3
Purchasing Building	4	4	5	1	N/A	N/A
Warehouse Building	1	4	4	1	3	N/A
Purchasing Conference Room	1	2	4	1	N/A	N/A
Control Center	3	4	5	1	5	2
12-kV Distribution Center	4	N/A	3	1	N/A	N/A
12-kV Service Center	3	N/A	2	1	5	N/A
Power Building 2	4	N/A	3	1	2	N/A
Power Building 3A	3	N/A	3	1	N/A	N/A
Power Building 4	3	N/A	3	1	2	N/A
Power Building 5	3	N/A	3	1	2	N/A
Power Building 6	3	N/A	3	1	2	N/A
Power Building 7	5	N/A	5	1	N/A	N/A
Power Building 8	5	N/A	5	1	N/A	N/A
Power Building 9	1	N/A	3	1	N/A	N/A

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 19 – PLANT NO. 1 OCCUPIED BUILDINGS

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36
PRN-00947	Power Building 7 HVAC Replacement at Plant No. 1	Power Building 7	• Replace existing HVAC with similar unit.													
FE21-01	Plasma Cutting Fume Extractor installation at Plant No. 1 Rebuild Shop	Rebuild Shop	• Install fume extraction specifically for plasma cutting equipment.													
PS21-02	Public Announcement and Fire System at Plant Nos. 1 and 2	Plantwide	• Study to provide alternatives and recommend upgrading our existing fire and public announcement systems plantwide.													
PS23-01	Fleet Facilities Rehab/Replacement Study	Fleet Building	• Determine the feasibility of rehabilitating or replacing existing fleet services building due to aging equipment, and new electric and hybrid fleet vehicle requirement.													
PRN-00955	Purchasing, PB 7, and PB 8 Roof Replacement	Purchasing, PB 7, & PB 8	• Replace existing roof.													
PRN-00960	Control Center HVAC Replacement	Control Center	• Replace existing HVAC.													
PRN-00953	SALS HVAC System Equipment Replacements	SALS	• Replace existing HVAC, possibly combined with PRN-00960.													
X-124	Electric Vehicle Fleet Services Building	Fleet Building	• Implement recommendations from PS23-01.													
P1-128	Headquarters Complex	New Headquarters, Admin Building and HR	• Construct new Headquarters Building on the north side of Ellis Ave.													
P1-105	Headworks Rehabilitation and Expansion at Plant 1	Power Buildings 3 and 3A	• Build new Power Building 3 to replace Power Building 3A.													
P1-137	Support Building Seismic Improvements	Fleet, Control Center, Rebuild Shop, Shop A Shop B, 12-kV Service Center, Buildings 5 and 6	• Install seismic retrofits per PS15-06 recommendation.													
J-133	Laboratory Replacement at Plant No. 1	Laboratory	• Construct new laboratory per PS19-03 recommendation.													
P1-141	Administration Building and Power Building 3A Demo	Admin and PB 3A	• Demo both Administration and Power Building 3A													

Types of Project Legend:
- **CIP - Planning**
- **CIP - Design**
- **CIP - Construction**
- **Maintenance Project**

Acronym Key:
Demo = Demolish; FY = Fiscal Year; HVAC = Heating, Ventilation, and Air Conditioning; kV = Kilovolt(s); PB = Power Building; SALS = Steve Anderson Lift Station

Plant No. 2 Asset Management Summaries

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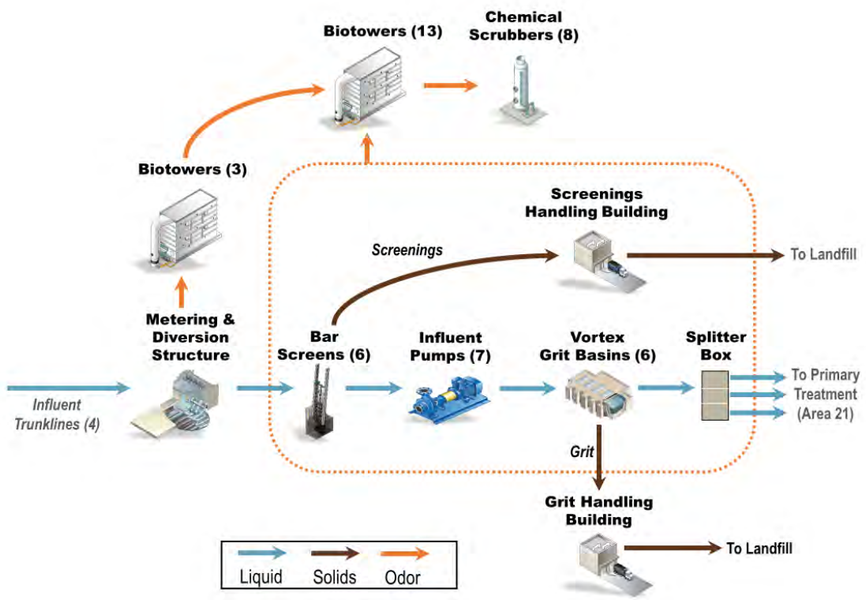
ASSET MANAGEMENT SYSTEM SUMMARY – AREA 20 – PLANT NO. 2 PRELIMINARY TREATMENT

Process Schematic



Note: Process Schematic is general in nature. A detailed process diagram is provided in Appendix D

Major Assets Remaining Useful Life

Asset Type	Headworks					Trunkline Odor Control	Headworks Odor Control	Distribution Center H
	Metering & Diversion	Bar Screens	Main Sewage Pump	Grit Basins	Splitter & Metering			
Civil								
Effluent Piping	-	-	-	-	1	-	-	-
Structural								
Building	1	1	1	1	1	-	-	1
Concrete & Tanks	1	1	1	1	1	2	2	-
Mechanical								
Piping & Valve	2	-	2	2	2	-	-	-
Pump	-	-	5	2	-	2	2	-
Screening Washer Compactor	-	3	-	-	-	-	-	-
Grit Cyclone/Classifier	-	-	-	3	-	-	-	-
Conveyor	-	3	-	3	-	-	-	-
Fans & Blower	-	-	-	-	-	2	2	-
Control Gate	2	2	2	2	2	-	-	-
Media	-	-	-	-	-	4	4	
HVAC	3	3	3	3	3	-	-	3
Electrical								
Motor, MCC, VFD	-	-	3	-	-	-	-	2
Instrumentation								
PLCs, Flow Meters	4	2	5	2	2	2	2	-

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11—15 years
- RUL 16—-20 years
- RUL > 20 years

Acronym Key:

HVAC = Heating, Ventilation, and Air Conditioning

MCC = Motor Control Center

PLC = Programmable Logic Controller

RUL = Remaining Useful Life

VFD = Variable Frequency Drive

Major Assets

Major Assets	Quantities
Metering & Diversion Structure	
Influent Flow Meter	4
Control Gate	7
Trunk Odor Control	
Supply Fan	3
Biotower	3
Recirculation Pump	6

Major Assets	Quantities
Bar Screens	
Bar Screen	6
Screening Washer Compacter	3
Screenings Conveyor	4
Control Gate	14

Major Assets	Quantities
Main Sewage Pump	
Pump	7
Control Gate	16
Splitter and Metering	
Flow Meter	3
Control Gate	26

Major Assets	Quantities
Grit Basins	
Grit Basins	6
Grit Slurry Pump	6
Grit Cyclone/Classifier	4
Control Gate	12

Major Assets	Quantities
Headworks Odor Control	
Supply Fan	21
Biotower	13
Chemical Scrubber	8
Recirculation Pump	42
Bleach Tank	1
Bleach Pump	16

Major Assets	Quantities
Headworks Odor Control (Continued)	
Acid Tank	1
Acid Pump	2
Caustic Tank	1

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 20 – PLANT NO. 2 PRELIMINARY TREATMENT

Key Issues

Key Issues	Actions and Recommendations
• **Headworks Low Voltage Cable Reliability** – Many of Headworks 480-V cables are failing, triggering ground faults on 480-V equipment. MP-509 and FR2-0024 were completed to replaced many of the failed cables. The Grit System was also impacted due to cable failures and emergency task (reference SDR-576/AI-473) installed temporary power and control cables for grit pumps and mixers.	• FR2-0026 Headworks Phase 3 Cable Replacement at Plant No. 2 is in the construction phase. Completion is scheduled for June 2024. • MP2-008 is in development to permanently replace Grit Basin power and control cables, and MP2-013 is in development to install temporary cables to the grit classifiers.
• **M&D Trunkline and Bar Screen Grit Buildup** – Due to low flow and low velocity, heavy grit buildups were observed at the lowest point of M&D trunklines. This had impacts on pH and conductivity sensors that are installed on the bottom of the metering pipe. P2-122 relocated probes on the Interplant trunkline. This relocation needs to occur on the three remaining trunklines as well.	• Operations rotate the trunklines monthly and keep only two trunklines in service to help prevent buildup. • Maintenance created a biannual PM to have bar screen inlets cleaned. • PRN-00535 Influent Metering Structure Trunkline Probes Relocation is in progress to relocate probes from the grit buildup in conjunction with grit cleaning as needed for each trunkline prior to the probes relocation. Coast is complete and operational. Bushard and Miller-Holder are in progress.
• **Washer Compactor Vulnerability** – On August 21, 2021, Plant No. 2 observed a slug of rags that plugged two washer compactors. With the plant operating in separated mode following the completion of P2-122, redundancy is reduced with one swing unit on standby available for the non-reclaimable or reclaimable stream.	• Initiate a planning study to further investigate the reliability of the washer compactor system and provide a feasible solution.
• **Plant Water Piping at Influent Pump Station Building** – There is a sluiceway control station in the basement of Influent Pump Station Building. This station is critical to provide adequate conveyance of screenings to the washer compactors. Plant water supply and discharge piping to the control station have failed.	• Maintenance provided a temporary repair to supply 4-inch plant water piping to the sluiceway control station. • FR2-0029 Influent Pump Station Plant Water Piping Repair at Plant No. 2 is in the construction phase to provide permanent fix to 8-inch plant water supply and 2-inch by 6-inch plant water discharge piping. Completion is scheduled for March 2024.
• **Main Sewage Pump Vibration Monitoring System** – Current vibration monitoring system is obsolete. It needs to be modernized to continue to protect both pumps and motors.	• Reliability group uses infrared thermometers to measure temperature of the asset and manual vibration readings to cover the deficiency. • Beta testing of Bently Nevada Orbit 60 on Centrifuge #5 at Plant No. 2 is complete. PRN-00561 will move forward for replacement.
• **Main Sewage Pumps Condition** – The five large main sewage pumps and warehouse spare pump have worn parts and are in need of repair and replacement of parts such as mechanical seals, bearings, shaft sleeves, and O-rings.	• PRN-00923 Main Sewage Pumps Repair at Plant No. 2 is in the scope development phase to bid a pump repair shop to make repairs on the spare large pump and MSP-1. A future project will be requested to apply similar repairs to the remaining MSPs (4, 5, 6, 7).

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
FR2-0026	Headworks Phase 3 Cable Replacement at Plant No. 2	Headworks	• In-house engineering design and bid for service contract for repairs on faulty cables.															
FR2-0029	Influent Pump Station Plant Water Piping Repair at Plant No. 2	Influent PS	• Restore Plant Water Piping from west side of Influent Pump Station Building.															
PRN-00535	Influent Metering Structure Trunkline Probes Relocation at Plant No. 2	M&D Structure	• Relocate pH and conductivity probes for each trunkline in M&D Structure.															
PRN-00561	Main Sewage Pump Vibration Monitoring System Modernization at Plant No. 2	Influent PS	• Modernize currently obsolete vibration monitoring system.															
PRN-00923	Main Sewage Pumps Repair at Plant No. 2	Influent PS	• Repair spare pump and MSP-1.															
X-030	Headworks Rehabilitation at Plant No. 2	Headworks	• Rehabilitate any equipment, electrical, structures, or materials that cannot provide 25 years of useful life.															

Types of Project Legend:

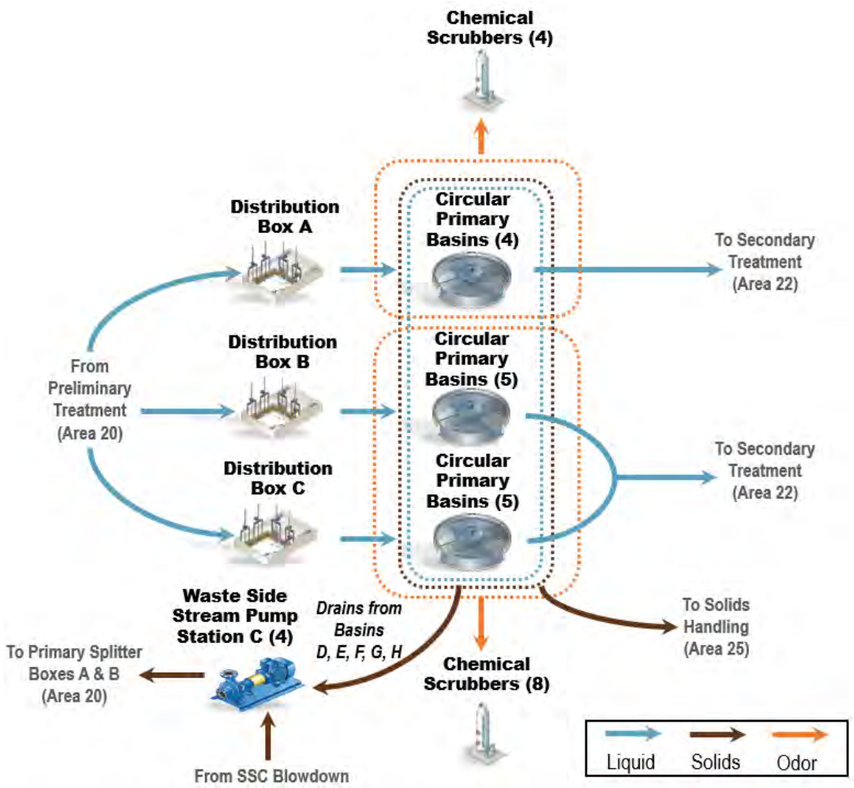
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Program; DC = Distribution Center; FY = Fiscal Year; GWRS = Groundwater Replenishment System; HW = Headworks; M&D = Metering & Diversion; MSP = Main Sewage Pump; N/A = Not Applicable; PM = Preventive Maintenance; PS = Pump Station; SARI = Santa Ana River Interceptor; TL = Trunkline; UPS = Uninterruptible Power Supply; V = Volts; VFD = Variable Frequency Drive

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 21 – PLANT NO. 2 PRIMARY TREATMENT

Process Schematic



Note: Process Schematic is general in nature. A detailed process diagram is provided in Appendix D

Major Assets Remaining Useful Life

Asset Type	A-Side				B-Side					C-Side										
	PSB-D	PSB-E	PSB-F	PB-G	PB-H	PB-I	PB-J	PB-K	PB-L	PB-M	PB-N	PB-O	PB-P	PB-Q	NSC	SSC	Polymer System	Ferric System	Distribution Box	WSSPS-C
Civil																				
Effluent Piping	5	5	5	5	4	4	4	4	4	4	4	4	4	4	-	-	-	-	-	2
Structural																				
General	5	5	5	5	3	3	3	3	3	3	2	2	2	2	5	4	3	2	4	1
Dome	5	5	5	5	3	3	3	3	3	3	3	3	3	3	-	-	-	-	-	-
Mechanical																				
Piping	4	4	4	4	3	1	3	1	1	1	1	1	2	2	3	4	3	2	3	2
Internal Mechanism & Gates	5	5	5	5	4	4	4	4	4	4	4	4	4	4	-	-	-	-	-	-
Fans & Pumps	5		5		3		3		3		3		3		3	5	4	2	-	2
HVAC	4		4		3		3		3		3		3		-	-	-	-	-	-
Drains	5	5	5	5	3	3	3	3	1	1	1	1	3	3	3	4	-	-	5	-
Electrical																				
Process – Motor, MCC, VFD	4	4	4	4	3	3	3	3	3	3	3	3	3	3	-	-	5	2	-	2
Instrumentation																				
PLC, Flow Meters	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	4	5	2	-	2

Acronym Key:

HVAC = Heating, Ventilation, and Air Conditioning; MCC = Motor Control Center; NSC = North Scrubber Complex; PB = Power Building; PLC= Programmable Logic Controller; RUL = Remaining Useful Life; SSC = South Scrubber Complex; VFD = Variable Frequency Drive; WSSPS = Waste Sidestream Pump Station

RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Major Assets

Major Assets	Quantities
Primary Basin – A-Side	
Primary Basin	4
Sludge/Scum Collectors	4
Sludge/Scum Pump	8
Supply Fan	6
Primary Basin – B-Side	
Primary Basin	5
Sludge/Scum Collectors	5
Sludge/Scum Pump	10
Supply Fan	7

Major Assets	Quantities
Primary Basin – C-Side	
Primary Basin	5
Sludge/Scum Collectors	5
Sludge/Scum Pump	10
Supply Fan	8
North Scrubber Complex	
Chemical Scrubber	7
Bio Scrubber	1
Recirculation Pump	16
Supply Fan	8
Caustic Tank	1

Major Assets	Quantities
North Scrubber Complex (Continued)	
Acid Feed Pump	2
Bleach Tank	1
Bleach Feed Pump	14
Caustic Feed Pump	16
Acid Tank	1
Acid Feed Pump	2
South Scrubber Complex (SSC)	
Supply Fan	4
Scrubbers	4
Recirculation Pump	8
Caustic Tank	1

Major Assets	Quantities
South Scrubber Complex (Continued)	
Caustic Feed Pump	8
Acid Tank	1
Acid Feed Pump	2
Bleach Tank	1
Bleach Feed Pump	3
Polymer System	
Polymer Bulk Tank	3
Polymer Bulk Transfer Pump	4
Polymer Mix Tank	2

Major Assets	Quantities
Polymer System (Continued)	
Polymer Feed Pump	4
Ferric System	
Ferric Bulk Tank	2
Ferric Feed Pump	6
Distribution Boxes	
Structure	3
Sluice Gates	24
Waste Sidestream Pump Station C	
Waste Sidestream Pump	4

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 21 – PLANT NO. 2 PRIMARY TREATMENT

Key Issues

Key Issues	Actions and Recommendations
• **Reliability of A-Side Primary Basins** – The A-side basins were built in the 1960s. Aluminum dome supports for A-Side Primary Basin E and G are corroded. Currently F and G are not available due to loss of structural integrity from severe corrosion of the rotating mechanisms. Availability of A-Side basins are critical to process non-reclaimable flow until P2-98A commissions four new primary basins.	• MP2-006 PSB-E Dome Support Repair and PRN-865 PSB-G Dome Support Repair will address dome supports by September 2023. • MP2-007 (task order directive) is currently in progress to develop a repair design for rotating mechanisms at PSB-F and PSB-G . • P2-98A is in the construction phase to replace all four A-side primary basins
• **Reliability of B and C Side Primary Sedimentation Basins** – B-side and C-side primary basins were built in the 1970s and 1980s, respectively. These basins are close to the end of their useful lives and require major rehabilitation to continue to operate reliably for next 30+ years.	• P2-98B performed interim repairs to B- and C-sides of primary basins to extend their useful life until a major rehabilitation is performed under future project P2-133. This project will provide long-term rehabilitation on B and C sides of primary basins.
• **Functionality of Distribution Box B Gates** – Distribution Box B has 10 leaking slide gates due to the absence of side seals in the original design.	• Repairs and installation of seals will be performed on one gate to test to start. Remaining gates will be repaired following a successful installation/test.
• **Condition of Primary Effluent Junction Boxes** – Junction boxes 2, A, B, C, D, and F were construction in the 1970s and Junction E was built in 1983. Several of these structures have leaks at the pressurized manhole covers and will need repair or rehabilitation.	• For P2-98A, Primary Effluent Junction Box 2 was inspected and identified heavily corroded roof structure. The project will address the immediate issue, but other effluent junction boxes (JB-A to JB-F) are in the process of being assessed because they have pressure manhole covers.
• **Reliability of Polymer System** – The polymer system was built in 1988 and the RUL is limited. Instrumentation is obsolete and parts are no longer readily available.	• The replacement of instrumentation and associated electrical has been added to the P2-135 Chemical Systems Rehabilitation at Plant No. 2 project. The system will be replaced under P2-133.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
P2-98A	A-Side Primary Clarifiers Replacement at Plant No. 2	A-Side Primary Basins	• Demolish and replace four existing A-Side Primary Basins, including piping and distribution box. • Demolish and replace the South Scrubber Complex.															
P2-133	B- and C-Side Primary Clarifiers Rehabilitation at Plant No. 2	B- and C-Side Primary Basins	• Long-term full rehab to extend RUL of B- and C-side basins to 40 years or greater.															
P2-135	Chemical Systems Rehabilitation at Plant No. 2	Anionic Polymer System	• Replace obsolete instrumentation and associated electrical assets within the Anionic Polymer System.															
MP2-006	Primary Sedimentation Basin F Dome Support Repair at Plant No. 2	Primary Basin F	• Restore structural integrity of dome supports.															
MP2-007	Primary Sedimentation Basin F and G Rotating Mechanisms Repair at Plant No. 2	Primary Basin F and G	• Repair corroded rotating mechanisms.															
PRN-00865	Primary Sedimentation Basin G Dome Support Repair	Primary Basin G	• Restore structural integrity of dome supports.															
MP2-009	North Scrubber Complex Grating Replacement at Plant No. 2	North Scrubber Complex Grating	• Replacement of FRP grating deteriorated by ultraviolet exposure.															
X-030	Headworks Rehabilitation at Plant No. 2	Ferric Chloride and WSSPS-C	• Rehabilitate Ferric Chloride Facility and WSSPS-C.															
TBD	Primary Clarifiers B & C Side Internal Mechanism Coating Repair	B- and C-Side Primary Basins	• Recoat internal mechanism (preventive maintenance).															

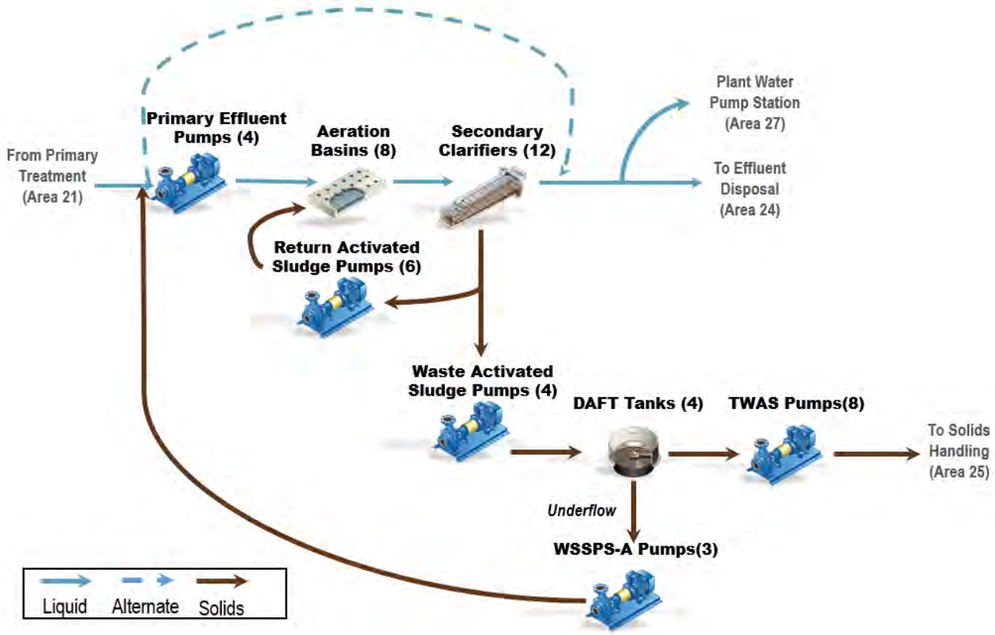
Types of Project Legend:

CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Program; FRP = Fiberglass Reinforced Plastic; FY = Fiscal Year;
RUL = Remaining Useful Life; TBD = To Be Determined; WSSPS = Waste Sidestream Pump Station

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 22 – PLANT NO. 2 SECONDARY TREATMENT – ACTIVATED SLUDGE



Acronym Key:

DAFT = Dissolved Air Flotation Thickener; HVAC = Heating, Ventilation, and Air Conditioning; LOX = Liquid Oxygen; MCC = Motor Control Center; PEPS = Primary Effluent Pump Station; PLC = Programmable Logic Controller; PS = Pump Station; RAS = Return Activated Sludge; RUL = Remaining Useful Life; SEJB = Secondary Effluent Junction Box; TWAS = Thickened Waste-activated Sludge; VFD = Variable Frequency Drive; WAS = Waste-activated Sludge; WSS = Waste Sidestream, Waste Secondary Sludge; WSSPS = Waste Sidestream Pump Station

Major Assets Remaining Useful Life

Asset Type	PEPS	Aeration Basins	Secondary Clarifiers A–L	SEJB	East RAS/WAS PS	West RAS/ WAS PS	Oxygen Facility	DAFTs A–D	DAFTs Polymer System	DAFTs Odor Control	WSSPS - A
Civil											
Effluent Piping	3	-	3	3	2	2	-	-	-	-	4
Structural											
Building	2	-	-	-	2	2	-	1	-	-	-
Structure	2	4	3	3	-	-	-	1	1	1	-
Mechanical											
Pump	4	-	-	-	3	3	-	2	2	-	3
Aerator	-	4	-	-	-	-	-	-	-	-	-
Piping and Valve	3	4	3	3	3	3	4	2	2	3	3
Clarifier/DAFT Moving Mechanism	-	-	4	-	-	-	-	2	-	-	-
Channel Air Blower	-	-	-	-	-	3	-	-	-	-	-
Control Gate	-	4	2	3	-	-	-	-	-	2	3
LOX Facility	-	-	-	-	-	-	4	-	-	-	-
HVAC and Ventilation	2	-	-	-	3	3	-	-	-	-	-
Crane	3	-	-	-	-	-	-	-	-	-	-
Electrical											
MCC and VFD	4	3	3	-	4	4	-	3	3	3	3
Instrumentation											
PLC and Flow Meter	3	4	3	-	3	3	3	3	3	-	3

RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Major Assets

Major Assets	Quantities
Primary Effluent Pump Station	
Building	1
Wet Well	1
Pumps	4
Bridge Crane	1
Aeration Basins	
Basins	8
Surface Aerators	32
Inlet gates	8
Purge Air Fans	4

Major Assets	Quantities
Secondary Clarifiers A-L	
Basins	12
Inlet gates	36
Sludge collectors	24
Secondary Effluent Junction Box (SEJB)	
Structure	1
Control Gate	1

Major Assets	Quantities
East RAS/WAS PS	
RAS Pumps	3
WAS Pumps	2
West RAS/WAS PS	
RAS Pumps	3
WAS Pumps	2
Channel air blowers	2
Oxygen Facility	
LOX Storage Tanks	2
Vaporizer	6

Major Assets	Quantities
DAFTs A-D	
Concrete Tanks	4
Mechanical Sweep	4
Recycle Pumps	6
Saturation Tank	4
TWAS Pumps	8
DAFTs Polymer System	
Storage Tank	1
Aging Tank	2

Major Assets	Quantities
DAFTs Polymer System (Continued)	
Storage Tank Rec. Pumps	2
Blend Pumps	2
Feed Pumps	6
DAFTs Odor Control	
Biofilters	3
Foul Air Fans	3
Waste Sidestream Pump Station	
Pumps	3

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 22 – PLANT NO. 2 SECONDARY TREATMENT – ACTIVATED SLUDGE

Key Issues

Key Issues	Actions and Recommendations
• **PEPS** – Obsolete VFD parts; aged PEPS pumps and corrosion on suction pipes; missing flapper gates on the area drains inlets to the wet well; pump discharge header coating condition.	• FE19-08 project will replace the PEPS VFDs. • MP2-0010 will overhaul Pump #1, #2 and #3. PRN-00770 Pump #4 condition assessment and rebuilt completed in 2022. • Missing flapper gates added to X-052. • Plan to perform condition assessment of discharge header coating.
• **Aeration Basins** – Concrete deck structural integrity; aerator motor corrosion and oxygen piping corrosion; inlet gates not totally sealed; aged oxygen analyzer panels and no air conditioning	• P2-136 to replace all oxygen piping, structurally rehab. the aeration basins, replace all aerators, replace all inlet gates and oxygen analyzer panels.
• **Secondary Clarifiers** – Broken clarifier mechanism need to be repaired or replaced; clarifier entry gate not meeting the OSHA requirement; loose handrails at the older portion of the clarifiers by P2-23-6; Scum accumulation and recirculation. Scum is currently flowing to WSSPS-A and then pumped back to PEPS to keep in the non-reclaimable stream.	• FR2-0018 is under construction to replace the remaining six clarifiers left by MP-248, which replaced the worst six ones. • FR2-0023 will add safe entry access platform to each secondary clarifier. • P2-136 will replace the handrails installed by P2-23-6.FR2-0031 will reroute the scum to DAFTs.
• **RAS/WAS Pump Stations** – Obsolete VFDs; aged pumps; seismic risks.	• FE19-08 will replace the RAS and WAS VFDs. • Maintenance is overhauling the pumps. • X-107 will add structural improvements to mitigate seismic risks at East and West RAS/WAS PSs.
• **Oxygen Facility** – LOX Tank A out of service due to leaking flange.	• FE21-07 is in construction phase for tank replacement. FE22-02 will replace LOX Tank-B. • PS22-02 to evaluate feasibility of onsite oxygen generation.
• **WSSPS -A** – Flooding of the pump dry well causing WSSPS pump motor damage.	• Maintenance replaced the sump pump at the dry well as a temporary solution. X-007 will replace the pumps with dry pit submersible type.
• **DAFT** – Seismic issues; lack of fall protection tie off points.	• X-107 will add structural improvements to mitigate seismic risks at DAFT D. • FR2-0023 will install fall protection tie-off points.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
FR2-0018	Plant No. 2 AS Plant Clarifiers Rehabilitation - Phase 2	Secondary clarifiers	• Replace Clarifiers A, B, E, G, H, and L moving mechanisms.	Maintenance Project														
FR2-0023	Activated Sludge Clarifier Entry Improvements	Secondary clarifiers; DAFTs	• Add safe entry access platform to secondary clarifier and fall protection tie off to DAFTs.	Maintenance Project	Maintenance Project													
MP2-0010	PEPS Pump #1, #2 and #3 Overhaul	PEPS	• Overhaul PEPS Pumps #1, #2, and #3 in 3 consecutive years.	Maintenance Project	Maintenance Project	Maintenance Project												
FE19-08	Plant No. 1, Plant No. 2, Collections VFD Drives Replacement	PEPS, RAS, RSS pump stations	• Replace PEPS, RAS, and WAS VFDs.	CIP - Construction														
P2-136	Activated Sludge Aeration Basin Rehabilitation	AS Plant	• Rehabilitate the AS process.	CIP - Design	CIP - Design	CIP - Design	CIP - Construction	CIP - Construction	CIP - Construction	CIP - Construction								
X-052	Activated Sludge RAS/WAS/PEPS/Vaporizers Rehabilitation	AS Plant	• Rehabilitate the RAS/WAS/PEPS/LOX vaporizers.					CIP - Design	CIP - Design	CIP - Design	CIP - Construction	CIP - Construction	CIP - Construction					
FE21-07	Liquid Oxygen Tank A Replacement	LOX facility	• Replace LOX Tank A.	CIP - Design	CIP - Construction	CIP - Construction	CIP - Construction											
FE22-02	Liquid Oxygen Tank B Replacement	LOX facility	• Replace LOX Tank B.	CIP - Construction														
FR2-0031	Activated Sludge System Scum Rerouting	AS Plant	• Reroute scum to DAFTs.	Maintenance Project	Maintenance Project	Maintenance Project												
X-007	Waste Sidestream Pump Station A Upgrade	WSSPS A	• Replace the WSSPS pumps with dry pit submersible type.				CIP - Design	CIP - Design	CIP - Construction	CIP - Construction								
X-107	Seismic Improvements to Dissolved Air Flotation Thickeners Area	DAFTs	• Structure seismic improvements.											CIP - Design	CIP - Design	CIP - Construction		
PS21-08	Pure Oxygen Activated Sludge Operations Study	AS Plant	• Evaluate the HPOAS facility operational strategies to treat non-reclaimable flow after the GWRS final expansion.	CIP - Planning														
PS22-02	Onsite Oxygen Generation Feasibility Study	LOX facility	• Evaluate the feasibility of implementing onsite oxygen generation system.	CIP - Planning														
PS-XXX	Activated Sludge Facility Replacement Planning Study	AS Plant	• Planning study to plan for AS Plant replacement.															CIP - Planning
X-114	Activated Sludge Facility Replacement at Plant No. 2	AS Plant	• Install new secondary treatment facility based on the recommendations of the planning study.															

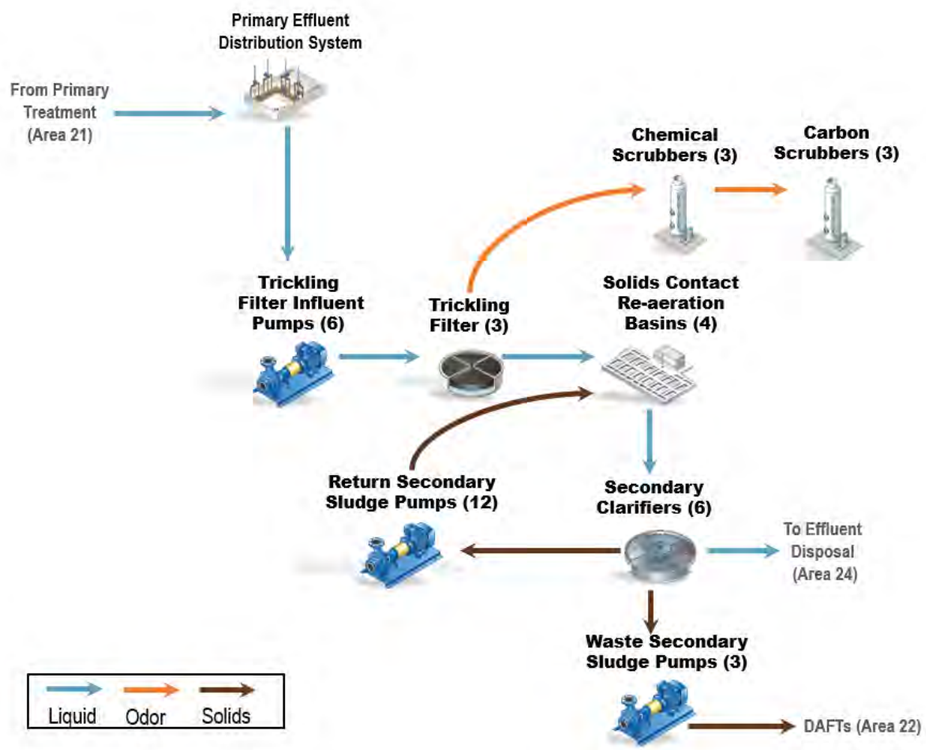
Types of Project Legend:

CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:
AS = Activated Sludge; CIP = Capital Improvement Program; DAFT = Dissolved Air Flotation Thickener; FY = Fiscal Year; GWRS = Groundwater Replenishment System; HPOAS = High-Purity Oxygen-Activated Sludge; LOX = Liquid Oxygen; OSHA = Occupational Safety and Health Administration; PEPS = Primary Effluent Pump Station; RAS = Return Activated Sludge; VFD = Variable Frequency Drive; WAS = Waste-activated Sludge; WSSPS=Waste Sidestream Pump Station; CIP = Capital Improvement Program; FY = Fiscal Year

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 22 – PLANT NO. 2 SECONDARY TREATMENT – TRICKLING FILTERS AND SOLIDS CONTACT

Process Schematic



Major Assets Remaining Useful Life

Asset Type	TFPS & Elec. Room	Trickling Filters A–C	Solids Contact & ML Channel	Blower/ WSS PS Building	Secondary Clarifiers A–F	RSS PS A	RSS PS B	RSS PS C & Elec. Room	Odor Control Facility	Chemical Facility
Civil										
Effluent Piping	2	2	2	2	2	2	2	2	2	2
Structural										
Building	1	-	-	1	-	1	1	1	-	-
Structure	1	1	1	-	1	-	-	-	2	2
Mechanical										
Pump	2	-	-	2	2	2	2	2	2	3
TF Rotary Distributor	-	2	-	-	-	-	-		-	-
TF Media	-	3	-	-	-	-	-	-	-	-
Clarifier Sludge Collector	-	-	-	-	3	-	-	-	-	-
Blower & Fan	-	2	-	2	-	-	-	-	2	-
Control Gate	-	3	3	3	3	-	-	-	-	-
Piping and Valve	2	2	2	2	2	2	2	2	2	2
Fine Buddle Diffusor	-	-	2	-	-	-	-	-	-	-
HVAC & Ventilation	2	-	-	2	-	2	2	2	-	-
Crane	2	-	-	2	-	2	2	2	-	-
Electrical										
MCC & VFD	4	3	-	3	3	-	-	3	3	3
Instrumentation										
PLCs & Flow Meters	3	3	-	3	3	3	3	3	3	3

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

Elec. = Electrical
HVAC = Heating, Ventilation, and Air Conditioning
MCC = Motor Control Center
ML = Mixed Liquor
PLC = Programmable Logic Controller
PS = Pump Station
RSS = Return Secondary Sludge
RUL = Remaining Useful Life
SC = Secondary Clarifier
SCR = Selective Catalytic Reduction
SC/SR = Solids Contact/Solids Reaeration
SR = Secondary Return
SRR = Solid State Relay
TF = Trickling Filter
TFPS = Trickling Filter Pump Station
VFD = Variable Frequency Drive
WSS = Waste Secondary Sludge

Major Assets

Major Assets	Quantities
Trickling Filter Pump Station	
Building	1
Pumps	6
Trickling Filters A–C	
Basins	3
TF Media	multiple
Rotary Distributor	3
Recirculation Fans	6
Foul Air Fans	3
Drain Gates	3

Major Assets	Quantities
SC/SR & ML Channel	
Structures	4 SCRs, 4 SRRs, 2 MLs
Control gates	multiple
Diffusors	multiple
Blower/WSS PS Building	
Building	1
SR Blowers	3
SC Blowers	3
WSS Pumps	3

Major Assets	Quantities
Secondary Clarifiers A–F	
Basins	6
Sludge Collector	6
Scum pumps	6
RSS PS-A	
Buildings	1
RSS Pumps	4

Major Assets	Quantities
RSS PS-B	
Buildings	1
RSS Pumps	4
RSS PS-C & Electrical Room	
Buildings	1
RSS Pumps	4

Major Assets	Quantities
Odor Control Facility	
Chemical scrubbers	3
Carbon Units	3
Chemical System	
Bleach Storage Tanks	2
Caustic Storage Tank	1
Bleach Pumps	7
Caustic Pumps	6

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 22 – PLANT NO. 2 SECONDARY TREATMENT – TRICKLING FILTERS AND SOLIDS CONTACT

Key Issues

Key Issues	Actions and Recommendations
• **TFPS** – No backup power to TFPS; pump failure could result in primary effluent to ocean outfall; C1 pump VFD failure, other five pump VFD parts obsolete.	• J-117B will provide a plantwide load shedding system to power critical Distribution Center J loads from Cen Gen. • PRN-00820 for C1 pump VFD replacement and PRN-00780 for remaining pump VFD replacement.
• **TFs** – TF-C center rotating assembly needs a similar replacement as TF-A and TF-B.	• MP2-005 replaced TF-A and TF-B center rotating assemblies in 2023. TF-C has some new parts transferred from TF-A during the TF-A repair effort before the replacement. • Will prepare Clearinghouse and Board approval for TF-C center rotating assembly replacement after proved success of TF-A and TF-B center masts replacement. • Continue monthly PM by contractor and Maintenance.
• **Secondary Clarifiers** – Corroded parts on walkways and clarifier moving mechanisms.	• Coating Program is working on coating the walkways and moving mechanism parts.
• **SC/SR Area** – Using temporary piping to route the area drain PS to SC/SR basins instead of HW to keep the microorganisms in the biological process area. Need hard piping and valves.	• PRN-00703 reroute area drain PS discharge to SC/SR basins instead of HW.
• **Snail control** – Signs of snail shell accumulation at process area and excessive wearing on RSS and WSS pipes. Shells found in long outfall pipeline.	• Changed from 25% caustic injection to 50%. • PS18-10 recommended to change back to original design of flooding with 50% caustic at shorter duration. Will do flooding test after TF-A is back to service.
• **Piping Cathodic Protection** – Cathodic protection survey in 2021 found missing test stations and lack of cathodic protection locations at the large diameter effluent piping.	• Condition assessment to the effluent piping was done in 2022 during J-36-2 and J-117B construction. No bad pipe condition found. Will continue cathodic protection survey every two years. J-117B will repair the relevant testing stations. Asset team is developing solutions to repair and replace the cathodic protection system.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
MP2-005	TF- A & B Center Assemblies Replacement	TF-A, TF-B	• Replace the TF-A & B center rotating assemblies.															
PRN-00780	TFPS A1, A2, B1, B2, C2 VFDs replacement	TFPS	• Replace TFPS A1, A2, B1, B2, C2 VFDs.															
PRN-00703	Trickling Filter Process Drain Improvements	TF/SC	• Reroute area drain pump station discharge to SC/SR basins instead of Headworks.															
J-117B	Outfall Low Flow Pump Station	DCJ, TFPS	• New PWPS to draw flow from TFSC secondary effluent (SE). • Provide a plantwide load shedding system to power critical DC-J loads from Cen Gen.															
X-031	TF/SC Rehabilitation	TF/SC facility	• Overall rehabilitation of TF/SC. Replace the TF media.															
X-014	Odor Control for Trickling Filter Solids Contact Basins	SC/SR	• Cover the SC/SR basins, and install two new chemical scrubbers for odor treatment															

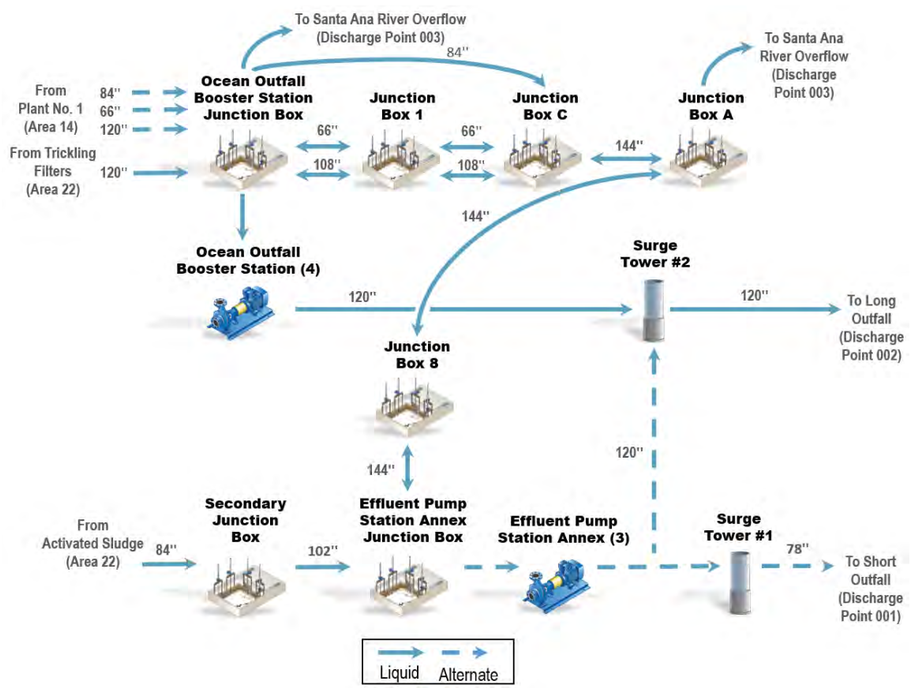
Types of Project Legend:

CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:
Cen Gen = Central Generation Facility; CIP = Capital Improvement Program; DC = Distribution Center J; FY = Fiscal Year; GWRS = Groundwater Replenishment System; HW = Headworks; ML = Mixed Liquor; OCWD = Orange County Water District; PM = Preventive Maintenance; PWPS = Plant Water Pump Station; RSS = Return Secondary Sludge; PS = Pump Station; SCADA = Supervisory Control and Data Acquisition; SC/SR = Solids Contact/Solids Reaeration; SE = Secondary Effluent; TF = Trickling Filter; TFPS = Trickling Filter Pump Station; TF/SC = Trickling Filter/Solids Contact

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 24 – PLANT NO. 2 EFFLUENT DISPOSAL

Process Schematic



Note: Process Schematic is general in nature. A detailed process diagram is provided in Appendix D.

Major Assets Remaining Useful Life

Asset Type	OOBS	Junction Boxes				EPSA	Disinfection System	Land Outfalls				120" Ocean Outfall	78" Ocean Outfall
		JB-1	JB-C	JB-A	JB-8			Surge Tower #1	Surge Tower #2	Sample Building	Beach Box		
Civil													
Effluent Piping	1	2	2	2	2	2	-	1	2	1	2	-	-
Structural													
Structures, Buildings	4	2	2	4	2	2	2	1	2	1	2	1	1
Mechanical													
Pumps, Fans	5	-	-	-	-	2	2	-	-	-	-	-	-
Gates/Valves	5	3	3	3	3	3	-	3	3	-	-	4	-
Pipes	2	2	2	2	2	2	3	1	2	1	1	-	-
Tank	-	-	-	-	-	-	5	-	-	-	-	-	-
Manhole Covers	-	-	-	-	-	-	-	-	-	-	-	4	4
Monel Parts	-	-	-	-	-	-	-	-	-	-	-	5	-
Ballast	-	-	-	-	-	-	-	-	-	-	-	4	4
Electrical													
Motor and VFD	5	-	-	-	-	3	-	-	-	-	-	-	-
Instrumentation													
PLC, Flow Meters	5	-	-	-	-	3	4	2	2	2	-	-	-
Actuators	4	4	4	4	4	4	-	4	4	-	-	-	-

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

EPSA = Effluent Pump Station Annex

JB = Junction Box

MCC = Motor Control Center

OOBS = Ocean Outfall Booster Station

PLC = Programmable Logic Controller

RUL = Remaining Useful Life

TBD =To Be Determined

VFD = Variable Frequency Drive

Major Assets

Major Assets	Quantities
Ocean Outfall Booster Station	
Pump	5
Wingwall Structure	1
Gate	3
Junction Boxes	
Junction Boxes	4
Wingwall Structure	1
Gate	13

Major Assets	Quantities
Effluent Pump Station Annex	
Pump	3
Gate	14
Disinfection Facility	
Sodium Bisulfite Tank	3
Sodium Bisulfite Feed Pump	6
Bleach Tank	6
Bleach Feed Pump	8

Major Assets	Quantities
Land Outfalls	
Surge Tower	2
Valve	2
Sample Building	1
Flowmeters	3
Beach Box	1
120" Ocean Outfall	
Port hole	500
Manhole cover	47

Major Assets	Quantities
78" Ocean Outfall	
Port hole	125
Manhole cover	14

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 24 – PLANT NO. 2 EFFLUENT DISPOSAL

Key Issues

Key Issues	Actions and Recommendations
• **Obsolescence of gate and valve actuators** – All actuators in Area 24 are obsolete. Some are failing and have been replaced.	• OC San will monitor conditions for actuators and will note which ones are difficult to operate during regular preventive maintenance activities. Given it would be a great effort to replace all actuators, a path for replacement/repair will be determined on a case-by-case basis depending on criticality.
• **OOBS and EPSA Operation and Maintainability Strategy** – After J-117B completion, Low Flow Pump Station will be the main mode of operation, and OOBS and EPSA will stay standby and used during peak wet weather flows.	• A future planning study will be created to identify operational and maintenance strategies for OOBS and EPSA.
• **Condition of 78-inch Short Outfall** – The short outfall was last used in 2012 and condition is largely unknown. NPDES recently added requirements for external inspection of the short outfall every 2.5 years	• Inspection and condition assessment of the 78-inch short outfall has been added to the scope of the J-137 project. External remotely operated vehicle inspection and reporting on the marine portion of the short outfall was completed in July 2023 and concluded that there were no significant observations requiring immediate attention.
• **Reliability of Sodium Bisulfite System** – P2-135 will rehabilitate the sodium bisulfite chemical feed and storage system and is currently in the design phase. While a temporary tank has been installed, additional set up of appurtenances for maintenance is needed for use and availability for J-137 and P2-135.	• A tank level transmitter along with associated wiring and conduit are currently being installed on the temporary tank. Additionally, plans are in progress for maintenance to install a recirculation loop from an existing pump to the temporary tank to prevent crystallization of sodium bisulfite within the tank.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
J-117B	Outfall Low Flow Pump Station	OOBS and New Low Flow Pump Station	• Rehabilitate the OOBS and construct a new Low Flow Pump Station. • Replace the Plant Water Pump Station.															
P2-135	Chemical Systems Rehabilitation at Plant No. 2	Sodium Bisulfite Station	• Downsize existing sodium bisulfite facility to address new design conditions and rehabilitate to extend the useful life.															
P2-139	Santa Ana River Wingwall Rehabilitation	OOBS and JB-A	• Rehabilitate wingwalls by OOBS and JB-A per PS17-10 final report recommendations.															
J-137	Ocean Outfalls Rehabilitation	120" Ocean Outfall	• Rehabilitate marine portion of 120-inch Ocean Outfall per PS18-09 recommendations. • Inspect and assess the condition of the 78-inch short outfall.															
J-138	Cen Gen Facilities and OOBS Seismic Upgrades	OOBS	• Structural and geotechnical improvements to reduce risk of seismic vulnerability.															
FE19-06	EPSA Motor Cooling Improvement	EPSA	• Modify motor cooling system to provide adequate cooling to the motor at a lower design speed.															
PSXX-XX	Ocean Outfall Land-Section Rehabilitation Study	120" and 78" Ocean Outfalls	• Development of Planning Study to define project elements for future project X-116.															
X-098	EPSA Rehabilitation	EPSA	• Mechanical, structural, architectural, HVAC, and plumbing modifications.															
X-115	Short Outfall Rehabilitation	78” Ocean Outfall	• Rehabilitate 1- mile long 78-inch outfall, Surge Tower #1, and butterfly valves.															
X-116	Outfall Land Section Rehabilitation	120” Ocean Outfall	• Rehabilitate land section assets dedicated for the 120” outfall.															
PRN-00381	42-inch Emergency Overflow Line	42” Overflow from JB-A to Headworks	• CCTV the overflow line and determine plan for replacement or rehabilitation.															
N/A	Outfall External Inspection	120" and 78" Ocean Outfalls	• Ocean outfall external inspection every 2.5 years per the NPDES permit and lease agreement with the California State Lands Commission.															
N/A	Outfall Structural Integrity Report	120” and 78” Ocean Outfalls	• Ocean outfall structural integrity report every 5 years per the NPDES permit.															

Types of Project Legend:

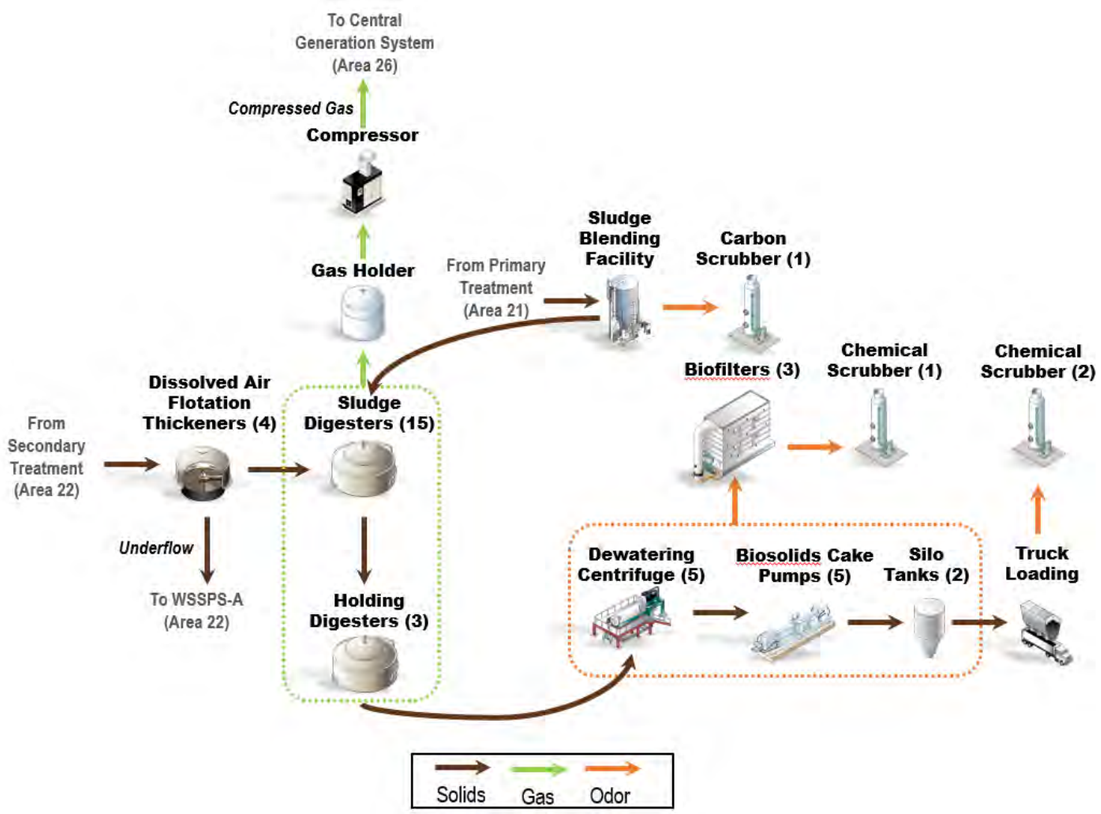
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

Cen Gen = Central Generation Facility; CIP = Capital Improvement Program; EPSA = Effluent Pump Station Annex; FY = Fiscal Year; JB = Junction Box; N/A = Not Applicable; NPDES = National Pollutant Discharge Elimination System; OOBS = Ocean Outfall Booster Station; TO = Task Order; VFD = Variable Frequency Drive

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 25 – PLANT NO. 2 SOLIDS HANDLING – DIGESTERS

Process Schematic



Major Assets Remaining Useful Life

Asset Type	Digester C	Digester D	Digester E	Digester F	Digester G	Digester H	Digester I	Digester J	Digester K	Digester L	Digester M	Digester N	Digester O	Digester P	Digester Q	Digester R	Digester S	Digester T	Digester Ferric
Civil																			
Effluent Piping	4	4	4	4	4	4	3	3	4	4	4	4	4	4	4	4	4	4	2
Structural																			
Structure	4	4	4	4	4	4	3	3	5	4	4	4	4	5	4	5	4	4	2
Digester Dome	4	4	4	4	4	4	3	3	5	4	4	4	4	5	4	5	4	4	-
Mechanical																			
Sludge Mixing Pumps/Jet Mixing	4	4	3	4	4	3	2	2	3	3	3	3	3	3	3	3	3	3	-
Sludge Recirculation and Heating System	4	4	2	4	4	2	2	2	-	2	4	4	4	4	4	4	4	4	-
Hot Water System	4	4	4	4	4	4	2	2	-	4	4	4	4	4	4	4	4	4	-
Sludge Transfer Pump	4			4			2	2	4	4		4		4		4		4	-
Piping & Valve	4	4	4	4	4	4	2	2	4	4	4	4	4	4	4	4	4	4	2
Chemical Pump	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Electrical																			
MCC & VFD	4	4	4	4	4	4	2	2	3	3	3	3	3	4	4	4	4	4	2
Instrumentation																			
PLC & Flow Meter	4	4	4	4	4	4	2	2	3	3	3	3	3	4	4	4	4	4	2

Major Assets

Major Assets	Quantities
Anaerobic Digesters (C-T)	
Active Digesters	15
Active/Holding Digesters (I and J)	2
Holding Digesters (K)	1
Sludge Mixing Pumps	15+1+4 (1 each Digester + 1 at Digester K + 1 backup in each Digester L, M, N, & O)

Major Assets	Quantities
Anaerobic Digesters (C-T) (Continued)	
Jet Mixing Pumps	4 (2 each in Digesters I and J)
Sludge Recirculation Pumps	17
Hot Water Circulation Pumps	17
Heat Exchangers	17
Bottom Sludge Pumps	10

Major Assets	Quantities
Digester Ferric Facility	
Digester Ferric Storage Tanks	2
Ferric Feed Pumps	6

Acronym Key:

MCC = Motor Control Center

RUL = Remaining Useful Life

PLC = Programmable Logic Controller

VFD = Variable Frequency Drive

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 25 – PLANT NO. 2 SOLIDS HANDLING – DIGESTERS

Key Issues

Key Issues	Actions and Recommendations
• **Digester K** – Gas leaking from dome and numerous cracks found.	• FR2-0032 will repair Digester K dome by overlaying polymer concrete. Several rounds of condition assessment and ground penetration radar scanning for concrete and rebar mapping were done, structural analysis with concrete repair report was done.
• **Dig. C, D, F, and G high-rate mixing pump** – Ragging issues. • **PVC Gas balance lines** – Prone to failure due to material type.	• FE20-02 Digesters C, D, F, and G Rehabilitation to replace high-rate mixing pumps, heat exchangers, sludge recirculation pumps, bottom sludge transfer pumps, and hot water pumps and piping. FE20-02 will include the gas balance lines replacement and adjacent bridges repair included in FE19-10.
• **Walking bridges** – Structural deficiencies. Six out of 13 bridges were red tapes to prevent access after unsafe conditions found from assessments. • **Digesters P and R** – Post tensioned ring deterioration. • **Digester Reliability** – Digesters are at the end of their useful lives and pose seismic risk.	• P2-137 Digesters Rehabilitation at Plant No. 2 to repair domes, walking bridges, digester walls, handrails, and hot water piping and replace MCCs. Digesters P and R post tensioned ring and adjacent Q-R bridge repairs will be the first phase of bid. • PRN-00684 Maintenance Projects to replace heat exchangers, sludge recirculation pumps, and bottom sludge transfer pumps. Digesters L, E, and H work competed. • Building new digester complex as recommended by Biosolids Master Plan to replace the aging digesters and to mitigate the seismic risk. Series of projects identified by Biosolids Master Plan and 2017 Facility Master Plan to replace the digesters with TPAD facility and improve the site, including P2-128 TPAD Digester Facility; P2-129 – Digesters P, Q, R, and S Replacement; XP2 131 – Digesters I, J, and K Replacement; XP2-130 – Food Waste Receiving Facility; XP2-132 – Digester Demolition.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
PRN-00684	P2 Digester Maintenance Projects	Digesters E, H, L, M, N, O, P, Q, R, S, and T	• Replace major mechanical equipment in kind, including heat exchangers and sludge recirculation and transfer pumps.	Maintenance Project	Maintenance Project													
FE20-02 (&FE19-10)	Digesters C, D, F, and G Rehabilitation Digesters C, D, F, G, and I Gas Balance Lines replacement	Digesters C, D, F, G, and I	• Replace major mechanical equipment, including high-rate mixing pumps, heat exchangers, sludge recirculation and transfer pumps, hot water pumps, and piping. Replace gas balance lines. Repair Digesters F through G, and Digesters D through I bridges.	CIP - Design	CIP - Construction													
FR2-0032	Digester K Dome Repair	Digester K	• Repair Digester K dome.	Maintenance Project	Maintenance Project	Maintenance Project												
P2-137	Digesters Rehabilitation at Plant No. 2	Digesters C, D, F, G, H, L, M, N, O, P, Q, R, S, and T	• Digester domes, walls, large pipe penetration, hot water piping, handrails, walking bridges and MCC rehabilitation. Digesters P and R post-tensioned ring repair.	CIP - Design	CIP - Construction	CIP - Construction	CIP - Construction											
P2-124	Interim Food Waste Receiving Facility	All Digesters, gas treatment facilities, and Central Generation	• Receive 150 wet ton per day of source separated and processed organic food waste to digesters for co-digestion.	**Design completed. Construction is pending food waste contract.**														
P2-128	TPAD Digester Facility	New TPAD Digester Facility	• Build five new thermophilic digesters, batching and cooling facilities and use the existing digesters as the mesophilic phase to treat the sludge by TPAD process.	CIP - Design	CIP - Design	CIP - Design	CIP - Design	CIP - Construction	CIP - Construction	CIP - Construction	CIP - Construction	CIP - Construction	CIP - Construction					
P2-129	Digesters P, Q, R, and S Replacement	Digesters P, Q, R, and S	• Replace digesters P, Q, R, S as the new mesophilic digesters.								CIP - Design	CIP - Design	CIP - Design	CIP - Construction	CIP - Construction	CIP - Construction	CIP - Construction	CIP - Construction
XP2-130	Food Waste Receiving Facility	All Digesters, gas treatment facilities, and Central Generation	• 500 wet tons of preprocessed food waste receiving facility (pending food waste decision).													CIP - Design	CIP - Design	CIP - Construction
XP2-131	Digesters I, J, and K Replacement	Digesters I, J, K, T, M, N, and O	• Build three new digesters/holders and demolish existing digesters related.												CIP - Design	CIP - Design	CIP - Design	CIP - Construction
XP2-132	Digester Demolition	Digesters C, D, E, F, G, and H	• Demolish exiting digesters after all new digesters built.															

Types of Project Legend:

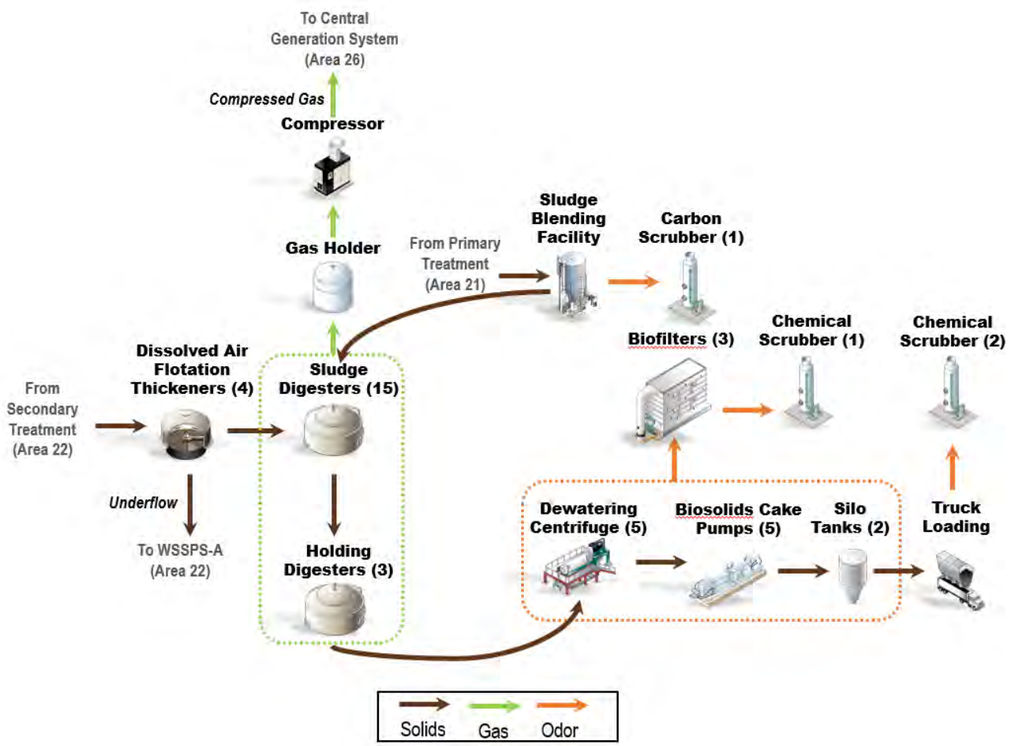
CIP - Planning | **CIP - Design** | **CIP - Construction** | **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Program; FY = Fiscal Year; MCC = Motor Control Center; N/A = Not Applicable;
PVC = Polyvinyl Chloride; TPAD = Temperature Phased Anaerobic Digestion

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 25 – PLANT NO. 2 SOLIDS HANDLING – FACILITIES

Process Schematic



Major Assets Remaining Useful Life

Asset Type	Sludge Blending Facility	Plant Boiler	Centrifuge Dewatering	Centrifuge Bldg. & Silos Odor Control	Truck Loading Bay Odor Control	Truck Loading	Gas handling	Gas Holder	Gas Flares
Civil									
Effluent Piping	2	-	-	-	-	-	-	-	-
Structural									
Structure	2	-	1	1	1	1	-	3	3
Building	1	3	1	-	-	-	4	-	-
Mechanical									
Pump	3	-	1	-	-	-	-	-	-
Fan	-	-	-	2	2	-	-	-	-
Boiler & Heat Exchanger	-	2	-	-	-	-	-	-	-
Centrifuge	-	-	1	-	-	-	-	-	-
Polymer System	-	-	1	-	-	-	-	-	-
Biofilter	-	-	-	1	-	-	-	-	-
Chemical System	-	-	-	2	2	-	-	-	-
Gas Compressor	-	-	-	-	-	-	3	-	-
Gas Dryer	-	-	-	-	-	-	4	-	-
Screw Conveyor	-	-	-	-	-	2	-	-	-
Sliding Frame	-	-	-	-	-	2	-	-	-
Piping & Valve	3	3	2	2	2	3	4	3	2
Scale	-	-	-	-	-	4	-	-	-
Electrical									
MCC & VFD	3	3	2	2	2	3	4	-	-
Instrumentation									
PLC & Flow Meter	3	3	2	2	2	3	3	-	-

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

MCC = Motor Control Center
PLC = Programmable Logic Controller
RUL = Remaining Useful Life
VFD = Variable Frequency Drive
WSSPS = Waste Sidestream Pump Station

Major Assets

Major Assets	Quantities
Sludge Blending Facility	
Sludge Blending Tanks	2
Digester Feed Pumps	6
Recirculation Pump	3
Electrical Building	1
Plant Boiler Facility	
Building	1
Boilers and Heat Exchangers	2

Major Assets	Quantities
Dewatering Centrifuge Facility	
Building	1
Centrifuges	5
Sludge Feed Pumps	5
Cake Transfer Pumps	5
Centrate Pump	2
Polymer System	1

Major Assets	Quantities
Centrifuge Building & Silos Odor Control	
Biofilters	3
Ammonia Scrubber	1
Acid Tank	1
Gas Handling	
Gas Compressors	3
Gas Dryers	2
Gas Flares	3

Major Assets	Quantities
Gas Holder	
Gas Holder Tank	1
Truck Loading	
Cake Storage Silos	2
Sliding Frames	2
Screw Conveyors	12
Scales	2

Major Assets	Quantities
Truck Loading Bay Odor Control	
Chemical Scrubbers	2
Bleach Tank	1
Caustic Tank	1
Bleach Pumps	4
Caustic Pumps	4

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 25 – PLANT NO. 2 SOLIDS HANDLING – FACILITIES

Key Issues

Key Issues	Actions and Recommendations
• **Boilers and Heat Exchangers** – Aging equipment and facility that has reliability and seismic vulnerabilities.	• P2-128 included a Boiler Building with a third boiler to cover exiting boiler capacity. Existing boiler facility demolition is included in XP2-132. • PS21-04 to evaluate digester gas usage and power generation alternatives. The heat recovery and demand will be factored in. PS21-04 decision will impact the Plant Boiler decision.
• **Gas Handling System** – Gas compressor system is aging and needs reliability improvements.	• J-124 Digester Gas Facilities will rehabilitate and replace aging assets. • Gas compressor repairs and overhauls will be performed by Maintenance.
• **Refrigerated Gas Dryer** – Inefficient capacity and unreliable. Currently no redundancy for gas drying.	• The refrigerated gas dryer system will be replaced by FE23-01.
• **Truck Loading Facility Area** – Truck loading bay fugitive odors escaping; aged and corroded scales.	• PS20-03 made recommendations for truck bay odor control improvements, P2-140 will implement recommendations. • MP2-014 will replace the two scales.
• **Centrifuge** – Hinged cover needed to support Maintenance activities; cake pipe lube ring pump replacement parts not readily available.	• PRN-00885 sole source to OEM to replace covers with hinged covers. • AI-642 to research solutions.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
MP2-014	Truck Loading Scale Replacement	Truck Loading Station	• Replace two scales in kind.															
J-124	Digester Gas Facilities Rehabilitation	Gas compressors, dryers, flares	• Rehabilitate existing compressor building and replace the electrical and instrumentation; replace the flares.															
P2-140	Truck Loading Bay Odor Control Improvements	Truck Loading Station	• Truck loadout facility improvements from PS20-03, and minor concrete repair.															
P2-128	TPAD Digester Facility	Boiler facility	• Add new boiler to replace the existing boilers.															
PRN-00885	Centrifuge Hinged Cover Replacement	Centrifuges	• Add hinged cover to improve access and maintainability															
XP2-132	Digester Demolition	Boiler facility and SBF	• Demolish Boiler Facility and SBF with digesters demolition.															

Types of Project Legend:

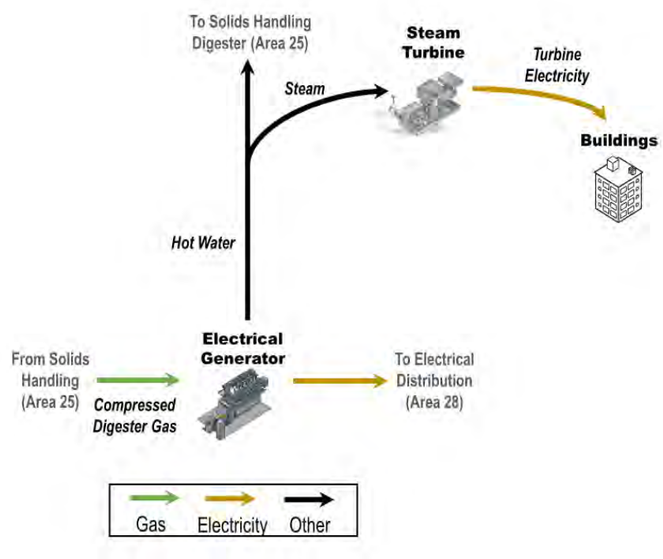
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Program; FY = Fiscal Year; OEM = Original Equipment Manufacturer; SBF = Sludge Blending Facility; TPAD = Temperature-phased Anaerobic Digester

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 26 – PLANT NO. 2 CENTRAL GENERATION

Process Schematic



Major Assets Remaining Useful Life

Asset Type	Engine Generator #1	Engine Generator #2	Engine Generator #3	Engine Generator #4	Engine Generator #5	Steam Turbine Generator	Steam Condenser	Deaerator Vessel	Heat Recovery Boiler #1	Heat Recovery Boiler #2	Heat Recovery Boiler #3	Heat Recovery Boiler #4	Heat Recovery Boiler #5	OXI Catalyst	SCR Catalyst	Urea Injection System	Starting Air Compressor #1	Starting Air Compressor #2	Starting Air Compressor #3	Inst. Air Compressor #1	Inst. Air Compressor #2	Battery Backup	Plant Water Piping	Miscellaneous
Structural																								
Building	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Mechanical																								
General	5	5	5	5	5	3	3	4	4	4	4	4	4	4	3	3	3	3	3	5	5	-	5	-
HVAC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4
Lube Oil System	4	4	4	4	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical																								
General	5	5	5	5	3	3	-	-	-	-	-	-	-	-	-	3	3	3	3	3	3	3	-	-
Switchgear	4	4	4	4	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Instrumentation																								
General	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	-	-	-

RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

HVAC = Heating, Ventilation, and Air Conditioning; Inst. = Instrument; OXI = Oxidizer; RUL = Remaining Useful Life; SCR = Selective Catalytic Reduction

Major Assets

Major Assets	Quantities
Engine Generator	
Gas Engine (16 Cylinders)	5
Electrical Generator	5
Engine Lube Oil System	5
Steam Turbine Generator	
Steam Turbine	1
Electrical Generator	1
Steam Condenser	1
Deaerator Vessel	1

Major Assets	Quantities
Heat Recovery System	
Heat Recovery Boiler	5
Building	
Building	1
Piping	Various
Engine Emission Control	
OXI Catalyst	5
SCR Catalyst	5
Urea Injection System	5

Major Assets	Quantities
HVAC	
Ventilation Supply Fans	5
Ventilation Exhaust Fans	6
Air Compressors	
Engine Starting Air	3
Instrument Air	2

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 26 – PLANT NO. 2 CENTRAL GENERATION

Key Issues

Key Issues	Actions and Recommendations
• **Gas Engine Generator Set Reliability** – Aging components and systems required to operate the five Central Generation Engines are creating reliability issues and need to be addressed.	• Execute major engine overhauls (J-135B). • Replace obsolete systems (for example, battery backup, switchgear, motor control centers, ignition system, PLC upgrade, etc.) (J-117B, PRN-00915).
• **Engine Lube Oil System** – Lube oil centrifuges instrumentation and controls (I&C) need to be upgraded.	• Install new instrumentation and controls onto the existing two units (PRN-00211).
• **Plant Water Piping** – Plant water (that is, cooling water) piping has degraded and needs replacement.	• Replace all plant water piping in the basement of Central Generation (FE20-04).
• **Emission Control System** – Housings on the Oxidizer Catalysts are failing prematurely.	• Investigate failures, redesign, and install new Catalyst Housings and emissions devices as needed (PRN-00427).
• **Instrument Air Compressors** – Air compressors are no longer operational.	• Replace the entire Instrument Air System, installing new compressors and appurtenances (PRN-00536).
• **Exhaust Heat Recovery Boilers** – The boilers need to be inspected both internally and externally.	• Inspect and repair boiler pressure vessels as required to maintain safety and reliability (AI-195).
• **Engine PLC Upgrade** – The existing engine PLCs are obsolete.	• Replace obsolete engine PLCs with new ones (AI-170).
• **Engine Protection System and Diagnostics** – Engine diagnostic capability improvement needed.	• Upgrade the Engine Condition Monitoring System and include diagnostic capabilities (PRN-00915).
• **Engine Ignition Control System** – The existing engine controls are aging and obsolete.	• Install new ignition control systems onto each engine genset (AI-226).

Types of Project Legend:

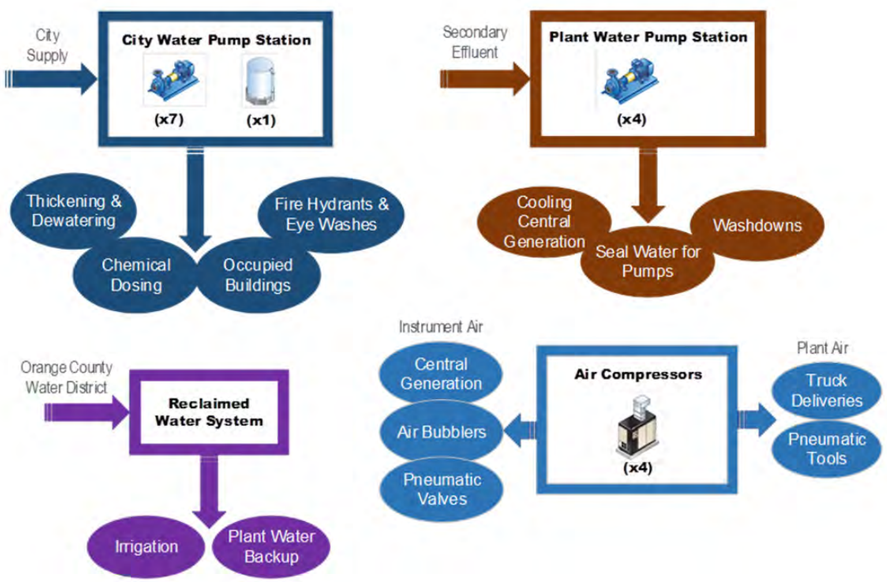
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Program; FY = Fiscal Year; I&C = Instrumentation and Controls; PLC = Programmable Logic Controller; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 27 – PLANT NO. 2 UTILITIES

Process Schematic



Major Assets Remaining Useful Life

Asset Type	City Water System	Plant Water System	Reclaimed Water Piping	Plant Air Systems
Civil				
Pipes	2	4	2	3
Structural				
Pump Station	1	5	-	-
Tanks	3	-	-	-
Mechanical				
Pumps	3	3	-	-
Strainers	-	3	-	-
Compressors	-	-	-	3
Ventilation System	2	2	-	-
Electrical				
MCC	2	2	-	-
VFD	3	3	-	-
Instrumentation				
PLC, Flowmeter	3	3	-	3

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

MCC = Motor Control Center
PLC = Programmable Logic Controller
RUL = Remaining Useful Life
VFD = Variable Frequency Drive

Major Assets

Major Assets	Quantities
City Water	
Pumps	7
Tanks	4
Piping	8.9 Miles

Major Assets	Quantities
Plant Water	
Pumps	4
Strainers	4
Piping	10.6 Miles

Major Assets	Quantities
Reclaimed Water	
Piping	6 Miles

Major Assets	Quantities
Plant Air	
Compressors	3
Plant Air Piping	6.7 Miles
Instrument Air Piping	1.6 Miles

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 27 – PLANT NO. 2 UTILITIES

Key Issues

Key Issues	Actions and Recommendations
• **Plant/Instrument Air Lines** – Excessive condensate and oversized piping causing large pressure drop, reducing compressor redundancy.	• Future small projects to be created to address oversized piping and several dead ends within the system.
• **Plant Water Piping** – Due to the corrosive nature of the plant water, the current ductile iron pipes are corroding prematurely and causing failures throughout the plant.	• FE18-14 will address corroded plant water piping in the tunnels and PRN-00740 will replace a small portion of plant water piping with HDPE. Overall goal for these and future projects is to replace ductile iron pipes with either fiberglass-reinforced or HDPE piping material.
• **Air Compressors** – Instrument Air Compressors have failed due to reaching their end of life and need to be replaced.	• Air compressors at Cen Gen are being replaced due to multiple failures via PRN-00536

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37
FE18-14	Plant Water Pipeline Rehabilitation	Piping in tunnels	• Replace 1,600 feet of piping in the tunnels.														
J-117B	Outfall Low Flow Pump Station	Plant Water Pump Station	• Replace Plant Water Pump Station and plant water piping near project.														
P2-133	B- and C-Side Primary Clarifiers Rehabilitation	Primary Clarifiers	• Replace City water piping near project.														
P2-98A	Primary Treatment Rehabilitation	City Water Pump Station	• Refeed City Water Pump Station directly from DC-F 480 switchgear.														
X-036	Plant No. 2 City Water Pump Station	City Water Pump Station	• Rehabilitation of City Water Pump Station.														
X-037	Plant No. 2 Plant Water Pump Station Demolition	Plant Water Pump Station	• Demo Plant Water Pump Station as a new Plant Water Station will be built by J-117B.														
P2-136	AS Aeration Basins at Plant No. 2	AS Aeration Basins	• Replace potable water lines.														
PRN-00740	6 in DIP Plant Water Pipe Replacement	Primary Sedimentation Basin	• Replacing 100 feet of DIP near PSB-P and PSB-Q by Maintenance Project.														
PRN-00536	IA Compressors at Plant No. 2 Cen Gen	Central Generation	• Replace instrument air compressors.														
PRN-00230	City Water Assessment at Plant No. 2	City Water Pump Station	• Study to evaluate future demands and capacity improvements to accommodate those demands. Will be combined with PRN-00541 and PRN-00743.														
MP2-011	Ella Tunnel Plant Water Pipe Replacement	Plant Water Piping	• Replace approximately 300 feet of corroded plant water piping in Ella Tunnel.														

Types of Project Legend:

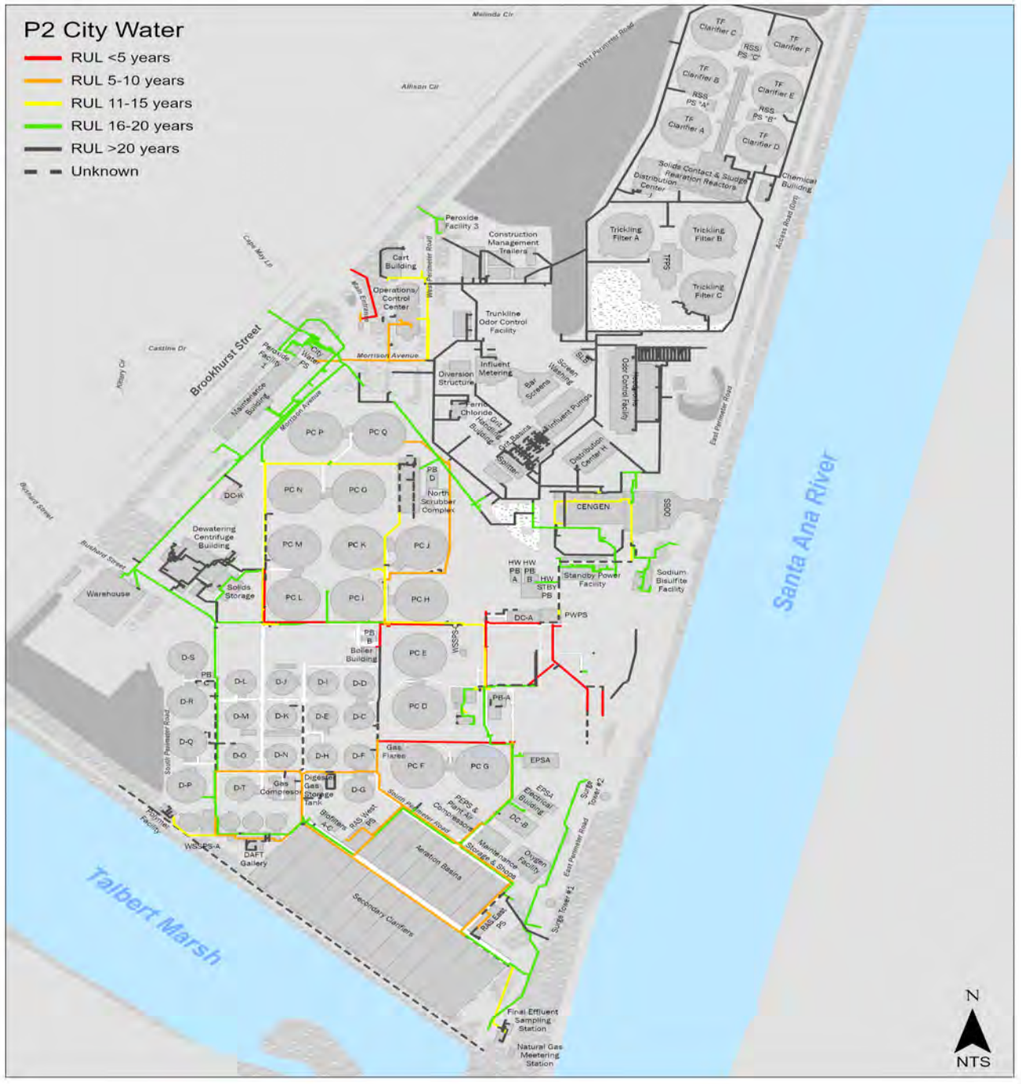
CIP - Planning | **CIP - Design** | **CIP - Construction** | **Maintenance Project**

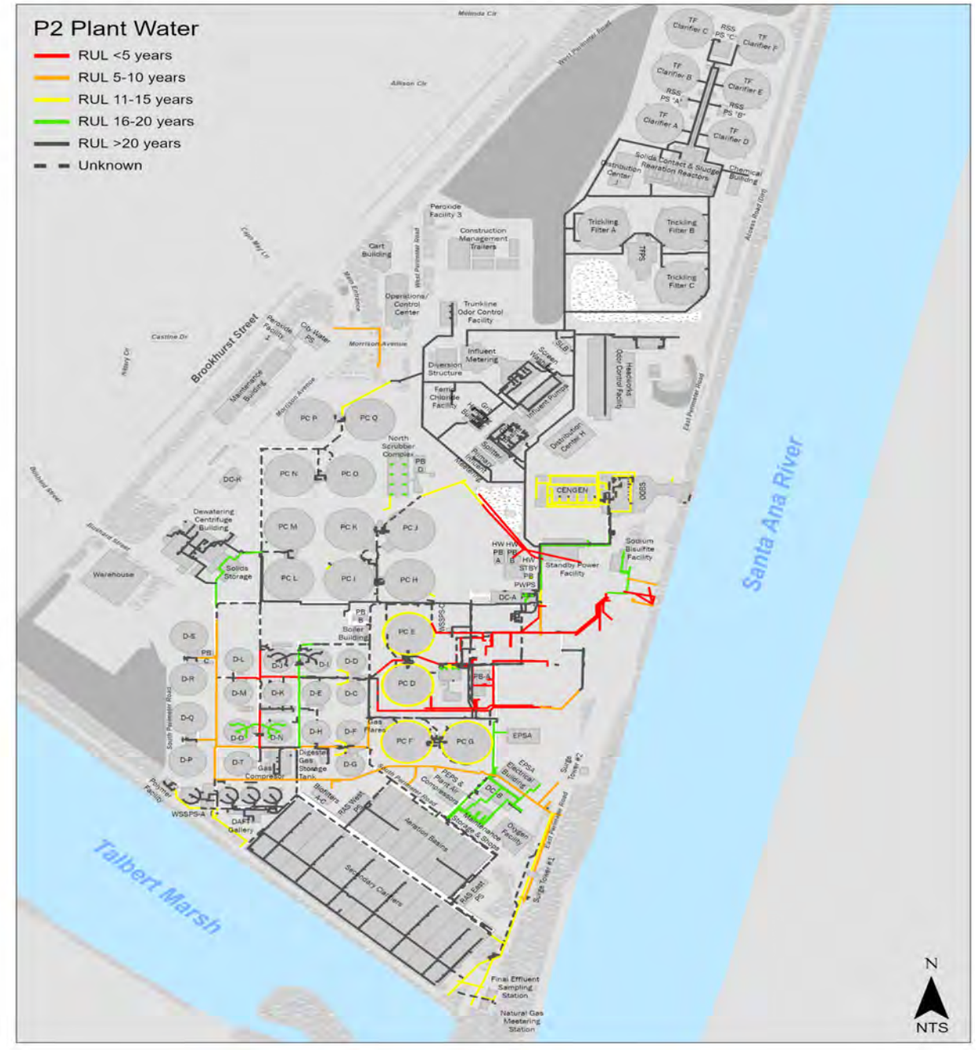
Acronym Key:

AS = Activated Sludge; Cen Gen = Central Generation Facility; CIP = Capital Improvement Program; DIP = Ductile Iron Pipe; DC-F = Distribution Center F; FY = Fiscal Year; HP = Horsepower; HDPE = High-Density Polyethylene; IA = Instrument Air, PSB = Primary Sedimentation Basin

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 27 – PLANT NO. 2 UTILITIES

Remaining Useful Life of Utility Infrastructure





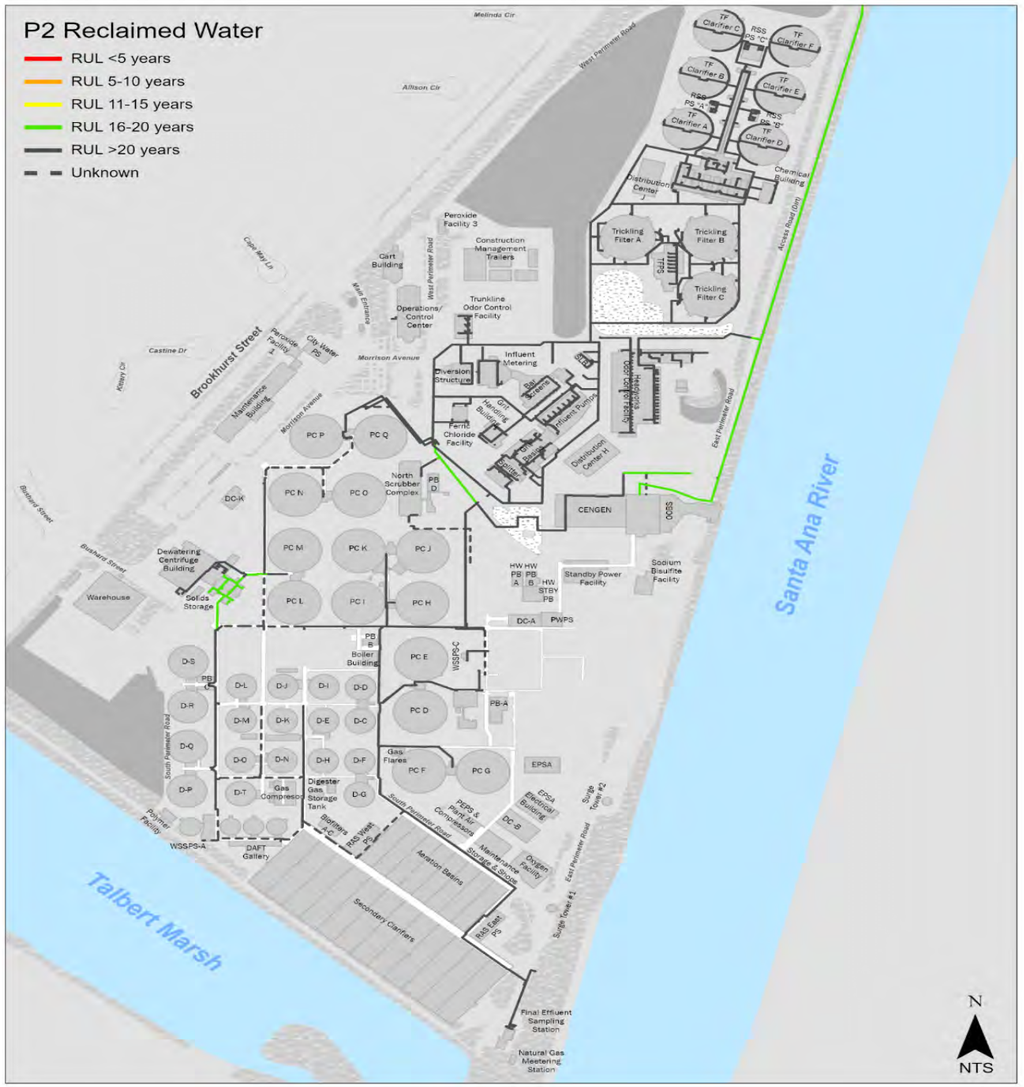
RUL Legend:

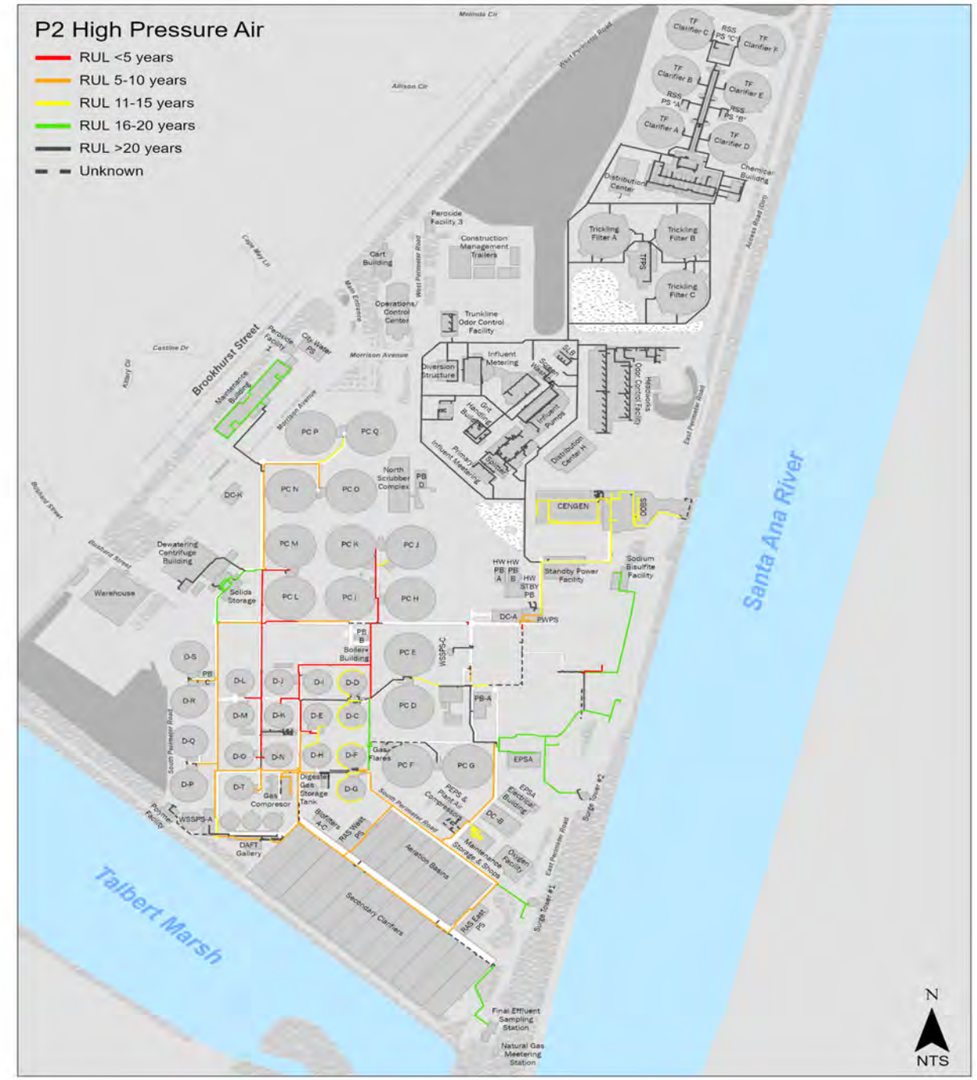
RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

Acronym Key:
RUL = Remaining Useful Life
RUL is based solely on age of pipe

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 27 – PLANT NO. 2 UTILITIES

Remaining Useful Life of Utility Infrastructure





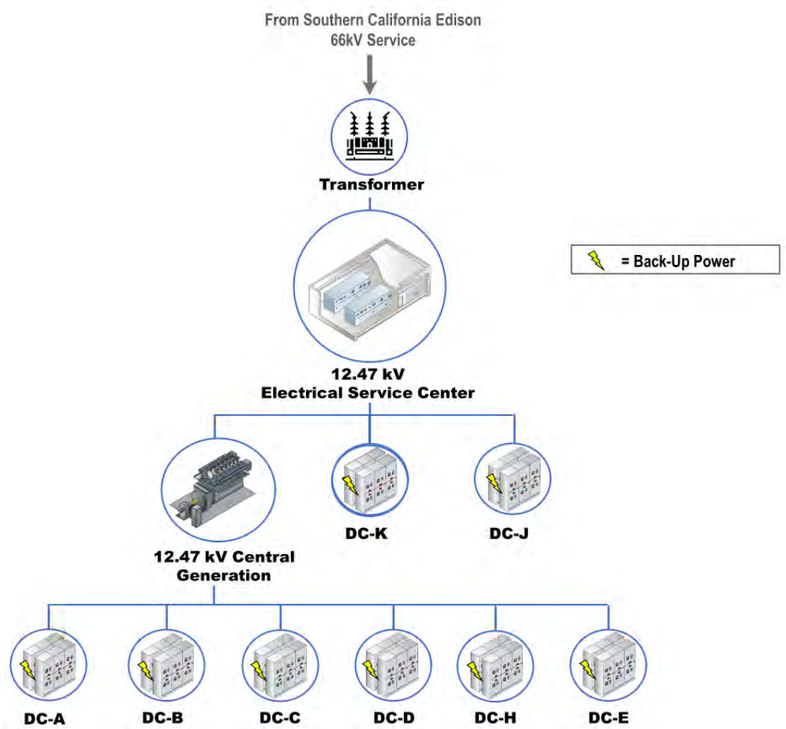
RUL Legend:

RUL < 5 years | **RUL 5–10 years** | **RUL 11—15 years** | **RUL 16—-20 years** | **RUL > 20 years**

Acronym Key:
RUL = Remaining Useful Life
RUL is based solely on age of pipe

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 28 – PLANT NO. 2 ELECTRICAL DISTRIBUTION

Process Schematic



Major Assets

Major Assets	Quantities
Transformers	58
Standby Generators	9
12-kV Switchgears	27
480-V Switchgears	32
125-VDC and 24-VDC Battery Systems	38

Acronym Key:

Cen Gen = Central Generation Facility
DC = Distribution Center
EPSA = Effluent Pump Station Annex
kV = Kilovolt(s)
PB = Power Building
SPF = Standby Power Facility
RUL = Remaining Useful Life
VDC = Volt(s) of Direct Current
UPS = Uninterruptible Power Supply
V = Volt(s)

Major Assets Remaining Useful Life

Asset Type	Service Center	Cen Gen	DC-A	DC-B	DC-C	DC-D	DC-E (EPSA)	EPSA SPF	DC-H (Headworks)	Headworks Standby Building	DC-J	DC-K	PB-A	PB-B	PB-C	PB-D
Tier I – 12.47-kV Primary Distribution Level																
Transformers: 12.47/2.4-kV	-	-	-		4	-	-	-	-	-	-	-	-	-	-	
Transformers: 12.47/0.48-kV	3	4	3	3	4	3	3	-	2	-	2	1	4	4	4	4
12.47-kV Switchgears	3	5	3	3	4	4	4	3	2	2	2	1	-	-	-	-
12.47-kV Load Interrupter Switches	-	-	-	3	-	-	-	-	-	-	-	1	4	4	4	4
12.47-kV Feeders	4	4	1	1	4	4	4	3	2	2	2	1	1	1	4	4
12.47-kV Generators	-	-	-	-	-	-	-	3	-	3	-	-	-	-	-	-
Tier II – 4.16-kV Distribution Level																
4.16-kV Feeders	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
Tier III – 2.4-kV Distribution Level																
2.4-kV Feeders	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-
Tier IV – 480-V Distribution Level																
480-V Switchgears	-	4	3	3	4	4	-	-	2	-	2	1	4	4	4	4
Transfer Switches	-	-	-	-	-	-	-	-	-	-	-	-	4	4	4	4
Generators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4
Tier V – UPS																
UPSs Individual	-	5	-	-	5	4	-	-	4	-	-	4	-	4	-	-
UPSs Regional	-	-	-	4	-	-	4	-	-	-	4	-	-	-	-	-
Tier VI – 125-VDC and 24-VDC Battery Systems																
125-VDC Chargers	5	5	5	5	-	-	-	4	4	4	4	4	5	4	-	-
125-VDC Batteries	5	5	5	5	-	-	-	4	4	4	4	4	5	4	-	-
24-VDC Chargers	-	5	-	-	-	-	-	4	-	4	-	-	-	-	4	4
24-VDC Batteries	-	5	-	-	-	-	-	4	-	4	-	-	-	-	4	4
Generator Controls																
Generator Controls	-	5	-	-	-	-	-	3		3	-	-	-	-	4	4

RUL Legend:

RUL < 5 years | **RUL 5–10 years** | **RUL 11–15 years** | **RUL 16–20 years** | **RUL > 20 years**

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 28 – PLANT NO. 2 ELECTRICAL DISTRIBUTION

Key Issues

Key Issues	Actions and Recommendations
• **Edison Substation** – Southern California Edison Substation is aging; currently only a single 66-kV Feeder Service.	• X-095 Project will install new 66-kV Switchyard; additional 66-kV Line; additional transformer with automatic load tap changes, new Electrical Service Center.
• **Variable Frequency Drive** – Models are becoming obsolete and are unsupported by the manufacturer.	• FE19-08, currently in construction, is replacing obsolete VFDs at the Pure Oxygen Activated Sludge Facility. PRN-00780 and PRN-00820 are also replacing additional VFDs in the Trickling Filter area.
• **Medium Voltage Cables** – Aging cables need to continue to be monitored and tested.	• Three-year Service Contract (S-2019-1107B)/MP-320 in place for testing aging medium voltage cables (and perform Condition Assessment and develop plan for PM) expires 2023 and similar contract will be executed for 2024.
• **Headworks Cables** – 480-V and control cables failing in the Headworks area. Multiple cable failures occurred in the grit basin and grit handling system causing a complete system failure.	• FR2-0026 is currently in construction and is scheduled to be completed in 2024. Urgent task (reference SDR-576/AI-473) installed temporary power and control cables for Grit Pumps and Mixers. MP2-008 is in development to permanently replace Grit Basin power and control cables, and MP2-013 is in development to install temporary cables in the Grit Classifiers.
• **Distribution Center H 12-kV 1,500-kVA Transformer TFR-H04** – Transformer TFR-H04 failed and is currently out of service.	• MP2-012, currently in construction, will repair the transformer.
• **MSP #7 VFD Transformer** – VFD transformer has failed and the drive is currently out of service.	• Purchase of new transformer was approved by the Board (PRN-00912)
• **12-kV Cen Gen Switchgear** – Obsolescence.	• J-117B Project will replace 12-kV switchgear.
• **Standby Power Policy** – No Standby Power policy to maintain permit compliance and prevent adverse impacts on treatment capability during plant power outages.	• PS21-04, currently in the development phase, will determine a standby power policy and plan to maintain OC San operations and permit compliance during loss of power.
• **Circuit Breaker and Protective Relay Testing** – Periodic testing of circuit breakers and protective relays is required by InterNational Electrical Testing Association	• It is recommended that Engineering develop a plan to keep Electrical Transient Analyzer Program model updated, and new task order is developed to contract a testing company to perform periodic testing over a span of time, which can be renewed without the need to rewrite the scope.
• **Battery Chargers and Batteries** – Aging and obsolescence.	• PRN-00897 will replace battery systems.

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 28 – PLANT NO. 2 ELECTRICAL DISTRIBUTION

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
S-2019-1107B	On-Call Plant No. 1 and Plant No. 2 Medium Voltage Cable Testing Services	Plant No. 1 and Plant No. 2 Power Distribution and Cabling Infrastructure	• Condition assessment and Testing of Plant No. 1 and Plant No. 2 Medium Voltage Cabling Infrastructure.															
FR2-0026	Headworks Phase 3 Cable Replacement at Plant No. 2	Headworks	• Project will replace damaged low voltage power and control wiring in headworks and trickling filters area of Plant No. 2.															
J-117B	Outfall Low Flow PS	Power Distribution	• Project will replace LOFLO/PWPS 480-V Switchgear, 12.47-kV Switchgears (Main and Generators) at Cen Gen, OOBS/DC-C 12.47-kV and 480-V Switchgear, replace electromechanical relays with solid state relays for Service Center and Distribution Center B, add new SCADA Points and Load Shedding System.															
FE19-08	Secondary Treatment VFD Replacements at Plant No. 2	Power Distribution	• This project will replace six 125-HP Return-Activated Sludge VFDs, four 50-HP Waste-activated Sludge VFDs, four 300-HP Primary Effluent Pump Station VFDs, and associated cables and conductors at Plant No. 2.															
SC19-06	EPSA Standby Power Generator Control Upgrades at Plant No. 2	Plant No. 2 Power Distribution	• This project will upgrade 12.47-kV EPSA Generator Switchgear and Generator controls.															
P2-98A	A-Side Primary Basins Replacement at Plant No. 2	Plant No. 2 Primary Basins, Power Distribution System	• This project will demolish existing electrical distribution equipment at Primary Clarifiers D, E, F, G Electrical Building, Power Buildings A, B, C, City Water Pump station, Plant Water Strainers, and other facilities. The project will provide new electrical services to existing power buildings and new Distribution Center F.															
J-124	Digesters Gas Facility Replacement	Plants No. 1 and Plant No. 2 Compressors, Flares, Power Distribution	• This project will upgrade electrical equipment and control systems inside Gas Compressor Building.															
J-98	Electrical Power Distribution System Improvements	Various Plant No. 1 and Plant No. 2 condition based electrical distribution systems	• Project will perform various Electrical Distribution System Improvements at various areas throughout Plant No. 2. The scope covers both 480-V and 12-kV switchgear, Motor Control Centers, breakers, conductors, load shedding, and arc flash mitigation.															
P2-128	TPAD Digester Facility at Plant No. 2	Plant No. 2 Digesters, Electrical and Mechanical Systems	• This project will include two-story Electrical Power Building consisting of electrical distribution equipment to support new TPAD Digester Facility.															
P2-133	Plant No. 2 - B/C-Side Basins Rehabilitation	Plant No. 2 Primary Basins, Mechanical and Electrical Systems	• New B- and C-Side Primary Scrubber Complex construction including relocating the electrical feed to new Distribution Center F and demolition of Power Building D.															
P2-129	Digesters P, Q, R, and S Replacement	Digesters P, Q, R, S	• Replace digesters P, Q, R, and S as the new mesophilic digesters.															
P2-138	Operations and Maintenance Complex at Plant No. 2	Electrical Distribution	• Construct new Operations Building and make improvements to existing Maintenance Building.															
PS21-04	Energy and Digester Gas Master Plan	Plant No. 1 and Plant No. 2 Power Generation and Standby Power	• Develop a Standby Power Policy, load shedding and power restart philosophy, and energy resiliency and independence plan.															

Current and Future Projects (Continued)

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
PRN-00780	TFPS A1, A2, B1, B2, and C2 VFD Replacement	Trickling Filter Pump Station	• This project will replace VFDs for TFPS															
PRN-00897	125-VDC Battery Replacement at Plant 1 and 2	125-VDC Battery Systems at Plant 2	• This project will replace obsolete battery systems at Plant 2 12-kV Service Center, Distribution Center A, Distribution Center B, East RAS, West RAS, EPSA Electrical Building, EPSA Standby Power Building, Headworks Standby Power Building, and DAFT Switchgear Room.															
PRN-00912	MSP No. 7 VFD Transformer Replacement/Repair	12-kV VFD Transformer	• Replace/Repair MSP No. 7 VFD Transformer															
MP2-008	Grit Basin Numbers 5 and 6 Pump and Mixer Cable Replacement at Plant No. 2	Distribution Center H, Grit Basins, Grit Handling Facility	• This project will permanently replace all power and control cables for Grit Basin Pumps and Mixers and Grit Classifiers.															
MP2-012	Transformer TFR-H04 Repair at Plant 2	Distribution Center H	• This project will repair the failed 12-kV 1,500-kVA Transformer TFR-H04															
MP2-013	Grit Classifier Temporary Cable Installation at Plant 2	Distribution Center H, Grit Handling Facility	• This project will install temporary cables for power and controls for all four Grit Classifiers															
X-037	Plant Water Pump Station and 12-kV Distribution Center A Demolition at Plant No. 2	Plant Water Pump Station and Distribution Center A	• This project will demolish Plant Water Pump Station and 12-kV Distribution Center A (DC-A), which are adjacent and share a wall. After Power Buildings A, B, C, D and Plant Water Pump Station. Power Buildings A and D are demolished by P2-98A and P2-133, respectively.															
X-095	Electrical Substation and 12-kV Service Center Replacement at Plant No. 2	SCE Substation and 12-kV Service Center	• This project will add an additional feeder from the SCE substation and replace the 12-kV Service Center.															
X-098	Effluent Pump Station Annex Rehabilitation	EPSA Power Distribution	• EPSA Rehabilitation to include mechanical, structural, architectural, HVAC, and plumbing systems modifications, and electrical Switchgear, MCCs, and VFDs.															

Types of Project Legend:

CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

Cen Gen = Central Generation Facility; CIP = Capital Improvements Program; EPSA = Effluent Pump Station Annex; FY = Fiscal Year; HVAC = Heating, Ventilation, and Air Conditioning; kV = Kilovolt(s); kVA = Kilovolt-ampere(s); LOFLO = Low Flow; MCC = Motor Control Center; MSP = Main Sewage Pump; OOBS = Ocean Outfall Booster Station; PS = Pump Station; PWPS = Plant Water Pump Station; RAS = Return-Activated Sludge; SCADA = Supervisory Control and Data Acquisition; SCE = Southern California Edison; TFPS = Trickling Filter Pump Station; TPAD = Temperature-Phased Anaerobic Digester; UPS = Uninterruptible Power Supply; V = Volt(s); VFD = Variable Frequency Drive

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 29 – PLANT NO. 2 OCCUPIED & POWER BUILDINGS

Major Assets Remaining Useful Life

Plant 2 - Infrastructure Non-Process	Building Roof	Building Electrical	HVAC	Structural (Visual)	Seismic (PS15-06)	Elevator
Cart Building	4	N/A	N/A	TBD	N/A	N/A
Maintenance Building	4	2	5	1	5	2
Operations Center Bldg.	3	4	5	1	4	4
12-kV Distribution Center A	4	N/A	3	1	2	N/A
12-kV Distribution Center B	4	N/A	3	1	2	N/A
12-kV Distribution Center C	2	N/A	3	1	N/A	N/A
12-kV Distribution Center D	2	N/A	3	1	2	N/A
Distribution Center H	1	N/A	5	1	N/A	N/A
Distribution Center J	2	N/A	3	1	N/A	N/A
Distribution Center K	2	N/A	3	1	N/A	N/A
12-kV Service Center	4	N/A	3	1	4	N/A
HW Power Building A	3	N/A	3	1	2	N/A
HW Power Building B	3	N/A	3	1	2	N/A
EPSA Electrical Building	2	N/A	5	1	N/A	N/A
Power Building B	4	N/A	3	1	4	N/A
Power Building C	4	N/A	3	1	2	N/A
Power Building D	3	N/A	3	1	2	N/A

Asset RUL Legend:

- RUL < 5 years
- RUL 5–10 years
- RUL 11–15 years
- RUL 16–20 years
- RUL > 20 years

Acronym Key:

EPSA = Effluent Pump Station Annex; HVAC = Heating, Ventilation, and Air Conditioning; HW = Headworks; kV = Kilovolt(s); N/A = Not Applicable; RUL = Remaining Useful Life; TBD = To Be Determined

ASSET MANAGEMENT SYSTEM SUMMARY – AREA 29 – PLANT NO. 2 OCCUPIED BUILDINGS

Key Issues

Key Issues	Actions and Recommendations
• **Seismic Retrofits Needed** – Recent Planning study (PS15-06) recommended seismic retrofits to several buildings.	• Maintenance building will be retrofitted with seismic upgrades, existing Operation Center will be demolished after new Operations Complex is built via P2-138.
• **Aging Elevators** – All elevators need to be rehabilitated and modernized.	• As the building elevators age and are less reliable over time, projects are being created to address modernization and upgrades as needed. One such project is SC20-02 to address the OOBS elevators.
• **Aging HVAC Units** – HVAC units have shorter RUL due to coastal environment.	• When units are obsolete, corroded and reach the end of their useful life, projects will be created to replace these units. A few recent projects to replace HVAC units are SC22-01 and SC22-02.
• **Public Announcement System Failure** – The public announcement system plantwide needs to be replaced because it is obsolete and not functional in some areas.	• PS21-02 study is looking at alternatives to the existing public announcement system and will make recommendations for new modern systems that will meet the district needs.

Current and Future Projects

Project No.	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37
P2-127	Collections Yard Relocation and Warehouse Demolition at Plant No. 2	Warehouse Building	Demolish Warehouse Building.														
P2-138	Operations and Maintenance Complex at Plant No. 2	Operations and Maintenance Building	Construct new Operations Building and make improvements to existing Maintenance Building.														
PS21-02	Fire and PA System Study at Plants 1 and 2	Plantwide	Study to provide alternatives and recommend upgrading our existing fire and public announcement systems plantwide.														
SC22-01	Plant 2 EPSA and 12-kV Distribution Center H HVAC Replacement	EPSA Electrical Building and Distribution Center H	Replace HVAC systems on both building because they have reached the end of their useful lives.														
SC22-02	HVAC Replacement for Plant 2 Centrifuge Building, Op Center, and Bitterpoint PS	Operations Center, Centrifuge Server Room, and Bitterpoint PS	Replace HVAC for Operations Center														
SC20-02	Ocean Outfall Booster Station Elevator Rehabilitation	OOBS	Rehabilitate Elevator														
X-037	Plant Water PS and 12-kV Distribution Center Demolition at Plant 2	12-kV Distribution Center	Demolish existing 12-kV Distribution Center														
X-095	SCE Substation & 12-kV Service Center Demolition	12-kV Service Center	Demolish existing 12-kV Service Center														
P2-129	Digesters P, Q, R, & S Replacement at Plant 2	Power Building C	Replace Power Building C														
P2-133	B/C Side Sedimentation Basin Rehabilitation at Plant 2	Power Building D	Demolish Power Building D														
XP2-132	Digester Demolition at Plant 2	Power Building B	Demolish Power Building B														

Types of Project Legend:
CIP - Planning | CIP - Design | CIP – Construction | Maintenance Project

Collection System Pump Station and Force Main Asset Management Summaries

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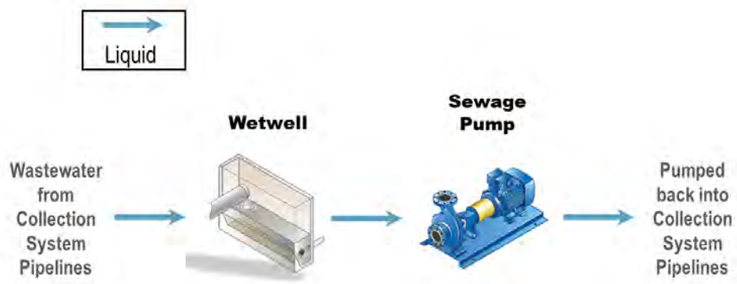
ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – PUMP Stations

Process Schematic



Pump Station	Major Assets – Quantities				
	Wet Wells	Pumps	Force Mains	Valves	Emergency Generators (Y/N)
15th Street	1	3	2	22	N
A Street	1	3	2	19	N
Bay Bridge	1	5	2	17	Y
Bitter Point	1	5	2	23	Y
College	1	3	2	18	N
Crystal Cove	1	2	2	13	Y
Edinger	1	2	1	8	N
Lido	1	3	2	17	N
MacArthur	1	2	1	8	N
Main Street	2	10	3	38	Y
Rocky Point	1	4	2	18	Y
Slater	1	5	2	17	Y
Seal Beach	2	8	2	24	N
Westside	1	4	1	16	Y
Yorba Linda	1	3	1	11	N
Newport Force Mains	--	--	2	--	--
Total	**17**	**62**	**29**	**269**	**-**

Major Assets Remaining Useful Life

Asset Type	15th Street	A Street	Bay Bridge	Bitter Point	College	Crystal Cove	Edinger	Lido	MacArthur	Main Street	Rocky Point	Slater	Seal Beach	Westside	Yorba Linda	Newport Force Mains
Civil - Piping																
Force Mains	3	3	5	3	4	5	5	4	4	5	3	5	1	5	5	2
Structural																
Pump Station	4	4	4	4	1	4	3	3	5	2	3	3	4	2	4	-
Wet Well	3	3	4	1	4	3	4	4	4	4	3	4	4	3	3	-
Mechanical																
Pumps	5	3	5	2	2	2	4	3	4	5	2	5	5	4	4	-
Valves	5	5	5	2	3	5	3	5	4	5	2	4	4	3	5	-
Ventilation System	3	3	4	4	3	3	3	4	4	3	5	3	5	3	3	-
Emergency Generator	-	-	3	1	-	3	-	-	-	2	2	3	-	2	-	-
Electrical																
Motor Control Center	2	2	4	1	1	4	4	3	4	3	2	3	5	2	4	-
VFD	4	4	5	3	4	-	-	4	4	4	3	3	5	3	-	-
Motors	3	3	4	2	2	3	3	4	4	3	2	3	4	2	4	-
Transformer	2	2	4	2	2	4	4	3	4	2	3	2	4	2	4	-
Instrumentation																
PLC	3	3	4	3	3	3	4	4	3	3	4	3	3	3	3	-
Flowmeter	3	3	1	3	2	1	4	2	-	4	3	4	4	3	4	-

Asset RUL Legend:

- **RUL < 5 years**
- **RUL 5–10 years**
- **RUL 11–15 years**
- **RUL 16–20 years**
- **RUL > 20 years**

Acronym Key:

N = No
PLC = Programmable Logic Controller
RUL = Remaining Useful Life
VFD = Variable Frequency Drive
Y = Yes

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – PUMP STATIONS

Key Issues	Actions and Recommendations
Safety – Currently, four of OC San's older pump stations do not have atmospheric monitoring (for hydrogen sulfide gases) or standard safety indication lighting. Also, pump station infrastructure is often located in the public right-of-way, making safe access to these facilities an ongoing issue.	An ongoing planning study (PS18-06) is reviewing and interpreting electrical code and will establish OC San design standards to address this issue. Practicing ongoing safety measures and traffic control when working in the public right-of-way will continue to be of the utmost importance. In the meantime, efforts are being made to find interim solutions to address this issue until the project implements the permanent solutions.
Natural Phenomenon – Edinger pump station is located immediately adjacent to an undersized flood control channel. Crystal Cove pump station is experiencing gradual site settlement. Both natural hazards present a risk to normal operation of the pump stations.	A capital project (11-33) has been established to replace and relocate Edinger pump station. A future capital project (5-66) has been established to determine the necessary mitigation measures to remediate site settlement at Crystal Cove pump station.
Increased Methane Gas Levels – Methane gas accumulation has become a safety concern at some pump stations. The amount of gas seems to increase during summer months and presents a unique challenge because of the short response time necessary to address the safety concerns of increased ignition risk.	A CIP project (5-68), currently in construction, will address the ventilation issues that cause odorants to migrate to unwanted areas at the OC San Newport Beach pump stations including Bitter Point, Lido, Rocky Point, 15th Street, A Street, and Crystal Cove Pump Stations. The project will add ventilation and pressure relief dampers to the wet wells to prevent pressurization (positive and negative) and add odor scrubbing/polishing systems at the pump stations to treat the air released from the wet wells. Additionally, a chemical dosing station will be added at 15th Street Pump Station for downstream odor control. Finally, an operation strategy for venting the force main system will be established separately.
Accelerated Corrosion – Corrosion is an ongoing problem due to the presence of raw sewage. In places where the system has been kept from venting and mixing of wastewater is prevalent, such as wet wells, the degree of corrosion has (or will soon) require the replacement/rehabilitation of the assets.	Visual assessments of known corrosion issues are performed on an ongoing basis. When necessary, cameras are used to evaluate the spreading of corrosion impacts and confined space entry may be performed to gather additional information to determine when the facility needs to be rehabilitated. At College Pump Station, visual assessment found delaminated liner and soft concrete underneath the damage liner in the wet well; a planning study (PS20-07) was completed that performed more detailed assessment of the wet well and provided rehabilitation recommendations. At Slater Pump Station, visual assessment found damaged T-lock liner in both west and east sides of the wet well; a repair has been completed to address the west side, which has more significant damage; east side to follow. At A and 15th Street Pump Stations, visual assessment found bubbling liner and some soft concrete underneath damaged liner in the wet well (A Street). Concrete cores taken at A Street Pump Station found that the concrete is still in good condition; a project will be established to repair the damaged liner at A Street. A follow-up visual assessment at 15th Street Pump Station is scheduled.
Groundwater Intrusion – Groundwater has penetrated four of the newly constructed pump stations in the coastal region of the service area including 15th Street, A Street, Bitter Point and Rocky Point Pump Stations. Groundwater is notoriously corrosive and may compromise the strength of the rebar within the concrete structure walls.	Further inspections will be scheduled to determine short-term repair solutions and crack repairs. A planning study (XPS0065) will be established to identify possible mitigation measures and long-term solutions to be incorporated into future pump station CIP projects.
Maintenance Access – In some cases, such as venting of the Newport Beach force main system, access to critical facilities is limited by safety and public impact concerns. In other cases, such as MacArthur Pump Station force main, access to critical facilities is not possible because redundancy was not considered when the pump station was designed. In case of Slater Pump Station, the West and East wet wells are isolated by slide gates access via a 48-inch inner-diameter manhole; however, due the curvature of the manhole, installation of the slide gate is difficult, which has resulted in staff injuries.	OC San continues to improve planned maintenance processes and inter-agency coordination that allow crews to minimize impacts on the community during necessary maintenance operations. Testing of modern automatic air/vacuum valves could facilitate automatic venting of the Newport Beach force main system and minimize impacts on traffic on Pacific Coast Highway. A capital project (7-68) has been established to construct a redundant force main to serve MacArthur Pump Station. A small project (FRC-0017) will modify the wet well access at Slater Pump Station to provide a safer working environment for staff.
Valve Operability and Reliability – In many aging pump stations isolation valves, check valves and force main valves are starting to fail or becoming difficult to operate due to age, debris and corrosion. These valves are critical to the operability and reliability of OC San pump stations and will require replacement.	Multiple valve replacement projects have been identified and efforts are being made to prioritize these projects (FRC-0017, FRC-0018) so that they can be executed in a timely manner to ensure OC San pump stations can continue to operate reliably.
Force Main Operability and Reliability – Force mains are some of OC San's highest-risk assets. While these assets have been replaced and rehabilitated in a timely manner, there are many that are not yet inspected, and asset analysis has relied on theoretical useful life. Accessing these assets to perform condition assessments is often a challenging endeavor due to traffic impacts and lack of physical access points.	A force main inspection and assessment plan was established to assess the force mains, one by one, based on age and risk (likelihood and consequence of failure). The pump station and force main layouts were reviewed, and it was determined that the majority of the force mains can be inspected without bypassing. Thus, OC San plans to use Condition Assessment program resources along with Collections CCTV program resources to complete these efforts, understanding that additional coordination with Operations, Maintenance, and execution will be required. The Force Main Summary and Inspection Plan will summarize OC San's inspection plan for the force mains as well as future projects established to rehabilitate or replace the force mains.
Outdated Bubbler Level System – At multiple pump stations (Bay Bridge, Crystal Cove, Edinger, MacArthur, Main Street, Slater, Seal Beach), the bubbler systems are outdated and do not meet OC San's latest bubbler system standard. They do not have redundancy or automatic blowdown and are becoming increasingly unreliable.	A small project was established (PRN-00920) to upgrade the existing system to a modern bubbler level system with automatic blowdown controls and a backup level transmitter.

Acronym Key: CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; OC San = Orange County Sanitation District

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – PUMP STATIONS

Current and Future Projects

Project No.	Location	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
5-68	Newport Beach	Newport Beach Pump Station Odor Control Improvements	15th Street, A Street, Bitter Point, Crystal Cove, Lido, and Rocky Point Pump Stations	• Installation of venting equipment; phased implementation of chemical use															
FE19-01	Multiple	Portable Generator Connectors at Pump Stations	15th Street, A Street, Bay Bridge, Bitter Point, College, Crystal Cove, Edinger, MacArthur, Main Street, Rocky Point, Seal Beach, Slater, and Westside Pump Stations	• Installation of standard portable generator connectors															
PS18-06	Multiple	Go/No-Go Lights and Signage	15th Street, A Street, Bay Bridge, Bitter Point, College, Crystal Cove, Edinger, Lido, MacArthur, Main Street, Rocky Point, Seal Beach, Slater, Westside, and Yorba Linda Pump Stations	• Standardize safety lights and signage															
PRN-00920	Multiple	Pump Station Bubbler Level Control System Upgrade	Seal Beach, Bay Bridge, Crystal Cove, Main Street, MacArthur, Slater, Edinger Pump Stations	• Upgrade of existing bubbler technology to a modern bubbler level system															
FRC-0018	Newport Beach	Valve Replacements at Lido, Crystal Cove, A St., and 15th St. Pump Stations	15th Street, A Street, Lido, and Crystal Cove Pump Stations	• Replacement of multiple valves at each station															
XPS0065	Newport Beach	Pump Station Groundwater Intrusion Study	15th Street, A Street, Bitter Point, and Rocky Point Pump Stations	• Comprehensive study of groundwater management solutions															
X-022	Newport Beach	15th Street Pump Station and Force Main Project	15th Street Pump Station	• Comprehensive rehabilitation of pump station and force mains															
X-041	Newport Beach	A Street Pump Station and Force Main Project	A Street Pump Station	• Comprehensive rehabilitation of pump station and force mains															
5-67	Newport Beach	Bay Bridge Pump Station Replacement	Bay Bridge Pump Station	• Comprehensive rehabilitation of pump station and force mains															
SC22-02	Newport Beach	HVAC Replacement for Plant 2 Centrifuge Building, Operations Building, and Bitter Point Pump Station	Bitter Point Pump Station	• Replacement of HVAC system															
X-025	Newport Beach	Bitter Point Pump Station Rehabilitation Project	Bitter Point Pump Station	• Comprehensive rehabilitation of pump station															
PRN-00926	Costa Mesa	College Pump Station Wet Well Rehabilitation	College Pump Station	• Rehabilitate the pump station wet well per PS20-07 recommendations															
X-040	Costa Mesa	College Pump Station Replacement and Force Main Rehabilitation	College Pump Station	• Reconstruction of pump station • Comprehensive rehabilitation of force mains															
MPC-XXXX	Newport Beach	Crystal Cove Pump Station Automatic Transfer Switch Replacement	Crystal Cove Pump Station	• Replacement of obsolete automatic transfer switch															
5-66	Newport Beach	Crystal Cove Pump Station Upgrade and Rehabilitation Project	Crystal Cove Pump Station	• Comprehensive rehabilitation of pump station															

Current and Future Projects (Continued)

Project No.	Location	Project Title	Impacted Facilities	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
11-33	Huntington Beach	Edinger Pump Station Rehabilitation Project	Edinger Pump Station	• Construct new pump station located at Sunset Channel • Construct new force mains															
X-023	Newport Beach	Lido Pump Station Rehabilitation Project	Lido Pump Station	• Comprehensive rehabilitation of pump station															
7-63	Newport Beach	MacArthur Pump Station Rehabilitation Project	MacArthur Pump Station	• Comprehensive rehabilitation of pump station															
7-68	Newport Beach	MacArthur Force Main Improvements	MacArthur Pump Station	• Installation of second force main and rehabilitation of existing force main															
7-65	Irvine	Gisler-Redhill Interceptor Rehabilitation	Main Street Pump Station	• Rehabilitation of pump station force mains and replacement of pump suction, discharge, and check valves															
7-64	Irvine	Main Street Pump Station Rehabilitation Project	Main Street Pump Station	• Comprehensive rehabilitation of pump station															
X-024	Newport Beach	Rocky Point Pump Station Rehabilitation Project	Rocky Point Pump Station	• Comprehensive rehabilitation of pump station															
FRC-0017	Huntington Beach	Valve Replacements and Wet Well Access Improvements at Slater Pump Station	Slater Pump Station	• Replacement of check valves inside Slater Pump Station • Modify wet well manhole access															
11-34	Huntington Beach	Slater Pump Station Rehabilitation Project	Slater Pump Station	• Comprehensive rehabilitation of pump station															
3-67	Seal Beach	Seal Beach Pump Station Replacement	Seal Beach Pump Station	• Reconstruction of pump station															
PRN-00930	Seal Beach	Navy Fence Replacement In-Kind Consideration Project for 3-67	Seal Beach Pump Station	• Replacement of fence for the Navy															
PRN-00922	Fullerton	Decommission Yorba Linda Pump Station	Yorba Linda Pump Station	• Decommission the pump station and force main															
2-73	Fullerton and Yorba Linda	Yorba Linda Pumping Station and Spur Odor Station Demolition	Yorba Linda Pump Station Yorba Linda Spur Odor Station	• Abandonment of pump station and force main • Demolition of Yorba Linda Spur Odor Station															

Types of Project Legend:

CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CIP = Capital Improvement Project; FY = Fiscal Year; HVAC = Heating, Ventilation, and Air Conditioning

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – PUMP STATIONS

Force Main Summary and Inspection Plan

Pump Station Force Main	Built by Project (Year)	Size	Material	Cathodic Protection	RUL (years)	Previous Inspection	Planned Inspection	Notes
Newport force main system	5-29 (1989) 5-60 (2016)	30"–36"	Ductile Iron with CIPP HDPE	No	15–20	None		
Bitter Point (East)	5-58 (2012)	42"	HDPE		> 20	None	2027	Project X-025 will complete rehabilitation of Bitter Point pump station and replace or rehabilitate the force mains in 2038.
Bitter Point (West)	5-29 (1988) 5-29-R1 (2004)	36"	Ductile Iron with HDPE slip liner	No	10–15	None	2027	
Lido (East, North of Short Street)	5-9 (1959) 5-41 (1992) FE15-10 (2016)	16"/24"	Ductile Iron with CIPP HDPE	No	> 20	FE15-10 warranty CCTV 2020 CCTV 2022	2025	
Lido (West, North of Short Street)	5-26 (1968) 5-60 (2016)	16"/24"	DIP with CIPP HDPE	No	> 20	CCTV 2014, 2023	2025	
Lido (East/West, South of Short Street)	5-41-1 (1997) FRC-0019 (2022)	16"	Ductile Iron	first pipe joint only	5–10	CCTV 2022–2023	2025	Project X-023 will complete rehabilitation of Lido pump station in 2032, rehabilitation of the unlined force mains could potentially be added to this project if a separate small project is not launched ahead of time.
Rocky Point	5-50 (2008)	12"	Ductile Iron	No	10–15	None	2027	Project X-024 will complete rehabilitation of Rocky Point pump station and force mains in 2037.
Bay Bridge (North/South)	5-18R (1981)	24"	Ductile Iron	No	< 5	None	2035	Project 5-67 will complete construction of the new force mains in 2025, and the pump station in 2029.
Bay Bridge (North/South under the bay)	5-12 (1965) 5-18R (1981)	24"/22"	Ductile Iron with Polyethylene lining	No	< 5	None	2035	
15th Street	5-51 (2004)	10"	Ductile Iron	No	10–15	None	2026	Project X-022 will complete rehabilitation of 15th Street pump station and force mains in 2037.
A Street	5-52 (2004)	8"	Ductile Iron	No	10–15	None	2026	Project X-041 will complete rehabilitation of A Street pump station and force mains in 2037.
Crystal Cove	5-36 (1995)	8"	Ductile Iron	No	< 5	CCTV (600 feet) and UT 2015 CCTV 2023 (500–600 feet from gravity manhole)	Follow up CCTV from pump station side is scheduled for Sep-Oct 2023	Crystal Cove force mains are over 2,000 feet in length Project 5-66 will complete rehabilitation of Crystal Cove pump station in 2032.
MacArthur	7-1-D (1960)	12"	Asbestos cement		5–10	None	2034	Project 7-68 will complete construction of the new force mains in 2024.
Main Street (Sunflower)	7-7 (1985)	30"	Vitrified Clay		> 20	None	2025	
Main Street (Baker East)	14-1-2 (1991)	42"	Ductile Iron	Yes	5–10	CCTV 2020	2035	Project 7-65 will complete the Baker force mains rehabilitation in 2025.
Main Street (Baker West)	14-1-2 (1991)	42"	Ductile Iron	Yes	< 5	None	2035	
College	7-23-1 (2003)	18"	Ductile Iron	No	5–10	None	2024	Project X-040 will complete rehabilitation of College pump station and force mains in 2037.
Slater (North)	11-17-1 (1998)	36"	Ductile Iron	first pipe joint only	5–10	None	2024	Project 11-34 will rehabilitate Slater pump station and the force mains by 2033.
Slater (South)	11-10-3 (1981)	24"	Ductile Iron	first pipe joint only	< 5	CCTV and UT 2015	2024	

Force Main Summary and Inspection Plan (Continued)

Pump Station Force Main	Built by Project (Year)	Size	Material	Cathodic Protection	RUL (years)	Previous Inspection	Planned Inspection	Notes
Edinger	11-9 (1965)	18"	Cast Iron		< 5	UT 2015, 2021, 2022	Follow-up UT 2024	Pitting corrosion but low consequence of failure; mitigation measures will be established in case of a leak. Project 11-33, currently in design, will construct the new Edinger pump station and force main by 2028.
Seal Beach	3-62 (2022)	36"	HDPE		> 20	None	2032	New force mains were constructed in 2022.
Westside	3-36R (1995)	20"	Ductile Iron	No	< 5	2016	2024	Westside pump station will be abandoned by project 3-68 by 2033. Inspection may require bypass.
Yorba Linda	2-16-2 (1975)	30"	Ductile Iron	first pipe joint only	< 5	2014	None	The pump station will be decommissioned via PRN-00922 ahead of CIP project 2-73, which will remove the pump station permanently by 2029.

Acronym Key:

CCTV = Closed-Circuit Television

CIPP = Cured-in-Place Pipe

CIP = Capital Improvement Project

HDPE = High-Density Polyethylene

RUL = Remaining Useful Life

UT = Ultrasonic Testing

Collection System Pipeline and Manhole Asset Management Summaries

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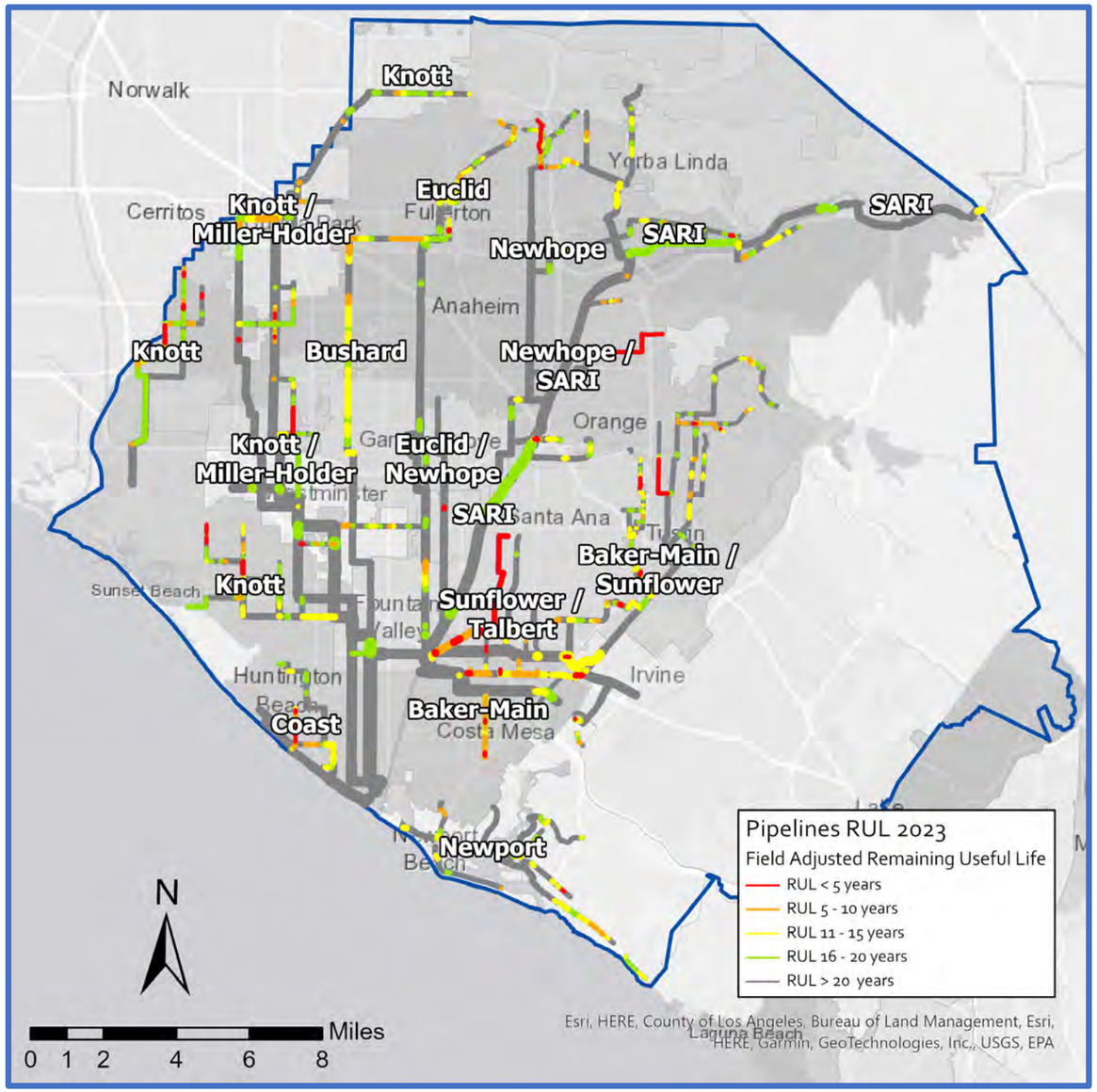
ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – ALL TRUNKS

System Overview - Pipelines



Collection System Pipelines and Manholes Remaining Useful Life and Replacement Value Summary

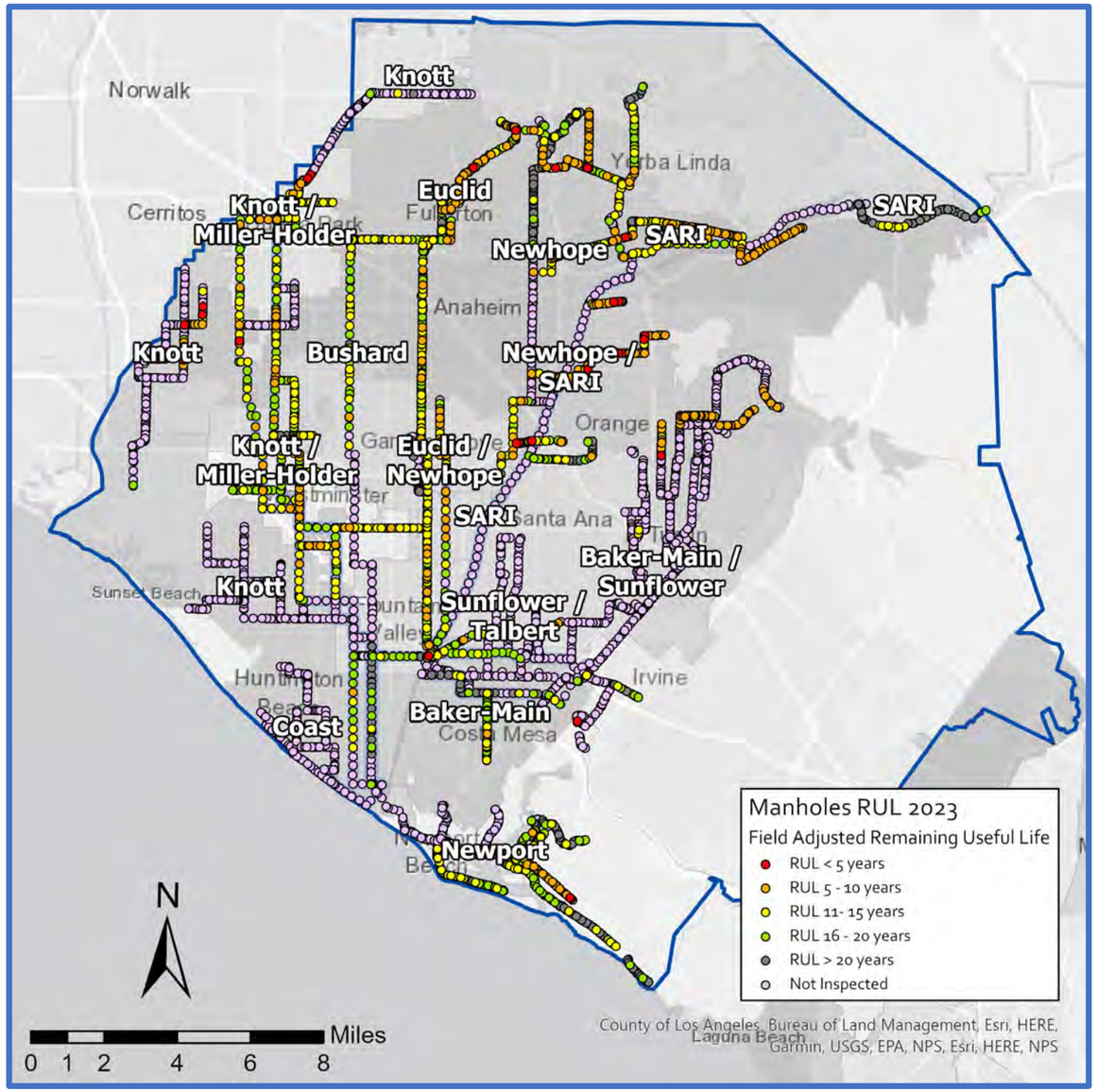
Trunklines (TLs)	No. of Pipes with RUL Scores of 4 or 5	Miles of Pipes with RUL Scores of 4 or 5	Percentage of Pipes RUL Scores of 4s or 5s (By Length)	No. of Manholes with RUL Scores of 4s or 5s	Percentage of Manhole RUL Scores of 4s or 5s	Replacement Value ($ Millions, in 2023 Dollars)[a]
Baker-Main	82	5.70	14%	-[b]	-[b]	$318
Bushard	7	0.81	4%	3	1%	$279
Coast	16	1.05	9%	-[b]	-[b]	$114
Euclid	7	0.79	2%	69	16%	$311
Interplant[c]	0	0.00	0%	-[b]	-[b]	$133
Knott	46	3.19	5%	-[b]	-[b]	$721
Miller-Holder	21	1.56	5%	42	16%	$341
Newhope	22	1.64	6%	85	24%	$241
Newport	11	0.76	4%	28	7%	$249
Santa Ana River Interceptor	54	2.64	5%	158	28%	$595
Sunflower	12	0.55	2%	-[b]	-[b]	$346
Talbert	77	5.93	71%	-[b]	-[b]	$66
Total	**355**	**24.62**	**7%**	**385**	**9%**	**$3,714**

[a] The abandoned pipelines at the Airbase ($6,366,516) and the Harvard Area Trunk Sewer ($191,784) areas are not included in the total.
[b] Only trunks with greater than 50% manhole inspections completed are included in this table and in the Asset Management System Summaries.
[c] Interplant Trunk in this table refers only to IPE assets. Interplant Trunk assets are included with Knott Trunk in its Asset Management System Summary.

Acronym Key:

No. = Number; RUL = Remaining Useful Life; SARI = Santa Ana River Interceptor

System Overview - Manholes



ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – ALL TRUNKS

Key Issues

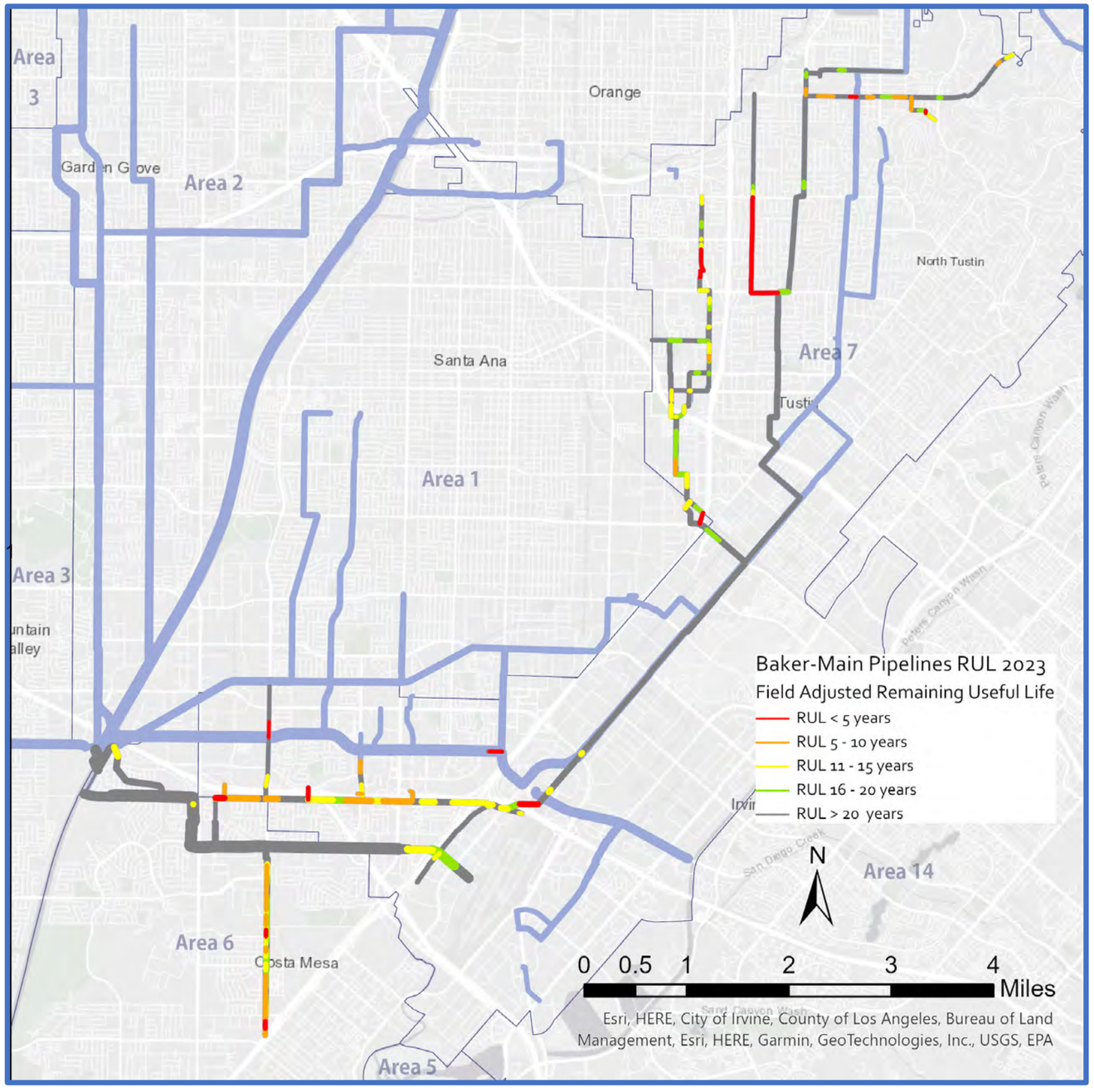
Key Issues	Actions & Recommendations
• **Cleaning of Inverted Siphons and Large-Diameter Pipelines** – Large-diameter pipes (> 42 inches) are not cleaned and CCTV footage does not identify sediment or debris below the waterline. OC San staff has identified potential risks in the large RCP Baker-Main Trunk sewers near the Santa Ana River, the 108-inch Bushard Trunk pipelines near Plant No. 2, the 84-inch Coast Trunk pipelines immediately upstream of Plant No. 2 headworks, the 54-inch Euclid Trunk pipelines immediately upstream of Plant No. 1 headworks and 48-inch pipelines in Fullerton, Miller-Holder Trunk pipelines downstream of the Wintersburg Channel inverted siphon, the Newhope Trunk connection to the Euclid Trunk near Plant No. 1, a northern branch of the SARI system, and upstream of the Talbert Trunk's Santa Ana River inverted siphon.	• OC San completed sonar inspections for 54 large-diameter inverted siphons and gravity sewers in the Baker-Main, Bushard, Coast, Euclid, Knott, Miller-Holder, Newhope, SARI, Sunflower, and Talbert trunks in June 2023. Sediment reports and hydraulic modeling data were utilized to confirm or amend the theoretical cleansing state of each pipeline segment. OC San staff are working on next steps to clean and assess the condition of up to five inverted siphons and one gravity sewer from the 54 large-diameter segments to validate sonar accuracy and pilot the inverted siphon assessment program. Additionally, the list of recommended large-diameter inverted siphons and gravity sewers to regularly clean will be finalized after the additional investigations are completed this fiscal year. With numerous diversions throughout the collection system it is anticipated this will be an ongoing effort.
• **Condition Assessment of Gravity Pipelines** – The current calendar-based CCTV program inspects pipelines every 5 years. For assets with 10 years or less RUL, inspections every 5 years may not be frequent enough to properly track asset deterioration rates. For example, two DIP gravity sewers in the Newhope Trunk system do not have protective linings and need to be monitored closely. Conversely, for assets with 20 years or more RUL inspections every 5 years may not be necessary.	• It is recommended that the frequency of monitoring of pipelines with RUL scores of 4 or 5 be increased from every 5 years to a higher frequency (that is, every 2.5 years) and the frequency of pipelines with RUL scores of 1 be decreased from every 5 years to a lower frequency (that is, every 10 years). OC San staff recommend exploring the optimization of condition assessment resources for gravity pipeline assets such that condition assessment frequencies are closely tied to RUL and likelihood of failure (LoF) and balanced given available resources.
• **Condition Assessment of Inverted Siphons** – Inverted siphons are regularly cleaned but are not inspected because they are typically inaccessible using CCTV equipment. High priority inspections have been identified for two single-barrel VCP inverted siphons in Costa Mesa and Irvine, a dual-barrel vitrified clay pipe (VCP) inverted siphon in Cypress, three DIP air jumpers in Buena Park, a single-barrel VCP inverted siphon in Fullerton, a dual-barrel VCP inverted siphon in the Coast Highway Trunk, three inverted siphons in the SARI Trunk, and a dual-barrel VCP inverted siphon in the Talbert Trunk based on theoretical RUL.	• OC San staff plan to clean and assess the condition of up to five inverted siphons and one gravity sewer from the large-diameter segments inspected with sonar to validate sonar accuracy and pilot the inverted siphon assessment program. A combination of minimal flow and high flow single barrel inverted siphons have been selected to test the best practices for condition assessment of these assets. This pilot program is expected to be completed this fiscal year. Additionally, OC San staff are reviewing all dual barrel inverted siphon locations to confirm no bypass is required. OC San conducted an inspection in 2022 on a Miller-Holder trunk dual-barrel inverted siphon and successfully inspected the assets using a clean, isolate, dewater, CCTV approach for each barrel. However, results of the pilot program could affect this approach if alternative cleaning and inspection methods are more cost competitive. It is anticipated this effort will span over multiple years. • Given the potential complexity (that is, bypassing and/or temporary plugging, traffic control, etc.) for inverted siphon inspections, variety in inspection methods that may be required, and different asset priorities based on asset RUL, the condition assessment program is being phased into separate projects with similar work and priorities.
• **Groundwater Infiltration** – CCTV identified areas experiencing significant groundwater infiltration in the Baker-Main, Bushard, Knott, Miller-Holder, Newport, SARI, and Sunflower trunk systems. Specifically, significant groundwater infiltration is most prominent in the I-405 corridor in Costa Mesa, throughout the western regional trunks of the Knott trunk in Cypress, Los Alamitos, etc.; Jamboree Road and the Balboa Peninsula in Newport Beach; and various locations in Anaheim, Buena Park, Fountain Valley, Huntington Beach, Irvine, Garden Grove, Orange, Santa Ana, and Westminster.	• Projects 2-78, 3-60, 3-64A, B, and C, 7-65, 11-35, X-061, and X-085 will address the majority of areas with significant groundwater infiltration. Eleven severe and isolated locations not already included in CIP projects are suitable for chemical grouting. OC San staff are preparing smaller pilot task orders as part of the evaluation to move forward (or not) with a new blanket contract for chemical grouting. • Areas with significant groundwater infiltration that are co-located with fractures or tuberculation are not suitable for chemical grouting and therefore have been identified as high-priority point repairs; refer to individual trunk key issue tables for more details. Additional areas with groundwater infiltration do not have any other defects and are lower priority.
• **Manhole Access** – OC San staff have identified specific locations where manholes are difficult to access for maintenance. Current issues exist with manholes in some OC San easement areas and along the Santa Ana River. OC San staff has identified specific locations where manholes are difficult to access for maintenance, such as an easement area on California Department of Transportation property near I-5 and State Route 91, an easement area encroached upon by residents near the Wintersburg Channel in Huntington Beach, Crystal Cove, the southern portion of the Santa Ana River, Orange Park Acres, and North Tustin.	• OC San staff will track and prioritize access issues to address key concerns. High-priority access improvements will continue to be recommended as small projects or addition to an existing project. This effort is in conjunction and collaboration with easement access reclamation efforts of Finance (Real Property).
• **Root Intrusion** – CCTV identified significant root intrusion in numerous segments of the sewer trunks in Orange, Tustin, and unincorporated areas; Lake Street and Bolsa Chica Street in Huntington Beach; Coyote Hills and Craig Regional Park in Fullerton; northern Santa Ana; and isolated areas located near Newport Dunes, Orange Park Acres, and within Costa Mesa. Some blockages in OC San sewer mains may have contributed to a local sanitary sewer overflow in Orange in 2021, and a blockage due to roots occurred in one of pipe segments in northern Huntington Beach in 2022.	• OC San staff are preparing to start the first phase of root treatment with the new blanket contract and have drafted a new standard operating procedure and monitoring plan to validate the dilution factor and/or removal of the contractor's active herbicide ingredient with no adverse effects on OC San's biological treatment processes before moving on to additional treatment phases. Root treatment is generally effective at preventing regrowth for 2 to 3 years after treatment. Collections staff increase cleaning intervals in the interim to mitigate roots. • Projects 7-70, 11-35, and X-126 will address the permanent rehabilitation of pipeline segments damaged by root intrusion and provide structural resistance to the recurrence of root intrusion.
• **Uninspected Gravity Pipelines** – Forty-nine gravity sewers have never been inspected in the collection system between the Baker-Main, Coast, Knott, Newhope, Newport, SARI, and Sunflower trunk systems. There is no condition data for these reaches to determine field-adjusted RUL.	• Refer to the key issue tables for the Baker-Main, Coast, Knott, Newhope, Newport, SARI, and Sunflower trunk systems for more details.

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; OC San = Orange County Water District; RUL = Remaining Useful Life; SARI = Santa Ana River Interceptor

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – BAKER-MAIN TRUNK

System Overview - Pipelines



Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	18.8	341	55	34	26
21"–33" Ø	15.9	245	41	3	19
Reinforced Concrete					
48"–66" Ø	1.2	16	31	-	-
≥ 72" Ø	3.7	34	29	-	-
Ductile Iron					
24" Ø–42" Ø	0.5	3	30	-	-
Polyvinyl Chloride					
10"–21" Ø	0.04	2	21	-	-

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – BAKER-MAIN TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Capacity** – The Collections Capacity Evaluation Study completed in 2019 conducted a detailed capacity analysis to identify the location of capacity deficiencies during dry and peak wet weather flows. During peak wet weather flows, capacity issues were identified in a portion of the North Trunk and Tustin Avenue sewers.	• Project 7-69 will upsize a portion of the North Trunk and Project X-084 will upsize a portion of the Tustin Avenue sewer to address existing capacity issues.
• **Missing Air Jumpers** – One out of 10 inverted siphon/reduction locations in the Baker-Main Trunk system do not have air jumpers.	• Project X-129 includes constructing a new air jumper.
• **Pipeline Fracturing** – CCTV identified several areas with significant fracturing of VCP pipelines. The largest concentration of fractures is concentrated in the Fairview Trunk.	• Project 6-20 will rehabilitate the entire Fairview Trunk to address pipeline fractures. Projects 7-65, 7-70, and X-129 will also address fracturing with rehabilitation work. • Isolated defects elsewhere not included or near a CIP project and one pipeline that may not have its fractures addressed in time by the X-129 project have been identified as high-priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.
• **Uninspected Gravity Pipelines** – Fifteen gravity sewers have never been inspected in the Baker-Main Trunk system. There is no condition data for these reaches to determine field-adjusted RUL.	• Two of the gravity sewers have a common manhole with a chemical line that must be temporarily relocated for CCTV access. There are no known access issues for the remaining 13 uninspected gravity sewers. Inspections will be completed via future CCTV PM work orders or separate CCTV work orders.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
7-65	Gisler-Redhill Interceptor Rehabilitation	• Rehabilitate sewer facilities in the City of Costa Mesa.															
6-20	Fairview Trunk Sewer Rehabilitation	• Rehabilitate sewer facilities in the City of Costa Mesa.															
7-69	North Trunk/Yorba Street Sub-Trunk Improvements	• Upsize pipe segments to increase capacity in the City of Tustin.															
7-70	North Trunk/Panorama Heights/Tustin-Orange Rehabilitation	• Rehabilitate sewer facilities in the City of Orange.															
X-084	Tustin Avenue Sewer Improvements	• Upsize pipe segments to increase capacity in the City of Santa Ana.															
X-129	South Coast Metro Sub-Trunks Rehabilitation	• Rehabilitate sewer facilities in the Cities of Costa Mesa and Santa Ana.															

Types of Project Legend:

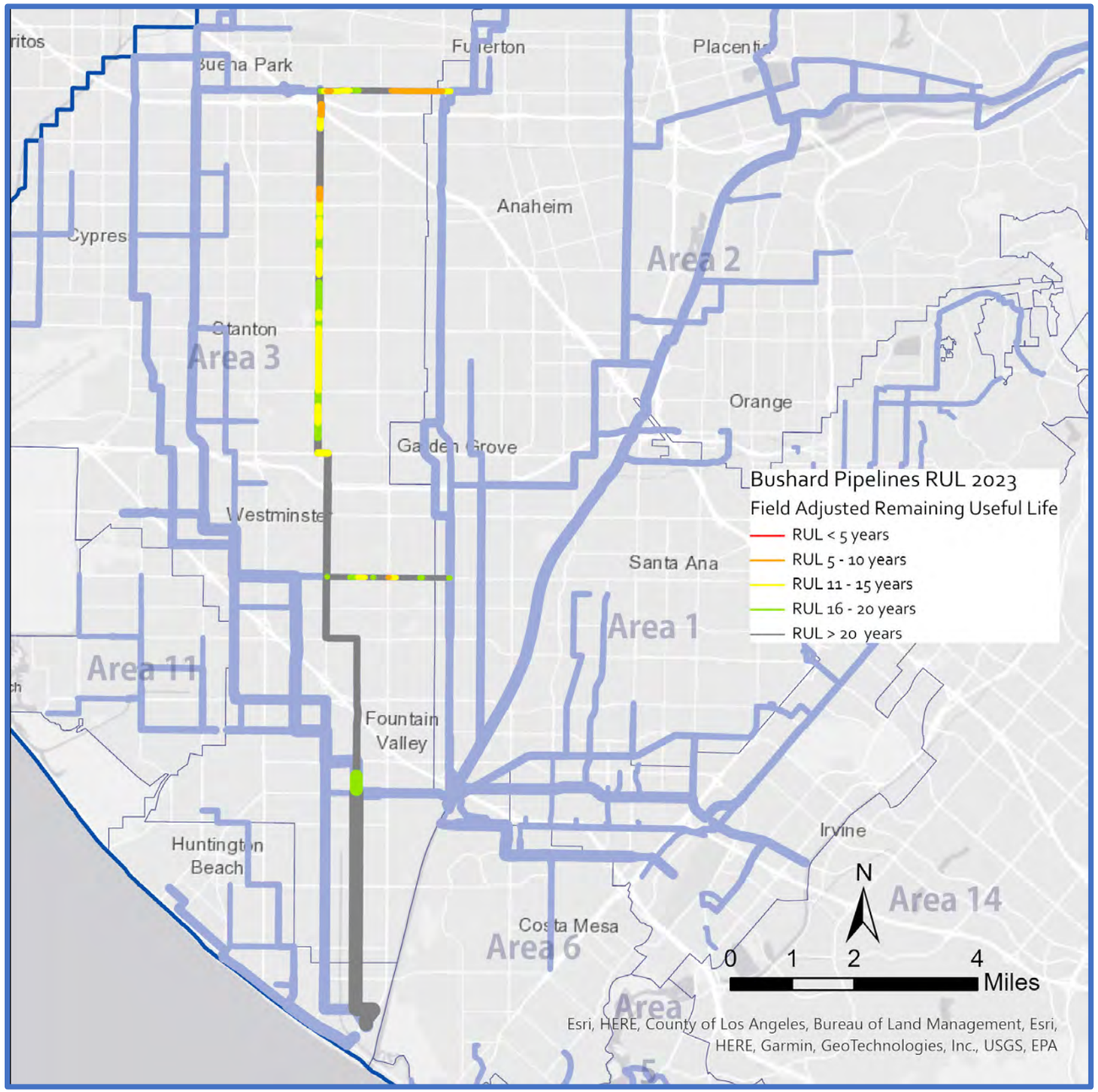
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; FY = Fiscal Year; I-405 = Interstate 405; OC San = Orange County Sanitation District; PM = Preventive Maintenance; RCB = Reinforced Concrete Box; RUL = Remaining Useful Life; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – BUSHARD TRUNK

System Overview - Pipelines



Major Assets and Condition Information - Pipelines

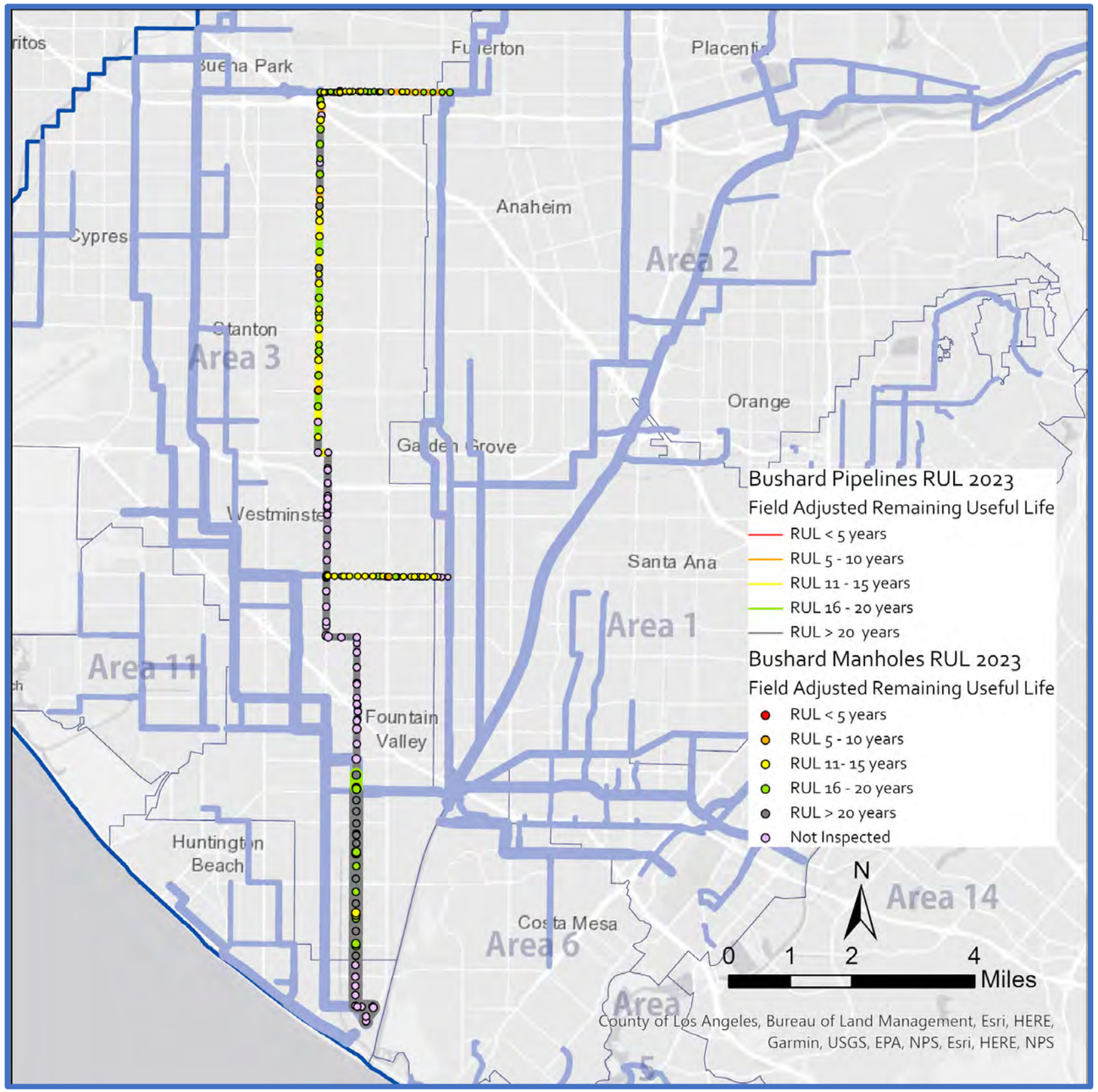
Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	0.03	3	39	-	-
24"–27" Ø	5.1	73	51	-	8
39" Ø	3.6	24	72	-	1
Reinforced Concrete					
≤ 48" Ø	3.5	24	59	-	1
60"–66" Ø	0.2	7	21	-	-
≥ 72" Ø	4.5	33	23	-	-
Fiberglass					
36"–48" Ø	4.7	27	59	-	-
High-Density Polyethylene					
22" Ø	0.1	2	25	-	-
Polyvinyl Chloride					
6"–24" Ø	0.2	8	19	-	-
Steel					
12"–26" Ø	0.06	4	14	-	-

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – BUSHARD TRUNK

System Overview - Manholes



Major Assets and Condition Information - Manholes

Asset Type	No. of Manholes	Average Age (years)	No. of Manholes with RUL Score of 5	No. of Manholes with RUL Score of 4
Concrete				
≤ 48" Ø	35	64	-	-
60"–72" Ø	52	39	-	2
> 72" Ø	115	38	-	1

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – BUSHARD TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Bushard Diversion Box** – Due to corrosion and ragging issues, the Bushard Diversion Box cannot operate as originally intended.	• MP-307 will provide short-term repairs to this box. Future improvements that are included in project X-096.
• **Improperly Abandoned Manhole Under I-5** – In 2017 CCTV discovered a manhole in the Magnolia Street sewer that had a partially abandoned manhole underneath the I-5 travel lanes. Subsequent investigations in 2022 confirmed the manhole structure had significant liner delamination and aggregate visible.	• Project FRC-0014 will complete the abandonment of the manhole under I-5.
• **Manhole Defects** – CCTV identified one manhole has significant liner delamination.	• Manhole is suitable for repair under the Manhole Rehabilitation blanket contract.
• **Missing Air Jumpers** – One out of 8 inverted siphon/reduction locations in the Bushard Trunk system do not have air jumpers.	• Project X-130 includes constructing a new air jumper.
• **Pipeline Fracturing** – CCTV identified an area with significant fracturing of VCP pipelines primarily in Magnolia Street and Orangethorpe Avenue in the cities of Anaheim and Fullerton.	• Projects X-085 and X2-79 will address fracturing with rehabilitation work.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
MP-307	Bushard Diversion Structure Repair	• Repair structural assets and replace electrical, instrumentation, and control components.															
FRC-0014	Magnolia Sewer Manhole Abandonment at I-5	• Complete abandonment of manhole under I-5.															
X-130	McFadden Branch - Bolsa Relief Trunk Rehabilitation	• Rehabilitate sewer facilities in the Cities of Westminster, Huntington Beach, and an unincorporated area of Orange County.															
X-096	Bushard Diversion Structure Improvements	• Replace mechanical equipment.															
X-085	Hoover-Western Sub-Trunk and Katella Interceptor Improvements	• Upsize sewer segments to increase capacity and rehabilitation of sewer facilities in the Cities of Cypress, Garden Grove, and Stanton.															
X2-79	Fullerton-Brea Interceptor and Rolling Hills Drive Sub-Trunk Rehabilitation	• Rehabilitate sewer facilities in the City of Fullerton.															

Types of Project Legend:

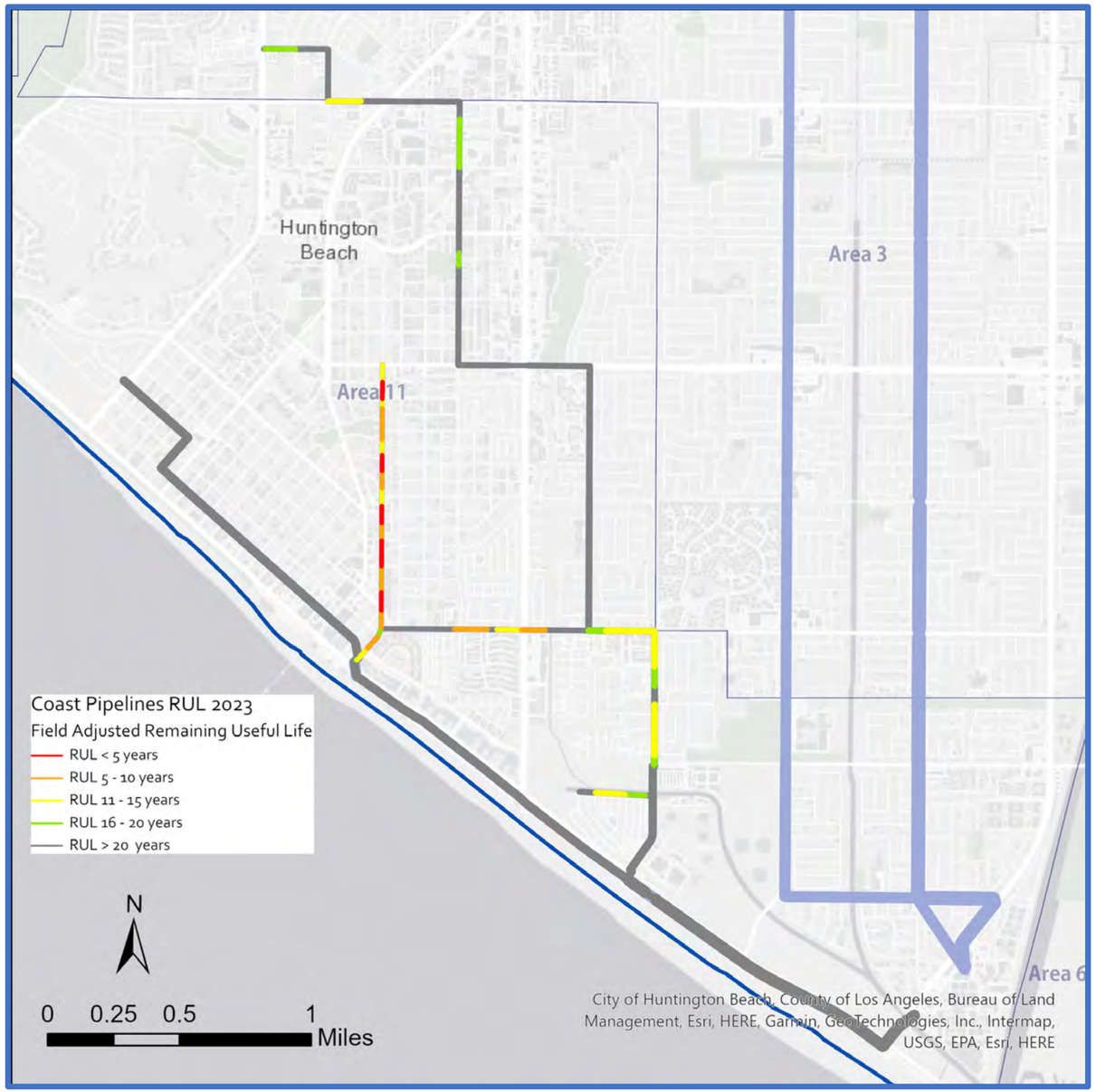
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; FY = Fiscal Year; I-5 = Interstate 5; OC San = Orange County Sanitation District; RUL = Remaining Useful Life; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – COAST TRUNK

System Overview - Pipelines



Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	2.1	32	64	6	10
21"–36" Ø	4.4	58	62	-	-
Reinforced Concrete					
42"–54" Ø	3.4	45	41	-	-
≥ 72" Ø	1.7	13	38	-	-

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – COAST TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Pipeline Fracturing** – CCTV identified an area with significant fracturing of VCP pipelines primarily in Lake Street and Atlanta Avenue.	• Project X-126 will address all of the major fractures by rehabilitating the pipelines. • Three pipelines that may not have fractures addressed in time by the X-126 project have been identified as high priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.
• **Uninspected Gravity Pipelines** – Two gravity sewers within Plant No. 2 have never been inspected in the Coast Trunk system. There is no condition data for these reaches to determine field-adjusted RUL.	• There are no known access issues for the two uninspected gravity sewers. Inspections will be completed via future CCTV PM work orders or separate CCTV work orders.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
X-126	Lake Avenue and Atlanta Interceptor Rehabilitation	• Rehabilitation of sewer facilities in the City of Huntington Beach															

Types of Project Legend:

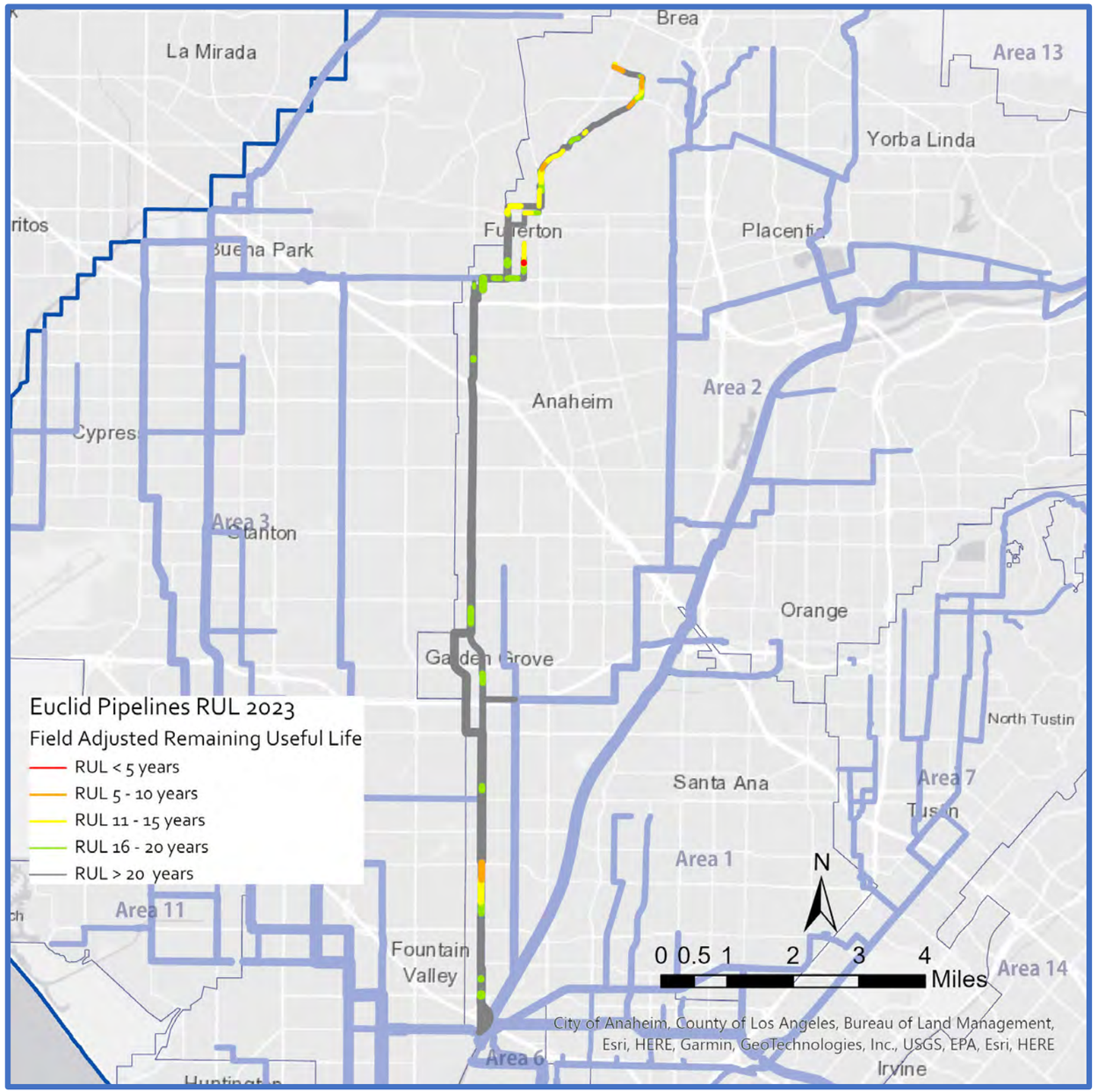
- CIP - Planning
- CIP - Design
- CIP - Construction
- Maintenance Project

Acronym Key:

CCTV = Closed-Circuit Television; FY = Fiscal Year; PM = Preventive Maintenance; OC San = Orange County Sanitation District; RUL = Remaining Useful Life; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – EUCLID TRUNK

System Overview - Pipelines



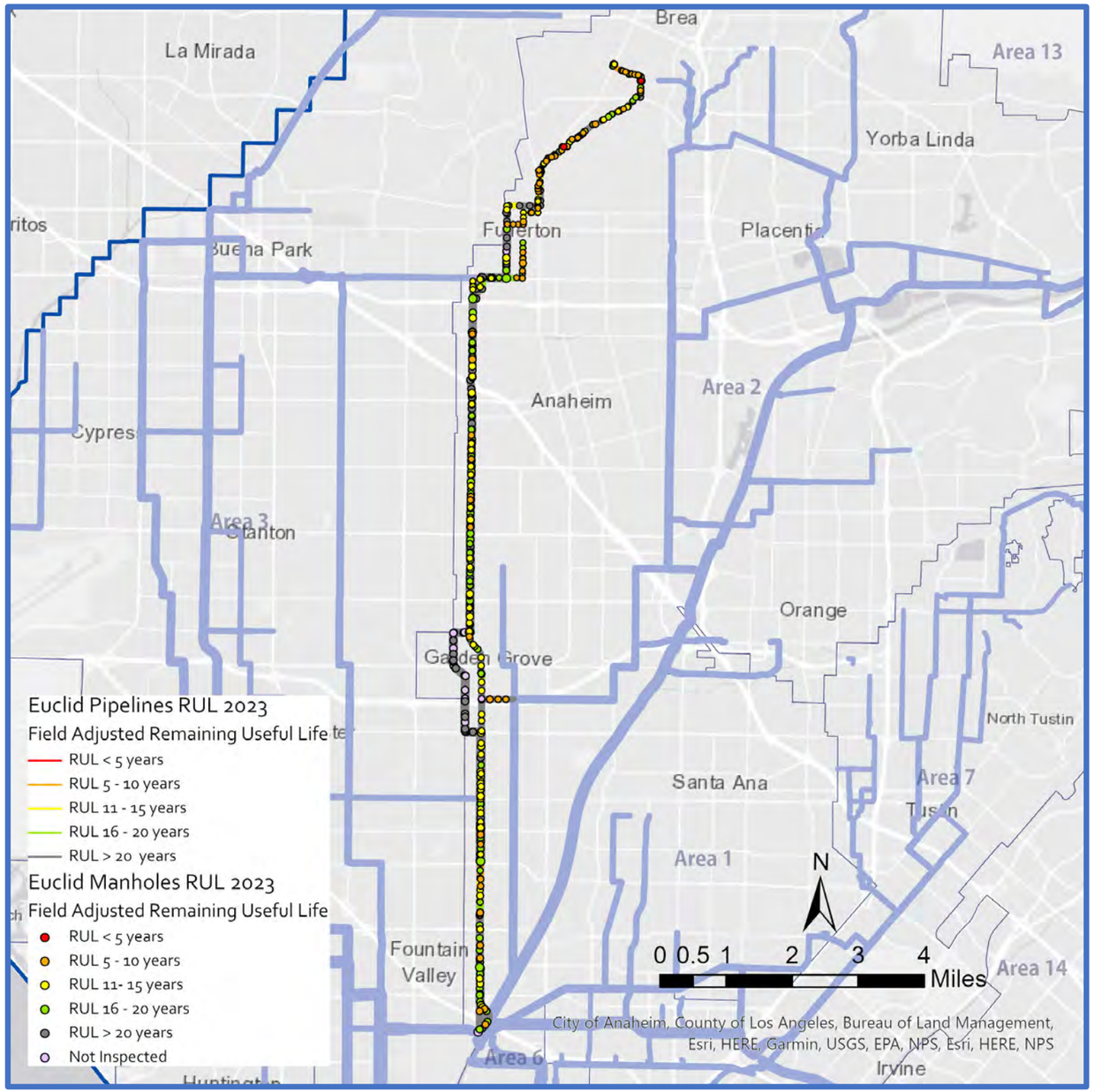
Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	4.4	79	60	-	4
21"–27" Ø	3.9	52	40	-	1
≥ 30" Ø	12.1	151	51	1	1
Reinforced Concrete					
≤ 42" Ø	2.4	15	51	-	-
45"–60" Ø	11.6	131	34	-	-
Polyvinyl Chloride					
10"–30" Ø	0.1	12	18	-	-
Steel					
10" Ø	0.01	3	14	-	-
High-Density Polyethylene					
26" Ø	0.05	1	14	-	-

Acronym Key:
Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – EUCLID TRUNK

System Overview - Manholes



Major Assets and Condition Information - Manholes

Asset Type	No. of Manholes	Average Age (years)	No. of Manholes with RUL Score of 5	No. of Manholes with RUL Score of 4
Concrete				
≤ 48" Ø	43	59	1	21
60"–72" Ø	217	46	1	26
> 72" Ø	116	34	-	3
Brick				
≤ 48" Ø	48	63	-	17
60" Ø	2	55	-	-

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – EUCLID TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Manhole Defects –** CCTV identified areas with significant liner delamination and some structures with exposed rebar throughout the Euclid trunk system, but especially in the vicinity of Coyote Hills and northern Fullerton.	• Project X2-79 will address the majority of the liner delamination and exposed rebar by rehabilitating the manhole structures. Other manholes not included or near a CIP project as well as several manholes that need some rehabilitation work to prevent failure prior to the construction phase of the X2-79 project are suitable for repair under the Manhole Rehabilitation blanket contract.
• **Pipeline Fracturing** – CCTV identified an area with significant fracturing of VCP pipelines in the vicinity of Coyote Hills and northern Fullerton.	• Project X2-79 will address all of the major fractures by rehabilitating the pipelines. • Isolated defects elsewhere not included or near a CIP project and one pipeline that may not have its fractures addressed in time by the X2-79 project have been identified as high-priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
X2-79	Fullerton-Brea Interceptor and Rolling Hills Drive Sub-Trunk Rehabilitation	• Rehabilitate sewer facilities in the City of Fullerton.															

Types of Project Legend:

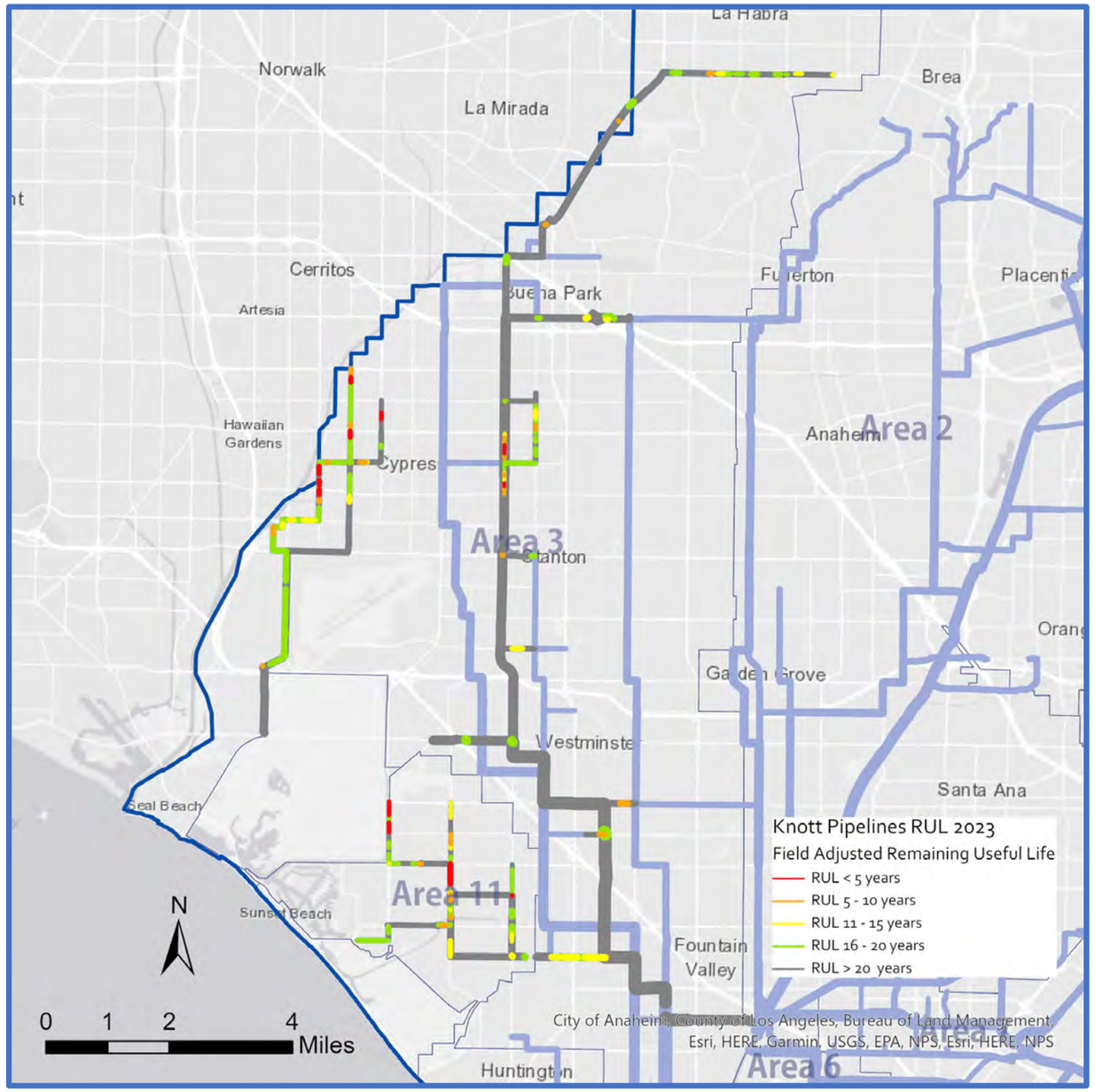
- **CIP - Planning**
- **CIP - Design**
- **CIP - Construction**
- **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; FY = Fiscal Year; OC San = Orange County Sanitation District; RUL = Remaining Useful Life; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – KNOTT TRUNK

System Overview - Pipelines



Note: Map and data table include Interplant IPE pipelines and manholes.

Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	9.1	130	55	11	12
21"–27" Ø	20.5	300	51	6	14
≥ 30" Ø	14.4	184	47	-	1
Reinforced Concrete					
≤ 42" Ø	4.7	58	29	-	-
45"–66" Ø	7.7	70	46	-	-
≥ 72" Ø	9.6	68	49	-	-
Polyvinyl Chloride					
≤ 18" Ø	1.2	17	18	-	-
High-Density Polyethylene					
18"–32" Ø	0.04	5	12	-	-
Fiberglass Reinforced Plastic					
16"–24" Ø	0.1	2	14	-	-
66"–78" Ø	1.1	8	16	-	-
Ductile Iron					
20" Ø	0.02	1	64	-	-
Steel					
4" Ø	0.02	1	14	-	-
Unknown					
18" Ø	0.01	2	65	-	2

Acronym Key:

Ø = Diameter; IPE = Interplant Trunk E; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – KNOTT TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Missing Air Jumpers** – Four out of 17 inverted siphon/reduction locations in the Knott Trunk system do not have air jumpers.	• Project X-078 includes constructing a new air jumper at two locations. Two other locations do not require air jumpers due to lack of normal surcharge conditions at one location and an infeasible location at the end of a force main.
• **Pipeline Fracturing** – CCTV identified several areas with significant fracturing of VCP pipelines. Most fractures are concentrated in northern Huntington Beach, Cypress, and with small-diameter sewers owned and operated by the City of Anaheim in the northern central area of the trunk.	• Projects 3-60, 3-64B and C, 11-35, X-061, X-078, X-085, and X-130 will address the majority of fractures by rehabilitating the pipelines. OC San staff will coordinate with the City of Anaheim pertaining to operation and maintenance of the local small-diameter sewers. • Isolated defects elsewhere not included or near a CIP project and two pipelines that may not have fractures addressed in time by the X-061 project have been identified as high-priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.
• **Uninspected Gravity Pipelines** – Three gravity sewers have never been inspected in the Knott and Ellis Avenue Trunk systems. There is no condition data for these reaches to determine field-adjusted RUL.	• There are no known access issues for the three uninspected gravity sewers. Inspections will be completed via future CCTV PM work orders or separate CCTV work orders.
• **Vault Vibration Issues** – Three sewer vaults in Warner Avenue cause local vibration/resonance issues to nearby residences when cars pass over them.	• Project FRC-0010 will rehabilitate each of the Warner Avenue vaults to eliminate local vibration/resonance issues.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
3-64A&B	Orange Western Sub-Trunk Rehabilitation & Los Alamitos Trunk Sewer Rehabilitation	• Rehabilitate sewer facilities in the Cities of Anaheim, Buena Park, Cypress, Los Alamitos, Seal Beach, and the community of Rossmoor.															
FRC-0010	Warner Avenue Vault Cover Improvements	• Rehabilitate sewer vaults in the City of Huntington Beach.															
FE21-06	Chemical Dosing Station Installation at Westside Pump Station	• Install odor control chemical dosing facility in the community of Rossmoor.															
3-64C	Cypress Trunk Sewer Rehabilitation - West	• Rehabilitate sewer facilities in the Cities of Cypress, La Palma, and Los Alamitos.															
3-60	Knott/Miller-Holder/Artesia Branch Rehabilitation	• Rehabilitate sewer facilities in the Cities of Buena Park and La Palma.															
11-35	Bolsa Chica/Edinger/Springdale Rehabilitation	• Rehabilitate sewer facilities in the City of Huntington Beach.															
X-130	McFadden Branch - Bolsa Relief Trunk Rehabilitation	• Rehabilitate sewer facilities in the Cities of Westminster and Huntington Beach and an unincorporated area of Orange County.															
3-68	Los Alamitos Sub-Trunk Extension	• Extend the Los Alamitos Sub-Trunk to facilitate abandonment of Westside Pump Station															
X-085	Hoover-Western Sub-Trunk and Katella Interceptor Improvements	• Upsize sewer segments to increase the capacity and rehabilitation of sewer facilities in the Cities of Cypress, Garden Grove, and Stanton.															
X-078	Inverted Siphon and Air Jumper Improvements	• Install new air jumper facilities and rehabilitate sewer facilities in the Cities of Cypress, La Habra, La Mirada, Orange, and Santa Ana.															
X-061	Imperial Relief Interceptor/Miller-Holder Trunk Rehabilitation	• Rehabilitate sewer facilities in the City of La Habra.															

Types of Project Legend:

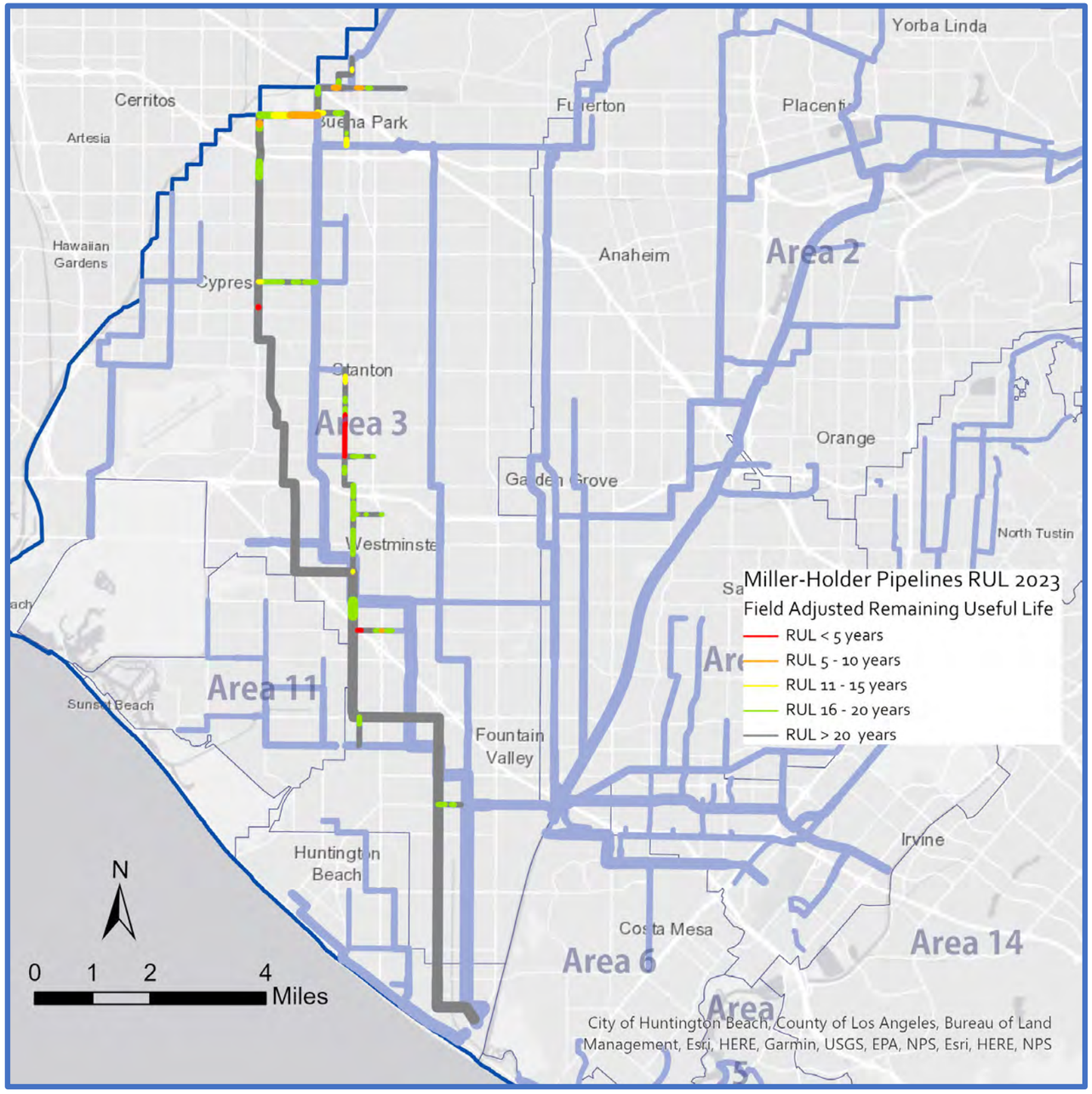
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; FY = Fiscal Year; OC San = Orange County Sanitation District; PM = Preventive Maintenance; RUL = Remaining Useful Life; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – MILLER-HOLDER TRUNK

System Overview - Pipelines



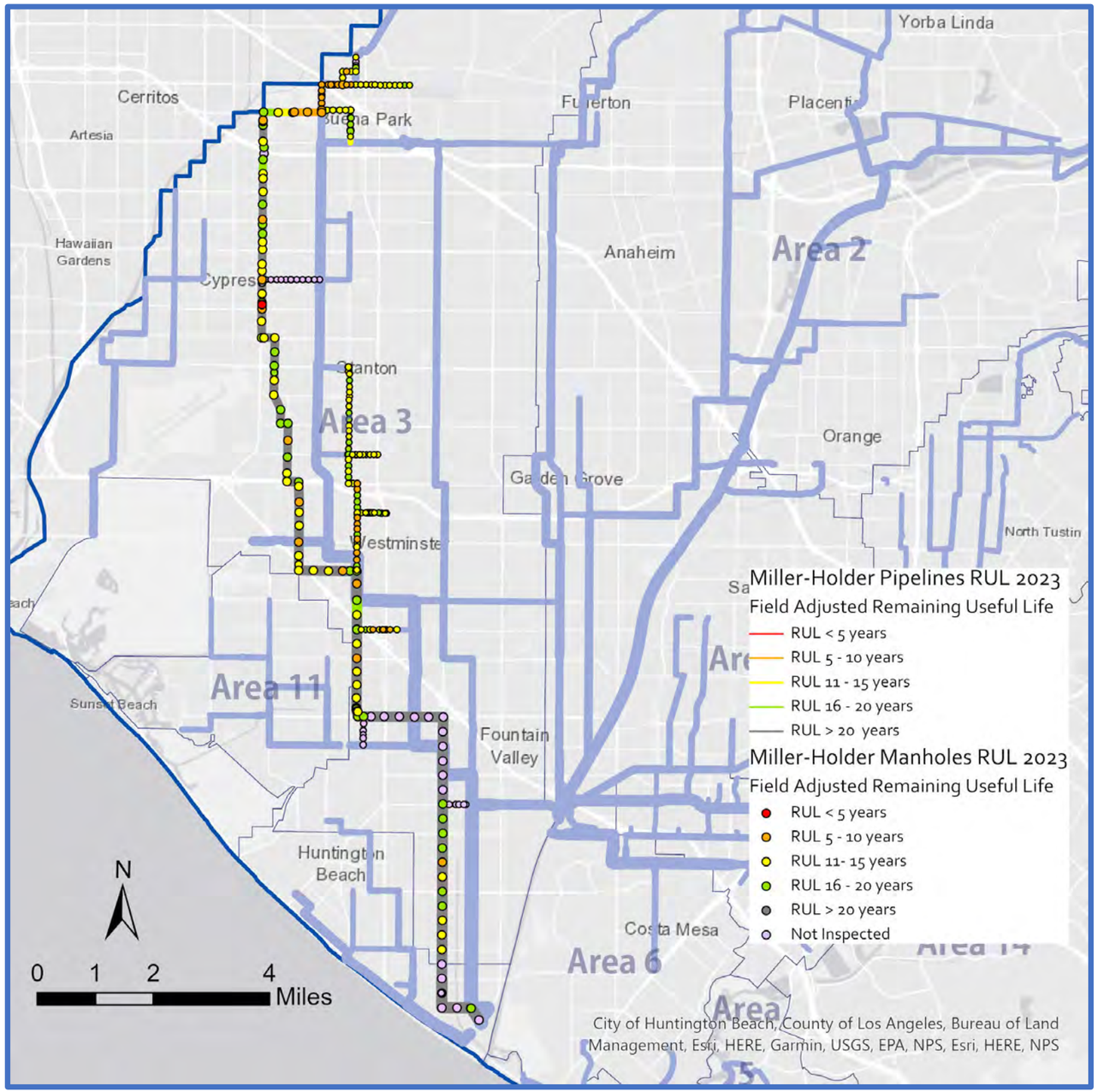
Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	2.9	50	63	1	2
21"–27" Ø	6.9	87	62	10	-
≥ 30" Ø	2.5	27	61	1	3
Reinforced Concrete					
45"–69" Ø	13.4	76	64	-	1
≥ 72" Ø	5.8	25	73	-	-
Ductile Iron					
≤ 18" Ø	0.1	5	41	-	3
Polyvinyl Chloride					
24" Ø	0.02	1	21	-	-

Acronym Key:
Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – MILLER-HOLDER TRUNK

System Overview - Manholes



Major Assets and Condition Information - Manholes

Asset Type	No. of Manholes	Average Age (years)	No. of Manholes with RUL Score of 5	No. of Manholes with RUL Score of 4
Concrete				
≤ 48" Ø	68	64	-	5
60"–72" Ø	82	62	-	19
> 72" Ø	115	62	1	17

Acronym Key:
Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – MILLER-HOLDER TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Capacity** – The Collections Capacity Evaluation Study completed in 2019 conducted a detailed capacity analysis to identify the location of capacity deficiencies during dry and peak wet weather flows. During existing peak wet weather flows, capacity issues were identified in a portion of the Hoover-Western Sub-Trunk.	• Project X-085 includes upsizing a portion of the Hoover-Western Sub-Trunk to address existing capacity issues.
• **Manhole Defects** – CCTV identified areas with significant liner delamination and some structures with exposed rebar, primarily in Buena Park and Westminster.	• Projects 3-60, 3-64A, X-078, and X-130 will address the majority of the liner delamination and exposed rebar by rehabilitating the manhole structures. Other manholes not included or near a CIP project as well as one manhole that needs some rehabilitation work to prevent failure prior to the construction phase of the X-078 project are suitable for repair under the Manhole Rehabilitation blanket contract.
• **Missing Air Jumpers** – Two out of 5 inverted siphon/reduction locations in the Miller-Holder Trunk system do not have air jumpers.	• Projects 3-60 and X-078 includes constructing a new air jumper at both locations.
• **Pipeline Fracturing** – CCTV identified several areas with significant fracturing of VCP pipelines. Most fractures are concentrated in Buena Park and Westminster.	• Projects 3-60, X-085, and X-130 will address the majority of the fractures by rehabilitating the pipelines. • Isolated defects elsewhere not included or near a CIP project and one pipeline under I-405 that may not have fractures addressed in time by the X-130 project have been identified as high-priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
3-64A&B	Orange Western Sub-Trunk Rehabilitation & Los Alamitos Trunk Sewer Rehabilitation	• Rehabilitate sewer facilities in the Cities of Anaheim, Buena Park, Cypress, Los Alamitos, and Seal Beach and the community of Rossmoor.															
3-60	Knott/Miller-Holder/Artesia Branch Rehabilitation	• Rehabilitate sewer facilities in the Cities of Buena Park and La Palma.															
X-130	McFadden Branch - Bolsa Relief Trunk Rehabilitation	• Rehabilitate sewer facilities in the Cities of Westminster and Huntington Beach and an unincorporated area of Orange County.															
X-078	Inverted Siphon and Air Jumper Improvements	• Install new air jumper facilities and rehabilitate sewer facilities in the Cities of Cypress, La Habra, La Mirada, Orange, and Santa Ana.															
X-085	Hoover-Western Sub-Trunk and Katella Interceptor Improvements	• Upsize sewer segments to increase capacity and rehabilitation of sewer facilities in the Cities of Cypress, Garden Grove, and Stanton.															

Types of Project Legend:

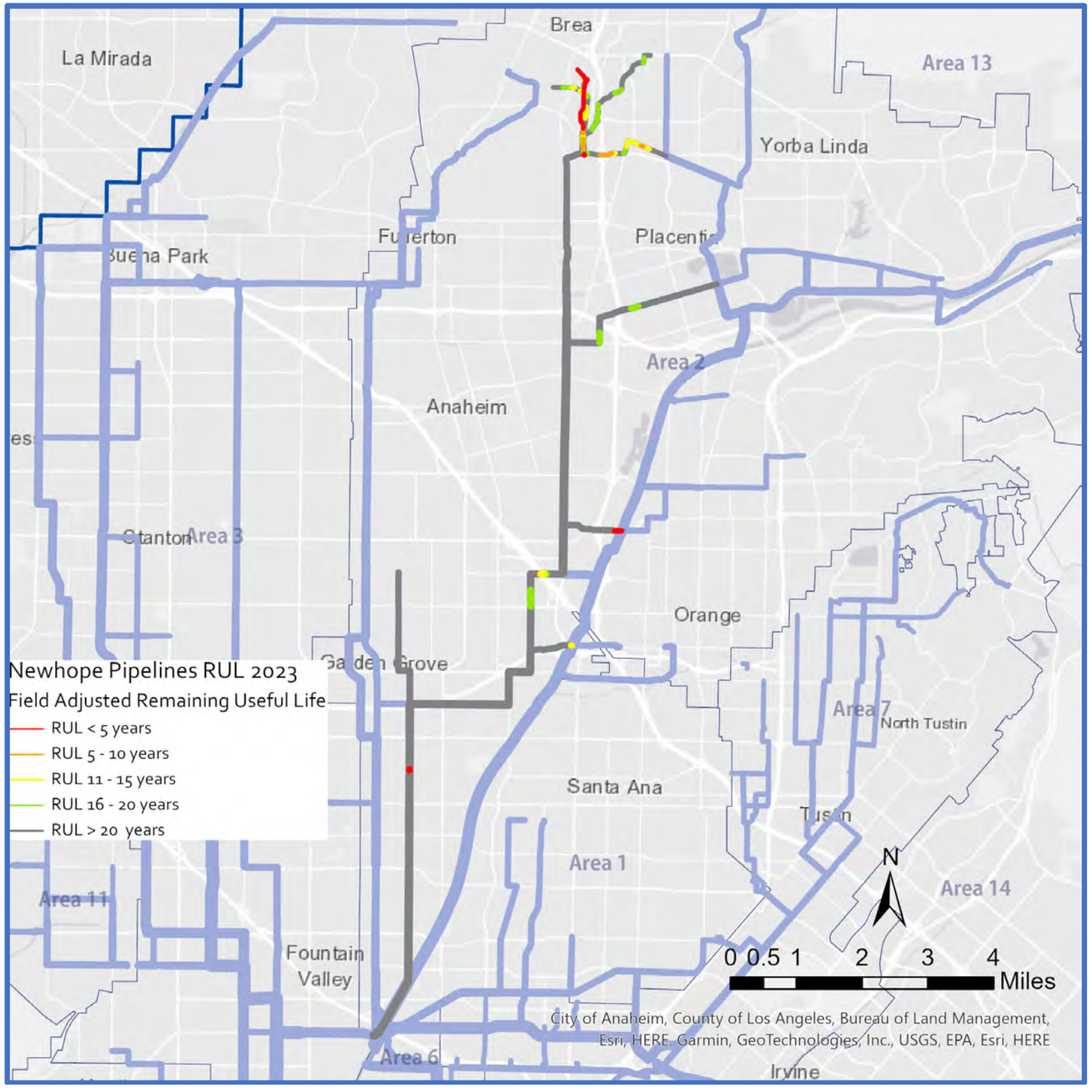
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; DIP = Ductile Iron Pipe; FY = Fiscal Year; I-405 = Interstate 405; OC San = Orange County Sanitation District; RUL = Remaining Useful Life; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – NEWHOPE TRUNK

System Overview - Pipelines



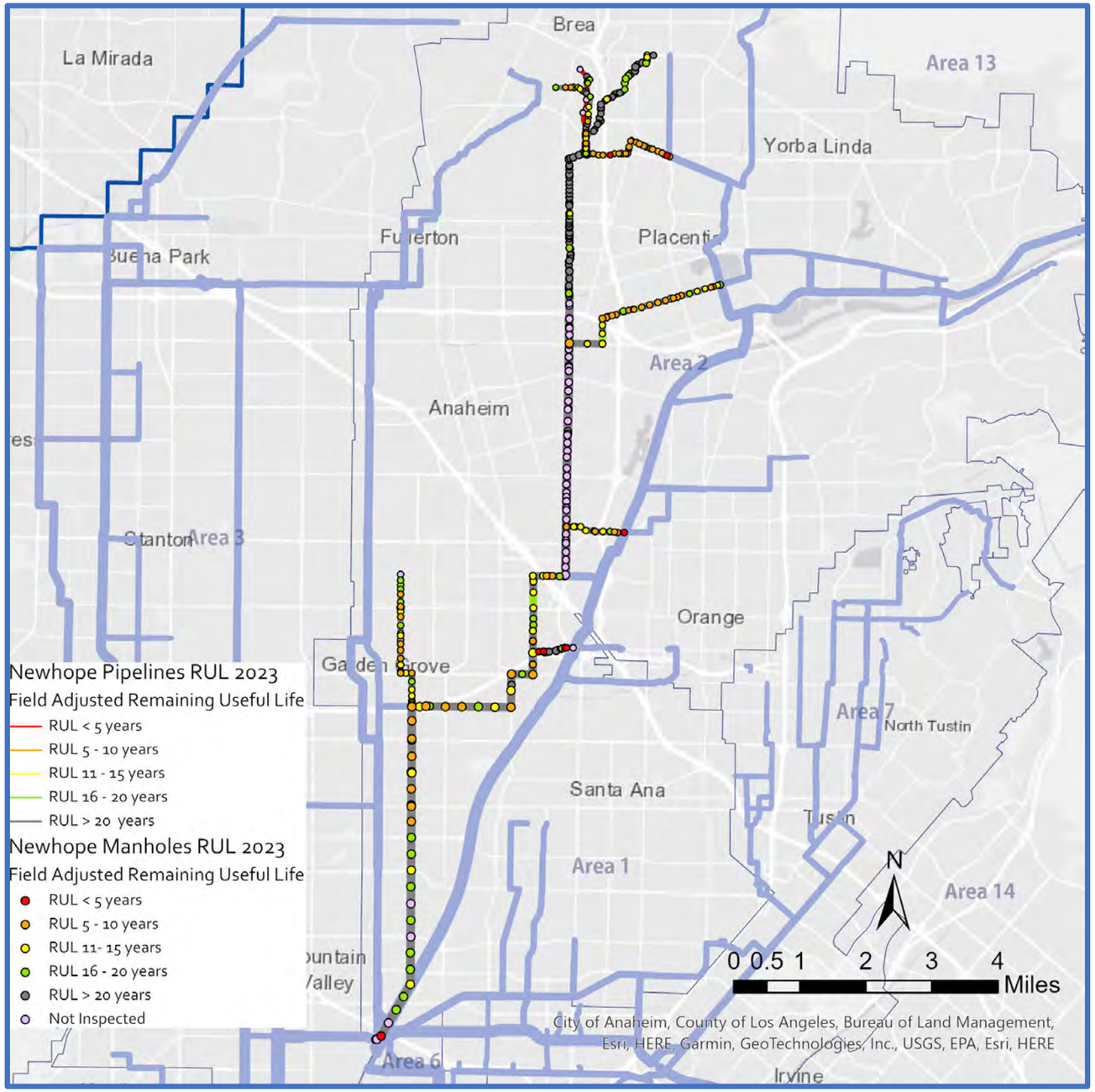
Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	4.0	69	50	8	6
21"–27" Ø	2.7	39	55	-	-
≥ 30" Ø	8.6	130	40	2	-
Reinforced Concrete					
45"–54" Ø	7.9	42	63	-	-
Polyvinyl Chloride					
12"–30" Ø	0.03	5	23	1	-
Fiberglass Reinforced Plastic					
39"–54" Ø	4.6	51	5	-	-
Ductile Iron					
16"–36" Ø	1.3	25	32	4	1
Steel					
12" Ø	0.07	6	14	-	-

Acronym Key:
Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – NEWHOPE TRUNK

System Overview - Manholes



Major Assets and Condition Information - Manholes

Asset Type	No. of Manholes	Average Age (years)	No. of Manholes with RUL Score of 5	No. of Manholes with RUL Score of 4
Concrete				
≤ 48" Ø	53	61	1	19
60"–72" Ø	192	43	5	44
> 72" Ø	112	29	1	15

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – NEWHOPE TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Broken Siphon** – In 2020, CCTV discovered the Olive Sub-Trunk siphon has a hole in the pipeline. In addition, CCTV showed corrosion issues in upstream manholes due to an ineffective air jumper.	• Project FE20-08 will replace a portion of the Olive Sub-Trunk siphon, rehabilitate other portions, reconstruct the air jumper, and restore the siphon into service.
• **Increase Dry Weather Reclaimable Flows to P1** – To support the full production capacity of GWRS in future years, it is expected that more dry weather reclaimable flows are needed at OC San's treatment plants.	• Project X-131 includes the construction of a new diversion to allow the routing of some flows from the SAR0345 branch into the Newhope Trunk system.
• **Manhole Defects** – CCTV identified several areas with significant liner delamination and some structures with exposed rebar located in Anaheim, Fullerton, Garden Grove, Orange, Placentia, and Santa Ana. There are also three isolated manholes in the southern reaches of the Newhope Trunk system with severe liner detachment, surface aggregate missing, and visible reinforcement.	• Projects FE20-08, FE21-08, X-078, X-131, and X-132 will address the majority of the liner delamination and exposed rebar by rehabilitating the manhole structures. Other manholes not included or near a CIP project as well as several manholes that need some rehabilitation work to prevent failure prior to the construction phase of the X-078 and X-131 projects are suitable for repair under the Manhole Rehabilitation blanket contract.
• **Pipeline Fracturing** – CCTV identified several areas with significant fracturing of VCP pipelines. Most fractures are concentrated in Fullerton.	• Project X-131 will address all of the fractures by rehabilitating the pipelines.
• **Pipeline Tuberculation** – CCTV identified a few ductile iron pipes in Craig Regional Park with no lining or significant delamination and widespread tuberculation.	• Project X-131 will address all of the tuberculation by rehabilitating the pipelines.
• **Uninspected Gravity Pipelines** – Thirteen gravity sewers have never been inspected in the Newhope Trunk system. There is no condition data for these reaches to determine field-adjusted RUL.	• Four gravity sewers were recently constructed in 2017 and 2018 and have no access issues. Eight gravity sewers appear to have buried manhole frames and covers, which will be located and uncovered by OC San staff. All of these reaches will be inspected via future CCTV PM work orders or separate CCTV work orders. The final gravity sewer is proposed to be abandoned as part of Project 2-73.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
FE20-08	Olive Sub-Trunk Siphon Rehabilitation at Santa Ana River	• Rehabilitate an inverted siphon in the Cities of Anaheim and Orange															
FE21-08	Newhope-Placentia Sewer Manhole Replacements	• Rehabilitate sewer manholes in Fountain Valley, Garden Grove, and Santa Ana															
X-131	Pioneer Branch - Kraemer Boulevard Interceptor Rehabilitation	• Rehabilitate sewer facilities in the Cities of Brea, Fullerton, and Placentia															
X-132	Atwood Sub-Trunk Rehabilitation	• Rehabilitate sewer facilities in the Cities of Anaheim and Placentia															
X-078	Inverted Siphon and Air Jumper Improvements	• Install new air jumper facilities and rehabilitate sewer facilities in the Cities of Cypress, La Habra, La Mirada, Orange, and Santa Ana															

Types of Project Legend:

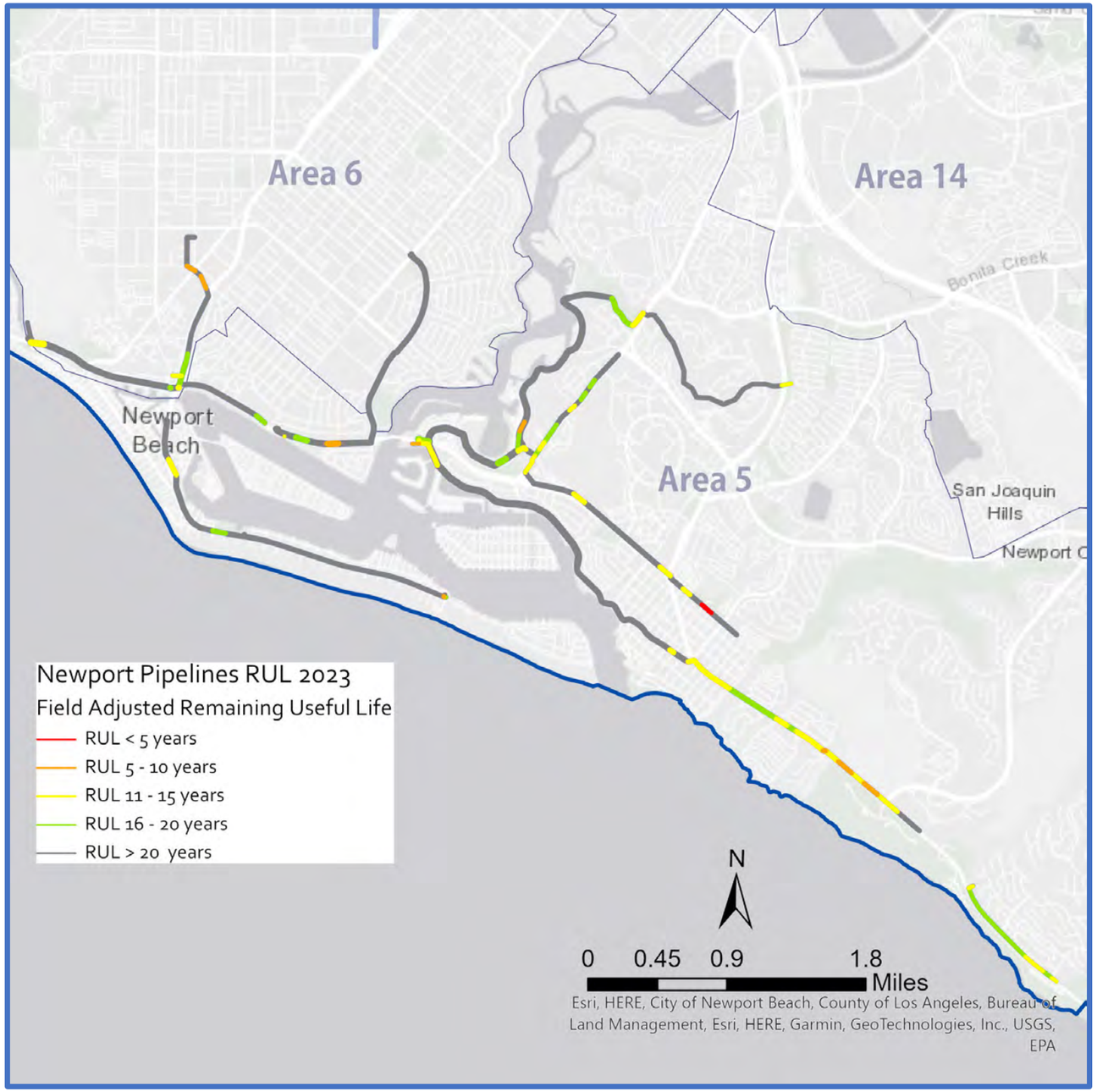
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; DIP = Ductile Iron Pipe; FY = Fiscal Year; GWRS = Groundwater Replenishment System; OC San = Orange County Sanitation District; P1 = Plant No. 1; PM = Preventive Maintenance; RUL = Remaining Useful Life; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – NEWPORT TRUNK

System Overview - Pipelines



Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	5.9	127	46	2	5
21"–27" Ø	4.5	100	38	-	-
≥ 30" Ø	3.8	76	36	-	1
Ductile & Cast Iron					
≤ 18" Ø	1.4	20	31	-	2
24"–30" Ø	1.5	22	31	-	1
Polyvinyl Chloride					
≤ 18" Ø	0.1	3	11	-	-
30"–36" Ø	2.6	36	23	-	-
Cured-in-Place					
24" Ø	1.1	13	25	-	-
High-Density Polyethylene					
15"–42" Ø	0.8	16	29	-	-
Reinforced Concrete					
48" Ø	0.02	1	11	-	-

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – NEWPORT TRUNK

System Overview - Manholes

Major Assets and Condition Information - Manholes

Asset Type	No. of Manholes	Average Age (years)	No. of Manholes with RUL Score of 5	No. of Manholes with RUL Score of 4
Concrete				
≤ 48" Ø	111	64	1	19
60"–72" Ø	287	28	-	8
> 72" Ø	5	26	-	-
Fiberglass Reinforced Plastic				
36" Ø	2	16	-	-
72" Ø	2	19	-	-

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – NEWPORT TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Manhole Defects** – CCTV identified several areas with significant liner delamination and some structures with exposed rebar, concentrated in East Coast Highway and Fifth Avenue.	• Project X-128 will address the majority of the liner delamination and exposed rebar by rehabilitating the manhole structures. Other manholes not included or near a CIP project as well as one manhole that needs some rehabilitation work to prevent failure prior to the construction phase of the X-128 project are suitable for repair under the Manhole Rehabilitation blanket contract.
• **Missing Air Jumpers** – One out of two inverted siphon locations in the Newport Trunk system do not have air jumpers.	• Project X-128 includes the construction of a new air jumper.
• **Pipeline Fracturing** – CCTV identified several areas with significant fracturing of VCP pipelines. The fractures are scattered throughout the Newport Trunk system.	• Project X-128 will address one of the fractures by rehabilitating the pipeline. • Isolated defects elsewhere not included or near a CIP project have been identified as high-priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.
• **Pipeline Tuberculation** – CCTV identified a few ductile iron pipes in East Coast Highway with pockets of significant liner delamination and tuberculation.	• The areas of liner delamination and tuberculation appear to be small enough they are suitable for point repairs and have been added to the list of high-priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.
• **Uninspected Gravity Pipelines** – Twelve gravity sewers have never been inspected in the Newport Trunk system. There is no condition data for these reaches to determine field-adjusted RUL.	• There are no known access issues for the 12 uninspected gravity sewers. Inspections will be completed via future CCTV PM work orders or separate CCTV work orders.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
X-128	East Coast Highway - Bayside Trunk Rehabilitation	• Rehabilitate sewer facilities in the City of Newport Beach.															

Types of Project Legend:

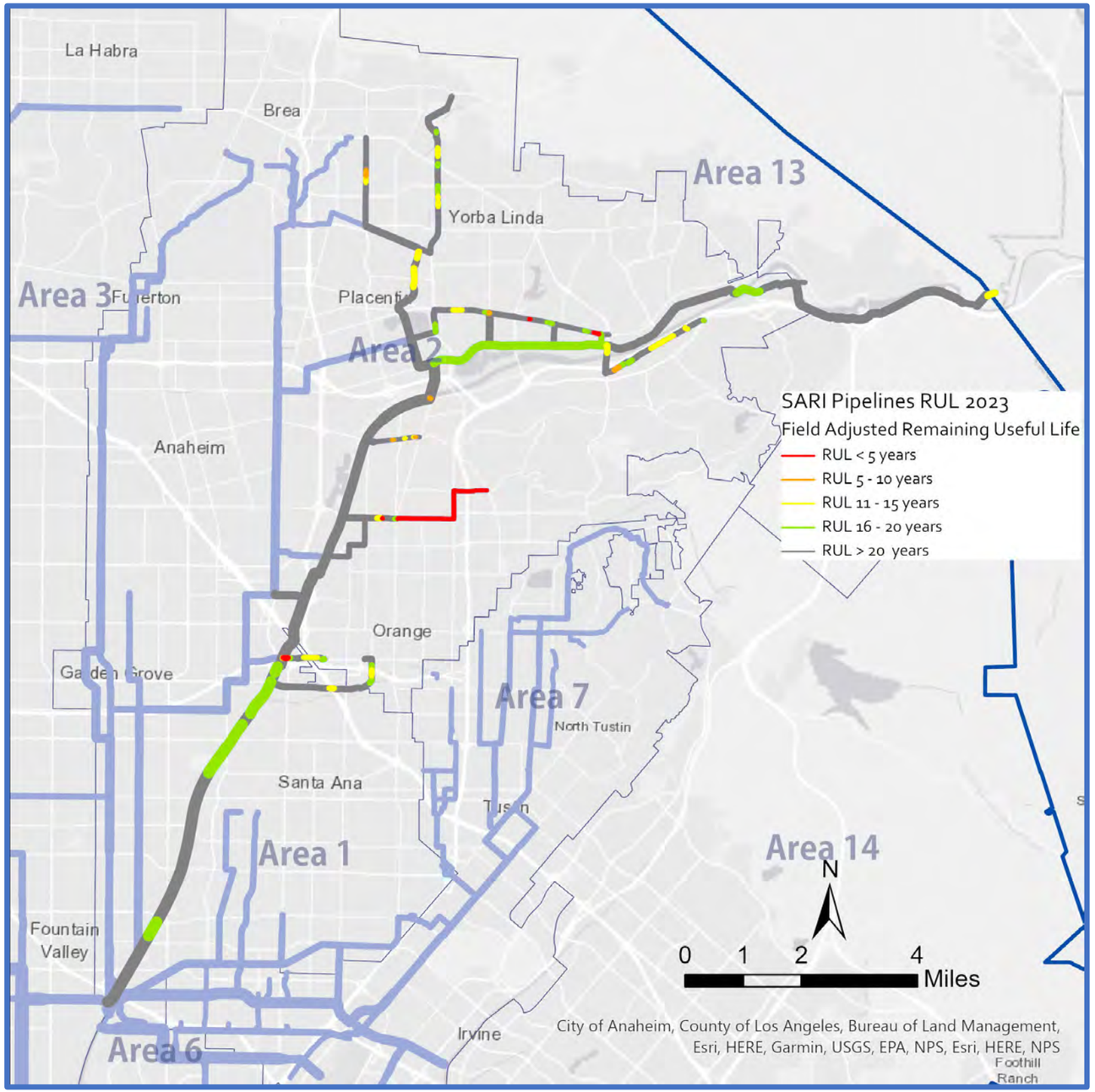
- **CIP - Planning**
- **CIP - Design**
- **CIP - Construction**
- **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; FY = Fiscal Year; PM = Preventive Maintenance; OC San = Orange County Sanitation District; RUL = Remaining Useful Life; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – SARI TRUNK

System Overview - Pipelines



Major Assets and Condition Information - Pipelines

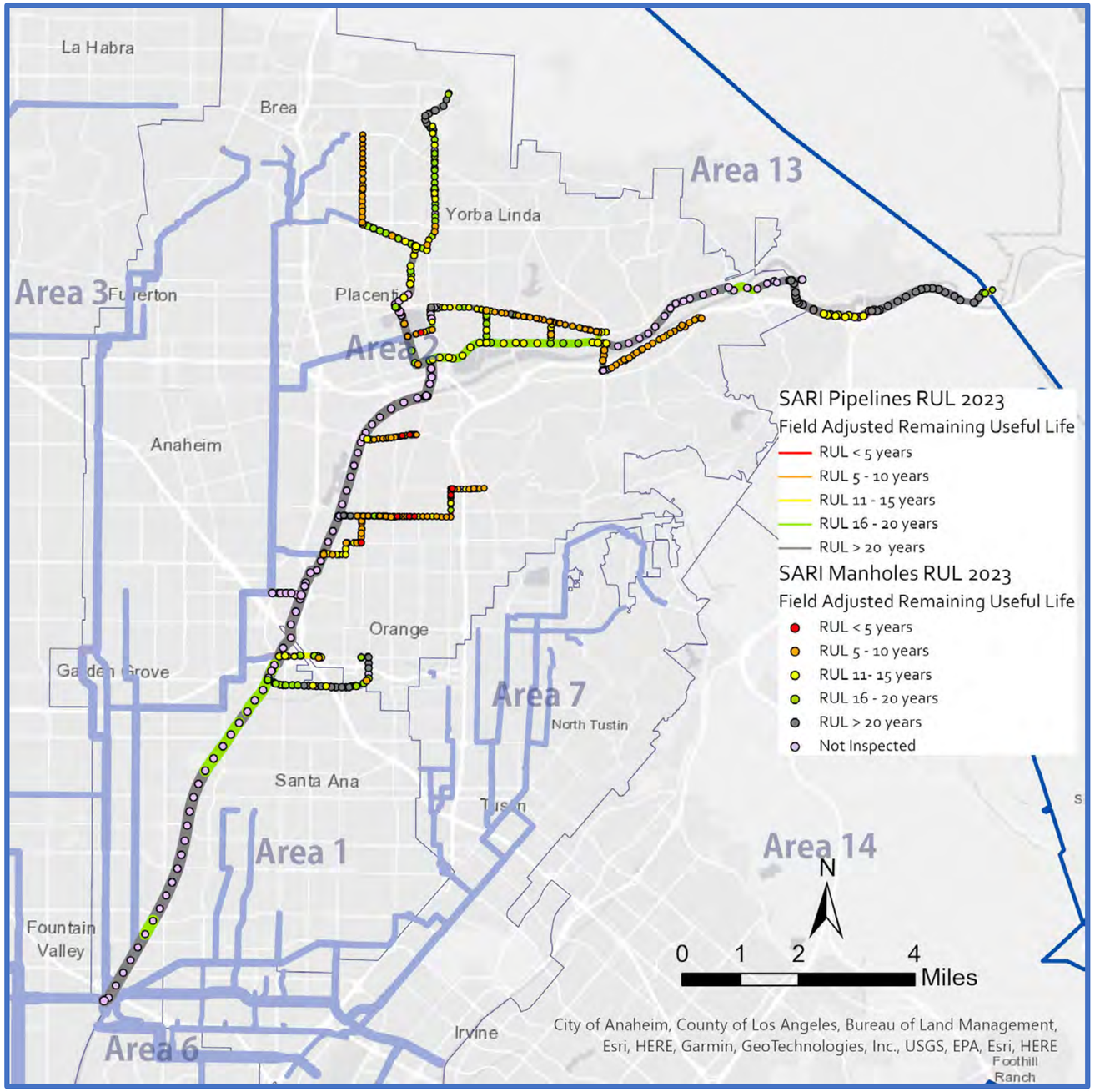
Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	5.0	113	58	46	3
21"–27" Ø	11.4	184	47	-	3
≥ 30" Ø	5.7	79	38	-	-
Reinforced Concrete					
42"–66" Ø	12.0	88	44	-	-
≥ 72" Ø	10.0	50	48	-	-
Fiberglass Reinforced Plastic					
36"–54" Ø	3.9	41	12	-	-
High-Density Polyethylene					
≤ 18" Ø	0.5	4	9	-	-
30" Ø	0.7	3	12	-	-
Ductile Iron					
24"–30" Ø	0.8	10	37	2	-
Steel					
30" Ø	0.03	2	12	-	-
Cured-in-Place					
33" Ø	0.3	4	14	-	-
Polyvinyl Chloride					
12" Ø	0.01	1	7	-	-

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life; SARI=Santa Ana River Interceptor

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – SARI TRUNK

System Overview - Manholes



Major Assets and Condition Information - Manholes

Asset Type	No. of Manholes	Average Age (years)	No. of Manholes with RUL Score of 5	No. of Manholes with RUL Score of 4
Concrete				
≤ 48" Ø	128	62	8	81
60"–72" Ø	300	43	1	66
> 72" Ø	93	38	-	2
Fiberglass Reinforced Plastic				
≥ 72" Ø	49	12	-	-

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life; SARI=Santa Ana River Interceptor

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – SARI TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Broken Siphon** – In 2020, CCTV discovered the Olive Sub-Trunk siphon has a hole in the pipeline. In addition, CCTV showed corrosion issues in upstream manholes due to an ineffective air jumper.	• Project FE20-08 will replace a portion of the Olive Sub-Trunk siphon, rehabilitate other portions, reconstruct the air jumper, and restore the siphon into service.
• **Capacity** – The Collections Capacity Evaluation Study completed in 2019 conducted a detailed capacity analysis to identify the location of capacity deficiencies during dry and peak wet weather flows. During existing peak wet weather flows, capacity issues were identified in the Taft Branch. During future peak wet weather flows, capacity issues were identified in a northern portion of the SARI system.	• Project 2-49 will address existing wet weather capacity issues in the Taft Branch and Project X-086 will address future wet weather capacity issues in a northern portion of the SARI system.
• **Manhole Defects** – CCTV identified widespread areas with significant liner delamination and some structures with exposed rebar. The defects are primarily concentrated in Anaheim, Orange, and Placentia.	• Projects 2-49, 2-78, X-131, X-132, and X-134 will address the majority of the liner delamination and exposed rebar by rehabilitating the manhole structures. Other manholes not included or near a CIP project as well as several manholes that needs some rehabilitation work to prevent failure prior to the construction phase of the X-131, X-132, and X-134 projects are suitable for repair under the Manhole Rehabilitation blanket contract.
• **Missing Air Jumpers** – Four out of 12 inverted siphon/reduction locations in the SARI Trunk system do not have air jumpers.	• Projects X-078, X-132, and X-134 include constructing a new air jumper at all four locations.
• **Pipeline Fracturing** – CCTV identified several areas with significant fracturing of VCP pipelines. Most fractures are concentrated in Anaheim and Orange.	• Projects 2-78, X-131, X-132, and X-134 will address some fracturing issues by rehabilitating the pipelines. • Isolated defects not included or near a CIP project as well as three pipelines that may not have fractures addressed in time by the X-132 and X-134 projects have been identified as high-priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.
• **Uninspected Gravity Pipelines** – One gravity sewer has never been inspected in the SARI Trunk system. There is no condition data for these reaches to determine field-adjusted RUL.	• This gravity sewer has a tight horizontal curve that may not allow for CCTV inspection and is blocked by a diversion board; OC San staff to discuss with CCTV contractor.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
FE20-08	Olive Sub-Trunk Siphon Rehabilitation at Santa Ana River	• Rehabilitate an inverted siphon in the Cities of Anaheim and Orange.															
2-49	Taft Branch Improvements	• Upsize sewer facilities in the City of Orange.															
2-78	Santa Ana Canyon South River Trunk Rehabilitation	• Rehabilitate sewer facilities in the City of Anaheim.															
X-131	Pioneer Branch - Kraemer Boulevard Interceptor Rehabilitation	• Rehabilitate sewer facilities in the Cities of Brea, Fullerton, and Placentia.															
X-132	Atwood Sub-Trunk Rehabilitation	• Rehabilitate sewer facilities in the Cities of Anaheim and Placentia.															
X-134	Olive Sub-Trunk - Taft Branch Rehabilitation	• Rehabilitate sewer facilities in the City of Orange.															
X-078	Inverted Siphon and Air Jumper Improvements	• Install new air jumper facilities and rehabilitate sewer facilities in the Cities of Cypress, La Habra, La Mirada, Orange, and Santa Ana.															

Types of Project Legend:

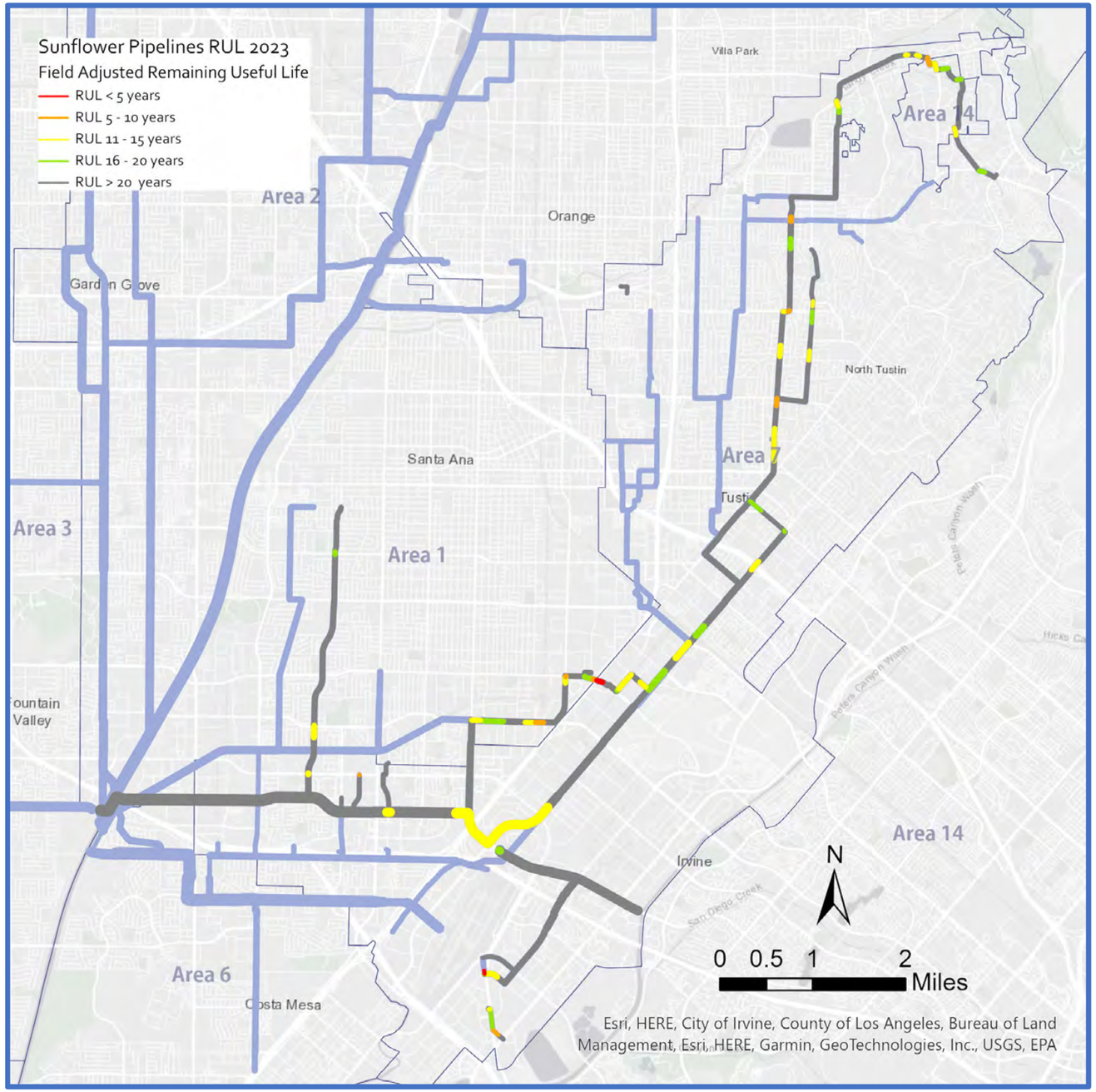
CIP - Planning | **CIP - Design** | **CIP - Construction** | **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; FY = Fiscal Year; OC San = Orange County Sanitation District; RUL = Remaining Useful Life; SARI = Santa Ana River Interceptor; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – SUNFLOWER TRUNK

System Overview - Pipelines



Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	7.1	144	47	-	5
21"–27" Ø	13.6	206	49	1	5
≥ 30" Ø	4.4	55	45	-	-
Reinforced Concrete					
42"–66" Ø	4.7	49	43	-	-
≥ 72" Ø	4.1	27	52	-	-
Ductile Iron					
20" Ø	0.5	11	25	-	-
Polyvinyl Chloride					
30" Ø	0.05	3	14	-	-
Reinforced Plastic Mortar					
15" Ø	0.1	3	52	-	-
Asbestos Cement					
10" Ø	0.04	1	59	1	-
Unknown					
18" Ø	0.01	1	6	-	-

Acronym Key:
Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – SUNFLOWER TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Missing Air Jumpers** – Two out of 11 inverted siphon/reduction locations in the Sunflower Trunk system do not have air jumpers.	• Projects X-133 includes constructing a new air jumper at one location. The second location does not require an air jumper due to lack of normal surcharged conditions.
• **Pipeline Fracturing and Liner Failures** – CCTV identified several areas with significant fracturing of VCP pipelines and large diameter pipe with liner failures. Most fractures are concentrated in Orange and Santa Ana with others located in Irvine, Newport Beach, and Tustin. Liner failures were found north of John Wayne Airport in the 63-inch to 78-inch RCP.	• Liner failures in the 63-inch to 78-inch RCP are being addressed with Project 7-66 and repairs are substantially complete. Project FRC-0007, 7-70, X-066, X-129, and X-133 address fractures by rehabilitating the pipelines. • An isolated defect not included or near a CIP project as well as four pipelines that may not have fractures addressed in time by the X-066, X-129, and X-133 projects have been identified as high-priority point repairs. OC San staff are in the process of grouping point repairs together for 7-pack task orders.
• **Uninspected Gravity Pipelines** – Three gravity sewers have never been inspected in the Sunflower Trunk system. There is no condition data for these reaches to determine field-adjusted RUL.	• One gravity sewer is proposed to be abandoned-in-place as part of Project 7-68. The other two gravity sewers were constructed more recently in 2017 and inspections will be completed via future CCTV PM work orders or separate CCTV work orders.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
FE18-13	Redhill Relief Sewer Relocation at SR-55	• Relocate sewer facilities in the City of Santa Ana.															
FRC-0007	Redhill Relief Sewer Liner Repair at SR-55	• Rehabilitate sewer facilities in the City of Santa Ana.															
7-70	North Trunk/Panorama Heights/Tustin-Orange Rehabilitation	• Rehabilitate sewer facilities in the City of Orange.															
X-129	South Coast Metro Sub-Trunks Rehabilitation	• Rehabilitate sewer facilities in the cities of Costa Mesa and Santa Ana.															
X-133	Dyer Road - Grand Avenue Trunk Rehabilitation	• Rehabilitate sewer facilities in the City of Santa Ana.															
X-066	Tustin-Orange Interceptor/Orange Park Acres Trunk Rehabilitation	• Rehabilitate sewer facilities in the City of Orange.															
X-065	Tustin-Orange Interceptor Rehabilitation	• Rehabilitate sewer facilities in the City of Orange.															

Types of Project Legend:

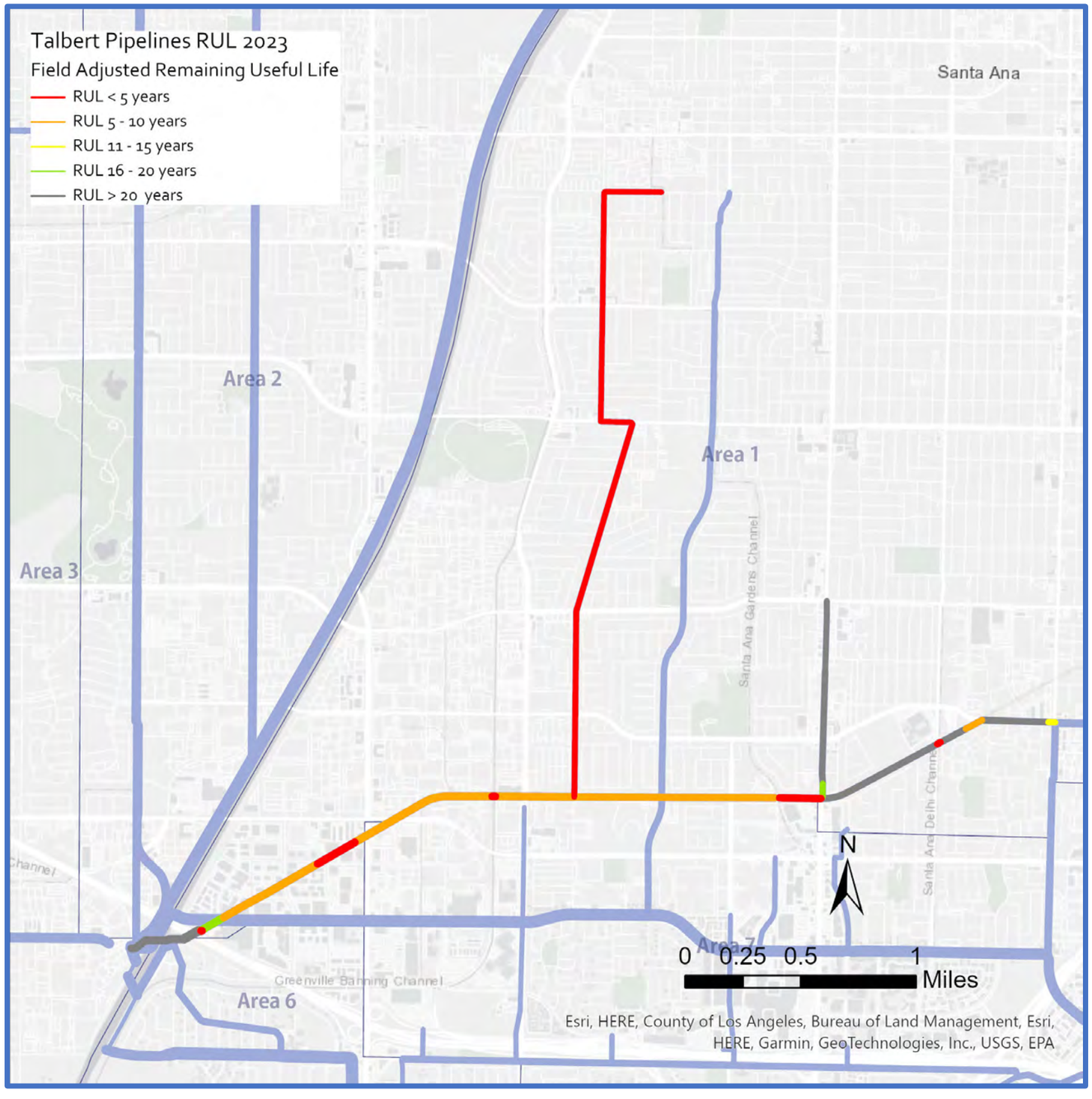
CIP - Planning **CIP - Design** **CIP - Construction** **Maintenance Project**

Acronym Key:

CCTV=Closed-Circuit Television; CIP = Capital Improvement Program; FY=Fiscal Year; OC San=Orange County Sanitation District; PM = Preventive Maintenance; RCP = Reinforced Concrete Pipe; RUL = Remaining Useful Life; SR-55 = State Route 55; VCP = Vitrified Clay Pipe

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – TALBERT TRUNK

System Overview - Pipelines



Major Assets and Condition Information - Pipelines

Asset Type	Total Length (miles)	No. of Pipes	Average Age (years)	No. of Pipes with RUL Score of 5	No. of Pipes with RUL Score of 4
Vitrified Clay					
≤ 18" Ø	0.1	6	48	2	1
21"–27" Ø	3.4	46	70	39	2
≥ 30" Ø	1.7	23	70	2	1
Reinforced Concrete					
42" Ø	1.1	10	55	1	9
48"–60" Ø	2.1	29	53	3	17

Acronym Key:

Ø = Diameter; No. = Number; RUL = Remaining Useful Life

ASSET MANAGEMENT SYSTEM SUMMARY – COLLECTION SYSTEM – TALBERT TRUNK

Key Issues

Key Issues	Actions & Recommendations
• **Capacity** – The Collections Capacity Evaluation Study completed in 2019 conducted a detailed capacity analysis to identify the location of capacity deficiencies during dry and peak wet weather flows. During existing peak wet weather flows, capacity issues were identified in the entire Greenville Trunk.	• Project 1-24 will replace and upsize the entire Greenville Trunk to address existing wet weather capacity issues, including sags, fractures, and widespread infiltration.
• **Missing Air Jumpers** – Four out of five inverted siphon locations in the Talbert Trunk system do not have air jumpers.	• Projects 1-23, 1-24, and X-133 include constructing new air jumpers at three locations. Project 1-24 also includes eliminating one inverted siphon, which subsequently eliminates the need for an air jumper at that location.
• **Pipeline Fracturing** – CCTV identified one VCP pipeline segment with significant fracturing.	• Project X-133 will rehabilitate the fractured pipeline segment.
• **Reinforced Concrete Pipe Corrosion Damage** – Most of the RCP pipeline of the Talbert Trunk between Plant No. 1 and Bristol Street has moderate to severe surface aggregate loss in areas not rehabilitated by past project 1-17.	• Project 1-23 will rehabilitate the remaining pipeline segments with moderate to severe surface aggregate loss.

Current and Future Projects

Project No.	Project Title	Description of Work	FY 23/24	FY 24/25	FY 25/26	FY 26/27	FY 27/28	FY 28/29	FY 29/30	FY 30/31	FY 31/32	FY 32/33	FY 33/34	FY 34/35	FY 35/36	FY 36/37	FY 37/38
1-23	Santa Ana Trunk Sewer Rehabilitation	• Rehabilitate sewer facilities in the cities of Santa Ana and Costa Mesa.															
1-24	Greenville Trunk Improvements	• Upsize sewer segments to increase capacity in the City of Santa Ana.															
X-133	Dyer Road - Grand Avenue Trunk Rehabilitation	• Rehabilitate sewer facilities in the City of Santa Ana.															

Types of Project Legend:

- **CIP - Planning**
- **CIP - Design**
- **CIP - Construction**
- **Maintenance Project**

Acronym Key:

CCTV = Closed-Circuit Television; CIP = Capital Improvement Program; FY = Fiscal Year

3 Program Monitoring and Improvements

3.1 Program Monitoring

OC San has developed metrics to monitor and evaluate the Asset Management Program progress and realized benefits. The metrics have been chosen to directly relate to the Asset Management Program objectives. The key objectives OC San is building into the Asset Management Program are as follows:

- Take a proactive approach to repair, rehabilitation, and replacement.
- Ensure assets are reliable and operating when needed.
- Minimize unplanned outages and equipment downtime.
- Manage risks associated with asset or service impairment through asset performance optimization.
- Develop cost-effective management strategies for the long term.
- Strive to implement world-class asset management strategies through continual improvement in our asset management practices.

The following metrics were chosen to demonstrate the effectiveness of the Asset Management Program and establish a baseline by which to gauge future performance:

- ***The proactive maintenance percent***, the percent of PM as a total of all maintenance, demonstrates the effectiveness of the maintenance program (proactive versus reactive). The percent PM includes predictive and preventive maintenance of the assets.
- ***Break-In percent*** illustrates the amount of emergency work (or reactive work) as a percent of total work in the process area. The break-in percent metric will give OC San personnel a better understanding of unplanned outages and the causes of equipment downtime. In our Maximo® EAM system, this is described as a Level 50 priority. This is also described as break-in work that is deemed “emergency” or “urgent” by staff.
- ***Maintenance costs and labor hours*** are presented by process area to illustrate the total resources devoted to maintaining the process areas. The methods used to calculate each metric are included in Appendix E. As the maintenance program moves toward a more proactive state, these costs and labor hours should decline over time.
- ***Collections level of service results*** for sanitary sewer overflow (SSO) per 100 miles of sewer, odor complaints in the Collections system, and the CCTV program demonstrate the effectiveness of the combined efforts of Collections Maintenance, the Regional Odor and Corrosion Control System (ROCCS) program, and the Gravity Collections Condition Assessment Program as they pertain to asset management.

These program metrics or key performance indicators (KPIs) are evaluated on an annual basis and may change over time to better determine program performance.

3.1.1 Data

The metric data were sourced from Maximo®. The data from each database are from FY 2018–2019, FY 2019–2020, FY 2020–2021, FY 2021–2022, and FY 2022–2023 and are included in Appendix E for reference.

3.2 Program Metrics

3.2.1 Proactive Maintenance Percent

The *proactive maintenance percent* is the percent of PM as a total of all maintenance performed. An increase in proactive maintenance percent represents a shift from a reactive to a proactive maintenance program. Tables 3-1 and 3-2 provide the annual average of the proactive maintenance percent for both Reclamation Plant No. 1 and Treatment Plant No. 2. A proactive maintenance percent of 80% is considered a best in class value based on manufacturing industry standards, which may not be comparable to a critical facility as wastewater treatment but helpful to have as a guideline. Many of the areas at both plants were at or below 60%, indicating that improvement in this area is likely over time as proactive maintenance programs are implemented and older facilities are replaced. Refer to Appendix E for more information on proactive maintenance percentages expressed in chart format.

Table 3-1. Proactive Maintenance Percent for Reclamation Plant No. 1

Process Area	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
Preliminary	25%	39%	39%	25%	41%
Primary	29%	39%	32%	40%	37%
Interplant	69%	84%	82%	59%	34%
Activated Sludge	58%	53%	64%	56%	58%
Trickling Filters	55%	56%	53%	47%	46%
Digesters	34%	46%	46%	47%	42%
Solids Handling Facilities	31%	34%	42%	44%	60%
Central Power Generation	40%	64%	62%	62%	53%
Electrical Distribution	77%	68%	65%	77%	77%
Utilities	43%	33%	30%	26%	32%

Table 3-2. Proactive Maintenance Percent for Reclamation Plant No. 2

Process Area	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
Preliminary	55%	64%	59%	55%	38%
Primary	37%	25%	35%	38%	36%
Activated Sludge	54%	48%	53%	50%	48%
Trickling Filters	64%	67%	57%	61%	49%
Effluent Disposal	61%	57%	35%	59%	39%
Digesters	39%	39%	55%	51%	47%
Solids Handling Facilities	35%	41%	53%	41%	49%
Central Power Generation	58%	42%	50%	67%	48%
Electrical Distribution	84%	70%	74%	75%	69%
Utilities	34%	39%	44%	43%	45%

At Plant No. 1 and No. 2, the proactive maintenance percent for the solids handling facility is showing an increasing trend over the past 5 years, demonstrating the effectiveness of the maintenance program. The proactive maintenance percent for preliminaries at Plant No. 1 are in the lower range because Project P1-105 Headworks Rehabilitation is in construction. Low voltage cable failure at the headworks is causing the lower percentages of proactive maintenance work at Plant No. 2. Due to active construction work by Project J-117B, the effluent disposal area shows lower percentages in FY 2022–2023.

The pump stations have proactive maintenance percentages over 60% as shown in Table 3-3. Decreases in percentages are indicative of emergency work that was required and will be reflected in the break-in percentage illustrated later in this chapter. For instance, Bay Bridge required break-in work because check valves would not close. Common CM work orders include replacing leaking valves, replacement of pump packing, de-ragging pumps, and attending to equipment that is making excessive noise when operating will also reduce the proactive percent. The low percentages for Edinger and Bay Bridge in FY 2022–2023 was due to multiple electrical and instrumentation failures. Edinger also experienced a failure with east force main.

Table 3-3. Proactive Maintenance Percent for Pump Stations

Pump Station	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
A Street	84%	86%	85%	67%	60%

Pump Station	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
15th Street	88%	88%	85%	85%	84%
Lido	47%	80%	42%	72%	50%
Bay Bridge	69%	65%	34%	45%	37%
Rocky Point	76%	96%	84%	76%	69%
Bitter Point	84%	82%	76%	84%	74%
Seal Beach	58%	55%	65%	50%	61%
Westside	79%	75%	74%	80%	64%
Edinger	74%	81%	79%	74%	44%
Slater	63%	86%	86%	73%	78%
College	98%	91%	69%	86%	72%
Crystal Cove	82%	57%	91%	80%	90%
Yorba Linda	72%	30%	92%	99%	80%
Main Street	36%	66%	66%	76%	74%
MacArthur	97%	66%	88%	83%	61%

Table 3-4 is an average of the percent proactive work orders for the process areas at each plant (not including the interplant, effluent disposal, electrical, and utilities) and the pump stations. While there is not a consistently increasing or decreasing trend in Plant 1 and 2 data, pump stations show a decrease in the annual average proactive work. The following pump stations are the major contributors to this reduction:

- MacArthur pump station had a power outage and the pump station aging facility could be a contributor to this. A CIP project to rehabilitate the pump station will be starting in July 2024.
- Edinger pump station is also aging and has an outdated bubbler system that has become unreliable. Maintenance has upgraded the bubbler panel and a small project has been established to upgrade the bubbler system and add redundancy. A CIP project to replace the pump station is currently in the design phase.
- Westside pump station main sewage pumps experience a lot of vibrations due to the natural frequency of the system. Collections is investigating ways to mitigate this issue.
- Lido pump station has experienced several power outages in the past year due to power reliability issue in the Balboa Peninsula. OC San plans to work with SCE to devise strategies to overcome this issue in future years.

Table 3-4. Annual Average Proactive Work for Process Areas

Proactive Work	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
Plant No. 1	40%	48%	47%	53%	45%
Plant No. 2	49%	47%	49%	52%	45%
Pump Stations	74%	74%	74%	75%	67%

3.2.2 Break-In Percent

Break-In Percent illustrates the amount of emergency work (or reactive work) as a percent of total work (hours) in the process area. Typically, the break-in percent metric should track closely with the inverse of the proactive maintenance percent because one is a measure of proactive maintenance program and the other a measure of unplanned outages or a reactive maintenance response (service requests with priority 40 and 50 service requests). Break-in percentages for Plant No. 1 are shown in Table 3-5 and for Plant No. 2 in Table 3-6. There was an overall increase in break-in work and decrease in proactive work at the Plant 1 preliminary area due to Project P1-105 construction and equipment shutdown demands. Higher numbers of break-in percent at the primaries were mostly due to mechanical issues at the Westside Street Pump Station (WSSPS) and the aging odor control facility. The Asset Management Team is working with maintenance to come up with a plan to improve the reliability of the pumps at WSSPS. Interplant had a break-in percent of 61% in FY 2022–2023 due to vandalism at EJB that damaged wiring and conduits and required extensive repairs.

At Plant No. 2, the data show an increase in break-in percent in areas with current construction projects and the need for shutdowns and tie-ins, including J-117B. Success in break-in percent is measured as a consistent trend downward over time. As mentioned earlier, low voltage cable failure at the headworks is causing higher break-in percentage at the Plant No. 2 preliminary area.

Table 3-5. Break-in Percent for Reclamation Plant No. 1

Process Area	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
Preliminary	16%	20%	24%	43%	29%
Primary	30%	28%	23%	28%	38%
Interplant	0%	16%	7%	0%	61%
Activated Sludge	14%	14%	11%	8%	9%
Trickling Filters	4%	10%	18%	36%	21%
Digesters	38%	20%	27%	19%	24%
Solids Handling Facilities	37%	22%	24%	20%	16%
Central Power Generation	29%	11%	14%	23%	25%
Electrical Distribution	5%	5%	10%	6%	7%
Utilities	26%	21%	26%	21%	24%

Table 3-6. Break-in Percent for Reclamation Plant No. 2

Process Area	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
Preliminary	20%	8%	11%	17%	25%
Primary	17%	17%	23%	26%	25%
Activated Sludge	9%	14%	10%	12%	16%
Trickling Filters	18%	17%	19%	22%	27%
Digesters	20%	16%	13%	12%	11%
Solids Handling Facilities	24%	32%	21%	26%	26%
Central Power Generation	23%	20%	20%	13%	9%
Electrical Distribution	13%	7%	14%	6%	15%
Utilities	32%	31%	15%	29%	16%

The pump station break-in percent is shown in Table 3-7. Many aging pump stations, such as Bay Bridge, Seal Beach, Edinger, and Slater saw an increase in break-in percent that is reflective of the RUL of the pump stations. Bay Bridge, Seal Beach, and Edinger pump stations all have replacement projects that are in progress while Slater Pump Station rehabilitation is scheduled to start in a few years. Westside Pump Station also saw an increase in break-in percent. While Westside Pump Station was rehabilitated in 2008, the original structure was constructed in 1962, and the design of the wet well and pumps present some hydraulic challenges and vibration issues that cause the pumps to require additional maintenance. Edinger Pump Station and Lido had higher break-in percentages due to bubbler system issues and Balboa Peninsula power reliability, respectively.

Table 3-7. Break-in Percent for Pump Stations

Process Area	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
A Street	12%	4%	6%	7%	31%
15th Street	2%	7%	6%	12%	11%
Lido	36%	27%	35%	24%	44%
Bay Bridge	11%	18%	31%	38%	31%
Rocky Point	20%	4%	7%	13%	19%
Bitter Point	9%	14%	14%	11%	25%
Seal Beach	27%	14%	20%	36%	25%

Process Area	FY 2018/2019	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
Westside	3%	9%	3%	14%	18%
Edinger	12%	18%	0%	22%	53%
Slater	17%	7%	3%	16%	13%
College	0%	2%	11%	12%	24%
Crystal Cove	5%	32%	6%	1%	4%
Yorba Linda	0%	4%	10%	0%	5%
Main Street	60%	11%	4%	1%	12%
MacArthur	3%	3%	11%	1%	18%

Table 3-8 shows an average of the break-in percent for Plant Numbers 1 and 2 and the pump stations. On average, Plant No. 1 had a higher number of break-in percentage and pump stations had the highest increase in the overall percentage compared to previous years.

Table 3-8. Annual Average of Break-in Percent for Process Areas

Process Area	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
Plant 1	17%	18%	21%	25%
Plant 2	18%	16%	18%	19%
Pump Stations	14%	11%	14%	22%

The trend in emergency call-out work for electrical and mechanical assets is shown on Figures 3-1 and 3-2, respectively, and reflects the demand older assets can have on maintaining the reliability of a facility.

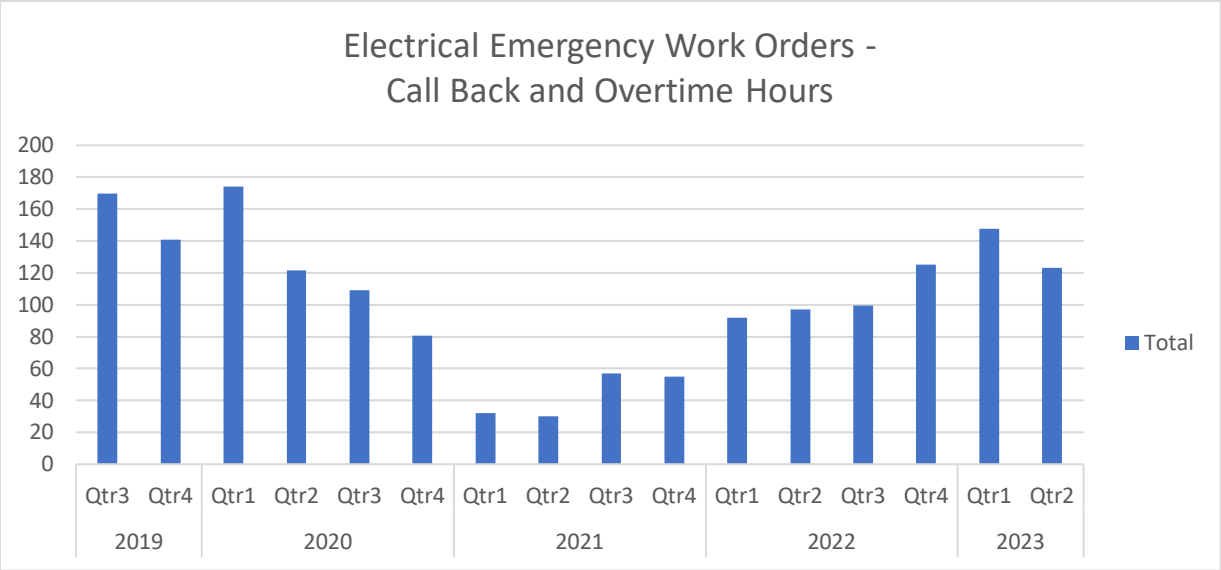


Figure 3-1. Electrical Emergency Work Orders

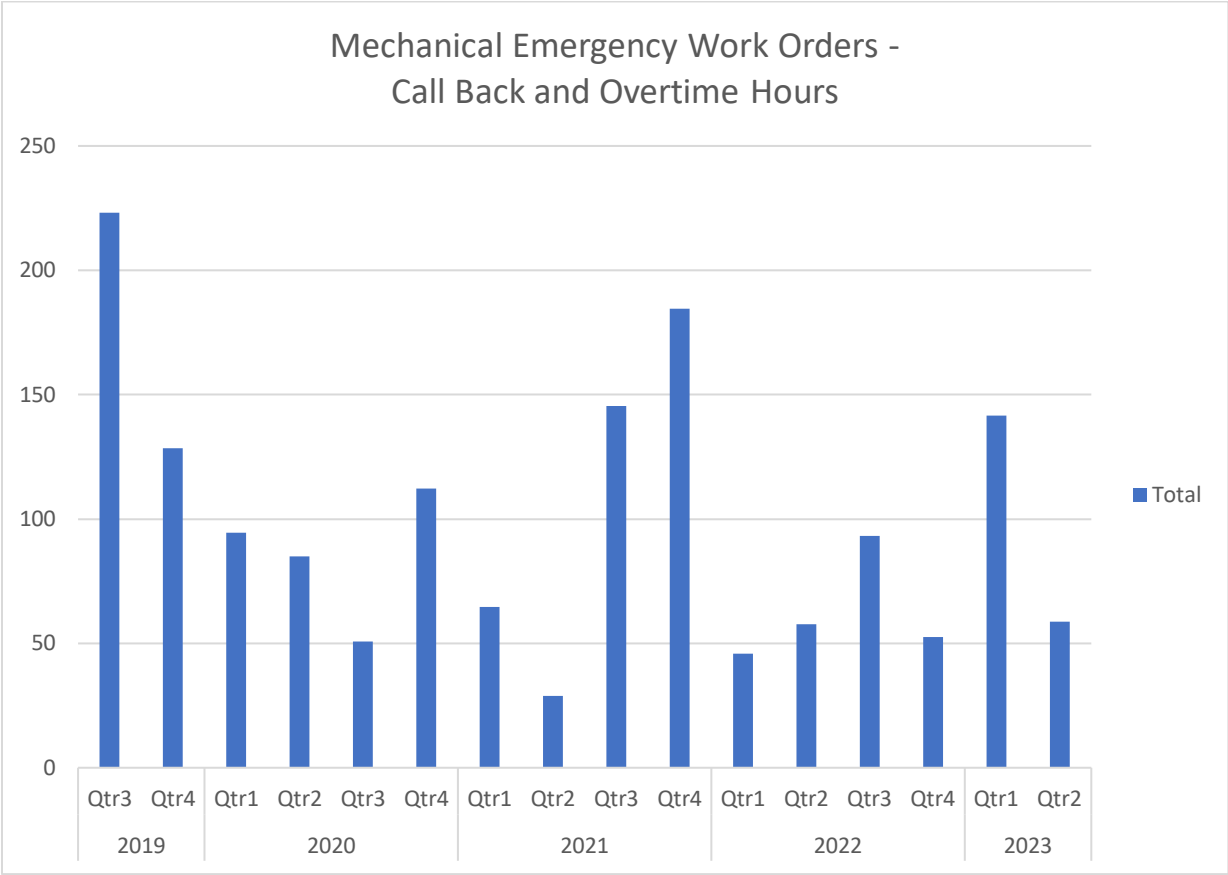


Figure 3-2. Mechanical Emergency Work Orders

The number of electrical "emergency" work orders and associated hours increased primarily due to electrical outages at the pump stations, and headworks power failure at both plants. There were also a few electrical emergency call outs to support the rain events. The mechanical emergency work increased primarily due to Plant No. 1 headworks and primary treatment mechanical failures. On average, about 80% of emergency mechanical call backs were to support Plant No. 1. We expect the trend for electrical break-in/emergency work to trend down as more electrical projects are implemented to replace or upgrade aging assets (for example, P1-105).

3.2.3 Maintenance Costs and Labor Hours

OC San uses the maintenance costs and number of labor hours over time as trend indicators to indicate the amount of resources devoted to reliably maintaining the process areas. Figure 3-3 shows maintenance costs (materials and services) per FY broken down by process area at Plant No. 1. The data indicate that there has been a large increase in maintenance costs at the Plant No. 1 Activated Sludge facility due to several in-house maintenance activities for the aging assets such as the installation of a new WAS pump, and lighting improvement to replace old LED lights. Dewatering centrifuge overhaul is one of the most expensive maintenance activities at the T&D building that happened in both FY 2022–2023 and FY 2021–2022. Overall, the maintenance cost is expected to reduce at the T&D building with several in-house improvements in the past couple of years.

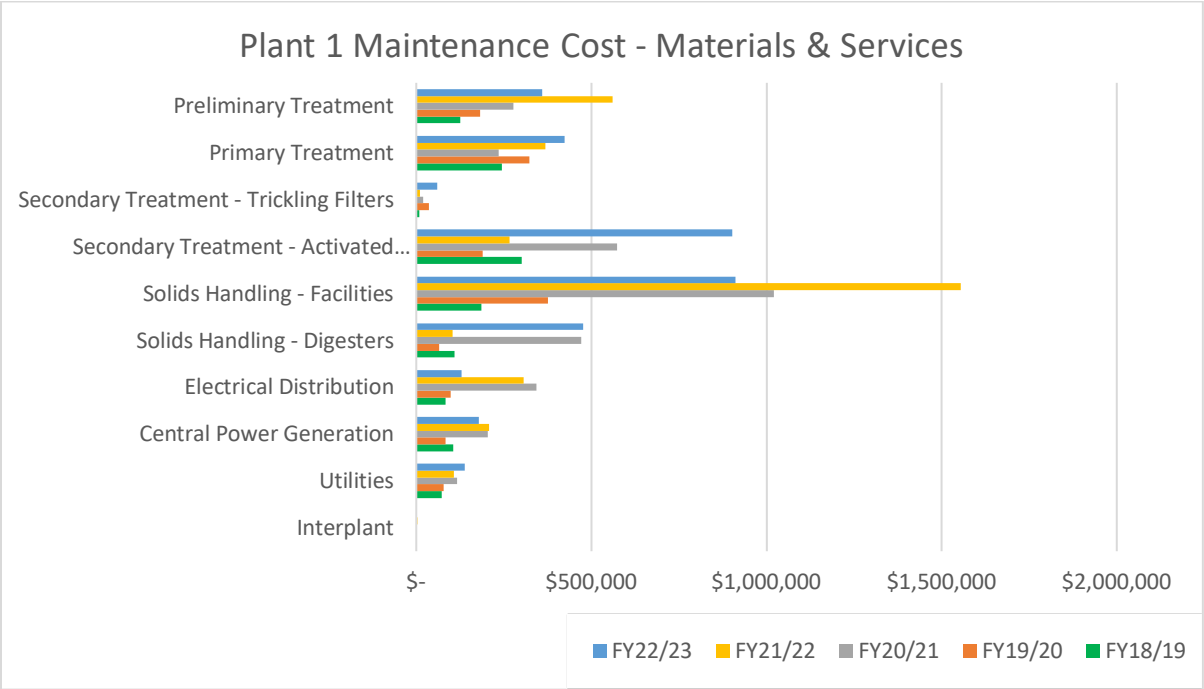


Figure 3-3. Graph of Maintenance Costs (Materials and Services) at Plant No. 1

Figure 3-4 shows Maintenance labor hours per FY broken down by process area at Plant No. 1. The labor hours are high at the Plant No. 1 secondary facility because of the older equipment at activated sludge facility 1, which is scheduled for rehabilitation under Project P1-140. The labor hours are also high at the solids handling facility because the new thickening and dewatering process has more complex equipment that requires more staff to operate and maintain. In FY 2022–2023, the rebuild of two high-rate pumps and several mechanical seal replacements were among the most labor-intensive activities in the digester area.

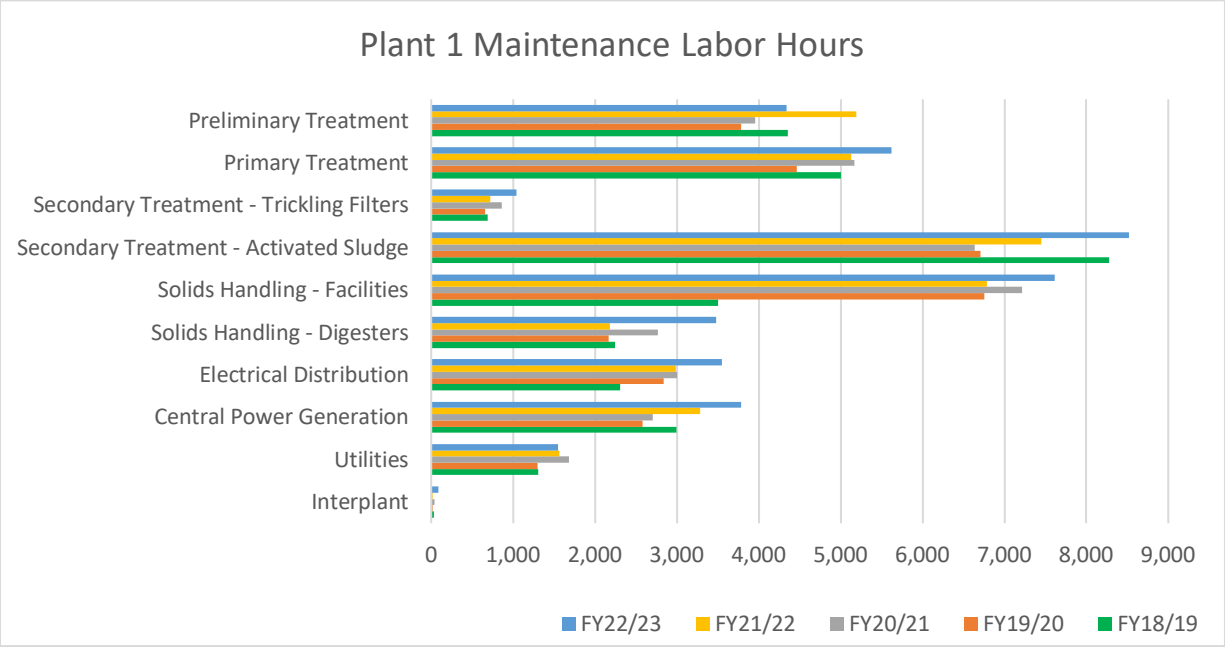


Figure 3-4. Graph of Maintenance Labor Hours at Plant No. 1

Figures 3-5 and 3-6 show maintenance costs (materials and services) and labor hour per FY broken down by process area at Plant No. 2. The maintenance cost at Plant No. 2 were higher for FY 2022–2023 for the solids handling facility due to overhaul of the hydraulic power unit for the truck loading facility and other maintenance activities in the area. At Cen Gen, the air compressor overhaul, Engine 3 repairs, and auxiliary heat exchanger repairs were contributing to higher material and services costs in the past year. Repair of the failed bar screen rake at the headworks and biotower flow transmitter repairs were among the costliest and labor-intensive repairs at preliminary treatment facilities at Plant No. 2. Overall, the labor hour graph follows the trend in material and services.

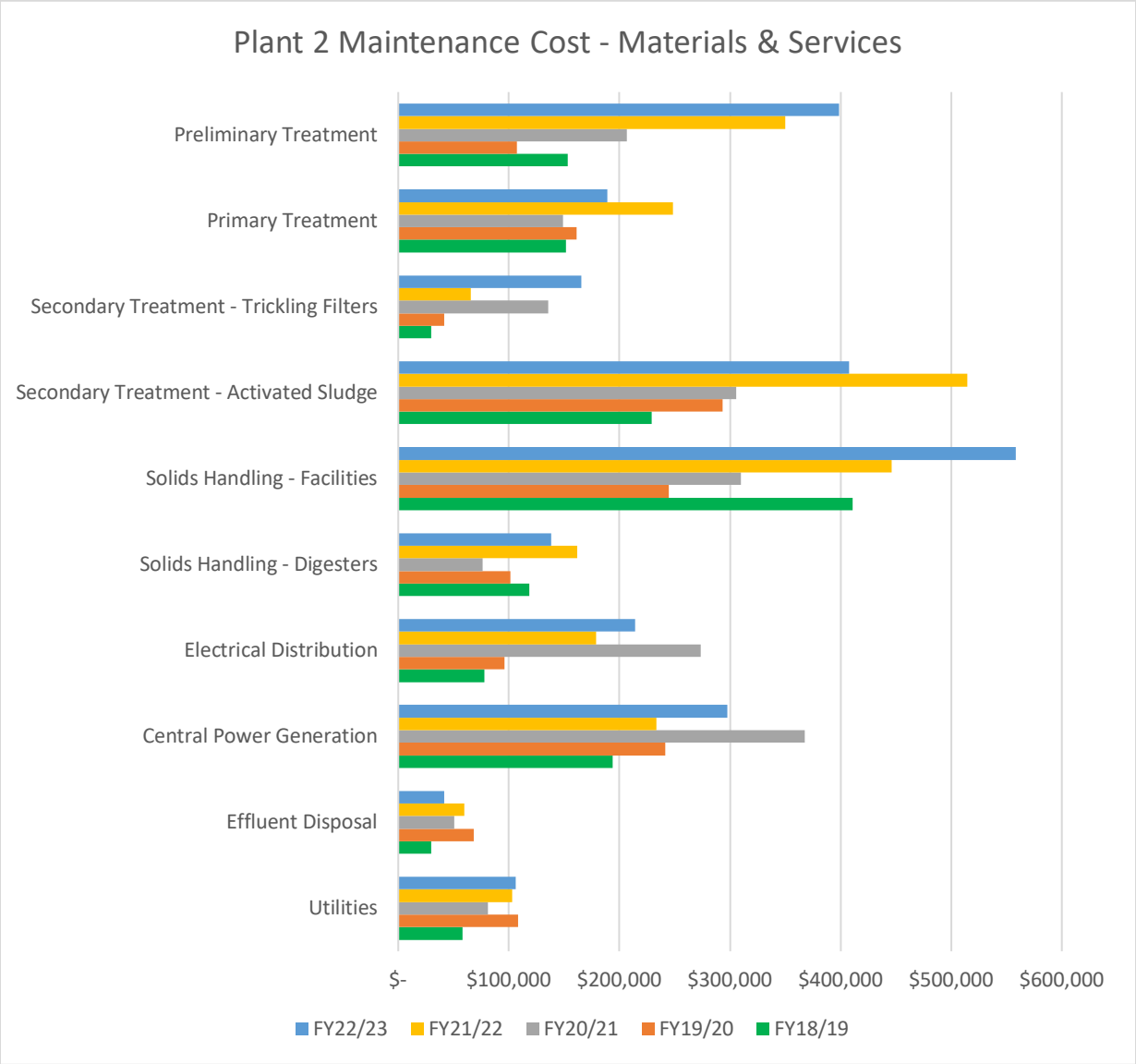


Figure 3-5. Graph of Maintenance Costs (Materials and Services) at Plant No. 2

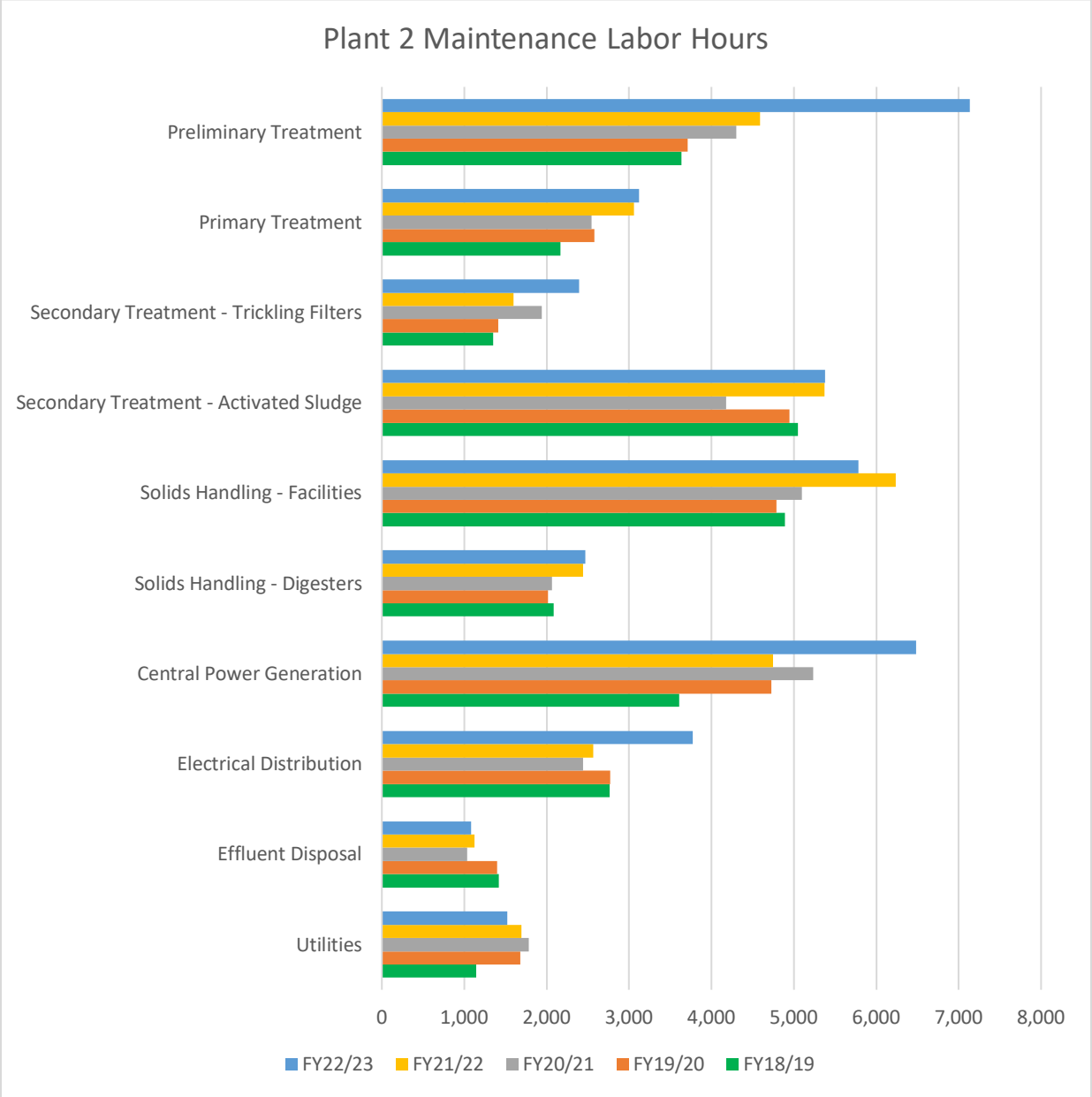


Figure 3-6. Graph of Maintenance Labor Hours at Plant No. 2

Maintenance labor hours and costs for the pump stations are included on Figure 3-7 and Figure 3-8. Overall, Maintenance costs last FY are low or in line with previous years with the exception of Bay Bridge. The Bay Bridge MSP #5 pump was purchased by Maintenance last year for a cost that exceeded $85,000 in total material and labor cost in FY 2022–2023.

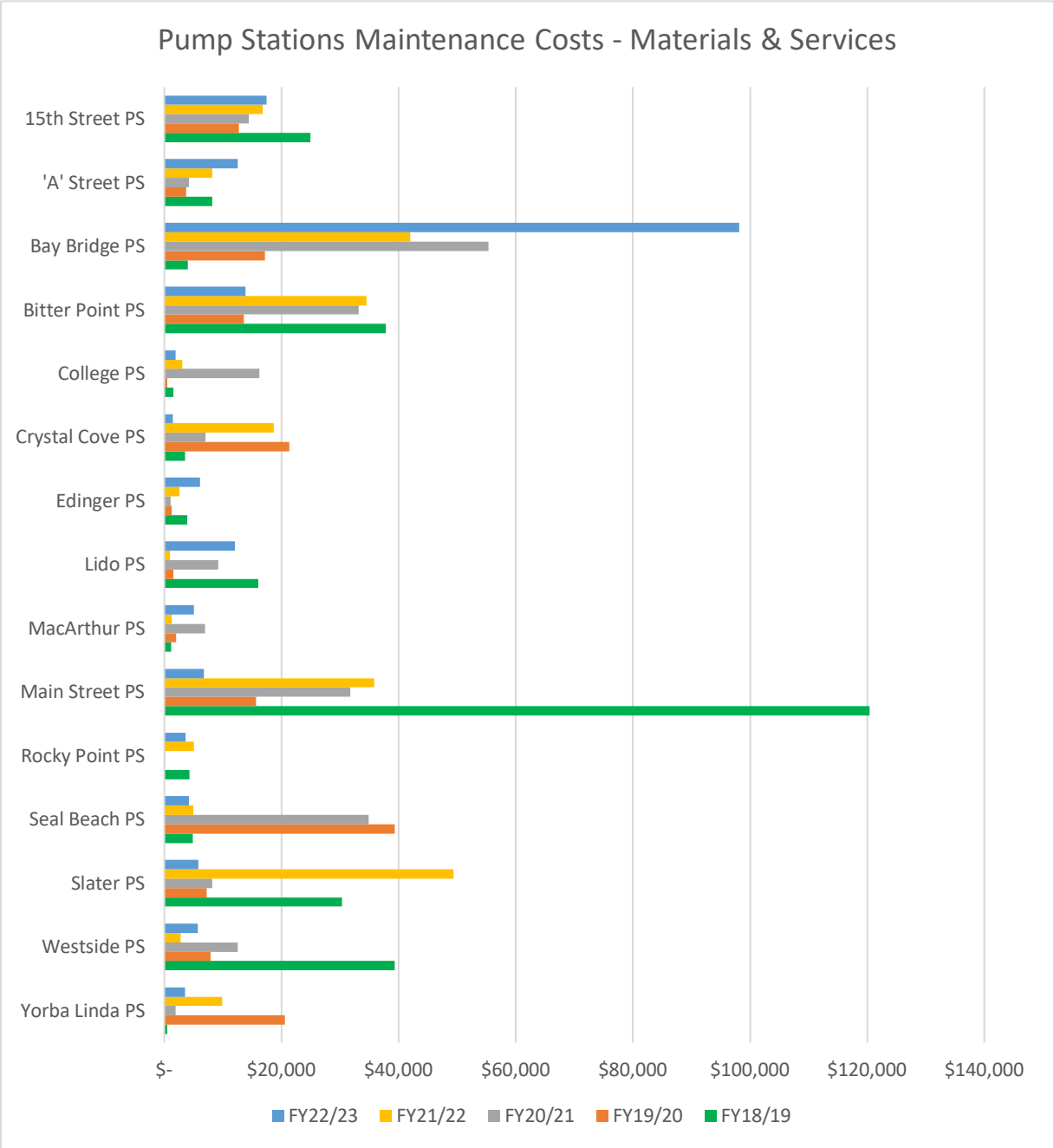


Figure 3-7. Graph of Pump Station Maintenance Costs (Materials and Services)

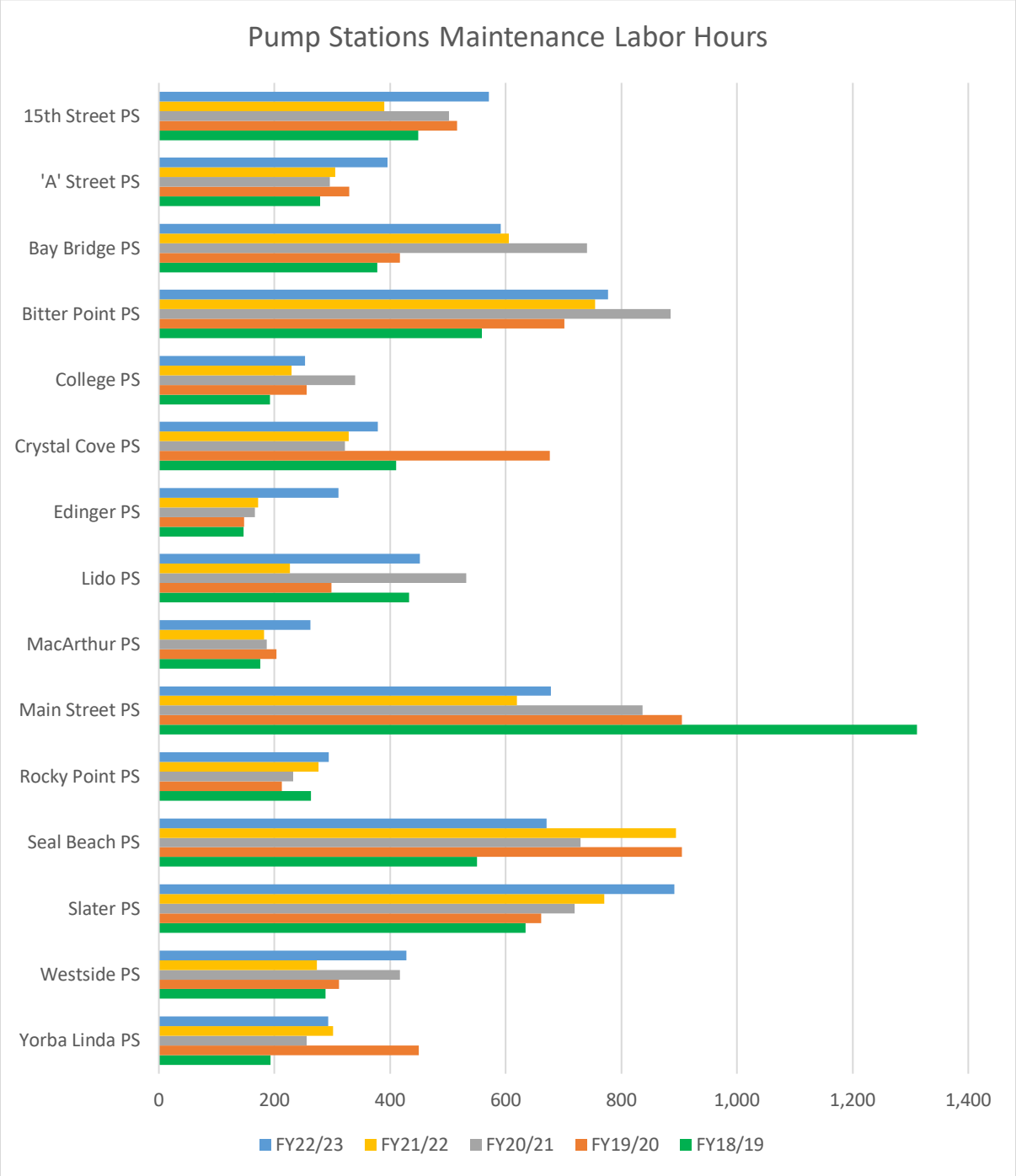


Figure 3-8. Graph of Pump Station Maintenance Labor Hours

3.2.4 Collection Level of Service Results

OC San monitors several levels of service goals pertaining to the Collection system as a whole, but a select subset are relevant to the activities, goals, and effectiveness of asset management. This subset of Collections level of service targets and results for the last 4 fiscal years are presented in Table 3-9. All level of service goals were achieved in FY 2022–2023, demonstrating the effectiveness of the Asset Management Program.

SSO events are primarily caused due to debris accumulation from daily wastewater flows as well as root intrusion. Regular maintenance activities of Collections to clean sewers and the CCTV program serve to identify and prevent SSOs from occurring. Also refer to Section 3.4.2.2 for details on a new root control blanket contract for further PM efforts.

Nuisance odors are actively managed by the ROCCS program through means of regular chemical dosing and caustic dumps at key locations, hydrogen sulfide monitoring, etc. The number of odor complaints are monitored to determine the effectiveness of chemical dosing, flow diversions, etc., to mitigate nuisance odors and prevent resulting corrosion damage to OC San's Collection assets. In recent fiscal years odor complaints in the Collection system have steadily declined given the precision and effectiveness of the ROCCS program. Although odor complaints rose in FY 2022–2023, this number is still below the level of service target.

The condition of assets in the Collection system are monitored via the CCTV program, which inspects all gravity sewer and manhole assets every 5 years. OC San manages three CCTV contractors that provide inspection media and reports to OC San with asset details as well as defects discovered per National Association of Sewer Service Companies (NASSCO) standards. OC San recently completed the latest 5-year CCTV program for pipelines and has restarted the program for FY 2022–2023. Efforts to optimize pipeline CCTV in the past FY were successful to meet the level of service goal.

In November 2020, OC San started conducting routine inspections of the Collection system manholes. OC San has been collating all manhole CCTV inspection data into the Asset Management Program Info Asset Planner for further evaluation and to continue building a comprehensive database of CCTV inspection data. Now that about 2,216 (51%) of OC San's manholes have been inspected since the start of the manhole CCTV program, we are now able to accurately define future gravity sewer projects for manhole rehabilitation and replacement.

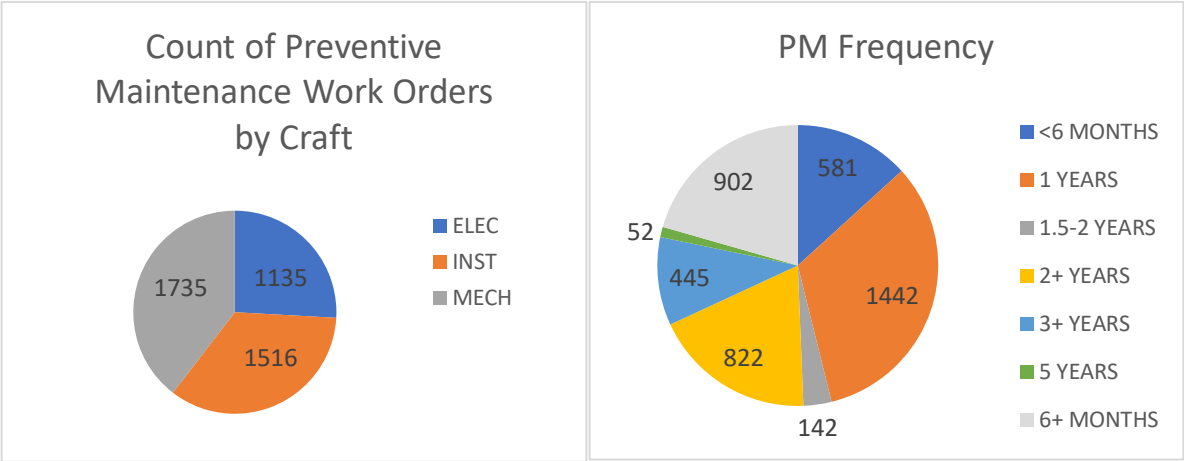
Table 3-9. Collection Level of Service Results

Description	Level of Service Target	FY 2019/2020	FY 2020/2021	FY 2021/2022	FY 2022/2023
SSO per 100 miles	< 2.1	0	1.3	0.3	0.3
Number of Odor Complaints	12	9	7	4	11
Miles of Pipeline CCTV	70	78.4	60	71.9	69.1
Number of Manhole CCTV	650	32	465	813	948

3.3 Maintenance Planning

OC San uses Maximo® as the computerized maintenance management system. All maintenance-related activities are stored in Maximo®. In short, the information in Maximo® makes up OC San's Maintenance Plan. Maintenance planning primarily consists of PM and PdM work orders. Currently, OC San proactively maintains over 65,000 assets stored in Maximo®. For the assets associated with process and treatment, there are typically approximately 7,100 active PM work orders and on average 285 of those PMs are related to

predictive maintenance activities. A summary and breakdown of the PMs and PdMs are shown on Figure 3-9.



Acronym Key:
ELEC = electrical; INST = installation; MECH = mechanical

Figure 3-9. PM Workorder Broken Down by Both Craft and Frequency

OC San proactively maintains over 67,000 assets. This includes non-process-related assets such as HVAC equipment, lighting, mobile equipment, etc.

3.3.1 Projected Maintenance Costs

The projected maintenance costs for the next FY are shown in Table 3-10. This accounts for materials and services only but is inclusive of both treatment plants and the collection system. For historical maintenance expenditures, please refer to Chapter 4.

Table 3-10. Projected Maintenance Costs Next Fiscal Year

	FY 2023–2024
Projected Maintenance Costs	$25.6 million

3.4 Asset Management Program Accomplishments

Another way to measure Asset Management Program performance and effectiveness is by exploring the accomplishments. The accomplishments identified in the following sections are important because they focus on both long-term planning and accomplishments that helped extend the useful life of critical assets, increase reliability, reduce unexpected failures and break-ins, allowing OC San to meet the key objectives of the program.

3.4.1 Condition Assessment Program

Corrosion condition assessments are a key component of the Asset Management Program because they provide vital information with respect to the condition and life expectancy of critical plant and collections process structures and equipment. Condition assessments are conducted during scheduled maintenance activities, by staff observations of the condition of an asset, or when

necessary to determine a more accurate RUL. The Asset Management Team completed approximately 33 different condition assessments during the last FY, spending just over $1 million using an outside consultant and contractor. Figure 3-10 provides annual expenditures on the two condition assessment contracts for the last 3 fiscal years. The overall expenditures show an increasing trend, illustrating Asset Management's dedication to knowing the current condition of OC San's major assets and performing incidental repairs following inspections to increase asset life and reliability.

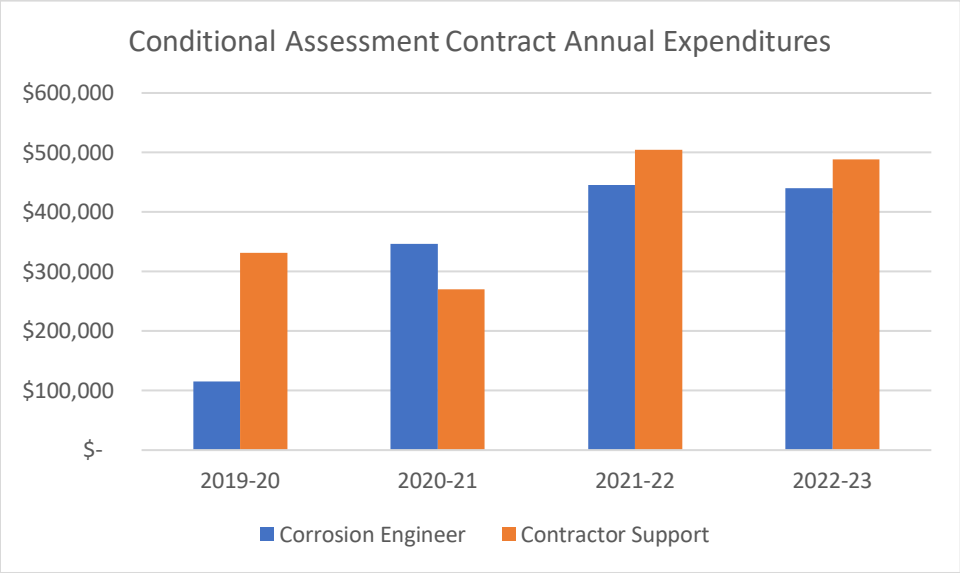


Figure 3-10. Condition Assessment Contract Expenditures

Condition assessments identify deficiencies and the general condition of the assets, but more importantly recommendations for repairs or replacement and general timing based on RUL estimations. Some condition assessments resulted in repairs that extended the useful life of the facility, maintained asset reliability, and identified the need for future improvement projects to keep OC San facilities safe and reliable. The following are a few critical condition assessments completed last year:

- Condition assessments were completed on the A-side Primary Clarifiers at Plant No. 2, which are deteriorating due to corrosion and age. The condition assessment included confined space entry to obtain photographs as well as the use of OC San drone equipment for close-up video recordings. The assessment identified deficiencies and areas of repair needed to extend reliability in the short term until P2-98A is completed to permanently replace the existing A-side clarifiers. Areas identified included dome supports, dome access hatches, baffle walls, rotating mechanisms, and basin concrete walls.
- Condition assessments on anaerobic digesters are completed during the scheduled maintenance cleaning cycle to evaluate and extend the life of the assets when deficiencies are discovered. The condition assessment includes confined space entry, corrosion assessment, sludge line cleaning with CCTV, concrete core sampling, and incidental repairs. Condition assessments on anaerobic digesters are completed during the scheduled maintenance cleaning cycle to evaluate and extend the life of the assets when deficiencies are discovered. This year three digesters were cleaned and assessed, including Digesters 2 and 16 for Plant No. 1, and Digesters K, P, R, and I for Plant No. 2. Incidental repairs were completed by the condition assessment contractor and maintenance staff.

- Digester K dome has massive concrete cracks and was at risk of leaking gas due to pressure inside of the digester. The Asset Management Team performed several rounds of condition assessment and took concrete samples to identify the concrete and rebar conditions. This year, the team completed the ground-penetrating radar mapping of the entire dome and structural analysis, and recommended a detailed repair solution. Project FR2-0032 was created to repair the dome based on the asset management condition assessment and structural evaluation.
- College Pump Station was constructed in 1960 and rehabilitated in 2010. A visual assessment of the wet well performed in 2020 found failed coating and soft concrete underneath the failed coating. A subsequent detailed assessment, performed under planning study PS20-07, found that the existing concrete from 1960 appears to be in fair condition, but the concrete sections added during the 2010 rehabilitation have deteriorated. The planning study also proposed a conceptual plan to rehabilitate the wet well and a small project will be launched to address this issue.

3.4.2 Collection System Assets

Our pump stations, force mains, and gravity sewer system are vital assets for conveying flow safely to the treatment plants. The Asset Management Program is continuously evaluating ways to improve the resiliency and reliability of the system while maintaining the level of service in all flow conditions. Some of the collection system initiatives and accomplishments are identified in the following sections.

3.4.2.1 Gravity Collections Remaining Useful Life

Over the past few years, OC San has aggregated and validated all gravity sewer, siphon, air jumper, and manhole data into a single comprehensive Gravity Collections Asset Registry. Over 2022 and 2023, a new RUL model was developed using a weighted LoF formula based on NASSCO quick scores and some of the asset's physical characteristics. Also, a calibration was performed to determine the weights of each LoF formula term. The 2023 NASSCO to RUL model improved RUL model scoring consistency with Asset Engineer judgment and resulted in the modification of a quarter of Gravity Collections sewer pipelines' RUL scores as compared to the 2022 model. An internal quality assurance, quality control review of the new NASSCO to RUL scoring model and individual RUL adjustments for assets with higher RUL scores is in progress to validate the model and provide final results of the model's consistency with Asset Engineer judgment.

3.4.2.2 Proactively Monitoring and Managing Operational and Defect Issues

In the Gravity Collection system there are a significant number of operational and structural defects that are isolated from current and future projects and are severe. Examples of isolated and severe operational defects include heavy root intrusion, infiltration runners and gushers, and large calcified deposits. Root intrusion is the main cause of SSOs in many sanitary sewer systems, and heavy infiltration over long periods of time can compromise soil support outside the sewer pipe wall and develop large, calcified deposits that may block flows and prevent debris from passing downstream. Examples of isolated and severe structural defects include single or heavily clustered segments of broken pipe and holes with voids and/or soil visible. Broken pipe and holes are high risk given they are precursors to structural deformation and eventual collapse. Rather than create numerous small projects to address current and future isolated and severe asset issues, cost-effective and proactive maintenance-based approaches have been recommended as follows:

- Root Control: Create new blanket contract to strategically apply herbicide with a foaming agent into select sewers for root control on an annual basis. After exposing live roots via mechanical cutting, the active ingredient in the root control treatment kills roots in the sewer (without killing the plant they originate from) and prevents regrowth typically for 2 to 3 years. OC San has awarded the contract and is preparing to conduct a monitoring study of the herbicide's active ingredient for the first work order issued. The monitoring study is being performed to validate no risk to OC San's biological treatment processes from the herbicide active ingredient before more widespread usage in OC San's Collection system.
- Infiltration Control: Create a new blanket contract to strategically plug infiltration runners and gushers with chemical grouting and remove large calcified deposits mechanically. OC San is developing a pilot program with smaller work orders prior to moving forward with the creation of a new blanket contract.
- Isolated Structural Defect Repairs: Group isolated and severe structural defects into individual work packages for execution by Maintenance on-call contractors. OC San is finalizing work packages and priority and developing the scope of work.

Although the CCTV program inspects all collection assets every 5 years, there are limitations to the condition data that can be collected with CCTV equipment. Of particular concern is that large-diameter sewers (greater than 42 inches in diameter) are not regularly cleaned and OC San does not have sufficient knowledge on existing debris buildup. CCTV cannot capture debris below the waterline. Therefore, the risk for an SSO due to debris accumulation or a high debris and ragging event at the treatment plant headworks facilities could be high. In response, OC San performed sonar inspections of select large-diameter sewers and inverted siphons to quantify debris and sediment and validated the cleansing state of sewers suspected to be non-cleansing; all sonar inspections were completed in June 2023. For the next steps, OC San is planning the cleaning and assessment of up to five inverted siphons and one gravity sewer that were previously inspected with sonar to validate the accuracy of sonar debris estimates and pilot the inverted siphon assessment program. Recommendations are also to be provided to Collections O&M on which large-diameter sewers and inverted siphons need to be cleaned regularly to adequately mitigate risk.

3.4.2.3 Proactively Addressing Collection Pump Station Challenges

Pump station reliability is critical to conveying wastewater to the treatment plants when gravity flow is not an option. In the past, emergency break-in work has been required due to the failure of critical assets such as isolation valves at some of the pump stations. With the Asset Management Team taking ownership of the pump stations in recent years, OC San is now taking a proactive approach to rehabilitation and repair at the pump stations. For example, three valve replacement projects have recently been completed and two more valve replacement projects, which will replace aging and nonfunctioning valves at five different pump stations, have been opened. The timing of these projects considers risk and criticality to minimize the risk of emergency work.

Pump station force mains are tremendously challenging to maintain and inspect due to being under pressure and located underground, which limits access. In recent years, the Asset Management Team has been looking into establishing a more robust program for force main inspection. Originally, a planning study (XPS-0066) was to be established to cover all the force main inspections. It was determined to be much more cost-effective and efficient for the Asset Management Team to take the lead, working with Collections and contractors, using in-house resources to plan out and perform the force main inspections. This has allowed OC San to be more flexible in prioritizing aging and higher-risk force mains, gathering data quicker, determining whether follow-up inspections or projects are needed, and responding to those needs sooner.

3.4.3 Central Generation Facility Planning

The internal combustion engines at Plant No. 1 and Plant No. 2 have significant run time and need a major overhaul to maintain reliability for the next 10 years or longer. Engines No. 1 and No. 3 at Plant No. 1 recently completed successful top-to-bottom end overhauls. The J-135 project will overhaul the remaining engine gensets at Plant No. 1 and five engines gensets at Plant No. 2. A recently completed planning study showed that OC San's existing engines can be readily maintained for the next 10 to 20 years. For the long-term planning of the Cen Gen Facility, the Energy and Digester Gas Master Plan, PS21-04, is being conducted. This study is evaluating viable alternatives for energy production and digester gas management, considering emerging technologies, market conditions, and potential permitting constraints. The Asset Management Team and Maintenance are working together to ensure OC San has a long-term plan to manage energy use, energy production, and beneficial reuse of digester gas.

3.4.4 Treatment Plant Projects and Planning Studies

A major focus of the Asset Management Program is streamlining the replacement or repair of our critical assets to extend RUL. The Asset Management Team works in tandem with Maintenance to identify and create projects, provide construction bid documents, and manage project implementation of maintenance projects. In addition, the Asset Management Team will take on important planning studies that look at ways to increase treatment reliability and safety and be a good steward of the environment. Here are a few projects that were driven and led by the Asset Management and Maintenance Teams:

- Several of our critical pumping systems are equipped with VFDs that have become obsolete and can no longer be maintained properly. The Asset Management Team is tracking all major VFDs and working on creating VFD replacement projects as needed. Currently, projects FE19-13, FE19-08, FR1-0011, and FR1-0016 are in construction to replace the obsolete VFDs at Seal Beach Pump Station, and various locations at Plant Numbers 1 and 2.
- This year Project PS20-03, Truck Loading Bay Odor Control Improvements at Plant No. 2, was completed to address the odors escaping from the truck loading bays during cake loading and haul out. CIP Project P2-140 was developed based on the recommendations of this study and will make the loading of cake into the trucks safe and control the release of odor, which will help OC San to be a good neighbor. P2-140 will be transferred to the Project Management Office in 2023 for design and construction starting in early 2024.
- Project PS22-02, Onsite Oxygen Generation Feasibility Study at Plant No. 2, is evaluating whether an onsite oxygen generation system should be implemented to provide reliable oxygen supply to meet the High-Purity Oxygen-Activated Sludge Plant at Plant No. 2 in the next 20 years. Currently OC San uses liquid oxygen delivery and storage, but there was a shortage of liquid oxygen during the pandemic.
- The trickling filter rotary distributor assemblies at the Trickling Filter Solids Contact Facility at Plant No. 2 had reliability issues due to major equipment failures. The Trickling Filter A center rotating assembly had a structural failure and thus was removed from service. The Trickling Filter B center rotating assembly also had structural defects but had to be kept in operation. More maintenance inspections and PM were performed to maintain reliability. This year, the replacement Project MP2-005 completed the purchasing and installation of the two new center assemblies to replace the failed units.

- The A-side Primary Clarifiers, originally constructed in the 1960s, are unreliable due to age and deterioration or failure of existing components such as the basin structure, dome and baffle components, and rotating mechanisms. Several projects were completed or are in progress to provide short-term reliability of the existing Side-A Primary Clarifiers until they are replaced by Project P2-98A, which is under construction with an estimated completion in 2027. MP2-006 and S-2023-1385BD were completed to provide reinforcement to existing dome supports, the dome access hatch, and baffle wall connections on Primary Clarifiers E and G. MP2-007 is in the design phase to provide repairs and replacements on corroded sections of the rotating mechanisms and feed well for Primary Clarifiers F and G. Concrete spalls and crack repairs on the exterior concrete basin wall were completed on Primary Clarifier D and are in progress for Primary Clarifier F through blanket purchase order contract 107102-OB.
- The Grit Basins and Grit Handling areas at Plant No. 2 have experienced multiple power and control cable failures that eventually caused the entire Grit Basin system to become nonoperational. An urgent task (reference Shutdown Request 576/Asset Issue 478) was executed to have temporary cables installed aboveground to bring Grit Pumps, Mixers, and Grit Classifiers back online. Project MP2-008 is also in development to replace the cables permanently.
- P1 and P2 Digester Gas Dryer Replacement Project FE23-01 will replace the refrigerated digester gas drying systems at both plants, to ensure that high-quality compressed digester gas is delivered to the Cen Gen engines for subsequent reliable energy production purposes. The dryers are located downstream of the digester gas compressors and are responsible for reducing the dew point and removing water from the digester gas. These dryers are an important and critical part of the gas handling system as a whole, and integral to the reliable operation of the Interplant Gas pipeline and engine systems alike.
- Plant No. 2 PEPS pumps are aged and a previous wet well condition assessment found pump suction line corrosion. A maintenance project was created to remove Pump #4 for factory assessment. The Pump #4 factory condition assessment and subsequent overhaul were completed successfully in November 2022. A larger maintenance project, MP2-0010, was created to overhaul the remaining three pumps in the dry seasons of 3 consecutive years starting in 2024.

3.5 Asset Management Program Improvement Opportunities

The Asset Management Team continues to look at ways to improve the Asset Management Program. The team has focused on improving the Asset Registries and ensuring all critical assets are being tracked appropriately. Additional major assets have been added to the Registries. For example, the tracking of occupied buildings has expanded to include power buildings at Plants Nos. 1 and 2. These power buildings house critical electrical equipment that serve OC San's treatment facilities.

Performing condition assessments is still a big emphasis for the program. In some situations, the team relies on Theoretical Remaining Useful Life (TRUL) for asset planning. TRUL may not necessarily represent when an asset requires replacement or rehabilitating increasing the risk of asset failure or conversely spending resources and funds on an asset where it is not required. Where practical and not cost prohibitive, condition assessments are being performed to convert TRUL into what is called Field-Adjusted Remaining Useful Life. A major focus is performing condition assessments on OC San's pump stations' force mains. A comprehensive condition assessment program for the pump stations force mains is discussed in more detail in Section 3.4.2.3. Another focus area is assessing the inverted siphons in the collection system. Prioritizing these assessments will be based on likelihood and consequence of failure (risk-based approach).

A Planning Study has been created to improve the Asset Management Program. The Digital Asset Management Study has been approved by Clearinghouse and is currently in the project development phase. The key objectives of this study are the following:

- Allow available asset data to be analyzed more quickly and efficiently with the use of business intelligence (BI) dashboards.
- Enhance collaboration and data sharing between Maintenance and Engineering Teams, to support both short-term and long-term planning (BI dashboards).
- Provide a simple and robust means to convey complex asset information to the Executive Management Team and in the AMP (BI dashboards).
- Improve asset planning and prioritization of projects by development of a risk framework.

Fortunately for the Asset Management Program, there is a lot of asset data available to assess and plan for OC San's major assets. One of the challenges is being able to access and utilize that data more efficiently. The Digital Asset Management Planning Study will create asset management and maintenance KPI BI dashboards, providing real-time asset information for improved and defensible decision making and asset planning. Developing a risk assessment framework will also improve asset management planning and project prioritizing with the goal of having risk scores for every project. The following section describes the future program improvement opportunities, both short-term and long-term, and how the new Digital Asset Management Study will address some of these improvement opportunities.

3.5.1 Improvement Opportunities

Condition Assessments:

- Track future condition assessments in the Asset Registries and proactively plan ahead with Operations for assessments that require process interruptions. *STATUS: Completed.*
- Understand the condition and RUL of all of OC San's major critical assets. *STATUS: In progress.*

Remaining Useful Life:

- Consider ways to improve the accuracy of RUL in addition to the Condition Scoring Guidelines already created.
  STATUS: In progress.
- Create more condition scoring categories in the 1- to 10-year range as RUL accuracy improves over time. *STATUS: Longer-term goal.*

Asset Registries:

- Ensure all pertinent asset information is included in the Asset Registries, including having a plan to address all assets with a RUL fewer than 10 years. *STATUS: Completed.*
- Determine the best way to track major assets in the long term such that the Asset Registries are compatible for BI dashboards. *STATUS: Digital Asset Management Planning Study to address.*

Data-Driven Asset Management:

- Develop asset management BI dashboards to track maintenance KPIs and key asset management information down to the asset level. *STATUS: Digital Asset Management Planning Study to address.*
- Use BI dashboards algorithms to more accurately estimate asset performance and RUL. *STATUS: Longer-term goal (not started).*
- Optimize CIP planning using BI cost and risk modeling and constraints. *STATUS: Longer-term goal (not started).*

Risk Assessment (Likelihood and Consequence of Failure):

- Identify a risk assessment approach and develop a framework that fits OC San's needs. *STATUS: Digital Asset Management Planning Study to address.*
- Use risk assessment modeling and scoring to better prioritize projects. *STATUS: To be completed after Digital Asset Management Planning Study.*

These improvement opportunities will be evaluated and updated in the annual AMP. The Asset Management Program must always consider the mission statement of "delivering the required level of service, at the lowest life cycle cost, with an acceptable level of risk."

4 Budgetary Considerations

The AMP focuses on documenting short- to long-term planning of maintenance and capital improvement projects to support effective budget development and sustainable operations. OC San has been striving to identify more accurate medium- to long-term capital cash flow requirements. Specifically, the Planning Division has been working on developing a 20-year CIP by creating project plans for forecasted rehabilitation, replacement, improvements, or expansion for the collection system and treatment plants. The CIP budget is evaluated and updated on a yearly basis as new information becomes available.

4.1 Capital Improvement Expenditures

The FY 2023–2024 Budget Update, the second year of the 2-year budget adopted in June 2022, includes updates to the 20-year CIP outlay. Figure 4-1 shows the 20-year CIP outlay, which includes current and projected future CIP projects. The FY 2023–2024 CIP Outlay is $288.6 million and is further divided into process categories, as shown on Figure 4-2. From the chart, it is apparent that liquid treatment, support facilities, and collection facilities are primary areas where the FY 2023–2024 CIP Outlay will be spent.

For liquid treatment, Project No. P1-105, Headworks Rehabilitation at Plant No. 1, and Project No. P2-98A, A-Side Primary Clarifiers Replacement at Plant No. 2, are expected to be the largest expenditures of $62.7 million and $23.9 million, respectively, in FY 2023–2024. For support facilities, Project No. P1-128, Headquarters Complex, is the biggest driver with $35.1 million in FY 2023–2024. Lastly, for collection facilities, Project No. 3-64, Rehab of Western Regional Sewers, and Project No. 7-68, MacArthur Force Main Improvements, comprise nearly one-third of Collections CIP spending at $6.3 million and $4.3 million, respectively.

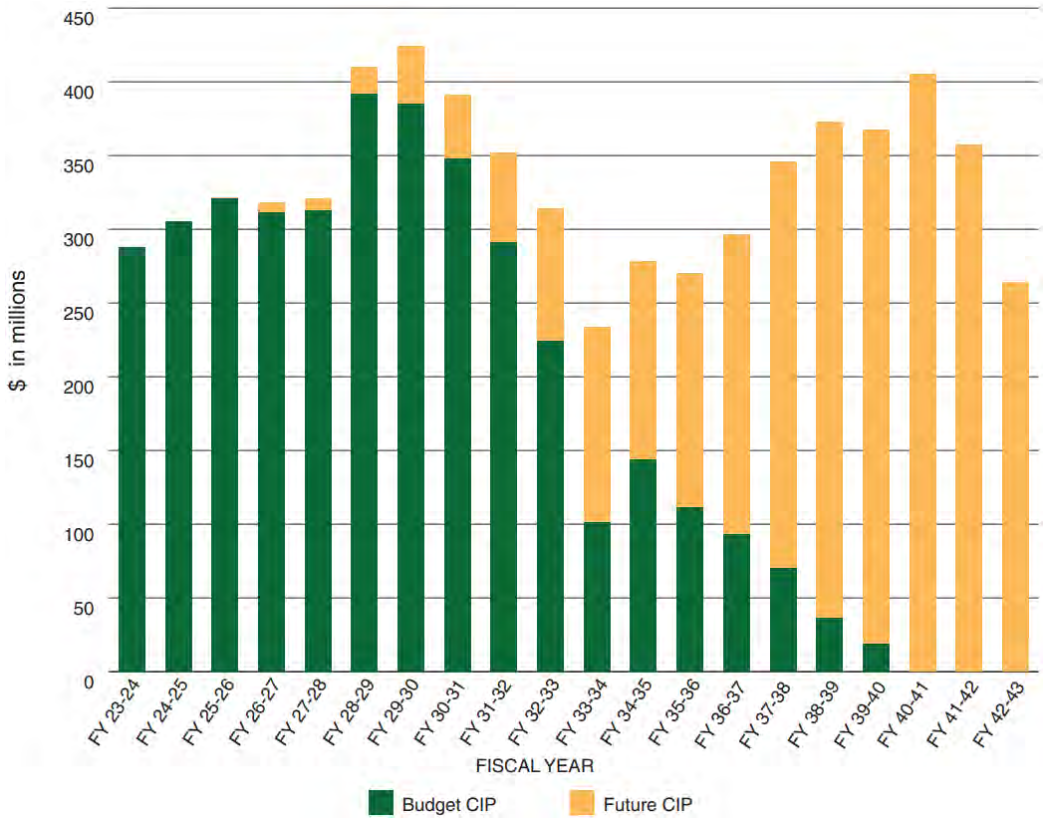


Figure 4-1. 20-Year CIP Outlay

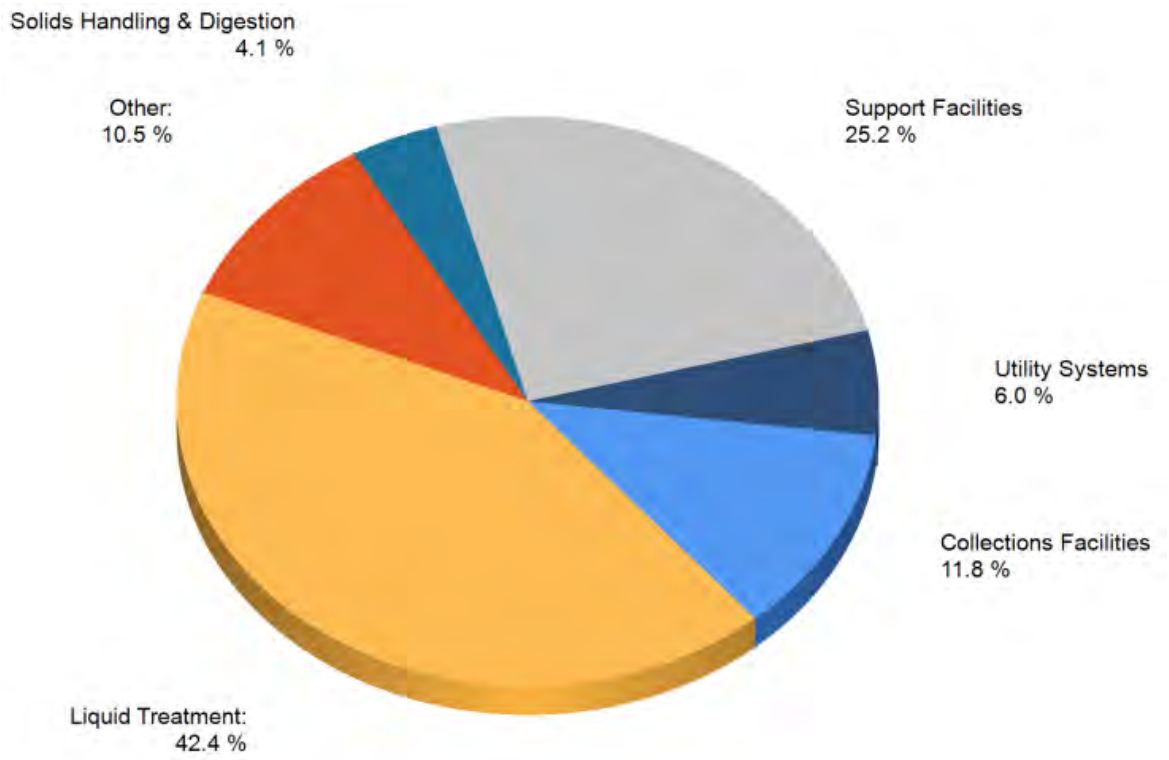


Figure 4-2. FY 2023–2024 CIP Outlay by Process – $288.6 Million

4.2 Maintenance Expenditures

4.2.1 Five-Year Historical Maintenance Expenditures

Figure 4-3 and Figure 4-4 show the historical actual spent versus budgeted operational and maintenance expenditures for the treatment plants and collection system, respectively.

- The treatment plant expenditures include maintenance services and materials (budget objects 54010 and 54020).
- The collection system expenditures include maintenance services and materials (budget objects 54010, 54020, and 53180).
- These costs represent the O&M costs of fixed assets, including operationally funded repair/replacement projects.

A variety of factors and variables are not reflected in the development of the budget. As a result, some years reflect higher expenditures than budget. These factors include but are not limited to the following:

1) Annual inflation rates
2) Manufacturing cost increases (which are also affected by increases in labor, raw material demand, fuel, chemicals, fees to expedite due to long lead times)
3) Supply chain cost increases
4) Geopolitical events

Additional maintenance expenses that were unforeseen or unplanned but include necessary repairs or procurements.

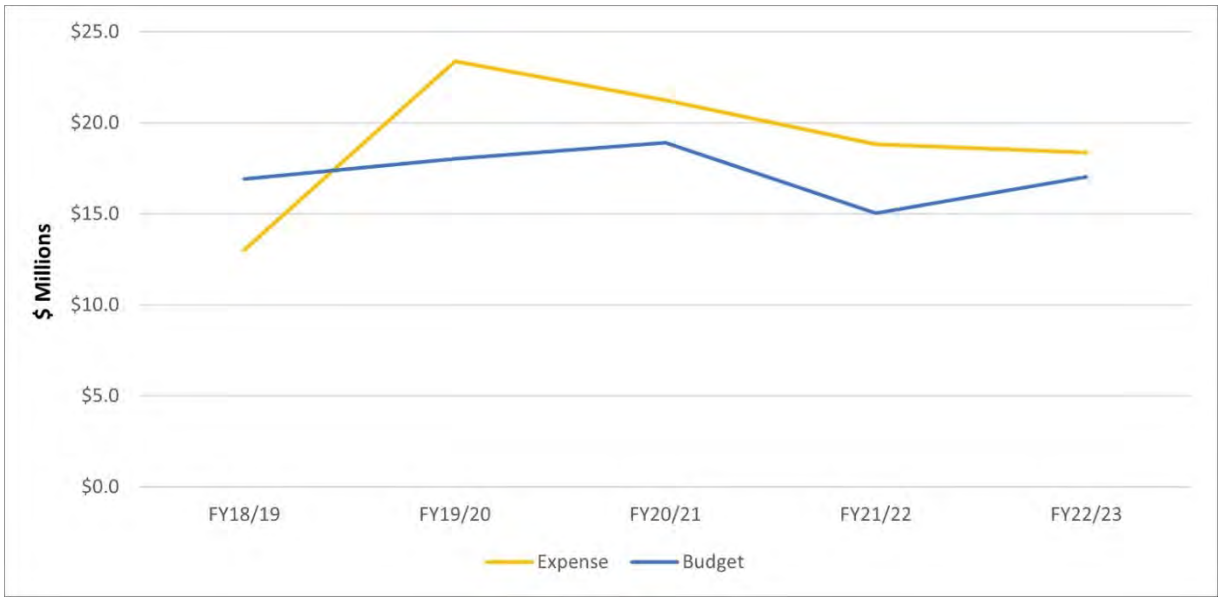


Figure 4-3. Five-Year Historical Maintenance Costs for Treatment Plants

Figure 4-4. Five-Year Historical Maintenance Costs for Collection System

4.2.2 Three-Year Look-Ahead Maintenance Expenditures

Table 4-1 shows operational-funded projects identified to date and includes the projected annual expenditures over the next 3 years. It is likely FY 2023–2024 and beyond will fluctuate based on the condition of assets as they age.

The projects are grouped by location (Collection System, Plant No. 1, Plant No. 2, and Joint), and then sorted by the project start FY. The list encompasses projects identified as of August 9, 2023, with the following criteria:

- Estimated construction cost is equal to or greater than $50,000 and has projected expenditures within the next 3 years.
- Projects on the list represent expenditures that are operationally funded.
- Some projects that are similar in nature have been combined into a single project for more efficient project execution.
- Blanket purchase order contracts are not included.

Table 4-1. Projected Annual Expenditures

PRN	ALT. PROJECT NO.	PROJECT TITLE	FY 2023–2024	FY 2024–2025	FY 2025–2026	3-YEAR TOTAL COST
COLLECTIONS – TRUNKLINES AND DIVERSIONS						
PRN-00159	MP-307	Bushard Diversion Structure Repair	$1,566,234	$196,313		$1,762,547
PRN-00373/PRN-00869	FRC-0014	Magnolia Sewer Manhole Abandonment at Interstate-5		$182,588	$117,413	$300,001
PRN-00592	FRC-0007	Redhill Relief Sewer Liner Repair at State Route 55	$245,000			$245,000
PRN-00730	FRC-0010	Warner Avenue Vault Cover Improvements	$19,288	$580,712		$600,000
PRN-00766	FRC-0011	Richfield Sub-Trunk Encasement for BNSF Railway Addition	$121,000			$121,000
		COLLECTIONS – TRUNKLINES AND DIVERSIONS SUBTOTALS	$1,951,522	$959,613	$117,413	$3,028,548
COLLECTIONS – PUMP STATIONS						
PRN-00527/PRN-00790/PRN-00808/PRN-00949	FRC-0018	Valve Replacements at Lido, Crystal Cove, A St., and 15th St. Pump Stations			$500,000	$500,000
PRN 00734/PRN-00892	FRC-0017	Valve Replacements and Wet Well Access Improvements at Slater Pump Station		$14,250	$756,750	$771,000
PRN-00922		Decommission Yorba Linda Pump Station	$50,000			$50,000
PRN-00926		College Pump Station Wet Well Rehabilitation			$1,250,000	$1,250,000
		COLLECTIONS – PUMP STATIONS SUBTOTALS	$50,000	$14,250	$2,506,750	$2,571,000
PLANT 1						
PRN-00492/PRN-0053	FR1-0011	VFD Replacements at Plant No. 1	$303,138	$650,128	$261,619	$1,214,885
PRN-00176	FR1-0007	Control Center Offices and Day Training Room Remodeling at Plant No. 1	$235,455	$95,545		$331,000
PRN-00525	FR1-0005	Cen Gen and 12-kV Service Center Switchgear Battery System Upgrades at Plant No. 1	$500,000	$1,285,000		$1,785,000
	FR1-0016	Waste Sidestream Pump Station VFD replacements at Plant No. 1	$818,582			$818,582
PRN-00800	FR1-0017	Trickling Filter Valve Replacement at Plant No. 1	$46,314	$78,685		$124,999
PRN-00815	FR1-0018	Dewatering Centrifuge Diverter Gate Improvements at Plant No. 1		$790,581	$109,418	$899,999
PRN-00894/PRN-00890	FR1-0023	Secondary Treatment Area Cable Replacement at Plant No. 1			$750,001	$750,001
PRN-00898	FR1-0022	Backup Power for Laboratory Equipment at Plant No. 1	$14,014	$55,989		$70,003
	FR1-0020	Traffic Signal Installation at Ellis Avenue and Mt. Langley Street Intersection	$380,896	$1,142,687	$380,896	$1,904,479
PRN-00914		WSSPS-1 Pump Replacement at Plant No. 1	$75,000	$75,000		$150,000
PRN-00921		Human Resources Building Demolition and Site Improvements		$170,000	$680,000	$850,000
PRN-00937		Turbine Generator Battery Chargers in Blower Building 1 at Plant No. 1	$180,000			$180,000
PRN-00945		Admin. Chiller Building Hot Water Loop Pipe Replacement	$75,000			$75,000
PRN-00947		Power Building 7 HVAC Replacement at Plant No. 1	$80,000			$80,000
PRN-00950		Laboratory Ventilation and Fume Extraction Replacement at Plant No. 1		$100,000		$100,000
PRN-00953		SALS HVAC Replacement at Plant No. 1	$100,000	$515,000		$615,000

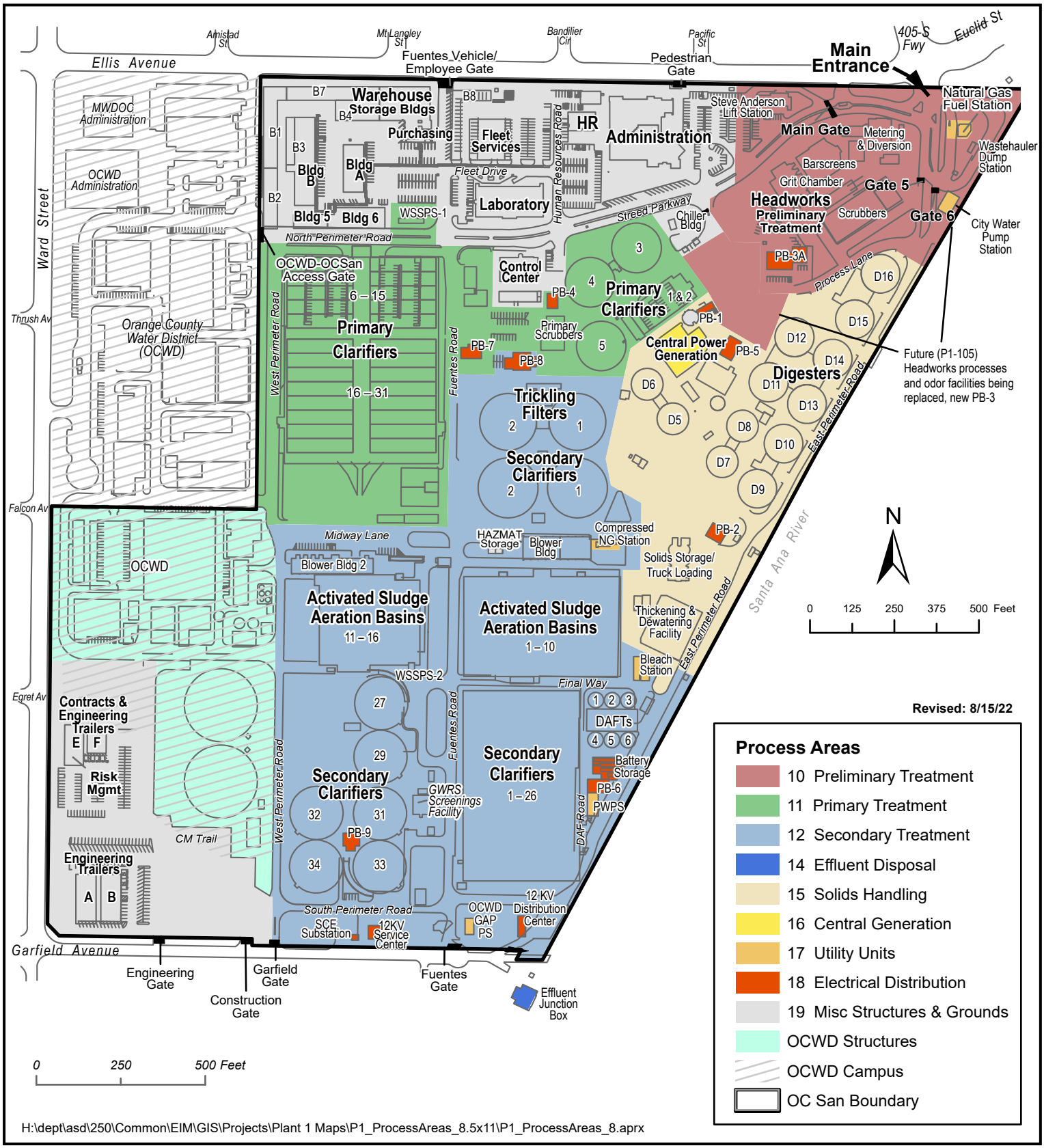
PRN	ALT. PROJECT NO.	PROJECT TITLE	FY 2023–2024	FY 2024–2025	FY 2025–2026	3-YEAR TOTAL COST
		PLANT 1 SUBTOTALS	$2,808,399	$4,958,615	$2,181,934	$9,948,948
PLANT 2						
PRN-00537	FR2-0027	Heavy Mechanics Group Office Space Upgrade at Plant No. 2	$7,323	$222,676	$0	$229,999
PRN-00572	FR2-0018	Activated Sludge Clarifier Repairs at Plant No. 2	$1,789,416	$439,120	$0	$2,228,536
PRN-00633/PRN-00849	FR2-0023	Activated Sludge Clarifier Entry Improvements at Plant No. 2	$80,815	$869,185	$0	$950,000
PRN-00684		P2 Digester Maintenance Projects	$100,000	$100,000	$100,000	$300,000
PRN-00703		Reroute area drain PS discharge to SC/SR basins instead of HW	$0	$163,000	$0	$163,000
PRN-00712/PRN-00749 PRN-00783/PRN-00870	FR2-0026	Headworks Phase 3 Cable Replacement at Plant No. 2	$525,669	$49,691	$0	$575,360
PRN-00770	MP2-0010	PEPS Pumps #1, #2, and #3 Overhaul at Plant No. 2	$190,000	$210,000	$220,000	$620,000
PRN-00780		TFPS A1, A2, B1, B2, and C2 VFDs replacement	$191,290			$191,290
PRN-00858	FR2-0029	Influent Pump Station Plant Water Piping Repair at Plant No. 2	$177,063	$0	$0	$177,063
PRN-00865		Primary Sedimentation Basin G Support Repair at Plant No. 2	$248,600			$248,600
PRN-00866	MP2-005	P2 Trickling Filter A & B Rotary Distributor Center Mast Replacement	$1,500,000	$0	$0	$1,500,000
PRN-00867	FR2-0032	Digester K Dome Repair at Plant No. 2	$550,000	$550,000	$0	$1,100,000
PRN-00873		P2 LOX Emergency Backup System	$458,000	$0	$0	$458,000
PRN-00880		Ella Tunnel Plant Water Piping Replacement	$87,650			$87,650
PRN-00885		Centrifuge Cover Hinge Installation at Plant No. 2	$130,000			$130,000
PRN-00901		P2 EPSA VFD Control Wiring	$55,000	$0	$0	$55,000
PRN-00902	FR2-0031	Activated Sludge System Scum Rerouting at Plant No. 2	$0	$0	$345,005	$345,005
PRN-00906	MP2-006	Primary Sedimentation Basin E Dome Support Repair at Plant No. 2	$205,000			$205,000
PRN-00908		Ocean Outfall External Inspection 2023	$100,000			$100,000
PRN-00912		MSP #7 VFD Isolation Transformer Replacement at Plant No. 2	$280,000	$0	$0	$280,000
PRN-00913		Primary Sedimentation Basin F Concrete Wall Repairs at Plant No. 2		$120,000		$120,000
PRN-00916	MP2-007	Primary Sedimentation Basins F and G Mechanism Repairs at Plant No. 2		$1,250,000		$1,250,000
PRN-00923		Spare Main Sewage Pump Repair for Pump No. 1 at Plant No. 2	$400,000			$400,000
PRN-00927	MP2-008	Grit Basin Pump and Mixer Cable Replacement at Plant No. 2	$200,000			$200,000
PRN-00929	MP2-009	North Scrubber Complex Grating Replacement at Plant No. 2	$315,000			$315,000
PRN-00931		Plant 2 Maintenance Building Variable Air Volume Heat Strip and Controls Replacement		$300,000		$300,000
PRN-00938		Transformer TFR-H04 Repair at Plant No. 2	$265,000	$0	$0	$265,000
		PLANT 2 SUBTOTALS	$7,855,826	$4,273,672	$665,005	$12,794,503

PRN	ALT. PROJECT NO.	PROJECT TITLE	FY 2023-2024	FY 2024-2025	FY 2025-2026	3-YEAR TOTAL COST
JOINT						
PRN-00630	FRJ-0003	Interplant Gas Line Blow Off Vault Repairs	$12,327	$687,674		$700,001
PRN-00699/PRN-00854	FR1-0021	Basement Access Hatch Fall Restraint, Cen Gen Building at Plant No. 1 and Plant No. 2	$97,200			$97,200
PRN-00897		125-VDC Battery Replacement at Plant Nos. 1 and 2	$220,000			$220,000
		JOINT SUBTOTALS	$349,527	$687,674	$0	$1,037,201

Appendix A
Plant No. 1 Process Areas Map

ORANGE COUNTY SANITATION DISTRICT

PROCESS AREAS – Reclamation Plant No. 1



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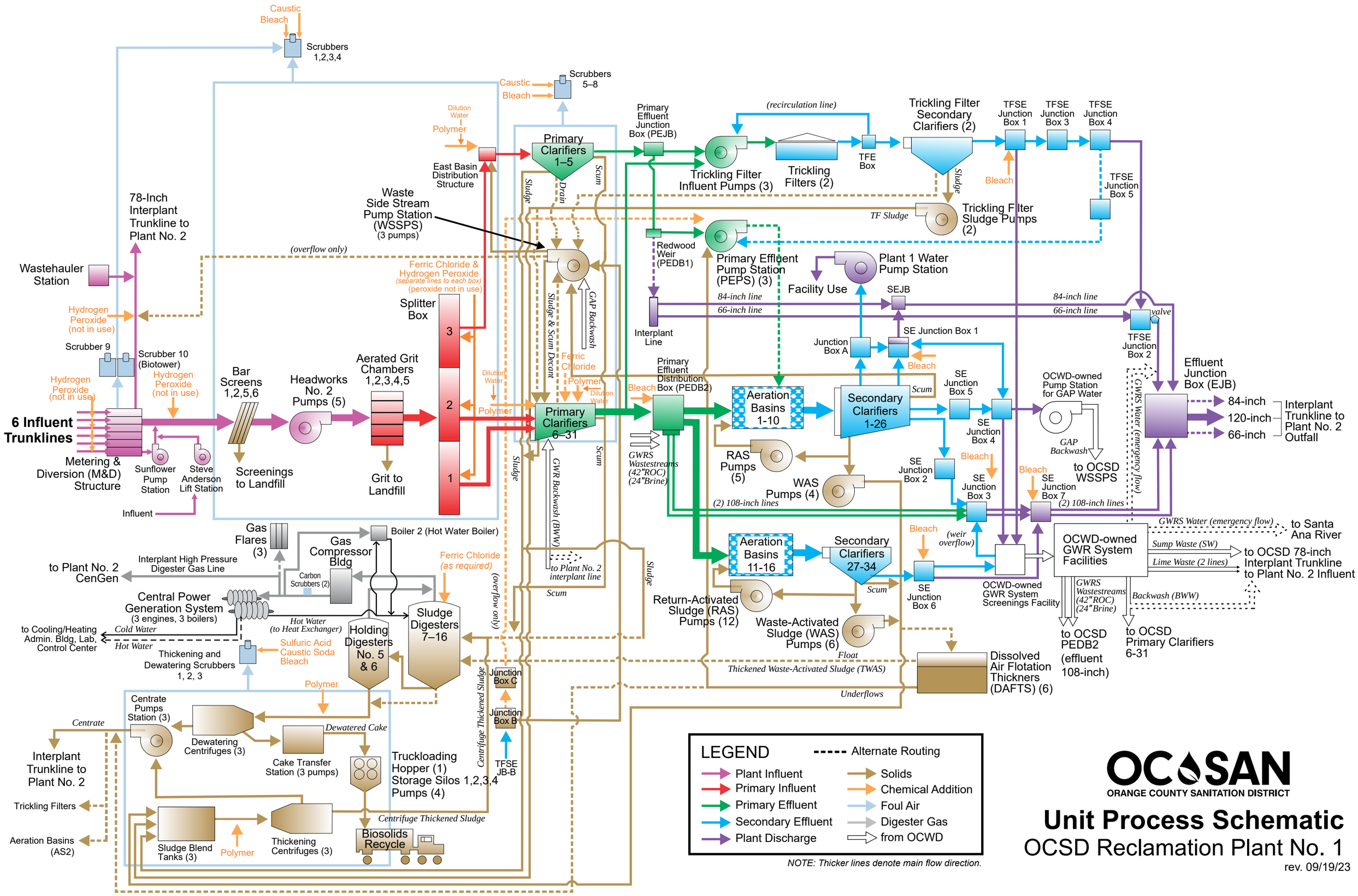
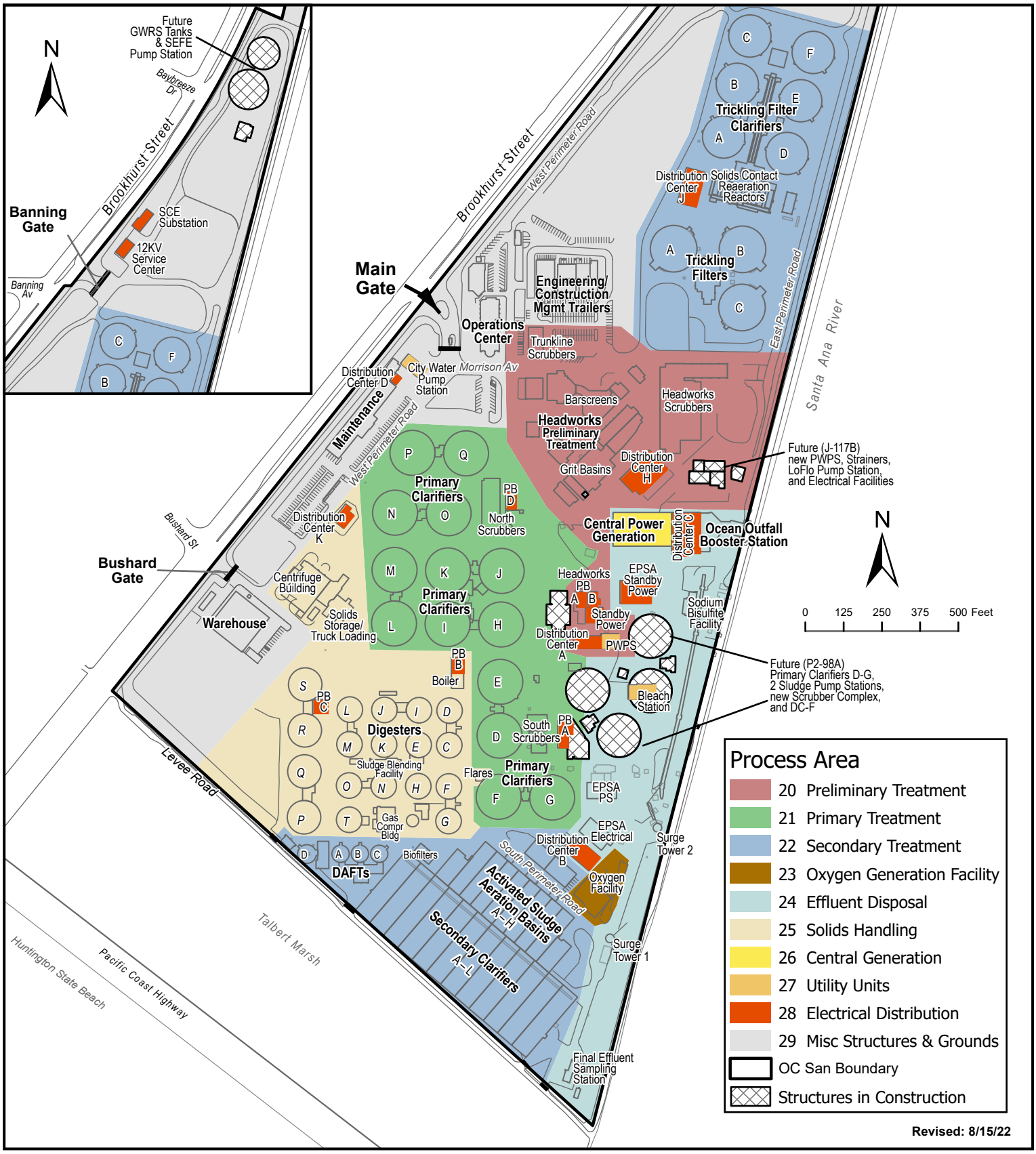
Appendix B
Plant No. 1 Process Diagram


Caustic
Bleach
Scrubbers 1,2,3,4
Scrubbers 5–8
Dilution Water
Polymer
East Basin Distribution Structure
Primary Clarifiers 1–5
Primary Effluent Junction Box (PEJB)
(recirculation line)
Trickling Filter Secondary Clarifiers (2)
TFSE Junction Box 1
TFSE Junction Box 3
TFSE Junction Box 4
Trickling Filter Influent Pumps (3)
Trickling Filters (2)
TFE Box
Bleach
TFSE Junction Box 5
Sludge
Drain
Scum
Waste Side Stream Pump Station (WSSPS) (3 pumps)
TF Sludge
Trickling Filter Sludge Pumps (2)
78-Inch Interplant Trunkline to Plant No. 2
(overflow only)
Redwood Weir (PEDB1)
Primary Effluent Pump Station (PEPS) (3)
Plant 1 Water Pump Station
Facility Use
SEJB
Wastehauler Station
Ferric Chloride & Hydrogen Peroxide (separate lines to each box) (peroxide not in use)
Splitter Box
84-inch line
66-inch line
Interplant Line
Hydrogen Peroxide (not in use)
Sludge & Scum Decant
GAP Backwash
Ferric Chloride
Polymer
Dilution Water
Junction Box A
SE Junction Box 1
Bleach
TFSE Junction Box 2
Scrubber 9
Scrubber 10 (Biotower)
Hydrogen Peroxide (not in use)
Bar Screens 1,2,5,6
Headworks No. 2 Pumps (5)
Aerated Grit Chambers 1,2,3,4,5
Primary Effluent Distribution Box (PEDB2)
Aeration Basins 1-10
Secondary Clarifiers 1-26
Scum
SE Junction Box 5
OCWD-owned Pump Station for GAP Water
Effluent Junction Box (EJB)
GWRS Water (emergency flow)
84-inch
120-inch
66-inch
Interplant Trunkline to Plant No. 2 Outfall
6 Influent Trunklines
Primary Clarifiers 6–31
Bleach
GWRS Wastestreams (42"ROC) (24"Brine)
RAS Pumps (5)
WAS Pumps (4)
SE Junction Box 4
SE Junction Box 2
SE Junction Box 3
SE Junction Box 7
GAP Backwash
to OCSD WSSPS
Metering & Diversion (M&D) Structure
Sunflower Pump Station
Steve Anderson Lift Station
Screenings to Landfill
Grit to Landfill
Influent
GWR Backwash (BWW)
(2) 108-inch lines
Gas Flares (3)
Boiler 2 (Hot Water Boiler)
Gas Compressor Bldg
Interplant High Pressure Digester Gas Line
to Plant No. 2 CenGen
Carbon Scrubbers (2)
Ferric Chloride (as required)
to Plant No. 2 interplant line
Aeration Basins 11-16
Secondary Clarifiers 27-34
(weir overflow)
SE Junction Box 6
OCWD-owned GWR System Facilities
GWRS Water (emergency flow)
to Santa Ana River
Sump Waste (SW)
Lime Waste (2 lines)
to OCSD 78-inch Interplant Trunkline to Plant No. 2 Influent
Central Power Generation System (3 engines, 3 boilers)
Hot Water (to Heat Exchanger)
Return-Activated Sludge (RAS) Pumps (12)
Waste-Activated Sludge (WAS) Pumps (6)
OCWD-owned GWR System Screenings Facility
GWRS Wastestreams (42"ROC) (24"Brine)
Backwash (BWW)
to OCSD PEDB2 (effluent 108-inch)
to OCSD Primary Clarifiers 6-31
to Cooling/Heating Admin. Bldg, Lab, Control Center
Cold Water
Hot Water
Holding Digesters No. 5 & 6
Sludge Digesters 7–16
Sulfuric Acid
Caustic Soda
Bleach
Thickening and Dewatering Scrubbers 1, 2, 3
Polymer
Junction Box C
Junction Box B
Centrifuge Thickened Sludge
Float
Thickened Waste-Activated Sludge (TWAS)
Underflows
Dissolved Air Flotation Thickners (DAFTS) (6)
Centrate Pumps Station (3)
Centrate
Dewatering Centrifuges (3)
Dewatered Cake
Cake Transfer Station (3 pumps)
Truckloading Hopper (1)
Storage Silos 1,2,3,4
Pumps (4)
TFSE JB-B
Interplant Trunkline to Plant No. 2
Trickling Filters
Aeration Basins (AS2)
Sludge Blend Tanks (3)
Thickening Centrifuges (3)
Biosolids Recycle
LEGEND
Alternate Routing
Plant Influent
Primary Influent
Primary Effluent
Secondary Effluent
Plant Discharge
Solids
Chemical Addition
Foul Air
Digester Gas
from OCWD
NOTE: Thicker lines denote main flow direction.
OCSAN
ORANGE COUNTY SANITATION DISTRICT
Unit Process Schematic
OCSD Reclamation Plant No. 1
rev. 09/19/23

Appendix C
Plant No. 2 Process Areas Map

ORANGE COUNTY SANITATION DISTRICT

PROCESS AREAS – Treatment Plant No. 2



Revised: 8/15/22

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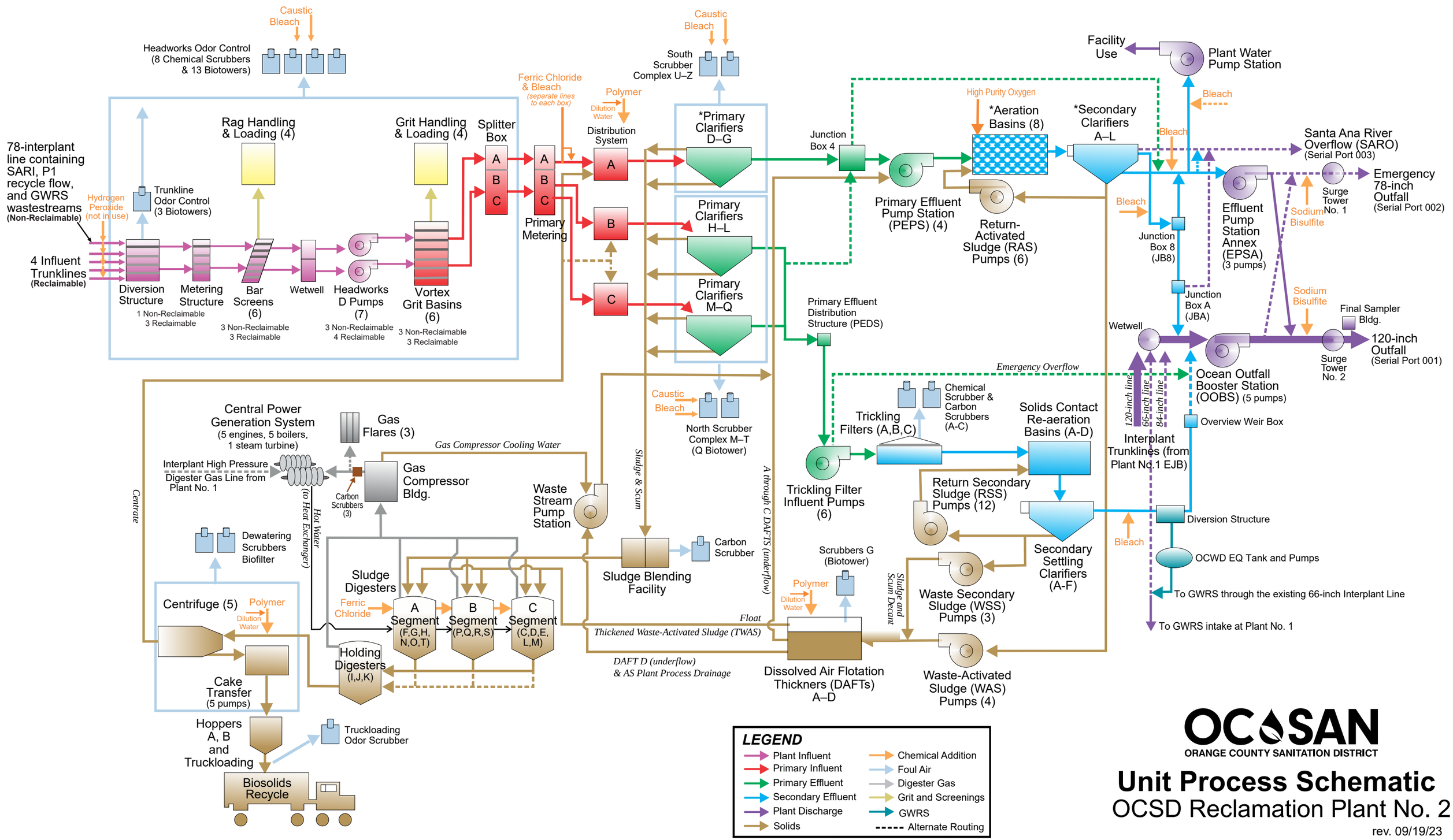
Appendix D
Plant No. 2 Process Diagram – After GWRS Expansion

Unit Process Schematic — OC San Treatment Plant No. 2



OC SAN
ORANGE COUNTY SANITATION DISTRICT

Unit Process Schematic
OCSD Reclamation Plant No. 2
rev. 09/19/23

Appendix E
AM KPI Supplemental Information

Appendix E

Program Monitoring KPI Data

Plant No. 1 Maintenance Activity Data

Sum of actlabhrs	Column Labels					
	Group1		Group1 Total	CM	CM Total	Grand Total
Row Labels	PD	PM		CM		
Preliminary Treatment	8.0%	33.0%	41.0%	59.0%	59.0%	100%
Primary Treatment	4.1%	33.4%	37.5%	62.5%	62.5%	100%
Interplant	0.0%	34.1%	34.1%	65.9%	65.9%	100%
Secondary Treatment - Activated Sludge	9.1%	48.5%	57.6%	42.4%	42.4%	100%
Secondary Treatment - Trickling Filters	5.6%	20.7%	26.3%	73.7%	73.7%	100%
Solids Handling - Digesters	9.2%	32.8%	42.0%	58.0%	58.0%	100%
Solids Handling - Facilities	12.8%	47.6%	60.3%	39.7%	39.7%	100%
Central Power Generation	15.5%	37.4%	52.9%	47.1%	47.1%	100%
Electrical Distribution	8.8%	68.6%	77.4%	22.6%	22.6%	100%
Utilities	9.6%	21.9%	31.5%	68.5%	68.5%	100%
Grand Total	**9.5%**	**42.0%**	**51.5%**	**48.5%**	**48.5%**	**100%**

Plant No. 1 Maintenance Cost and Labor Hour

Row Labels	FY19/20	FY20/21	FY21/22	FY22/23	Grand Total
Utilities	$ 77,631	$ 116,792	$ 107,852	$ 138,885	$ 441,161
Solids Handling - Facilities	$ 376,349	$ 1,020,481	$ 1,555,219	$ 910,940	$ 3,862,989
Solids Handling - Digesters	$ 65,939	$ 471,345	$ 102,912	$ 476,384	$ 1,116,581
Secondary Treatment - Trickling Filters	$ 36,448	$ 19,661	$ 11,391	$ 60,328	$ 127,827
Secondary Treatment - Activated Sludge	$ 189,689	$ 573,375	$ 266,568	$ 902,950	$ 1,932,582
Primary Treatment	$ 322,086	$ 235,044	$ 368,205	$ 423,047	$ 1,348,382
Preliminary Treatment	$ 182,331	$ 277,461	$ 560,414	$ 358,663	$ 1,378,868
Interplant	$ 129	$ 1,274	$ 3,871	$ 127	$ 5,402
Electrical Distribution	$ 99,052	$ 343,786	$ 307,243	$ 128,613	$ 878,694
Central Power Generation	$ 84,162	$ 203,897	$ 207,719	$ 179,392	$ 675,170
Grand Total	**$ 1,433,817**	**$ 3,263,116**	**$ 3,491,396**	**$ 3,579,330**	**$ 11,767,658**

Plant No. 1 Labor Hours

Row Labels	FY19/20	FY20/21	FY21/22	FY22/23	Grand Total
Utilities	1,299	1,680	1,562	1,545	6,086
Solids Handling - Facilities	6,754	7,215	6,782	7,615	28,366
Solids Handling - Digesters	2,165	2,765	2,184	3,479	10,593
Secondary Treatment - Trickling Filters	655	860	717	1,042	3,274
Secondary Treatment - Activated Sludge	6,709	6,634	7,446	8,517	29,306
Primary Treatment	4,464	5,164	5,129	5,618	20,375
Preliminary Treatment	3,784	3,954	5,195	4,335	17,268
Interplant	16	43	20	90	169
Electrical Distribution	2,838	2,999	2,986	3,551	12,374
Central Power Generation	2,577	2,706	3,283	3,784	12,351
Grand Total	**31,262**	**34,019**	**35,302**	**39,577**	**140,160**

Plant 1 Maintenance Activity Code

Sum of actlabhrs	Column Labels					
Row Labels	**10**	**20**	**30**	**40**	**50**	**Grand Total**
Central Power Generation	1.90%	22.26%	50.68%	16.96%	8.21%	100.00%
Electrical Distribution	2.31%	65.53%	25.64%	1.74%	4.79%	100.00%
Interplant	0.00%	34.07%	4.99%	60.94%	0.00%	100.00%
Other	5.27%	52.74%	33.56%	2.74%	5.68%	100.00%
Preliminary Treatment	4.08%	20.77%	46.00%	18.43%	10.73%	100.00%
Primary Treatment	1.34%	34.84%	25.80%	27.79%	10.23%	100.00%
Secondary Treatment - Activated Sludge	6.17%	32.94%	51.69%	6.26%	2.95%	100.00%
Secondary Treatment - Trickling Filters	0.77%	21.52%	57.04%	12.62%	8.06%	100.00%
Solids Handling - Digesters	7.26%	21.74%	47.19%	20.69%	3.13%	100.00%
Solids Handling - Facilities	2.37%	14.97%	66.45%	11.46%	4.74%	100.00%
Utilities	2.23%	30.90%	42.81%	19.14%	4.92%	100.00%
Grand Total	**3.62%**	**29.87%**	**46.57%**	**13.88%**	**6.05%**	**100.00%**

Plant No. 2 Maintenance Activity Data

Sum of actlabhrs	Column Labels					
	Group1		Group1 Total	CM	CM Total	Grand Total
Row Labels	PD	PM		CM		
Preliminary Treatment	7.63%	30.18%	37.8%	62.20%	62.2%	100%
Primary Treatment	2.63%	33.76%	36.4%	63.61%	63.6%	100%
Secondary Treatment - Activated Sludge	10.30%	37.63%	47.9%	52.08%	52.1%	100%
Secondary Treatment - Trickling Filters	4.55%	44.12%	48.7%	51.34%	51.3%	100%
Solids Handling - Digesters	10.32%	36.37%	46.7%	53.31%	53.3%	100%
Solids Handling - Facilities	13.08%	35.79%	48.9%	51.13%	51.1%	100%
Central Power Generation	11.38%	36.63%	48.0%	51.99%	52.0%	100%
Effluent Disposal	11.71%	27.20%	38.9%	61.08%	61.1%	100%
Electrical Distribution	15.88%	53.50%	69.4%	30.62%	30.6%	100%
Utilities	17.92%	27.34%	45.3%	54.74%	54.7%	100%
Grand Total	**10.31%**	**36.68%**	**47.0%**	**53.01%**	**53.0%**	**100%**

Plant No. 2 Maintenance Cost and Labor Hour

Row Labels	FY19/20	FY20/21	FY21/22	FY22/23	Grand Total
Utilities	$ 108,149	$ 80,937	$ 102,743	$ 106,216	$ 398,044
Solids Handling - Facilities	$ 244,815	$ 309,869	$ 446,100	$ 558,182	$ 1,558,966
Solids Handling - Digesters	$ 101,361	$ 76,496	$ 161,736	$ 138,026	$ 477,620
Secondary Treatment - Trickling Filters	$ 41,765	$ 135,668	$ 65,575	$ 165,746	$ 408,754
Secondary Treatment - Activated Sludge	$ 293,271	$ 305,721	$ 514,521	$ 407,396	$ 1,520,909
Primary Treatment	$ 161,145	$ 149,015	$ 248,595	$ 188,878	$ 747,634
Preliminary Treatment	$ 107,316	$ 206,639	$ 350,177	$ 398,801	$ 1,062,933
Electrical Distribution	$ 95,924	$ 273,276	$ 179,106	$ 214,348	$ 762,654
Effluent Disposal	$ 68,107	$ 50,630	$ 59,967	$ 41,519	$ 220,223
Central Power Generation	$ 241,524	$ 367,368	$ 233,256	$ 297,690	$ 1,139,838
Grand Total	**$ 1,463,378**	**$ 1,955,619**	**$ 2,361,775**	**$ 2,516,802**	**$ 8,297,575**

Plant No. 2 Labor Hours

Row Labels	FY19/20	FY20/21	FY21/22	FY22/23	Grand Total
Utilities	1,677	1,782	1,691	1,522	6,671
Solids Handling - Facilities	4,789	5,098	6,236	5,785	21,908
Solids Handling - Digesters	2,015	2,064	2,445	2,467	8,990
Secondary Treatment - Trickling Filters	1,412	1,940	1,599	2,393	7,343
Secondary Treatment - Activated Sludge	4,944	4,180	5,370	5,382	19,875
Primary Treatment	2,581	2,547	3,062	3,121	11,310
Preliminary Treatment	3,710	4,301	4,587	7,138	19,736
Electrical Distribution	2,773	2,443	2,567	3,773	11,556
Effluent Disposal	1,401	1,038	1,126	1,086	4,651
Central Power Generation	4,726	5,232	4,748	6,487	21,192
Grand Total	**30,028**	**30,624**	**33,430**	**39,152**	**133,232**

Plant 2 Maintenance Activity Code

Sum of actlabhrs	Column Labels					
Row Labels	10	20	30	40	50	Grand Total
Central Power Generation	8.01%	19.33%	63.87%	7.63%	1.16%	100.00%
Effluent Disposal	6.42%	33.51%	35.97%	12.84%	11.25%	100.00%
Electrical Distribution	7.53%	58.79%	19.12%	9.64%	4.92%	100.00%
Other	8.90%	11.72%	57.43%	5.47%	16.48%	100.00%
Preliminary Treatment	7.55%	18.94%	48.83%	19.50%	5.18%	100.00%
Primary Treatment	5.49%	16.69%	52.71%	23.67%	1.45%	100.00%
Secondary Treatment - Activated Sludge	4.76%	33.59%	45.39%	11.59%	4.67%	100.00%
Secondary Treatment - Trickling Filters	2.08%	13.22%	57.30%	20.57%	6.82%	100.00%
Solids Handling - Digesters	11.75%	15.49%	62.18%	8.29%	2.29%	100.00%
Solids Handling - Facilities	3.18%	18.85%	52.14%	20.09%	5.73%	100.00%
Utilities	1.02%	25.07%	57.84%	12.29%	3.78%	100.00%
Grand Total	**6.13%**	**24.51%**	**50.26%**	**14.65%**	**4.45%**	**100.00%**

Pump Station Maintenance Activity Data

Row Labels	Group1 PD	PM	Group1 Total	CM CM	CM Total	Grand Total
'A' Street PS	7.77%	51.77%	59.5%	40.46%	40.5%	100%
15th Street PS	6.00%	78.45%	84.5%	15.55%	15.5%	100%
Lido PS	9.20%	41.02%	50.2%	49.78%	49.8%	100%
Bay Bridge PS	9.26%	28.20%	37.5%	62.54%	62.5%	100%
Rocky Point PS	14.81%	53.79%	68.6%	31.40%	31.4%	100%
Bitter Point PS	14.62%	59.50%	74.1%	25.89%	25.9%	100%
Yorba Linda PS	11.01%	68.69%	79.7%	20.31%	20.3%	100%
Main Street PS	7.74%	65.81%	73.5%	26.46%	26.5%	100%
MacArthur PS	15.52%	45.71%	61.2%	38.76%	38.8%	100%
Seal Beach PS	6.19%	54.40%	60.6%	39.41%	39.4%	100%
Westside PS	21.67%	42.64%	64.3%	35.69%	35.7%	100%
Edinger PS	10.53%	33.60%	44.1%	55.87%	55.9%	100%
Slater PS	10.37%	67.54%	77.9%	22.09%	22.1%	100%
College PS	11.15%	60.61%	71.8%	28.23%	28.2%	100%
Crystal Cove PS	9.89%	80.28%	90.2%	9.83%	9.8%	100%
Grand Total	**10.61%**	**56.63%**	**67.2%**	**32.75%**	**32.8%**	**100%**

Pump Station Maintenance Cost and Labor Hour at Pump Stations

Sum of M&S Costs Row Labels	Column Labels FY19/20	FY20/21	FY21/22	FY22/23	Grand Total
Yorba Linda PS	$ 20,572	$ 1,899	$ 9,846	$ 3,581	$ 35,897
Westside PS	$ 7,862	$ 12,561	$ 2,753	$ 5,671	$ 28,848
Slater PS	$ 7,190	$ 8,200	$ 49,393	$ 5,772	$ 70,554
Seal Beach PS	$ 39,357	$ 34,840	$ 4,983	$ 4,234	$ 83,415
Rocky Point PS	$ 95	$ 126	$ 5,045	$ 3,667	$ 8,932
Main Street PS	$ 15,705	$ 31,724	$ 35,790	$ 6,776	$ 89,995
MacArthur PS	$ 1,974	$ 6,951	$ 1,279	$ 5,020	$ 15,225
Lido PS	$ 1,564	$ 9,256	$ 961	$ 12,013	$ 23,795
Edinger PS	$ 1,303	$ 1,040	$ 2,635	$ 6,093	$ 11,071
Crystal Cove PS	$ 21,309	$ 7,000	$ 18,675	$ 1,459	$ 48,443
College PS	$ 461	$ 16,210	$ 3,026	$ 1,971	$ 21,668
Bitter Point PS	$ 13,573	$ 33,194	$ 34,543	$ 13,877	$ 95,187
Bay Bridge PS	$ 17,214	$ 55,315	$ 41,966	$ 98,162	$ 212,657
'A' Street PS	$ 3,683	$ 4,188	$ 8,207	$ 12,521	$ 28,599
15th Street PS	$ 12,704	$ 14,467	$ 16,826	$ 17,447	$ 61,444
Grand Total	**$ 164,567**	**$236,970**	**$235,929**	**$198,264**	**$ 835,730**

Pump Station Labor Hours

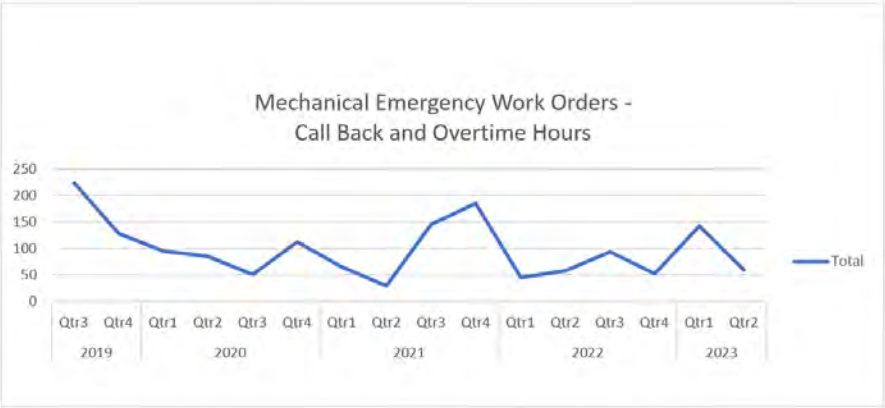
Sum of actlabhrs Row Labels	Column Labels FY19/20	FY20/21	FY21/22	FY22/23	Grand Total
Yorba Linda PS	450	256	302	293	1,300
Westside PS	312	417	273	428	1,429
Slater PS	661	719	771	892	3,043
Seal Beach PS	905	730	895	671	3,200
Rocky Point PS	213	233	277	294	1,016
Main Street PS	905	837	620	679	3,040
MacArthur PS	204	187	182	263	835
Lido PS	298	532	227	451	1,507
Edinger PS	147	166	172	311	796
Crystal Cove PS	676	322	329	379	1,706
College PS	256	340	230	253	1,079
Bitter Point PS	701	885	754	777	3,117
Bay Bridge PS	417	741	605	591	2,355
'A' Street PS	330	296	305	396	1,326
15th Street PS	516	502	390	571	1,979
Grand Total	**6,991**	**7,160**	**6,330**	**7,247**	**27,726**

Pump Station Maintenance Activity Code

Sum of actlabhrs	Column Labels					
Row Labels	10	20	30	40	50	Grand Total
15th Street PS	2.10%	50.64%	35.92%	2.10%	9.24%	100.00%
'A' Street PS	11.25%	9.10%	48.36%	6.70%	24.59%	100.00%
Bay Bridge PS	7.91%	11.54%	49.81%	19.24%	11.50%	100.00%
Bitter Point PS	1.35%	10.40%	63.72%	1.87%	22.67%	100.00%
College PS	6.71%	22.21%	47.19%	6.81%	17.08%	100.00%
Crystal Cove PS	5.41%	68.93%	21.70%	2.37%	1.58%	100.00%
Edinger PS	3.05%	35.29%	8.68%	48.39%	4.58%	100.00%
Gisler Air Jumper Station	0.00%	9.35%	66.49%	11.17%	12.99%	100.00%
Lido PS	3.99%	26.61%	25.50%	4.71%	39.19%	100.00%
MacArthur PS	4.86%	43.05%	34.19%	0.57%	17.33%	100.00%
Main Street PS	10.91%	44.07%	32.79%	1.25%	10.98%	100.00%
Other	1.19%	88.59%	3.26%	2.84%	4.12%	100.00%
Rocky Point PS	5.28%	32.85%	43.23%	6.55%	12.09%	100.00%
SARI Metering Station	0.00%	40.34%	45.40%	0.00%	14.26%	100.00%
Seal Beach PS	3.28%	43.55%	27.96%	11.97%	13.24%	100.00%
Slater PS	2.55%	62.84%	22.00%	3.03%	9.59%	100.00%
Westside PS	12.79%	18.87%	50.35%	4.61%	13.38%	100.00%
Yorba Linda PS	4.27%	65.53%	25.26%	0.00%	4.95%	100.00%
Grand Total	**4.72%**	**43.24%**	**32.56%**	**6.55%**	**12.94%**	**100.00%**

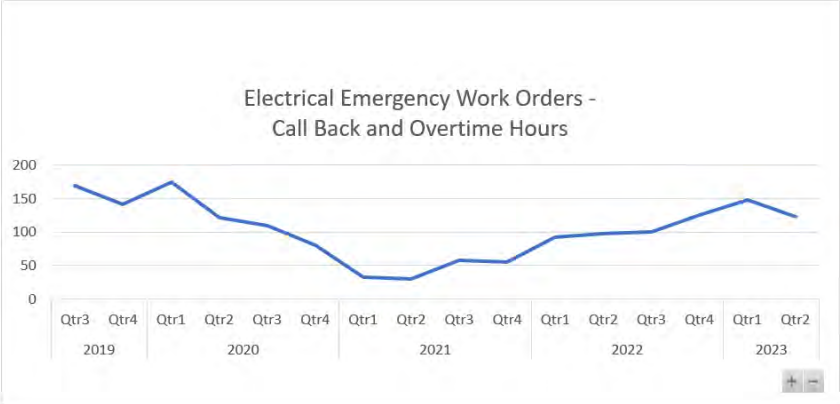
Mechanical Emergency Work Hours

Row Labels	Sum of Overtime
2019	351.75
Qtr3	223.25
Qtr4	128.5
2020	342.5
Qtr1	94.5
Qtr2	85
Qtr3	50.75
Qtr4	112.25
2021	423.75
Qtr1	64.75
Qtr2	29
Qtr3	145.5
Qtr4	184.5
2022	249.25
Qtr1	45.75
Qtr2	57.75
Qtr3	93.25
Qtr4	52.5
2023	200.25
Qtr1	141.5
Qtr2	58.75
Grand Total	1567.5



Electrical Emergency Work Hours

Row Labels	Sum of Overtime
2019	310.5
Qtr3	169.75
Qtr4	140.75
2020	485.5
Qtr1	174.25
Qtr2	121.75
Qtr3	109
Qtr4	80.5
2021	174
Qtr1	32.25
Qtr2	30
Qtr3	57
Qtr4	54.75
2022	413.75
Qtr1	92
Qtr2	97.25
Qtr3	99.5
Qtr4	125
2023	270.5
Qtr1	147.5
Qtr2	123
Grand Total	1654.25



OCSAN
ORANGE COUNTY SANITATION DISTRICT

Orange County Sanitation District, Engineering Planning Division
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APPENDIX I1

Preventive Maintenance Program

Procedure Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	12/19/11		•
2	01/06/17	Jms Cabral	• Changed mileage of pipe and force mains
3	11/20/18	Jms Cabral	• Minor language changes (in Overview, Gravity Sewers Program, Pressure Sewers and Pumping Facilities Program)
	09/26/19	Jms Cabral	• Reviewed – no changes
4	12/03/19	D. Stokes	• Updated preventive maintenance frequencies
	09/26/22	Jms Cabral	• Reviewed – no changes
5	03/11/25	Jms Cabral	• Updated per new WDR Requirements
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Orange County Sanitation District
Preventive Maintenance Program

Background:

This Preventative Maintenance Program (PMP) is prepared and implemented as required by the WDR Attachment D Section D-4.2.

The PMP covers the assets managed in Orange County Sanitation District's (OC San's) sanitary sewer system and is one component of the overall. The PMP is based on an approach that combines preventive, predictive and corrective maintenance strategies and established best management practices.

Overview:

OC San manages over 380 miles of gravity sewers comprising of manhole structures and their connecting pipeline segments. Currently, OC San operates and maintains 15 pumping facilities and 32 miles of force mains. The Engineering Department is continuously updating maps and asset register, and the exact mileage numbers may change as data is refined.

OC San does not own or maintain any portion of the sewer laterals that drain each privately owned parcel or property up to the point of connection to the local sewer; thus, they are not a part of this plan nor are they catalogued.

OC San staff and/or contractors are used to perform the planned maintenance tasks at scheduled frequencies as part of the asset level of care program. Frequencies are established based on experience and attribute information to minimize risk of blockages or equipment failures that could possibly lead to a spill. Data from the work is recorded and tracked through CMMS.

Hardcopy data files and paper records not recorded in OC San's CMMS are available for review and audit. SOPs and SMPs ensure consistency. These are available for some maintenance tasks and are continuing to be developed for others. Mobile assets such as service trucks, generators, and other equipment are not covered by this PMP but are covered by plans developed by the Fleet Services unit of our Operations and Maintenance Division.

Asset Inventory and Attribute Data:

Capital assets, minor components and their parts are catalogued in our paper records or CMMS. Source or attribute data for each of these items is obtained from record drawings, sewer maps, plans and specifications and/or supplier data. Levels of care for each item are described in the tasks and frequencies information as catalogued in the CMMS or in the interim, on lists or spreadsheets until the full CMMS implementation is completed.

Asset Level of Care Information

Preventive Maintenance Tasks:

OC San developed and continues improving asset-specific maintenance tasks for the care of each asset throughout its life cycle. Major PM task groupings are:

- Sewer inspection
- Condition assessment
- Sewer cleaning
- Pump station maintenance
- Chemical dosing for odor and corrosion control and wetwell grease mitigation
- Chemical root treatment

PM Frequencies:

As described above, the frequencies for preventive maintenance tasks are assigned to each asset or group of assets.

Gravity Sewers Program:

Experience has shown that smaller diameter gravity sewers (from 6-inches to 12-inches) are more prone to blockages than larger diameter interceptor and trunk sewers. OC San established regularly scheduled frequencies for these assets. These schedules are shown in the CMMS. Once work is completed, a record is input and documented in CMMS. Higher-risk areas are cleaned more frequently, while lower risk areas are cleaned less frequently.

OC San uses a combination cleaning trucks capable of hydraulically washing the pipe wall followed by vacuum removal of the sewer debris at the next downstream manhole. Higher frequency PM areas are on the Trouble Spot list. These line segments have a history of blockages or spills mostly due to grease and roots. Trouble Spot areas are cleaned weekly, monthly, quarterly, or in six or nine-month periods as necessary, to prevent blockages. Inverted siphons of all diameters are typically treated as trouble spots and receive higher frequency care due to grease build up and/or debris settling.

OC San's medium and large diameter sewers are less prone to blockages thus receive a lower level of inspection and cleaning. OC San's CCTV and manhole inspection programs are on seven-year and five-year schedules, respectively. Each is also inspected before and after any repairs done. OC San's cleaning schedule is as follows: Lines 42-inches diameter or less are cleaned at least once every five years. Lines larger than 42-inches are cleaned as required based on inspection or need (e.g. CIP projection, inspection).

Areas prone to root intrusion are added to the chemical root treatment program. OC San has established a blanket contract for root treatment and have drafted a standard operating procedure and monitoring plan to validate the dilution factor and/or removal of the contractor's active herbicide ingredient with no adverse effects on OC San's biological treatment processes. Root treatment is generally effective at preventing regrowth for 2 to 3 years after treatment. Collections staff increase cleaning intervals in the interim to mitigate roots.

Pressure Sewers and Pumping Facilities Program:

Isolation valves in the pressure sewers are exercised every three months to make sure they are in good working order. A program has been developed that includes force-main air/vacuum release valves checked at optimal intervals noted in the CMMS. The mechanical, electrical, and instrumentation equipment, and structural, landscape and hardscape systems at the pumping facilities need various levels of care at regularly scheduled frequencies. These schedules are shown in CMMS. Once work is completed, a record is input and documented in CMMS.

Predictive Maintenance

Pd Tasks: a subset of PM, are inspection and condition- assessment type tasks. These are performed and could determine if the planned preventive maintenance task should be done as scheduled, or rescheduled to a forward date if preventive maintenance, rehab or replacement is not needed. PM tasks are therefore performed based on asset condition and need rather than a strict time interval when maintenance may not be required. Pd tasks include but are not limited to the following:

- CCTV video inspection of piping (NASSCO standards)
- Visual inspection of the manhole structures and their flow channels
- Trending of flow monitoring data
- Pump visual and dimensional inspection (impeller gap clearance for wear)
- Exercising of pump station equipment to verify correct function
- Thermal imaging of electrical systems
- Pump station pressure readings
- Vibration measurement of rotating equipment
- Ground surface inspection of rights of way and easements over the gravity sewers.
- Odor and corrosion assessment and monitoring programs.

The Pd program will continue to develop as technology expands.

Corrective Maintenance (CM) Tasks:

CM tasks are performed in response to a failure of an asset, component or part, or a critical utility outage. Low-risk items, such as light bulbs, pressure gauges, sensors and small non-critical valves are planned for run-to-failure, and as such are not part of the PM Program. These items are replaced when they fail. When managed assets critical to the process fail, they are scheduled for CM on an urgent or routine basis on a priority schedule. Some of these repairs may be capitalized as a follow-up activity depending on asset cost and life expectancy. These types of CM repairs include but are not limited to:

- Emergency cleaning to eliminate a pipe blockage
- Spot repair or replacement of a failed pipe
- Replacing a rattling or failed manhole cover
- Repairing or replacing a pump that has become clogged or damaged by debris
- Respond to, investigate and mitigate customer complaints and sewer overflows
- Repair of earthquake damage and
- Vandalism

All CM are documented in the CMMS database.

CCTV or other failure analysis may also be done by staff as a CM task after a problem occurs to diagnose the cause of the problem and recommend changes if indicated. Findings may lead to a spot repair of the pipe, root cutting, root foaming with an herbicide, re-cleaning for grease or debris removal on a periodic preventive basis or scheduling a manhole-to-manhole pipe replacement or rehab in an urgent or lower priority planned manner. Major replacement or rehab may be capitalized outside of the annual operating budget.

Monitoring, Measurement and Program Modifications:

Findings related to scheduled or non-scheduled tasks and work order tracking are continually evaluated by staff to improve reliability and system performance. In assessing the success of the PMP, changes in frequency or task activities, spare parts or recommended stock levels are reviewed by the Supervisor. Database changes and/or new instructions to contractors will follow.

Items recommended for rehab or replacement through our CIP is sent by the Supervisor to the Staff Engineer for funding and planning by the Division or forwarded to our Engineering Department for action in the agency-wide CIP.

This program is subject to revision at any time with the goal of doing a better job more efficiently. The process starts with suggestions from staff on possible ways to improve tracking and managing of work.

APPENDIX I2

Collections Vehicle Inventory

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	11/30/11		Original
1	08/18/14		•
2	10/17/16	James Cabral	• Updated equipment list
3	05/08/17	James Cabral	• Updated equipment list
4	10/03/17	James Cabral	• Updated equipment list
5	10/29/18	James Cabral	• Updated equipment list
6	09/26/19	James Cabral	• Updated equipment list
7	09/28/20	James Cabral	• Updated equipment list
8	09/14/21	James Cabral	• Updated equipment list
9	09/26/22	James Cabral	• Reviewed – no changes
10	09/24/24	James Cabral	• Updated equipment list
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Asset	Description	Alias	Division	Year	Manufacturer
B0243	BICYCLE		820	2015	M10530
B0255	BICYCLE		820	2016	M10530
B0286	BICYCLE		820	2017	M10530
B0289	BICYCLE		820	2017	M10530
B0299	BICYCLE		820	2018	
B0302	BICYCLE		820	2018	
B0414	BICYCLE		820	2021	M10530
B0459	BICYCLE		820	2023	M10530
E0901	TRAILER, FLATBED, COLLECTIONS		820	1990	M10196
E0999	GENERATOR, PORTABLE, 3KW		820	2000	M10868
E1052	GENERATOR, PORTABLE, 3KW		820	2002	M10868
E1075	BLOWER, PORTABLE		820	2004	
E1076	BLOWER, PORTABLE		820	2004	
E1142	GENERATOR, PORTABLE, 2KW		820	2008	M10868
E1158	TRAILER, ARROWBOARD		820	2011	
E1159	SCISSORLIFT, 19-FT		820	2012	
E1162	GENERATOR, PORTABLE, 5KW		820	2013	M10868
E1173	GENERATOR, PORTABLE, 2KW		820	2013	M10868
E1183	GENERATOR, PORTABLE, 2KW		820	2016	M10868
E1188	GENERATOR, PORTABLE, 7KW		820	2016	M10868
E1189	PUMP, PORTABLE TRASH		820	2016	M10868
E1197	COMPRESSOR, CART MOUNT		820	2016	M10883
E1200	TRAILER, PRESSURE-WASHER		820	2017	M10402
E1201	GENERATOR, PORTABLE, 7KW		820	2017	M10868
E1216	GENERATOR, PORTABLE, 7KW		820	2018	M10868
E1217	TRAILER, TOILET		820	2018	
E1219	GENERATOR, PORTABLE, 2KW		820	2018	M10868
E1220	TRAILER, HOSEREEL		820	2018	
E1221	TRAILER, TOILET		820	2018	
E1222	TRAILER, TOILET		820	2018	
E1227	TRAILER, HOSEREEL		820	2018	
E1229	TRAILER, UTILITY, COLLECTIONS		820	2020	
E1233	TRAILER, ARROWBAORD		820	2020	
E1253	UTILITY TRAILER, COLLECTIONS		820	2022	
E1264	CARGO TRAILER, PSS COLLECTIONS		820	2023	
V0385R	TRUCK, MED-DUTY, PULLRIG, REAR UNIT		820	1978	M10193
V0552	TRUCK, MED-DUTY, PULLRIG	552	820	2006	M10866
V0584	TRUCK, MED-DUTY, PULLRIG	584	820	2008	M10866
V0587	TRUCK, HVY-DUTY, COMBO	587	820	2009	M10212
V0588	TRUCK, MED-DUTY, UTILITY	588	820	2009	M10866
V0617	TRUCK, MED-DUTY, UTILITY	617	820	2013	M10193
V0618	TRUCK, MED-DUTY, UTILITY, CRANE (SM)	618	820	2013	M10193
V0619	TRUCK, MED-DUTY, PULLRIG	619	820	2013	M10193

V0621	TRUCK, MED-DUTY, UTILITY	621	820	2015	M10193
V0622	TRUCK, MED-DUTY, UTILITY	622	820	2015	M10193
V0623	TRUCK, HVY-DUTY, COMBO	623	820	2014	M10542
V0624	TRUCK, LGT-DUTY	624	820	2015	M10193
V0649	TRUCK, LGT-DUTY	649	820	2015	M10193
V0650	SUV, MID-SIZE	650	820	2015	M10193
V0660	SUV, MID-SIZE	660	820	2017	M10193
V0671	TRUCK, LGT-DUTY	671	820	2018	M10193
V0672	TRUCK, LGT-DUTY, UTILITY	672	820	2017	M10193
V0674	TRUCK, LGT-DUTY	674	820	2017	M10193
V0683	TRUCK, LGT-DUTY	683	820	2018	M10193
V0691	TRUCK, HVY-DUTY, COMBO	187692	820	2018	
V0715	TRUCK, MED-DUTY	715	820	2020	M10193
V0719	TRUCK, MED-DUTY	719	820	2020	M10193
V0739	TRUCK, MED-DUTY	739	820	2023	M10193
V0745	VAN, FULL, CARGO	745	820	2023	M10193

Manufacturer Name	Model	Location	Parent	Status
ELECTRA	CRUISER	12211		ACTIVE
ELECTRA	CRUISER	12211		ACTIVE
ELECTRA	COASTER	12211		ACTIVE
ELECTRA	COASTER	12211		ACTIVE
	CRUISER	12211		ACTIVE
	CRUISER	12211		ACTIVE
ELECTRA	CRUISER	12211		ACTIVE
ELECTRA	CRUISER	12211		ACTIVE
BIG TEX		P2COLLEP		ACTIVE
HONDA		P2COLLEP	V0649	ACTIVE
HONDA		P2COLLEP	V0580	ACTIVE
		P2COLLEP		ACTIVE
		P2COLLEP		ACTIVE
HONDA		P2COLLEP		ACTIVE
	ARWBRD	P2COLLEP		ACTIVE
		14137		ACTIVE
HONDA		P2COLLEP	V0617	ACTIVE
HONDA		P2COLLEP		ACTIVE
HONDA		P2COLLEP	V0618	ACTIVE
HONDA		P2COLLEP		ACTIVE
HONDA		P2COLLEP		ACTIVE
SPEED AIRE		P2COLLEP		ACTIVE
DEWALT		P2COLLEP		ACTIVE
HONDA		P2COLLEP	V0588	ACTIVE
HONDA		P2COLLEP	V0621	ACTIVE
		P2COLLEP		ACTIVE
HONDA		P2COLLEP	V0622	ACTIVE
	HCT1812	P2COLLEP		ACTIVE
		P2COLLEP		ACTIVE
		P2COLLEP		ACTIVE
	HCT1812	P2COLLEP	E1220	ACTIVE
		P2COLLEP		ACTIVE
	ARWBRD	P2COLLEP		ACTIVE
		12211		ACTIVE
				ACTIVE
FORD		14052	V0584	ACTIVE
GENERAL MOTORS	6500TRK	14052		ACTIVE
GENERAL MOTORS	6500TRK	14052		ACTIVE
INTERNATIONAL HARVESTER	IH7600	14052		ACTIVE
GENERAL MOTORS	6500TRK	14052		ACTIVE
FORD	F550	14052		ACTIVE
FORD	F550	14052		ACTIVE
FORD	F650	14052		ACTIVE

FORD	F550	14052	ACTIVE
FORD	F550	14052	ACTIVE
FREIGHTLINER	114SD	14052	ACTIVE
FORD	F250	14052	ACTIVE
FORD	F250	14052	ACTIVE
FORD	ESCAPE	14052	ACTIVE
FORD	ESCAPE	14052	ACTIVE
FORD	F150	12008	ACTIVE
FORD	F250	12008	ACTIVE
FORD	F250	12008	ACTIVE
FORD	F150	14052	ACTIVE
	T880	14052	ACTIVE
FORD	F250	12211	ACTIVE
FORD	F250	12211	ACTIVE
FORD	F250	17952	ACTIVE
FORD		12211	ACTIVE

APPENDIX J

Rehabilitation and Replacement Plan

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	05/25/11		•
2	09/27/12		•
3	03/26/14		•
4	11/14/16	E. Yong	• Updated Clearinghouse process and replaced FSSD with Collections O&M
5	08/03/17	E. Yong	• Audit comments incorporated
6	07/20/18	W. Smith	• Project dates and minor wording changes
	07/11/19	J. Fenton	• Reviewed: no changes
7	07/08/20	C. Falzone	• Added 2019 AMP summary
8	09/20/21	T. Edwards	• Revised AMP summary for 2019 and 2020; OSCD to OC San
9	09/19/22	T. Edwards	• Revised AMP summary
10	09/22/23	T. Edwards	• Revised AMP summary
11	03/11/25	T. Edwards	• Updated per new WDR requirements
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Orange County Sanitation District
Rehabilitation and Replacement Plan

Overview

Orange County Sanitation District (OC San) rehabilitation and replacement plan complies with WDR Section 13 iv (c). Collections Operations and Maintenance (Collections O&M) implement a CCTV program of pipelines and manholes that is consistent with PACP and MACP standards allowing the condition of the sewer pipes and manholes to be consistently ranked and the necessity of subsequent rehabilitation or replacement efforts to be prioritized. Short-term and long-term processes are in place to facilitate an appropriate response to on-going collection of data. These processes are discussed in more detail below; however, it is worth noting that OC San is currently transitioning toward establishing internal processes that allow staff to evaluate condition as well as capacity deficiencies of collection system assets in-house and incorporating the information into our developing asset management program. Master planning will be completed intermittently to support rate study efforts and validate funding adequacy.

WDR Section 13 iv (c) states the following: [Enrollee shall] develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.

Short-term Rehabilitation and Replacement Program

Every year the Collections O&M Division updates and prepares an operating budget to fund their activities and expenses during the year. Many of these Repair and Replacement (R&R) activities are performed under contract by specialty contractors. For example, CCTV data will sometimes indicate a manhole has become damaged or needs rehabilitation. Collections O&M manages a contract that allows staff to quickly implement a repair and lining of a damage manhole. When necessary, Collections O&M works with the Engineering Planning Division (through the Project Clearinghouse Committee; discussed below) to coordinate major repairs on an asset in the collection system using CIP or operational funds.

Long-term Rehabilitation and Replacement Program

The 2024 Asset Management Plan (AMP) was completed in December 2024 as an update to the 2023 AMP. The AMP is intended to be a tactical document summarizing OC San's plans for understanding asset condition and performance of all major assets within the treatment plants as well as the collections system for a twenty-year planning horizon. Updates to the AMP are performed on an annual basis and have been performed since the original AMP was developed in 2020.

The AMP coordinates the efforts of operations, collections, mechanical maintenance, electrical maintenance, instrument maintenance and engineering through process teams to assure OC San's resources are focused on the high priority work functions. This AMP is continually evolving based on new condition assessments and will be published annually to document the condition of the collection system and treatment plants, and to maintain a 20-year forecast of all CIP projects needed to maintain or upgrade the OC San's over $11 billion in assets on a prioritized risk basis.

Previous master planning documents are listed below for reference:

2017 Facilities Master Plan

OC San has completed the 2017 Facilities Master Plan (2017 FMP) project. This effort entailed identifying and prioritizing capital needs for the treatment plants as well as the collections system for a twenty-year planning horizon. The project team has also established a process of evaluation that enables asset engineers for each of the process areas to easily repeat the prioritization process as new condition assessments become available. This is an important initial step in development of a more comprehensive asset management program. OC San specifically addresses replacement and rehabilitation in its 2017 FMP and on-going project validation efforts. These projects and processes support OC San's efforts in determining the agency's cash flow needs.

2009 Facilities Master Plan

In December 2009, OC San published Volume 3 (Final Report) of the Collection System portion of the 2009 Orange County Sanitation District Facilities Master Plan. Volume 3 was an update to the 2006 Collection System Strategic Plan Update developed by Montgomery Watson Harza (MWH). The update utilized a version of OC San's computerized hydraulic model which incorporated revisions to the Geographical Information System (GIS) information. The GIS information is constantly being updated by OC San personnel to better reflect current characteristics of the pipeline network. Out of 20 potential CIP projects identified in the 2006 Strategic Plan Update, eight of the projects were removed as not being required due to modeled capacity verification criteria; one project was significantly modified; and one project was delayed due to a street construction moratorium imposed by an Orange County city.

Asset Management Plan FY 2013-14 and 2014-15

Coinciding with the two-year budget for Fiscal Year 2012-14, OC San completed an update for the Asset Management Plan (AMP) using a consultant from Gutterridge, Haskins, and Daveys, Pty Ltd. (GHD) to run the TeamPlan software model. The software modeling effort predicts the remaining asset life for the collection system and plant facilities. The model management strategies were updated for this software model run. The update of the management strategies included a comprehensive review of the expected useful life of the collection system and plant facilities assets. The revised model assumptions are documented in the SP-151 project report. This information was used to update the Asset Management Plan for Fiscal Year 2013-15 and was also used as a reference during the project evaluation phase of the 2017 Facilities Master Plan.

2006 Strategic Plan Update

In early 2005, OC San hired MWH Americas to develop a new computerized hydraulic model for the Collection System. The model was based upon InfoWorks CS computer software by Innovyze. In early 2006, MWH Americas completed the Collection System Strategic Plan Update which included the hydraulic model and training for OC San staff. The model utilized OC San's GIS data for the Collection System. The model developed as part of this effort is still being used to evaluate the current and future average daily flow, and peak dry and wet weather flow in the Collection System. It fully satisfies all State of California requirements mentioned in the 2006 Statewide General Waste Discharge Requirements (WDR) for the Sewer System Management Plan (SSMP).

OC San is in the process of updating the model as part of the Collections Capacity Evaluation Study. The study, which is expected to be completed in January 2019, consists of collecting flow monitoring data, incorporating changes made to the physical collection system pipe and pump station network, updating OC San service area sources of flow and developing dry and wet weather flow profiles, improve the modeling accuracy of the design storm and estimating inflow and infiltration trends. The study also includes scoping and prioritizing collection system capacity projects, provides training for staff, and develops tools using GIS software that will is allow staff to keep the model up to date in house.

Flow Monitoring Reports and Records

In 2002, OC San hired the consultant ADS to perform a Long-term Flow Monitoring Program. This program involved using 150 flow meters strategically placed throughout the overall Collection System for a period of two years from May 2002 to May 2004. After which, the program was reduced to 75 flow meters from May 2004 to May 2007. This program was used to calibrate OC San's computerized hydraulic model and establish a baseline of flow measurements for each major trunk and flow basin. Today, the long-term flow meters have been removed, and each major flow basin or trunk has its flow metered by the permanent flow meters located at the two treatment plants. Periodically, flow meters are placed for a special project or study as needs arise, and new CIP projects are developed.

As part of the Collections Capacity Evaluation Study, OC San (November 2016 through October 2017) monitored the regional collection system utilizing approximately 85 monitors placed in strategic locations. The flow data is being used to calibrate the model as well as estimate the amount of inflow and infiltration enters the system during wet weather events.

Capital Improvement Program (CIP) Projects Selection Process

OC San reviews new and revises existing CIP projects annually through a validation effort. The effort prioritizes projects based on need, risk, and overall resource and cash flow constraints of the agency. This effort has been modified to align with OC San levels of service which elevates the process to ensure future repeatability; yet allows for dynamic changes in agency objectives.

The Planning Division leads the Project Clearinghouse Committee which meets bi-weekly to discuss proposed projects that are not previously identified during the annual CIP validation cycle; yet, may be necessary to act on in the short term. The Project Clearinghouse determines if these projects are necessary and assigns the work to the appropriate OC San department.

Funding Process (Finance Department)

OC San's Budget is adopted by the Board of Directors every year. This comprehensive document includes descriptions of all relevant policies, procedures, and processes. It includes a financial summary, an operations overview, a description of all operating divisions, an overview of the OC San's self-insurance program, CIP details, and a debt service summary. Funding in general is part of the budget process which is spelled out in OC San's Budget "Policies and Procedures" (Section 3). The Board of Directors sets fiscal policy for OC San which includes a policy for reserves. District Summary (Section 4) of the OC San Budget lists eight revenue categories and their anticipated funding level by fiscal year. The amount of reserves is itemized by revenue category and is projected forward for a duration of ten years.

The funding process for Joint Operations Fund is evaluated annually and involves each division reporting their needs to their division manager who in turn prepares an operating budget submission and negotiates with the Finance Department. The process is summarized in the "Operations Overview" (Section 5) of the budget.

The funding process for CIP projects is done annually through a CIP validation process under the direction of the Director of Engineering. This process involves the Project Management Office Division and the Planning Division. The results of the CIP validation process are screened based on various criteria such as capacity deficiency, new regulatory requirements, and condition assessment needs prior to being submitted to the Finance Department. The final listing and summary of the CIP Budget for Capital Requirements is listed in OC San's Budget "Capital Improvements" (Section 8). This section includes a summary as well as a detailed listing of each Collection System CIP project with projected costs over a ten-year period.

APPENDIX K1

2016 Facility Model Maintenance Management Plan (Vol 1)

Procedure Revision History			
Revision	**Date**	**Approval**	**Reason**
0	01/25/10		Original
1	12/13/16	R. Michaels	• Updated responsible organizational units and technology
2	9/25/2017	R. Michaels	• Changed name from CMMS to Enterprise Asset Management System (EAMS), updated Project Manager role.
3	9/15/2021	A. Saqui	• Changed name from OCSD to OC San
4	3/14/2022	A. Saqui	• Added new logo
5	3/22/23	M. Mendez	• No Changes
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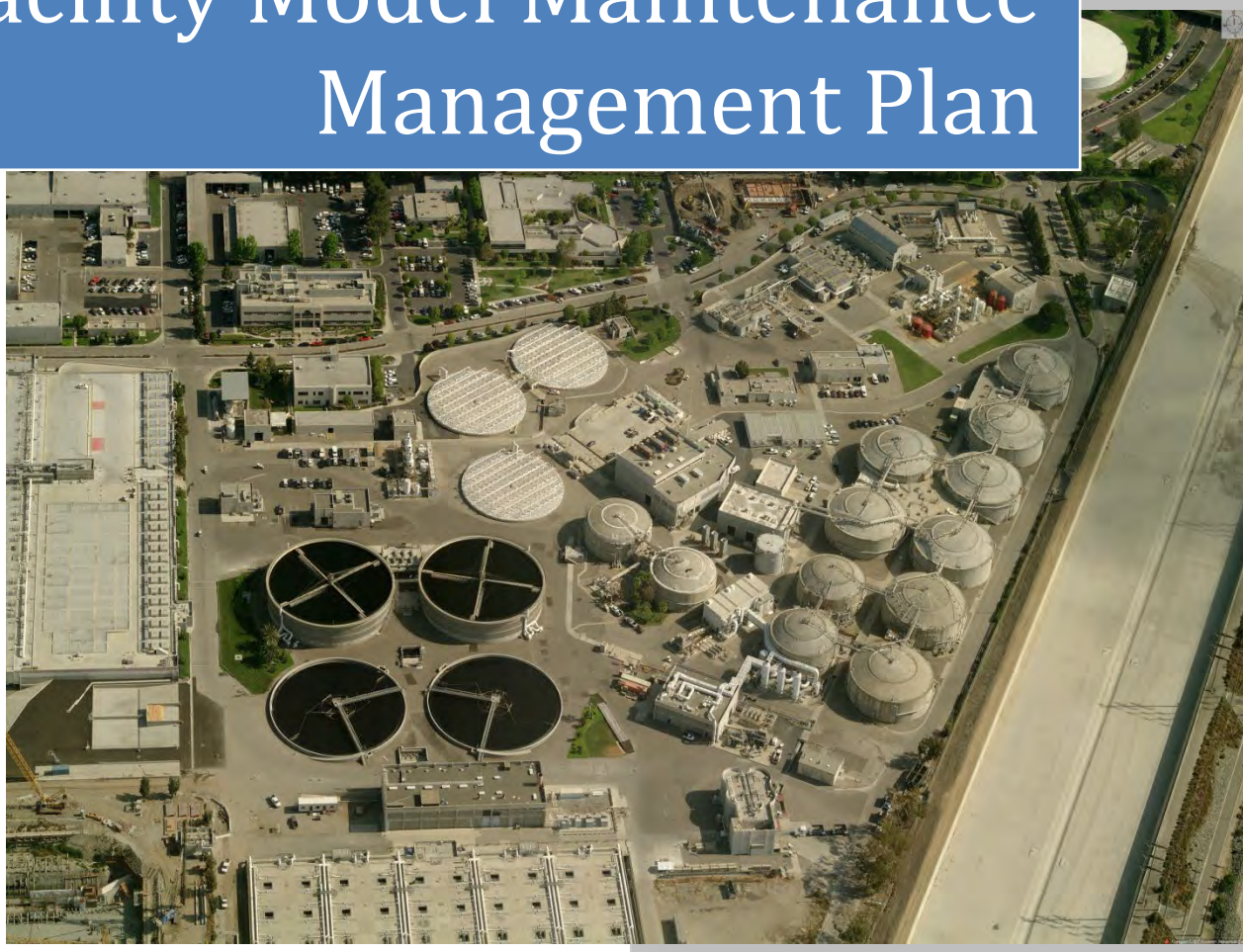
2016

VOLUME I
Facility Model Maintenance Management Plan



ORANGE COUNTY SANITATION DISTRICT

Orange County Sanitation District

12/13/2016

HISTORY OF CHANGE

Version	*Author*	*Date*	*Description*
A	Marc Brown	2005	Initial release of document
B	Doug Rulison	Feb. 2010	Revised language
C	Rob Michaels	Dec. 2016	Update responsible organizational units and technology
D	Rob Michaels	Sep. 2017	Changed name from CMMS to Enterprise Asset Management System (EAMS), updated Project Manager role.
E	Annalisa Saqui	Sept. 2021	Changed name from OCSD to OC San
F	Annalisa Saqui	March 2022	Added new logo

TABLE OF CONTENTS

SECTION 1 EXECUTIVE OVERVIEW 1-1

1.0 General Overview 1-1
1.0.1 Document Mission 1-1
1.0.2 Audience 1-1
1.0.3 Assumptions 1-1
1.1 Document Organization 1-1

SECTION 2 FACILITY MODEL CONCEPT 2-1

2.0 Descriptions of Facility Models 2-1
2.0.1 Sewer Atlas/Electronic Map Book (EMB) 2-1
2.0.2 Facility Atlas/Drawing Access System 2-1
2.0.3 Electronic Document Management System (EDMS) 2-2
2.1 Change Management Approach 2-2
2.1.1 Capital Improvement Program (CIP) Projects 2-2
2.1.2 Field Discrepancies/Modifications to Existing Systems 2-2

SECTION 3 STAFF ROLES AND RESPONSIBILITIES 3-1

3.0 Overview 3-1
3.0.1 GIS Administrator 3-1
3.0.2 GIS Technician 3-1
3.0.3 CAD Technician 3-1
3.0.4 Librarian 3-1
3.0.5 Project Manager 3-1
3.0.6 Consultant 3-2

SECTION 4 SOFTWARE CONFIGURATION 4-1

4.0 Geographic Information Systems (GIS) 4-1
4.1 Computer Aided Drafting (CAD) 4-1
4.2 Engineering Document Management Systems (EDMS) 4-1

SECTION 1 EXECUTIVE OVERVIEW

The Vision Statement for the Orange County Sanitation District is to maintain world-class leadership in wastewater and water resource management. This vision also applies to the way the Sanitation District manages its assets and facilities-world-class. To this end, the District and more specifically the Information Technology-Enterprise Information Management (EIM) group has expended significant resources—time and money—to create, manage, and share systems, or facility models, that record the **as-is state of the assets and facilities**. In order to manage these systems, which are in a constant state of change, a process has been developed to ensure the data contained in the facility models reflects the actual conditions in the field. This document describes the procedures, standards and tools used in the process.

1.0 General Overview

1.0.1 Document Mission

The purpose of the facility model Maintenance Management Plan is to document the process used to create, manage, and share the data contained within the facility models. It also provides a high level understanding of the change management process and provides a detailed understanding of the procedures, standards and tools used by EIM staff. Not covered in this document are the processes of adding new elements or features to the existing facility models or creating new models.

1.0.2 Audience

The audience for this document consists of three distinct groups: regulators, management, and editors. Regulators will see that there is a clearly documented process, complete with procedures and standards, which ensure the Sanitation District will remain in compliance with regulations. Management is assured that a defined process is in place and is consistently applied. The editors will use the document to follow the prescribed procedures, using the defined tools and standards for day to day maintenance of the systems.

1.0.3 Assumptions

The process detailed in this document assumes the field staff personnel are the ones who directly observe the accuracy and the correlation between the data in the facility models and the actual observable conditions of OC San facilities. When the field staff submits discrepancy reports, the reports are accepted as the as-is condition of the actual condition of the facility. However, if additional information is required, the field staff may need to return to the location to collect the necessary data.

1.1 Document Organization

This is Volume I of a 3 volume set of Information Technology Department, Enterprise Information Management (EIM group) data maintenance process documentation. The purpose of the documentation is to clearly detail the processes used by the EIM group to maintain the facility models. The purpose of Volume I is to provide a general overview and background on the EIM group and

the facility model concept. Volumes II and III address the specific procedures and standards for the each facility model.

SECTION 2 FACILITY MODEL CONCEPT

A facility model is a complete and seamless representation of the current site conditions, stored in a single location and intended for a particular use. These facility models are used by OC San staff, contractors and consultants to support the completion of work activities, in support of the OC San mission.

The facility model concept was developed to address the difficulties of managing a growing volume of facilities information. A facility model provides a unique view of the facilities for a specific purpose. As an example, the "Facility Atlas" (FA) facility model is used to represent the physical location of process piping, equipment, and structures for use in construction design and planning. The purpose of the "Plant Design System" (PDS) facility model is to present schematic piping and instrumentation information for use in process control and analysis.

2.0 Descriptions of Facility Models

2.0.1 Sewer Atlas/Electronic Map Book (EMB)

The Sewer Atlas Facility Model (SA) was completed in 2004 through Capital Improvement Program project number 1-98. The SA is an electronic facility model that includes all of the sewer lines, manholes, diversion structures, force mains, siphons, force main valves and pump stations known to comprise the OC San sewer collection system. Data from the SA was used to populate the current OC San Enterprise Asset Management System (EAMS). These systems are expected to remain synchronized.

The SA data can be viewed in a variety of methods. The SA is a GIS based tool that is accessible through two web based applications, the Enterprise GIS and the Electronic Map Book (EMB). The Enterprise GIS data used in the SA provides read-only access to the assets for display and query purposes. The SA is a seamless dataset; therefore tabular data on all stored assets is available as needed. In addition, Record Drawings and Diversion Structures details are linked and viewable directly from the assets.

The Map Books are a four-volume set of printed maps showing information contained in the SA. These books are distributed to key locations and staff at both plants and made available to crews working in the collection system.

The EMB is an online version of the printed map book with a means to link directly to adjacent maps, Record Drawings and diversion structure details. The EMB is also available in an offline format to be used on laptops not connected to the District network.

2.0.2 Facility Atlas/Drawing Access System

The Facility Atlas (FA) is a powerful GIS-based tool for accessing "as-is" facility information for both Plant 1 and Plant 2 through a map-based user interface. The FA contains planimetric data; aerial photographs; design and construction areas; and buried, above-ground, and in-tunnel utilities, and equipment.

The Drawing Access System (DAS) provides a means to link a map based application directly to project information in the Electronic Document Management System (EDMS). Users are able to select structures in either Plant,

and then query projects that built or affected that structure. Project details, such as title and contract amount, and scanned engineering drawings may be viewed.

2.0.3 Electronic Document Management System (EDMS)

The Electronic Document Management System (EDMS) is a central repository for all project-related documents including Record Drawings.

2.1 Change Management Approach

In general terms, there are two types of events that will trigger the Change Management process: Capital Improvement Program (CIP) projects, and discrepancies. The following is a high level description of the processes followed.

2.1.1 Capital Improvement Program (CIP) Projects

OC San contracts with consultants and construction contractors to design and build new facilities. These projects produce a set of construction drawings, referred to as Conformed Drawings. Upon completion of the work described in the drawings, Record Drawings are produced. The Record Drawings depict any changes to the drawing set that occurred during construction. Those Record Drawings are considered to be the final record of the work performed and the current as-is condition of the facilities.

The Record Drawings have been deemed vital and historic documents and are therefore maintained for the life of the facilities they constructed or modified. The EIM group is responsible for their maintenance in both electronic and hardcopy formats.

Upon completion of a project, Record Drawings are generally produced by the design consultant. The plans are provided as electronic files in Portable Document Format (PDF) and forwarded to the Engineering librarian. There they are indexed and imported into the EDMS.

Copies of the Record Drawings are then distributed to key individuals to determine if changes or updates are required of the facility models. This starts the change management process.

For users of the data management applications, it is important to determine if changes to facility models occur after Record Drawings are produced (occasional exceptions have been made). This may, at times, result in data appearing to be missing from the model. Many times this is because the construction work was completed several months or years before the completions of the contractual project and the production of the Record Drawings.

2.1.2 Field Discrepancies/Modifications to Existing Systems

The second type of classification of changes is referred to as “discrepancies”. These occur when the field condition does not agree with the facility model.

Examples include: manholes not shown on the Sewer Atlas; project data not shown correctly, etc. These errors or omissions occur for many reasons: oversights when extracting data for Record Drawings; incomplete or inaccurate Record Drawings or undocumented field staff modifications.

Regardless of the reason, discrepancies detract from the accuracy of the model and are therefore given high priority in regards to the change management process. In short, the process consists of the OC San staff filling out and submitting a field discrepancy form. This form indicates the model in which the discrepancy exists, and a description of the problem. This completed form, along with any supporting information, Record Drawings, photos or sketches, etc. is forwarded to the EIM group.

The discrepancy is logged, and evaluated. If the discrepancy meets the deviation guidelines, it is processed and changes to the model are made. The final outcome of the change is then forwarded to the requester to ensure we have captured the discrepancy correctly as was seen in the field.

SECTION 3 STAFF ROLES AND RESPONSIBILITIES

3.0 Overview

The Information Technology's Enterprise Information Management (EIM) group was established to be a centralized group of personnel who perform various administrative, technical, design, and program functions in support of the Engineering Department. The EIM group is responsible for maintaining certain features in the facility models. The mission statement of this group is recording the "as-is" state of OC San facilities by capturing, maintaining, updating and sharing various engineering data sources.

Description of Staff Positions

3.0.1 GIS Administrator

The GIS Administrator will initiate and monitor the status of data versions and perform quality assurance checks on work being performed by the GIS/CAD Technicians. This staff member will also be responsible for posting final changes to the Enterprise GIS, assisting in the resolution of data conflicts and upkeep of the GIS based applications.

3.0.2 GIS Technician

The main function of the GIS Technician is to prepare data to be incorporated into a facility models. The GIS Technician will work under the direction of the GIS Administrator and/or EIM Lead. The tools used by this staff member may include both CAD and GIS applications.

3.0.3 CAD Technician

The main function of the CAD Technician is to prepare data to be incorporated into a facility model. The CAD Technician will work under the direction of the GIS Administrator. The tool used by this staff member will primarily be CAD applications.

3.0.4 Librarian

The Librarian is the individual responsible for the storage and safety of original documents. In most cases these documents have been deemed vital and historical and must be maintained in accordance with the Sanitation District's records retention policies. The Librarian will be the primary recipient of incoming Conformed and/or Record Drawings, specifications, reports, and final electronic files.

3.0.5 Project Manager

The District Project Manager initiates requests for project data at the beginning design project. The District Project Manager must coordinate with Consultants, District Staff and Contractors as necessary to ensure that CAD files returned to EIM during the design phases of the project, comply with the District CAD Manual.

3.0.6 Consultant

Project consultants receive a district baseline model file to begin all CIP projects. A data request is made through the PM for baseline model files and project record drawing in the District EDMS. During the design phase of any project, there are CAD standards reviews that must be completed in order to ensure correct project data transfer. The consultant is to provide CAD files and hard copy prints for review. CAD standards are enforced in order to assist in data transfer and capture. Design data is converted from a CAD format to a GIS format to be included in the facility models, which are then reused for future project data requests.

SECTION 4 SOFTWARE CONFIGURATION

A variety of software is used to implement and manage the Sewer Atlas/EMB and the FA/DAS. The data for these systems is stored in a SQL Server database and a file based system that can be accessed by a variety of CAD and GIS client software packages.

4.0 Geographic Information Systems (GIS)

ArcGIS is the primary GIS client software used at the District and is distributed to desktop viewers and editors. The GIS client application that publishes the FA, SA and DAS on the District Intranet is called ArcGIS Server. ArcGIS Server sends data request to the SQL Server database. It is also possible to connect directly to the SQL Server database using ArcGIS desktop applications (which includes ArcMAP and ArcCATALOG).

4.1 Computer Aided Drafting (CAD)

Autodesk CAD applications are the standard CAD design software at the District. AutoCAD Map3D, Raster Design and Design Reviewer are a few of the software's that are used for capturing and editing engineering data. Feature Data Object (FDO) is a "middle-ware" that is used to allow CAD users to interface and edit GIS formatted data.

4.2 Engineering Document Management Systems (EDMS)

The Districts EDMS, SharePoint, is a software application that is the central repository for engineering project related documents. EDMS is an application that manages and stores documents that are linked or accessed through either the FA/DAS or SA/EMB.

APPENDIX K2

Orange County Sanitation District
Sewer Atlas Maintenance Vol. III

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	2005	M. Brown	Original
1	2/3/10	D. Rulison	• Revised language to include GIS based processes
2	9/26/2017	R. Michaels	• Updated responsible department
3	9/15/2021	A. Saqui	• Changed name from OCSD to OC San
4	3/14/2022	A. Saqui	• Updated logo
5	3/22/23	M. Mendez	• No changes
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VOLUME III
SEWER ATLAS MAINTENANCE

UPDATED: FEBRUARY 3, 2010

OC SAN
ORANGE COUNTY SANITATION DISTRICT

HISTORY OF CHANGE

Version	***Author***	***Date***	***Description***
A	Marc Brown	2005	Initial release of document
B	Doug Rulison	Feb. 2010	Revised language to include GIS based processes
C	Rob Michaels	Sep. 2017	Updated responsible department
D	Annalisa Saqui	Sept. 2021	Changed name from OCSD to OC San
E	Annalisa Saqui	March 2022	Updated logo

SECTION 1 PROCEDURES FOR SEWER ATLAS MAINTENANCE 1-1

1.0 General Procedures Overview 1-1
1.0.1 Document Organization 1-1
1.0.2 About Sewer Atlas (briefly) 1-1
1.0.3 Sewer Atlas Data Lifecycle 1-1
1.0.4 Sources of Edits 1-1
1.0.5 Alternate Data Collection Procedures 1-2
1.0.6 Process Flowchart 1-3

1.1 Prepare Work Package 1-4

1.2 Locate and Print Record Drawings in EDMS 1-4
1.2.1 Locating EDMS drawings 1-4
1.2.2 Printing Drawings 1-4

1.3 Data Preparation 1-5
1.3.1 Record Drawing Preparation 1-5
1.3.2 Project Model Files 1-5

1.4 Establish Asset Numbers 1-6
1.4.1 Manhole Numbering 1-6
1.4.2 Gravity Sewer Line Numbering 1-7
1.4.3 Bypass Line Numbering 1-7
1.4.4 Force Main Numbering 1-7
1.4.5 Force Main Valves and Air Valves 1-8
1.4.6 Pump Station Number 1-8

1.5 Create Working File/Folder 1-8

1.6 Create/Edit Features 1-9
1.6.1 Digitizer Form 1-9
1.6.2 Spatial Update 1-9

1.7 Abandoned Features 1-10

1.8 Demolished Features 1-11

1.9 Diversion and Splitter Structure 1-11

1.10 Data Exchange 1-12
1.10.1 Exporting Data 1-12
1.10.2 Importing Data 1-12

1.11 Manhole Hyperlinks 1-12

1.12 Manhole Table Updates 1-13

1.13 Quality Assurance 1-14
1.13.1 Completeness Assessment 1-14
1.13.2 Graphic Standards Review 1-15
1.13.3 CAD Review 1-15
1.13.4 CSV Data Review (future) 1-15
1.13.5 DWF Review 1-15

1.14 Commit Edits to Master File 1-16

1.15 Data Transfer 1-16
1.15.1 Export to GIS 1-16
1.15.2 Export to CMMS 1-17
1.15.3 Import into GIS 1-17
1.15.4 Import into Hydraulic Model 1-17

1.16 EDMS Update ..... Error! Bookmark not defined.

1.17 Print Map Book Pages 1-17

1.18 Publish 1-19

SECTION 2 ALTERNATE DATA COLLECTION PROCEDURES FOR SEWER ATLAS MAINTENANCE 2-1

2.0 General Alternate Data Collection Overview 2-1

2.1 Permit Research Procedure 2-1

2.2 Field Data Collection Procedure 2-1
2.2.1 Create Field Discrepancy Form 2-1
2.2.2 Review Discrepancy Form 2-1
2.2.3 Generate CMMS Service Request 2-2
2.2.4 Create Work Order 2-2
2.2.5 Collect Data 2-2
2.2.6 Review and Forward Documentation 2-2
2.2.7 Quality Check 2-3

2.3 Record Drawing Procedure 2-3

SECTION 3 STANDARDS FOR SEWER ATLAS MAINTENANCE 3-1

3.0 Standards Overview 3-1

3.1 Deviation Guideline 3-2
3.1.1 Physical Location 3-2
3.1.2 Data 3-2
3.1.3 Omissions 3-2
3.1.4 CIP Projects 3-2
3.1.5 Miscellaneous 3-2

3.2 Tracking Spreadsheet Column Descriptions and Expectations 3-3

3.3 Minimum Data Required on Record Drawings 3-5

3.4 Printing Standards for Large Format Drawings 3-6

3.5 Data Preparation Standard 3-6
3.5.1 Standard Highlight Colors 3-6
3.5.2 Data Categories 3-7
3.5.3 INSTALLATION_DATE 3-9
3.5.4 OWNER_CODE 3-9

3.5.5 STREET_CODE 3-9
3.5.6 CROSS_STREET_CODE 3-9
3.5.7 RIM_ELEVATION_CD 3-9
3.5.8 MH_CNTR_INV_ELEV_CD 3-10
3.5.9 UPSTREAM_INVERT_ELEVATION_CD 3-10
3.5.10 DOWNSTREAM_INVERT_ELEVATION_CD 3-10
3.5.11 MANHOLE_DEPTH 3-10
3.5.12 FIELD_216 (Doc ID) 3-10
3.5.13 TIF_NUM 3-10
3.5.14 DATUM_DESIGN 3-10
3.5.15 YEAR_RECONSTRUCTED 3-10
3.5.16 ORIGINAL_CONTRACT_NO 3-10

3.6 Field Data Collection Standards 3-11
3.6.1 Status 3-11
3.6.2 Distance from Existing Manhole(s) 3-11
3.6.3 Manhole Depth 3-11
3.6.4 Manhole Type 3-11
3.6.5 Direction of Connection 3-11
3.6.6 GPS Data Collected 3-11
3.6.7 Status 3-12
3.6.8 Pipe Diameter 3-12
3.6.9 Pipe Material 3-12
3.6.10 Pipe Length 3-12
3.6.11 Pipe ID 3-12

3.7 Asset Numbering Convention 3-13
3.7.1 Manhole Number Convention 3-13
3.7.2 Gravity Sewer Line Numbering 3-14
3.7.3 Bypass Line Numbering ..... **Error! Bookmark not defined.**
3.7.4 Force Main Numbering 3-16
3.7.5 Trunk Sewer Abbreviations 3-19

3.8 File/Folder Standards 3-20
3.8.1 CAD Template 3-20
3.8.2 CAD Standards File 3-20
3.8.3 Working Folder Standards 3-20
3.8.4 Working File Standards 3-20
3.8.5 Data Transfer Profile 3-21
3.8.6 Shapefile Standard 3-21

3.9 New Features 3-21
3.9.1 Layer Convention 3-21
3.9.2 Block Library 3-21

3.10 Abandoned Features 3-22
3.10.1 Layer Convention 3-22
3.10.2 Graphic Elements 3-22
3.10.3 Object Data 3-23

3.11 Demolished Features 3-23

3.12 Annotation Guidelines 3-23

3.13 Balloon Blow Ups 3-23

3.14 QA Reports 3-24

SECTION 4 APPENDIX 4-1

4.0 Field Lengths 4-2

4.1 CAD Layers Mapping 4-3

4.2 Sample Memorandum 4-4

4.3 CAD Layers 4-5

4.4 MPG Block Library 4-6

4.5 Object Data Tables 4-7

4.6 Change Management Checklist 4-8

4.7 Field Discrepancy & Data Collection Sheets 4-9

4.8 OCB Standard Operating Procedure 4-10

SECTION 1 PROCEDURES FOR SEWER ATLAS MAINTENANCE

1.0 General Procedures Overview

1.0.1 Document Organization

This is Volume III of a five volume set of Information Technology Department, Enterprise Information Management (EIM group) data maintenance process documentation (Document). The purpose of the document is to clearly detail the processes used by the EIM group to maintain the facility models. The purpose of Volume III is to provide background and detailed change management procedures for the Sewer Atlas Facility Model. General discussion and background on the EIM group and the facility model concept are presented in Volume I.

Volume III is divided into four sections. The first section lists the procedures required to maintain the Sewer Facility Atlas Model. The second section provides Alternate Data Collection Procedures if the required data is not available. The third section contains the standards that are used to accurately perform the procedures. The Appendix in the fourth section includes reference material such as forms and supporting documentation.

1.0.2 About Sewer Atlas (briefly)

The Sewer Atlas Facility Model (SA) was completed in 2004 through Capital Improvement Program (CIP) project number 1-98. The SA is an electronic facility model that includes all of the sewer lines, manholes, diversion structures, gravity pipes, siphons, force main valves and pump stations known to comprise the OC San sewer collection system. For more detailed information on the SA, refer to Volume I, Facility Model Maintenance Management Plan.

1.0.3 Sewer Atlas Data Lifecycle

The sewer collection system is constantly undergoing change. As such, the SA requires constant changes to accurately reflect the conditions in the field. When a change is made to the physical collection system, or a discrepancy between the SA and the real world is observed, a record of the changes or discrepancy is noted. Discrepancy records are routed through the EIM group and, if necessary, changes are made to the SA. Once changes are made to the SA, the corrected data must be published in a variety of formats to provide access for OC San staff. The details of the types of discrepancies noted and the framework used to correct and publish updated information is the focus of the remainder of this document.

1.0.4 Sources of Edits

Edits to the SA come from a variety of sources including CIP projects, discrepancies noted in the field by collection systems staff and changes made to the system by operations and maintenance staff. A brief description of these sources is included in this section, for more detailed information, refer to Volume I, Facility Model Maintenance Management Plan.

Capital Improvement Program (CIP) Project

A Capital Improvement Program (CIP) Project is a change to the collection system managed by the Engineering department through the CIP project or Facility Engineering project. For the purposes of this document, CIP projects and FE projects are referred to

as CIP only. When a CIP project is completed, engineering Record Drawings are produced recording the locations, sizes, and nature of concealed items such as sewer lines, manholes, and the like. These drawings that detail changes to the collection system are submitted to the Information Technology department and, in turn, to the EIM group.

Field Discrepancies

A field discrepancy occurs when OC San staff using SA data identifies a discrepancy between the SA data and the actual facilities observed. By identifying and correcting field discrepancies, the SA data becomes more accurate over time.

Closed Circuit TV (CCTV)

CCTV has been used to identify error in OC San GIS data

Periodic Updates

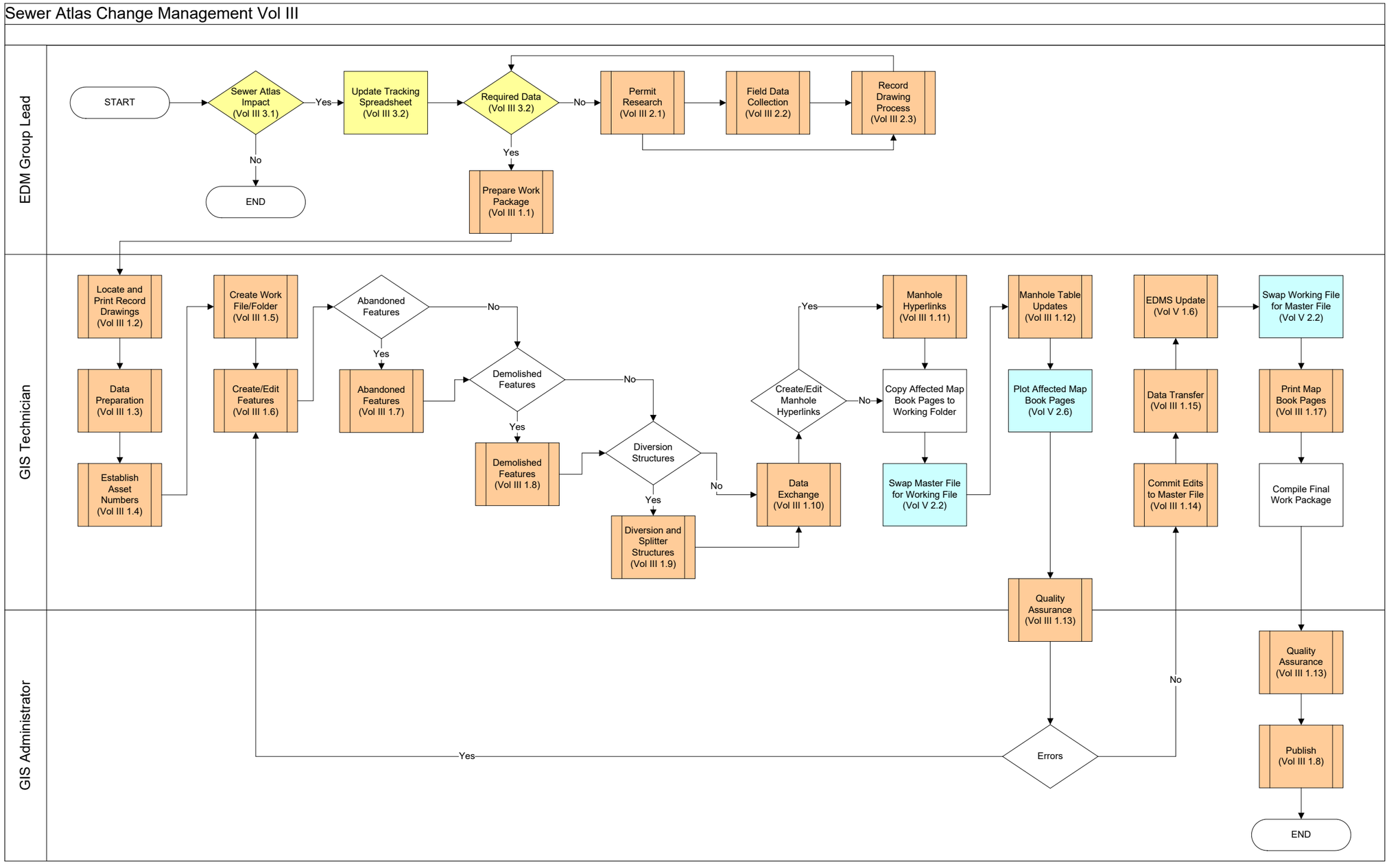
Periodic updates occur when the data in which the Sewer Atlas was built, such as parcels, street centerlines, etc. are updated by the originating source.

1.0.5 Alternate Data Collection Procedures

Section 1 details the expected sequence of events to update the Sewer Atlas Facility Model. Occasionally additional steps must be taken before the process outlined in this section can occur. If the required data is not on the Record Drawing, then it will be necessary to perform Permit Research or Field Data Collection. The results of which are documented on the Record Drawing, using the Record Drawing Process. These procedures are detailed in Section 2, *Alternate Data Collection Procedures for Sewer Atlas Maintenance.*

1.0.6 Process Flowchart

The diagram below details the procedures, standards and tools used to manage and maintain the Sewer Atlas.



1.1 Prepare Work Package

When it is determined that the discrepancy or project does impact the Sewer Atlas and that the required data is on the Record Drawing, then a work package is entered into the IT's work order tracking system and forwarded to the GIS Technician. The work package consists of:

The completed discrepancy form or CIP Record Drawings.

A print of the map book page impacted.

A blank Sewer Atlas check list. Refer to Appendix 4.6, *Change Management Checklist.*

1.2 Locate and Print Record Drawings in EDMS

The first step for the GIS Technician is to locate and review the required Record Drawings that are stored in the Electronic Document Management System (EDMS). Record Drawings will contain the vast majority of the information required to make a change to the Sewer Atlas. All Record Drawings are accessible via the EDMS. If a Record Drawing is missing, it is imperative that the missing drawing be brought to the attention of the Engineering Librarian. The following search methods are available from the EDMS application:

1.2.1 Locating EDMS drawings

Some general guidelines for locating the drawings in EDMS are listed below. Refer to the EDMS Desktop, Quick Reference Guide for details on locating documents in EDMS, or Volume V, *Tools for Facility Model Maintenance.*

- Use **Simple Search** when the criteria required to locate a document are very specific, such as Item ID.
- Use **Advanced Search** when multiple criteria are required to locate a document.
- Use **Drawing Search** when the search criteria are specific to engineering drawings.

1.2.2 Printing Drawings

Printing is allowed directly from the EDMS interface and is useful when printing a small number of drawings (1 to 4). Refer to Volume V, *Tools for Facility Model Maintenance.*

To print a single document:

- Using the search results, double-click the document title and select print. Alternatively, select the title, right-click and select print.

To print multiple documents:

- Copy all documents from EDMS to a temporary location on the hard drive.
- Use native print functionality for PDFs.
- Delete the files from the temporary directory when finished printing.
- Refer to Section 3.4, *Printing Standards for Large Format Drawings*.

1.3 Data Preparation

Data preparation is the process of reviewing the Record Drawings and project model files to be used for the creation or modification of an OC San asset or assets. The preparation of that data improves the quality and efficiency of the data input process described in Section 1.6, *Create/Edit Features.*

1.3.1 Record Drawing Preparation

This process consists of scrubbing or identifying information and data regarding an OC San asset or assets found on the Record Drawing. Items such as manhole location, invert elevation, diameter, etc. are highlighted.

- If the Record Drawings have not been included in the work package or additional drawings are required, refer to Section 1.2, *Locate and Print Record Drawings in EDMS*.
- Review the work package to understand the work to be performed. It may be necessary to review the CIP Record Drawing and/or the discrepancy form to get a better understanding of the change(s) to be made.
- Highlight the asset information. Refer to Section 3.5, *Data Preparation Standard.*
- Some attributes are mandatory and therefore it may be necessary to calculate or estimate the values. When doing so the attribute value must be written on the Record Drawing and highlighted.

1.3.2 Project Model Files

If the work package consists of a CIP project, a project model file will be available. The project model file will be used to locate the physical asset, while the Record Drawing will be the source of the attribute information.

- Refer to the CAD Manual, Section 3.0 *File Organization Techniques* and Section 4.0 *Directory Organization* for a description and proper location of the project model file.
- Launch AutoCAD and open the project model file.
- Isolate the desired CAD features by turning off extraneous layers and/or deleting unnecessary objects.
- When complete, save CAD the file to the working folder. Refer to Section 3.8.3, *Working Folder Standards* and 3.8.4, *Working File Standards.*

1.4 Establish Asset Numbers

Each asset within the OC San collection system requires an asset ID. The EIM group is responsible for creating the assets and subsequently the asset ID. The following are the current numbering conventions in use.

1.4.1 Manhole Numbering

Each manhole within the OC San collection system is uniquely identified. The Manhole Numbering Standard can be referenced in Section 3.7.1, *Manhole Number Convention.* The following procedure is intended to prevent the duplication of manhole IDs.

Inserting manhole on trunk

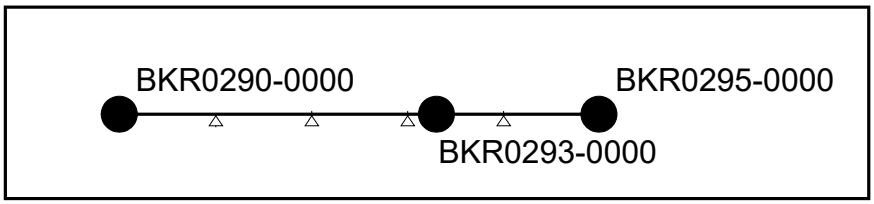
- Open the Manhole feature class.
- Open the Manhole table.
- To reduce the number of records it may be helpful to filter the manhole table by trunk abbreviation.
- Sort the table by the STRUCT_1 column.
- Find the highest trunk sequence number. Do not rely on the current map book page to determine the highest trunk sequence number.
- Number the manhole by incrementing by 5, unless the new manhole is inserted between two existing manholes.

Inserting manhole on a lateral

- Follow the steps listed above.
- Find highest lateral sequence for the entire lateral. Do not rely on the current map book page to determine the highest lateral sequence number.
- Number the manhole by incrementing by 5, unless the new manhole is inserted between two existing manholes.

Inserting manhole between two existing manholes

- Divide the space by 5.
- Identify the point closest to the new manhole location.
- Increment the manhole number accordingly.



1.4.2 Gravity Sewer Line Numbering

Each sewer line within the OC San collection system is uniquely identified within GIS. A sewer line is made up of a downstream manhole and an upstream manhole joined together to establish the pipe id. EIM staff are not responsible for concatenating the downstream and upstream manholes to form the pipe id. However, EIM staff are responsible for populating the sewer table with the STRUCT_2 and STRUCT_1 values. The Sewer Line Numbering Standard can be referenced in Section 3.7.2, *Gravity Sewer Line Numbering*.

- Create the manholes. Refer to Section 1.6, *Create/Edit Features*.
- Draw the sewer line using the GIS. Refer to Section 1.6, *Create/Edit Features*. This will create the sewer line but it does not establish the asset numbers.
- To populate the sewer table with the appropriate STRUCT_2 and STRUCT_1 values, the object data must be exported to the Object Data Database where a series of queries are run and then imported back into the working file. It is not necessary to perform this function right away; it can be done during the 1.10, *Data Exchange*.
- Export the manhole table and sewer tables. Refer to Section 1.10.1, *Exporting Data*.
- Open the Object Data database and run queries **qry-1, qry-2** and **qry-3**. These queries will move the data from the manhole table to the sewer table to populate STRUCT_2 and STRUCT_1 properties.
- Import the sewer table back into the working file. Refer to Section 1.10.2, *Importing Data*.
- **Caution:** The definition of a sewer line is; a segment of pipe which has an asset at each end. In other words the sewer line must have a manhole or pump station at both ends. The procedure described above will, most likely, introduce bad data into the working file. It is imperative this does not get introduced into the master file. This can be avoided by closely following the procedure defined in Section 1.14, *Commit Edits to Master File*.

1.4.3 Bypass Line Numbering

Each sewer line within the OC San collection system is uniquely identified within Enterprise Asset Management System (EAMS). There are however unique situations where two or more lines connect to the same downstream and upstream manholes. Siphon and vent lines are examples of these unique situations. EIM staff are not responsible for the creation of the pipe id for bypass lines. However, EIM staff are responsible for correctly identifying a sewer line as a siphon or vent. This information is used by EAMS to create the pipe id.

1.4.4 Force Main Numbering

A Force Main is a sewer pipeline carrying wastewater or treated effluent in which the flow in the pipeline is dependent on and driven by a pump station. Each Force Main within the OC San collection system is uniquely identified within EAMS. The force main ID changes when it encounters a physical asset such as a manhole or valve. Changes in direction do not constitute a physical asset and therefore do not affect the force main ID. The Force Main Numbering Standard can be referenced in Section 3.7.4, *Force Main Numbering.*

1.4.5 Force Main Valves and Air Valves

Force Main Valves and Air Valves are numbered by EAMS. OC San standard practice is to request looptag numbers during the design phase of the project and document them in the Record Drawings. If this has not been done, contact EAMS and request the creation of the looptag number.

1.4.6 Pump Station Number

Pump Stations are numbered by CMMS. OC San standard practice is to request Pump Station numbers during the design phase of the project and document them in the Record Drawings. If this has not been done, contact EAMS and request the creation of the Pump Station number.

1.5 Create Working File/Folder

The working file is created by extracting elements from the Master File to be modified within a map book page. It is necessary that all elements within the grid or grids to be included in the working file. This extra information will be used later to update the manhole table and other associated activities. The working folder contains all the files created during the update process. Refer to Volume *V, Tools for Facility Model Maintenance*, for detailed information on how to use the AutoCAD attach and query commands.

The process is as follows:

Create a new drawing file using the template defined in Section 3.8.1, *CAD Template.*

If the OCSD-GRID is not attached, attach it as an external reference file.

Attach the Master File using the AutoCAD Map command.

If the work is for a CIP project, attach the prepared project model file. Refer to Section 1.3.2, *Project Model Files*.

Identify the map page and define the query parameters.

Save the working file. Refer to Section 3.8.3, *Working Folder Standards* and Section 3.8.4, *Working File Standards*.

1.6 Create/Edit Features

This process utilizes a custom data software application to increase the speed and accuracy of the data input process. The tools, referred to as the Map Product Generator or MPG, were developed in Visual Basic 6.0 and use Active X controls to load attribute data from a simple user interface into AutoCAD Map object data tables. A data dictionary is used to populate drop down lists with allowable values and to validate entered data, with the intent to reduce data input errors and eliminate duplicate data. Refer to Volume *V, Tools for Facility Model Maintenance*, for detailed information on how to use the MPG tools.

1.6.1 Digitizer Form

The digitizer form is the primary input tool and will be used extensively. The tool controls the creation of manholes, sewer lines, force mains and force main valves.

- When creating assets use coordinates, station and offsets, dimensions, etc. to locate the proposed location of the asset. Use temporary construction elements as necessary.
- If using a project model file, verify that the model aligns with the correct coordinate system before creating assets.
- Manholes must be created first.

Note: Never delete assets. Cut and paste them into the demo file.

1.6.2 Spatial Update

The spatial update form is used to update or edit the location of existing objects as well as object attributes.

1.7 Abandoned Features

An abandoned feature is a manhole, sewer line, etc. wherein the physical object remains in the ground but is no longer in service. The GIS Technician is not responsible for determining whether a feature can be returned to service or for evaluating the method used to take the feature out of service. The Record Drawings are taken at face value and abandoned features are modified as indicated.

The process to abandon a feature crosses several individual procedures. The following is an overview with references to the individual procedures or standards as necessary.

Move the abandoned manholes and sewer lines to the appropriate abandoned layer. Refer to Section 3.10.1, *Layer Convention.*

Modify the manhole and sewer object data table. Refer to Section 3.10.3, *Object Data.*

Delete the sewer label and flow arrow.

Hatch the abandoned sewer line. Refer to Section 3.10.2, *Graphic Elements*.

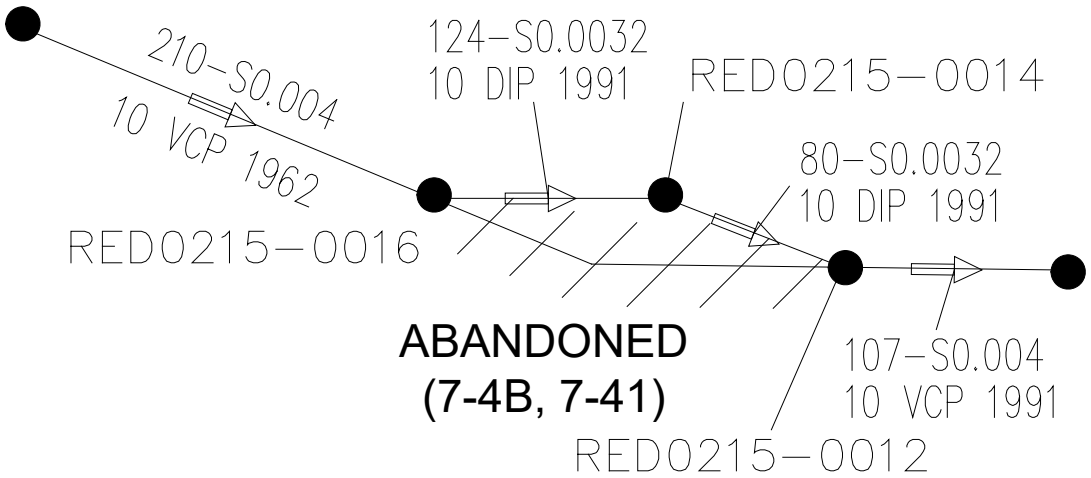
Add annotation “ABANDONED (project A, project B)”. Project A is the project that constructed the sewer line and Project B is the project that abandoned the sewer line.

Export the manhole table and sewer table. Refer to Section 1.10.1, *Exporting Data*.

Open the Object Data database, open the manhole table, and sort the table by the Status column. Highlight and delete the manholes with a STATUS value of ABAND, DEMO or DELETE. This will prevent these manholes from being included in the manhole table.

Commit edits to the master File. Refer to Section 1.14, *Commit Edits to Master File.*

Export the data for use by the Enterprise GIS and EAMS. Refer to Section 1.15, *Data Transfer*.



1.8 Demolished Features

A demolished feature is a manhole, sewer line, etc. that has been physically removed and no longer exists in the ground. The GIS Technician is not responsible for determining whether a feature can be returned to service or for evaluating the method used to demolish the feature. The Record Drawings are taken at face value and demolished features are deleted from the Master File as indicated.

This process is also applied to errors made during the original capture of the collection system. For example, manholes and sewer lines that were mistakenly added to the Sewer Atlas and have been verified as not existing in the field.

The process to remove a feature is:

Identify assets to be removed.

Modify the manhole and sewer object data table. Refer to Section 3.10.3, *Object Data.*

Delete the sewer label and flow arrow.

Export the manhole table and sewer table. Refer to Section 1.10.1, *Exporting Data*.

Open the Object Data database, open the manhole table, and sort the table by the Status column. Highlight and delete the manholes with a STATUS value of ABAND, DEMO or DELETE. This will prevent these manholes from being included in the manhole table.

Commit edits to the master File. Refer to Section 1.14, *Commit Edits to Master File.*

Export the data for use by the Enterprise GIS and EAMS. Refer to Section 1.15, *Data Transfer*.

1.9 Diversion and Splitter Structure

Diversion Structures and Splitters are documented in two locations, the map books and a separate Diversion Structure book. Diversion and Splitter structure edits will typically occur during CIP projects when new features are being added. A diversion structure is one where slots or adjustable gates are present and flow can be directed or redirected from one trunk line to another to control flow or capacity. A Splitter Structure also contains slots or adjustable gates, but flow remains within the same trunk.

The process is the same for each type of structure:

The GIS Technician draws the detail of the structure.

The detail is submitted to the EIM Group Lead to assign an alias number.

To assign an alias number, locate the highest number and add 1.

> **Note:** In order to keep existing hyperlinks functioning, the general rule is to not rename the map book page filename.

The EIM Group Lead convenes a meeting of the Diversion Structure committee and submits the detail for approval.

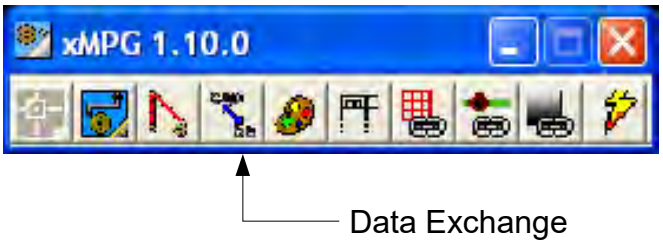
Upon approval, the detail is distributed to the owners of the Diversion Structure book by the EIM Group Lead.

The detail then gets routed back to the GIS Technician to be incorporated into the Map Book.

Insert into open location on existing map book page or create a new map book page as necessary.

Add a hyperlink from the Diversion Structure to the diversion structure map book page.

1.10 Data Exchange



The Data Exchange command of the MPG is used to move object data between a CAD file and an MS Access database. The exporting of data is a prerequisite for several other activities such as updating of the manhole table and updating the hyperlinks on off-page connectors. The importing of data is used to make global changes to data and to post-process certain attributes.

When exporting data, the contents of an object data table are written to a MS Access database. The path to this file is preset and can not be changed. The primary key connecting the AutoCAD objects with the database is the objects handle. AutoCAD controls the creation and modification of the handles and they are subject to change. When planning to export and import data it is imperative that special attention be given to the sequence of events. Refer to Volume V, *Tools for Facility Model Maintenance* for additional information on exchanging data.

1.10.1 Exporting Data

- Drop all tables before exporting. This will delete any existing records in the table.
- Create the table and adjust the field lengths for manholes according to Appendix 4.0, *Field Lengths*. For a manhole data exchange use the file located on the network; J:\Facility Models\Sewer Atlas\Models\ mh_field_sizes.xls
- Choose the data table to be exported and select the feature type.
- Export the data table.
- Repeat the process for additional data tables as necessary.

1.10.2 Importing Data

- If the data is to be modified and imported back into the object data tables, perform the modifications or post-processing prior to closing the current AutoCAD session.
- Choose the data table to be imported.
- Import the data table.

1.11 Manhole Hyperlinks

The links between manholes and Record Drawings are established by the very nature that the manhole is shown on the Record Drawing. To add to the usability of the electronic map book the manhole object is hyperlinked to the Record Drawing. This is done using a default path and the EDMS Item ID or the scanned image filename (The scanned image filename is used for an offline version of the electronic map book).

The Hyperlink Manhole command of the MPG as well as the object data database is the most convenient method to create and update the manhole hyperlinks. Refer to Volume V, *Tools for Facility Model Maintenance* for additional information on manhole hyperlinks.

Open the working file.

Select Hyperlink Manhole tool. This command will automatically reference the exported access database from the previous step and prompt the user to select a table that contains the manholes and select the attribute to use for the hyperlink.

Select the Manhole table in the Node Table.

Select Field_216 in the Link Field.

1.12 Manhole Table Updates

Manhole Table

The Manhole Table command of the MPG as well as the object data database is used to create and update the manhole table. It is generally not recommended to manually edit the manhole table.

Open the Map Book Page from the working folder.

Select *Manhole Table* tool – this command will automatically reference the exported access database from the previous step and generate a new table with all manholes within the grid.

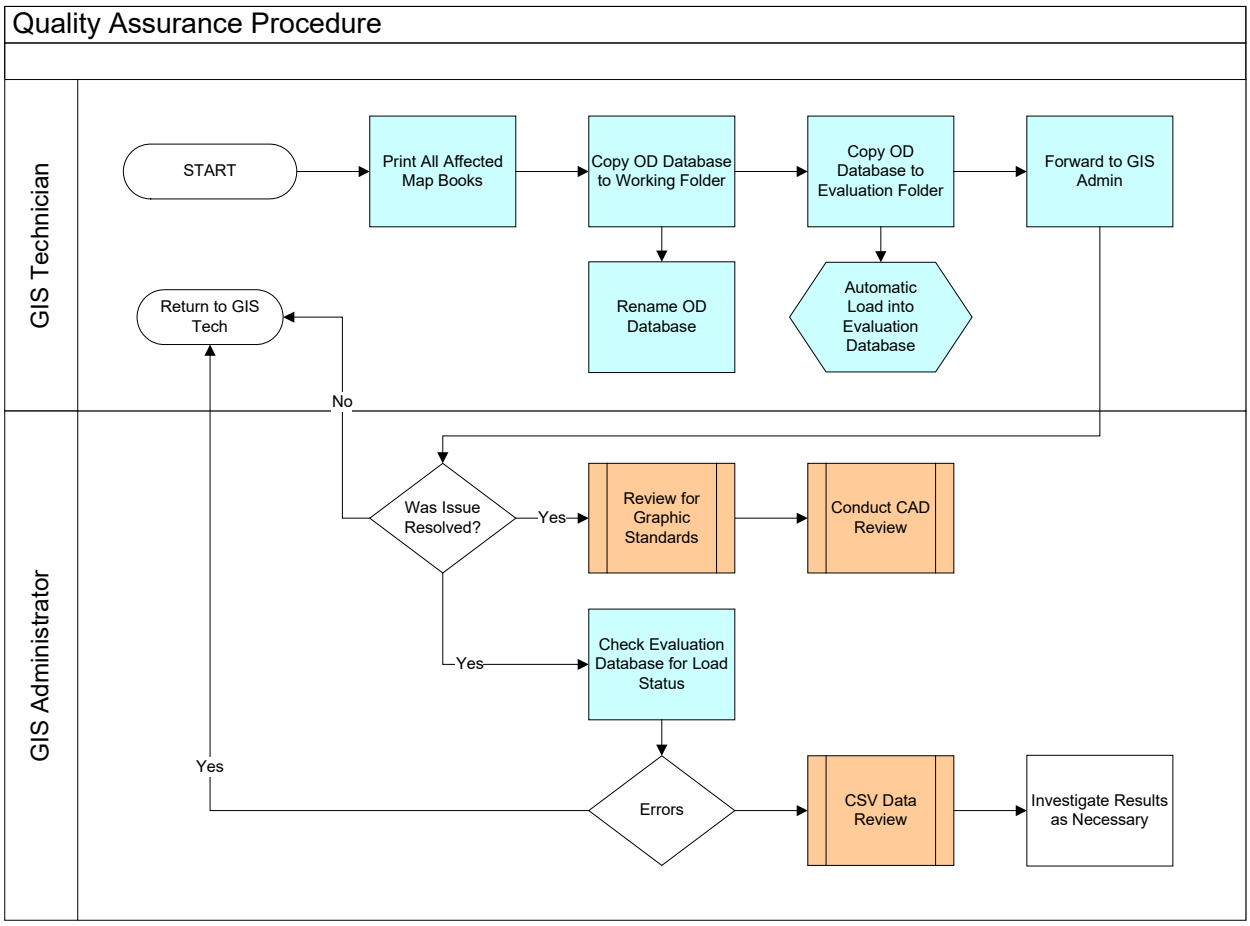
If the manhole table conflicts with the sheet legend, it will be necessary to create a second sheet and move the conflicting portion.

Note: The path to the object data database is hard coded. As a result it is very important to conduct the data exchange immediately prior to the manhole update.

1.13 Quality Assurance

Quality Assurance (QA) is the process of reviewing the work performed to confirm that it complies with the procedures and standards that have been established. The QA is conducted primarily by the GIS Administrator. However, it is important that others involved in the updating of the Sewer Atlas be aware of the quality expected.

The process to prepare and review a work package for QA is shown in the following diagram.



1.13.1 Completeness Assessment

The completeness assessment is a visual inspection to determine if the original discrepancy or CIP was addressed. For example, questions such as "Was the entire project included? Did we capture every manhole? Is there a label for every manhole?" must be asked. In addition, the QA provides a reality check by asking such questions as "Is the direction of flow accurate? "Is the slope correct?" It may be necessary for the GIS Administrator to go back to the original discrepancy or project and compare the updates to the original source.

1.13.2 Graphic Standards Review

The Graphic Standards review verifies that the graphics follow general guidelines for placement such as the location, direction and placement of labels and arrows to ensure consistency and ease-of-use of the edited maps. Refer to Section 3.12, *Annotation Guideline.*

Specific review comments are written directly on the item and global comments are written on the side of the map. Post-it notes are avoided as are separate comments sheets.

1.13.3 CAD Review

The CAD elements are verified by using the batch file checker in AutoCAD. The batch checker will check layer names and fonts. The use of filters can verify whether the symbols, blocks and layers meet standards. Refer to Section 3.8.2, *CAD Standards File*.

1.13.4 CSV Data Review (future)

The CSV data review utilizes an automated loading application and an Oracle database to verify the accuracy of the data being loaded into CMMS. When an OD Database file is placed in the bulkloader folder, an automated loading routine runs. This routine has been designed not to load data that contains format errors. If errors are present, the submission is rejected and returned to the GIS Technician for correction.

- Open the Evaluation Database.
- Check for load errors. Return to GIS Technician if necessary.
- Run the predefined content review reports. Investigate as necessary and return the work package to GIS Technician if required. Refer to Section 3.14, *QA Reports.*

1.13.5 DWF Review

Before the final DWF file is copied to the server, the file must be reviewed. The review verifies the following:

- The file was produced correctly.
- The map book page matches the printed copy.
- The off-page connectors are functioning.
- The manhole hyperlinks are functioning.
- The “last updated” date has been changed.

1.14 Commit Edits to Master File

After the discrepancy or CIP has successfully completed the quality assurance procedure, it is necessary to commit the edits to the Master File. These edits also need to be isolated for preparation of data transfer tasks. Refer to Section 1.15, *Data Transfer.*

Open the working file.

Delete all elements that were not impacted by the work package. Save the file to a working_edit file. Refer to Section 3.8.4, *Working File Standards*.

Create a new working_demo file. Cut and paste all demolished or delete features into this file. Refer to Section 3.8.4, *Working File Standards.*

Open the Master File.

Cut and Paste all assets to be replaced into the master demo file. It may be helpful to attach the working_edit and working_demo file to the Master File to identify the assets to be replaced.

Copy and paste the contents of the working_edit file into the Master File.

Purge the Master File before saving and closing the file.

1.15 Data Transfer

Previously, the new and/or modified assets were isolated into working_edit and working_demo files respectively. Refer to Section 1.14, *Commit Edits to Master File.*

The data contained in the working_edit file is exported to an ESRI shapefile format for use in the enterprise GIS applications and CMMS. The data contained in the working_demo file is exported to an MS Access database format for use in the district's CMMS application.

The import of data into the enterprise GIS application is the responsibility of the EIM group and is included in this procedure. The importing of data into EAMS is the responsibility of the EIM group and is not included in this procedure.

1.15.1 Export to GIS

- Open the working_edit file.
- Use AutoCAD Map export tool to export the contents to a series of shapefiles. Refer to Section 3.8.6, *Shapefile Standard* for the appropriate grouping of information.
- Load the appropriate Saved Profile. Refer to Section 3.8.5, *Data Transfer Profile* and to Appendix 4.1, *CAD Layers* to determine which profile file to use.
- Verify all parameters on Selection, Data, and Options tabs (i.e. object data, layers, feature type, etc.)
- Export the data. Refer to Section 3.8.6, *Shapefile Standard.*
- These shapefiles can also be used for the *Export to EAMS* procedures; either as individual dbf files or by importing into pGDB.

1.15.2 Export to EAMS

- Locate the working directory of shapefiles exported from CAD format (see previous step *1.15.1 Export to GIS)*.
- Make a copy of the dbf file(s) for import. Maintain taks code, ie ADD, MOD, DEL.
- Import as table into SewerAtlasEdits.mdb.
- CMMS tech reviews periodically Sewer Atlas Tracking spreadsheet for updates.

1.15.3 Import into GIS

- Start ArcMap application with OC San sewer geodatabase files loaded.
- Load and verify new data edits against existing data.
- Use Load Objects tool to import data into geodatabase.
- QC data load for accuracy and completeness, make additional edits as needed to reflect as-is condition.
- Save and Close application.

1.15.4 Import Data into Hydraulic Model

- Refer to the J-101 Procedures Manual.

1.15.5 Import Data into Geometric Network

- Refer to Discrepancy spreadsheet and Sewer Atlas Master Edits database.

1.16 Print Map Book Pages

There are two methods of producing the necessary print files depending on the number of map book pages to be printed. Printing directly from AutoCAD is available when printing a small number of files (1 to 3). For larger numbers of files, it is recommended that the AutoCAD Publish command be used. Refer to Volume V*, Tools for Facility Model Maintenance.*

To meet the needs of the various users, 3 printer outputs need to be produced; full size (22x17), half size (11x17) and AutoCAD DWF. In addition a final hardcopy check print is required. Within the AutoCAD application several page setups have been created to ensure consistency of the final output. The page setups are:

~~*Full Size DWF* produces an AutoCAD DWF file for use with the Electronic Map Book.~~

~~*Full Size Color – Plot to File* produces an HPGL/2 print file.~~

~~*Half Size Color – Plot to File* produces a Xerox postscript file.~~

~~*Half Size Color* plots to a default color printer.~~

Half Size DWF produces and AutoCAD DWF file for use Electronic Map Book and can be printed to fit 11” x 17” map books.

Printing a single map book page

Open the map book page to be printed.

Import the desired page setup from the appropriate template. It is recommended that the page setup be imported every time a print is produced. This will ensure that the most current configuration is being used. Refer to Section 3.8.1, *CAD Template.*

Place the print file in the print file folder. Refer to Section 3.8.3, *Working Folder Standards.*

Repeat the process for each of the 3 page setups.

Printing multiple map book pages

Open a blank file.

Start the **Publish** command.

Select the map book pages to be printed.

Import the desired page setup from the appropriate template. It is recommended that the page setup be imported every time a print is produced. This will ensure that the most current configuration is being used. Refer to Section 3.8.1, *CAD Template.*

Save the publish file list.

Place the print file in the print file folder. Refer to Section 3.8.3, *Working Folder Standards.*

Repeat the process for each of the 3 page setups.

Printing multiple DWF's

Open a blank file.

Start the **Publish** command.

Select the map book pages to be printed.

Import the desired page setup from the appropriate template. It is recommended that the page setup be imported every time a print is produced. This will ensure that the most current configuration is being used. Refer to Section 3.8.1, *CAD Template.*

Verify the following:

The *Plot stamp* is not activated.

The *Publish to* is set to the plotter named in *Page Setup*.

In the *Publish Options* verify:

The *DWF Type* is set to **single-sheet**.

The *DWF Data* is set to **include**.

Place the print file in the print file folder. Refer to Section 3.8.3, *Working Folder Standards.*

Save the publish file list.

1.17 Publish

Publishing consists of preparing and sending the print files for reproduction as well as distributing the updated pages to the map book holders. The process consists of several individual steps and may not need to be done in a specific order.

1.17.1 Printing Hardcopy Map Book Pages

Identify the number of sets to be made of each size and paper type. See Appendix ??? for specific procedures for creating map page distribution list.

It may be necessary to copies files for map book pages for service area 7 into a separate folder.

Copy the files to a CD.

Complete an OCB work order and attach the OCB Standard Operating Procedure. Refer to Section 4.8, *OCB Standard Operating Procedure.*

Note: The Library Books database contains a list of the Map Book holders. This database can be used to determine the required number of copies.

1.17.2 Produce an internal memorandum to the map book holders informing them of the changes made and the number of copies they are receiving. Refer to Appendix 4.2, Sample Memorandum*.*

1.17.3 Distribute sets via interoffice mail or email.

Update EMB and Other Miscellaneous Items

By default AutoCAD ands the layout name to the printed DWF filename. The layout name must be removed prior to copying the files to the EMB server.

Copy the DWF files to the server. (\\magnesium\emb\keyplan)

Update GIS Change Management Tracking Spreadsheet. Refer to Section 3.2, *Tracking Spreadsheet Column Descriptions and Expectations.*

- Once edits have been approved, dwg files should be move to …\Facility Models\Sewer Atlas\<volume ?>\...
  This process will ensure that for next edit cycle of this page that latest edits will have already been captured.

SECTION 2 ALTERNATE DATA COLLECTION PROCEDURES FOR SEWER ATLAS MAINTENANCE

2.0 General Alternate Data Collection Overview

Section 1 details the expected sequence of events to update the Sewer Atlas Facility Model. Occasionally additional steps must be taken before the process outlined in Section I can occur. If the required data is not on the Record Drawing, then it will be necessary to perform Permit Research or Field Data Collection. The results of which are documented on the Record Drawing using the Record Drawing Process.

2.1 Permit Research Procedure

Underdevelopment

2.2 Field Data Collection Procedure

The following procedures identify the tasks and the party(s) responsible during the change management process of field discrepancies. This process can be initiated by the Collections staff itself (start at *2.2.1*) or by other OC San staff and forwarded to Collections staff for data collection/field investigation (start at *2.2.4*). The procedures below describe the overall process.

2.2.1 Create Field Discrepancy Form

- Discrepancy Identified.
- Fill out Field Discrepancy Form.
    - Enter General Information; date, name, extension #, map book page(s)/grid, etc.
    - Print Sewer Atlas Map Page from online Electronic Map Book (EMB).
    - Locate and print project Record Drawing(s), use Sewer Atlas and/or EMB if necessary.
    - Enter Asset Information; manhole or pipe, manhole ID numbers, and Record Drawing info.
    - Enter Asset Location information; address and/or cross streets, and city.
    - Provide brief description of action needed to correct discrepancy.
- Attach Record Drawing(s) and Sewer Atlas Map book page(s) to Field Discrepancy form.
- Submit all documents for review and processing.

2.2.2 Review Discrepancy Form

- Determine if discrepancy has been previously identified.
- Review Discrepancy form for completeness and associated documentation (Atlas page and Record Drawings), attach any missing information and provide any other related info that may be helpful.
- Return to collections staff for missing information or forward to EIM (Enterprise Information Management) Administrator via inter-office mail for submittal.

If discrepancy can be processed without field data collection or GPS data collection then work continues in Engineering for updates. If follow up survey or GPS data collection is

needed then field discrepancy is accepted and logged by EIM Administrator and returned to Field Crew Supervisor for assignment of field crew personnel. Steps for this process follow.

2.2.3 Generate Maximo Service Request

- Generate Maximo service request.
- Print & Attach Field Discrepancy Data Collection Sheet.
- Forward to Field Crew Supervisor.

2.2.4 Create Work Order

- Create Work Order.
- Print locator map.
- Highlight existing upstream and downstream manhole's to be used as reference for data collection.
- Forward to field crew all Field Discrepancy documentation and maps.

2.2.5 Collect Data

- Prior to any field data collection, determine if latest GIS basemap data has been loaded into Trimble. If not, upload latest GIS base map data and GPS Discrepancy DB.mdb (Geodatabase) to Trimble unit; follow the attached Data Upload to GPS procedures.
- Drive to location of discrepancy.
- Set up traffic control as necessary, use appropriate safety procedures to prepare area for data collection.
- Collect Data. Determine the best method for collecting data, GPS or manual collection.

Data can be collected both manually and with the handheld GPS unit. If the GPS unit is not available or not necessary then all data will be entered onto the Field Discrepancy Data Collection Sheet manually.

Refer to Section 3.6, *Field Data Collection Standards* for the standards used for both the manual and GPS approach to collecting data. Both the manual approach and using GPS require the data to be entered correctly. The manhole and sewer data lists below define what the acceptable data should be. The GPS procedures follow the attached *Data Collection Process* procedures.

- Follow Data Transfer From Trimble to PC procedures that follow to transfer collected GPS data back to PC for incorporation into edit process.
- Return all work documentation back into Supervisor.

2.2.6 Review and Forward Documentation

- Review documents for completion.
- Forward all Field Discrepancy documentation back to EIM Administrator for processing.

2.2.7 Quality Check

- Review Documentation for completeness
- Forward to appropriate personnel within EDM Group for edits.

2.3 Record Drawing Procedure

Underdevelopment

Include text regarding making sure the invert information and construction dates are included on the record drawing when posting permits.

SECTION 3 STANDARDS FOR SEWER ATLAS MAINTENANCE

3.0 Standards Overview

The Standards listed below are intended as a general rule of thumb. It is not possible to create standards that will fit every possible scenario. Instead, the intent of the Standards is to provide rules for most of the tasks and guidelines for the exceptions that will arise.

Each Standard is related to a step in the overall process of maintaining the Sewer Atlas. Refer to Section 1.0.6, *Process Flowchart*. In addition, the procedures for each step may reference the standard as a rule or guideline to be followed during the course of action outlined in the procedure.

3.1 Deviation Guideline

The Deviation Guideline is used to determine what constitutes a change to the Sewer Atlas.

3.1.1 Physical Location

Changes to the physical location occur when district staff identify that an object (manhole) shown in the Sewer Atlas is not in the correct planimetric location.

Changes will occur when one of the following criteria is met:

- A manhole located in field is not shown in the model.
- A manhole is shown in the model but does not exist in the field. The use of a metal detector or other investigation may be required.
- Sewer line alignment in the field does not match the model and can be determined with some level of accuracy.
- Pipe length measured by CCTV differs from the map books by more than 12 feet.

3.1.2 Data

Changes to attributes are made when data elements such as pipe diameter are deemed to be incorrect. These attributes are considered to be absolute and all errors will be corrected. The following is a list of attributes that are the most likely to be updated. The remainder consists primarily of system related attributes. Refer to Appendix 4.5, *Object Data Tables*.

- Manhole ID
- Station number
- Project number or Contract Number
- Rim Elevation
- Manhole Depth
- Diameter

3.1.3 Omissions

Omissions consist of layers already included in the Sewer Atlas that are missing objects. Examples include labels for schools, parks, etc. Items that are not already included in the Sewer Atlas are considered enhancements and will be added on a case by case basis.

3.1.4 CIP Projects

Changes caused by CIP Projects are derived from Record Drawings. The time delay between receiving Record Drawings and incorporation into the facility model may be substantial. The time delay must be taken into consideration when submitting a change request or discrepancy form.

3.1.5 Miscellaneous

Miscellaneous changes may occur from a variety sources such as: ownership agreements, easements, boundary modifications and production errors or improvements. These changes will be evaluated on a case by case basis.

3.2 Tracking Spreadsheet Column Descriptions and Expectations

The following table documents the column names, description and acceptable values for the GIS Change Management Tracking Spreadsheet. The purpose of the spreadsheet is to track the progress of a work package. Therefore, it is the responsibility to the GIS Administrator and EIM Group lead to keep the spreadsheet current.

Category	Column Name	Description/Expectation	
General	ID	The discrepancy ID is a four digit sequential number starting at 0000 and incremented by 1, or the CIP project number.	
	Name of Originator	Name of the individual who submitted the discrepancy or the project manager of the CIP project.	
	Category	• Addition-Modification	Changes that require an addition or modification of an asset.
		• Attribute	Changes that only modifies an attributes value.
		• CIP	Changes that are a result of a CIP Project.
		• Diversion	Changes that modify a diversion structure or diversion structure detail.
		• Easement	Changes to or additions of easement relation graphics.
		• Graphic	Changes related to printing, annotation conflicts, etc.
		• Other	Changes that do not fall into one of the other categories.
	Problem	A description of the issue being submitted as indicated on the discrepancy form, including manhole IDs when appropriate.	
	Date Entered	The date when the discrepancy was entered into the tracking spreadsheet.	
	Service Area	The service area as indicated on the discrepancy form or CIP cover sheet. Enter the primary service area if the discrepancy or CIP crosses a service area boundary.	
	Map Page(s) Affected	List all map book pages that will be revised, including “A” sheets in Service Area 7 and diversion structure pages.	
Permit Research	Routed To	Name of the individual assigned.	
	Date Routed	The date when the discrepancy form was routed.	
	Date Returned	The date the routed to returned the discrepancy form.	
Field Data Collection	Routed To	Name of the individual assigned.	
	Date Routed	The date when the discrepancy form was routed.	
	Date Returned	The date the routed to returned the discrepancy form.	
Record Drawing Process	Routed To	Name of the individual assigned.	
	Date Routed	The date when the discrepancy form was routed.	
	Date Returned	The date the routed to returned the discrepancy form.	

Utility File	Routed To	Name of the individual assigned.	
	Date Routed	The date when the discrepancy form was routed.	
	Internal QC	• Approved	The work package is approved to move onto the next step.
		• Returned	The work package is returned to the individual working on the package.
	Date Approved	The date when the discrepancy work was approved.	
Publish	Sewer Atlas Update	• NA	No update is required.
		• Blank	An update has not yet occurred
		• Date	The date the update occurred.
	CMMS Update	• NA	No update is required.
		• Blank	An update has not yet occurred
		• Date	The date the update occurred.
	EMB Update	• NA	No update is required.
		• Blank	An update has not yet occurred
		• Date	The date the update occurred.
	Map Page Update	• NA	No update is required.
		• Blank	An update has not yet occurred
		• Date	The date the update occurred.
Close-out	Closed	• Blank	Work package has not been completed.
		• Yes	Work package has been completed.
		• Pending	Work package will be complete when the bi-annual distribution has been completed.
	Comments	Information useful to describe the current status of the work package.	

3.3 Minimum Data Required on Record Drawings

The first step is to review the Record Drawing to determine if there is sufficient data to start the process or if Alternate Data Collection is required. The table in Section 3.5.2, *Data Categories* details the mandatory attributes required to process a change to the SA.

3.4 Printing Standards for Large Format Drawings

When printing large numbers of drawings (5+) it is recommended that AccXES Client Tool be used along with the following standards. Refer to Volume V, *Tools for Facility Model Maintenance.*

Option	Value
Size	ANSI D or ANSI B
Transform	Scale to Fit
Labels	Filename (%f), Date (%d)
Print order	Reverse

3.5 Data Preparation Standard

Data preparation is the process of reviewing the Record Drawings and project model files to be used for the creation or modification of an OC San asset or assets. Even when using a project model file, the majority of data will come from the printed Record Drawing. When calculating or estimating attributes values the resulting value must be written on the Record Drawing. If an attribute value is unavailable or can not be determined, a default value of -9999 will be used.

3.5.1 Standard Highlight Colors

The following highlight colors will be used.

Highlight Color	Category
Yellow	General and Project
Green	Location
Pink	Physical
Blue	Elevation
Purple	Miscellaneous

3.5.2 Data Categories

The following table shows what attributes belong to what categories. Attributes that are bold are mandatory.

Category	Type	Attribute	Reference
General Project	Manhole	**ORIGINAL_CONTRACT_NO**	Refer to Section 3.5.16
		DATUM_DESIGN	Refer to Section 3.5.14
		INSTALLATION_DATE	Refer to Section 3.5.3
		YEAR_RECONSTRUCTED	Refer to Section 3.5.15
		SERVICE_AREA	
		OWNER_CODE	Refer to Section 3.5.4
		TIF_NUM	Refer to Section 3.5.13
		SHEET_NO	
		STRUCT_1	Refer to Section 3.7.1
		STA_NUM_W_PLUS	
		TRUNK	
		STATUS	Refer to Section 3.10.3
	Sewer	**STRUCT_1**	Refer to Section 3.7.1
		STRUCT_2	Refer to Section 3.7.1
		STATUS	Refer to Section 3.10.3
		DATUM_DESIGN	Refer to Section 3.5.14
	Force Main	**STATUS**	Refer to Section 3.10.3
		ORIGINAL_CONTRACT_NO	
		DATUM_DESIGN	Refer to Section 3.5.14
		INSTALLATION_DATE	Refer to Section 3.5.3
		OWNER_CODE	Refer to Section 3.5.4
Location	Manhole	**STREET_CODE**	Refer to Section 3.5.5
		CROSS_STREET_CODE	Refer to Section 3.5.6
		STRUCTURE_LOCATION_CODE	
		FIELD_215 (DIV #)	
	Force Main	**STREET_CODE**	Refer to Section 3.5.5
		CROSS_STREET_CODE	Refer to Section 3.5.6
Physical	Manhole	**MANHOLE_TYPE_CODE**	
		MANHOLE_DIAMETER	
		MANHOLE_LID_TYPE_CODE	
		WALL_TYPE_CODE	
		MH_SHAPE_DIMENSIONS	
		FIELD_216 (DOC ID)	Refer to Section 3.5.12
	Sewer	**DIAMETER**	

		SLOPE	
		PIPE_MATERIAL_CODE	
		REAL_LENGTH	
	Force Main	**DIAMETER**	
		PIPE_MATERIAL_CODE	
		REAL_LENGTH	

Category	Type	Attribute	Reference
Elevation	Manhole	**RIM_ELEVATION_CD**	Refer to Section 3.5.7
		MH_CNTR_INV_ELEV_CD	Refer to Section 3.5.8
		UPSTREAM_INVERT_ELEVATION_CD	Refer to Section 3.5.9
		DOWNSTREAM_INVERT_ELEVATION_CD	Refer to Section 3.5.10
		MANHOLE_DEPTH	Refer to Section 3.5.11
	Sewer	UPSTREAM_INVERT_ELEVATION_CD	Refer to Section 3.5.9
		DOWNSTREAM_INVERT_ELEVATION_CD	Refer to Section 3.5.10
	Force Main	UPSTREAM_INVERT_ELEVATION_CD	Refer to Section 3.5.9
		DOWNSTREAM_INVERT_ELEVATION_CD	Refer to Section 3.5.10

3.5.3 INSTALLATION_DATE

The installation date or date of construction may not always be annotated on the Record Drawing. Therefore, the following order will be used to identify the installation date.

- Date of construction, if clearly annotated. (The construction date may also be shown on the connection permit)
- Record Drawing date, also referred to as the “as-built” date.
- Design date taken from the title block.
- Project date taken from the project cover sheet.

3.5.4 OWNER_CODE

The owner code determines which manhole symbol, OCSD or OCSD-maintained, is used as well as the color of the sewer line. Use the owner code of the manhole downstream of the new manhole location. When adding a completely new sewer line and manholes, the project number can be used to determine the owner code. If the contract number is an OC San project number it is most likely an OC San sewer.

3.5.5 STREET_CODE

To avoid multiple spellings and misspellings of a street name, the MPG and CMMS utilize a controlled value list (CVL) that contains numeric values for street names. The MPG hides the CVL from the user and only presents the street name. However, the value or code is written to the object data table. As a result, this attribute must be entered using the MPG and can not be manually entered directly into the object data.

3.5.6 CROSS_STREET_CODE

Refer to Section 3.5.5, *STREET_CODE*.

3.5.7 RIM_ELEVATION_CD

The manhole rim elevation may not always be annotated on the Record Drawing. Therefore the following order will be used to identify or calculate the rim elevation.

- If the manhole depth and center invert elevation are available, add the manhole depth to the invert elevation.
- Use the profile grid to estimate the rim elevation.

3.5.8 MH_CNTR_INV_ELEV_CD

The manhole center invert elevation is the primary invert elevation for attribute data. The invert elevation may not always be annotated on the Record Drawing. Therefore the following order will be used to identify or calculate the center invert elevation.

- If the upstream invert elevation is annotated, use it for both the center invert elevation field as well as the upstream invert field.
- If the downstream invert elevation is annotated, use it for both the center invert elevation field as well as the downstream invert field.
- If the manhole depth and center invert elevation are available, subtract the manhole depth from the rim elevation.
- Use the profile grid to estimate the manhole center invert elevation.

3.5.9 UPSTREAM_INVERT_ELEVATION_CD

Refer to Section 3.5.8, MH_CNTR_INV_ELEV_CD

3.5.10 DOWNSTREAM_INVERT_ELEVATION_CD

Refer to Section 3.5.8, MH_CNTR_INV_ELEV_CD.

3.5.11 MANHOLE_DEPTH

The manhole depth is a mandatory attribute and must have a value. The depth will be calculated using the rim elevation and manhole center invert elevation. Refer to Sections 3.5.7, *RIM_ELEVATION_CD* and 3.5.8, MH_CNTR_INV_ELEV_CD 3.5.8 respectfully.

3.5.12 FIELD_216 (Doc ID)

Field_216 is used to hold the EDMS document ID (Doc ID). The Attribute is mandatory and must have a value. The value is determined by locating the document in EDMS and identifying the ID. Refer to Section 1.2.1, *Locating EDMS drawings.*

3.5.13 TIF_NUM

TIF_Num is used to store the scanned image filename. This attribute is currently missing from the MPG interface and therefore must be added directly to the object data table. This attribute is mandatory to support the offline version of the EMB.

3.5.14 DATUM_DESIGN

If the datum is documented on the Record Drawings, the datum must be captured. The datum annotation is stored in a separate database and a code is entered into the object data.

3.5.15 YEAR_RECONSTRUCTED

The year reconstructed is populated when the manhole or sewer have been modified by a CIP project. Raising manhole covers to grade, district staff modifications, etc. do not warrant a change to this property.

3.5.16 ORIGINAL_CONTRACT_NO

The original contract no is populated with the project number field in EDMS. It is important that the value entered into this property matches exactly the number in EDMS.

One exception to this rule exists. When working with drawings that are part of the TSI (Tustin Sewer Index) the drawing number is used in place of the EDMS project number.

3.6 Field Data Collection Standards

Data can be collected both manually and with the handheld GPS unit. If the GPS unit is not available or not necessary then all data will be entered onto the Field Discrepancy Data Collection Sheet manually. Refer to Appendix 4.7, *Field Discrepancy & Data Collection Sheets.*

The following are field data collection standards used for both the manual and GPS approach to collecting data. Both the manual approach and using GPS require the data to be entered correctly. The manhole and sewer data lists below explain what values are acceptable.

Manhole Data

3.6.1 Status

Check “INSRV” or “ABND”. In-service if observing flow in the manhole. Abandoned if manhole is plugged or no longer in service.

3.6.2 Distance from Existing Manhole(s)

This consists of the physical location of the object as measured from an existing upstream and/or downstream manhole, both preferred. GPS coordinate(s) with one control point will be sufficient.

3.6.3 Manhole Depth

If profile data on record drawing isn’t complete then field staff will estimate the depth by using the laser range finder to determine distance to top of shelf or bench and adding in pipe diameter to get total depth. The accuracy will be approximately +/- one foot.

3.6.4 Manhole Type

Choose Diversion, Standard, Drop, Siphon or Vent. For Diversion, please identify where slots are located within manhole, ie. north, south, east or west.

3.6.5 Direction of Connection

This is a visual observation of city owned assets as they connect to OC San manholes. N, S, E, W, NW, SE, etc. are acceptable.

3.6.6 GPS Data Collected

Manually check “yes” or “no” on data collection sheet, if all or a portion of the data collected is with GPS then check “yes”. If yes is checked many of these fields listed will be held as attributes of GPS points. This is an alert to EDM staff to look for and use GPS data in the editing process.

Sewer Data

3.6.7 Status

Check “INSRV” or “ABND”. In service if observing flow in the pipe. Abandoned if no flow observed in the pipe.

3.6.8 Pipe Diameter

The diameter of the pipe will be determined from record drawings. If a record drawing is not available, the diameter will be estimated by field observation. Confined space entry will not be conducted.

3.6.9 Pipe Material

The material of the pipe will be determined from record drawings. If a record drawing is not available, the material will be estimated by field observation. Confined space entry will not be conducted. (i.e. VCP, DIP, PVC, CIP, CIPP, CONPVC, RCB, RCP, etc.)

3.6.10 Pipe Length

Taken from ground measurement from upstream to downstream manholes. Ideally, GPS coordinates will be used to calculate distance.

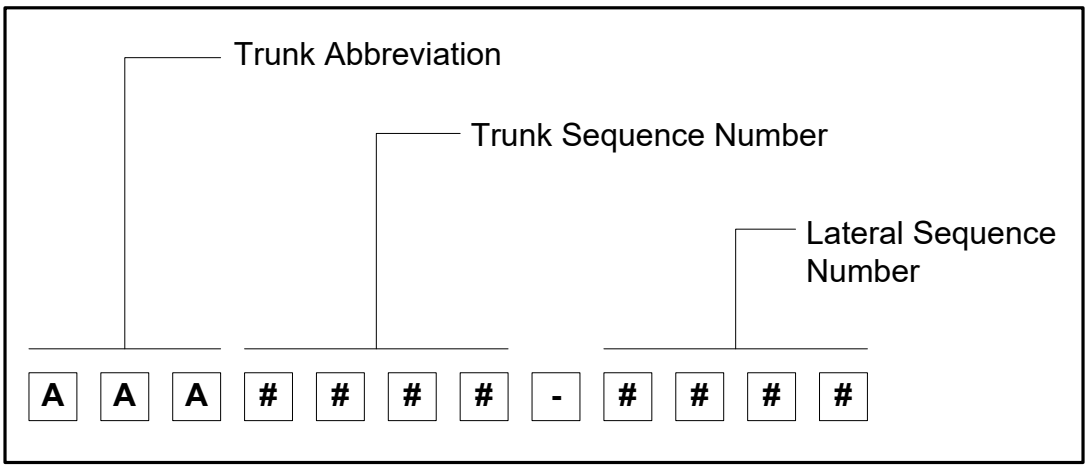
3.6.11 Pipe ID

When collecting data regarding a pipe segment, it is required that 2 manholes be located and their location provided, either GPS or manually measuring from an existing upstream and/or downstream manhole. Identify upstream and/or downstream manhole and associated Manhole ID from GIS or Atlas.

3.7 Asset Numbering Convention

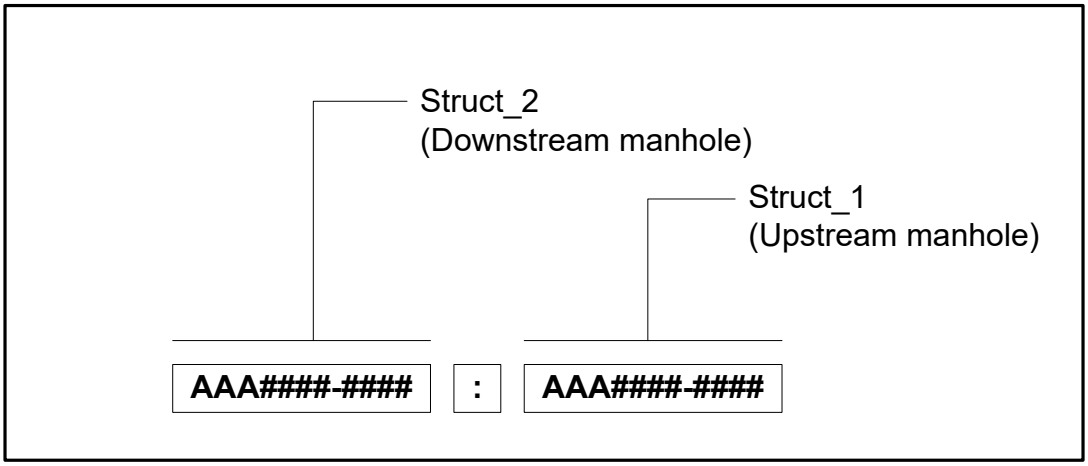
3.7.1 Manhole Number Convention

Trunk Abbreviation:	Refer to Section 3.7.7	
Trunk Sequence Number:	**0000 – 9995**	Start at zero (0000)
		Incrementing by five (5)
		Start at the downstream manhole
Lateral Sequence Number: (right)	**0005 – 4999**	Used for laterals
		Right hand side of trunk, when viewed towards upstream
		Start at five (0005)
		Incrementing by five (5)
		Start at the downstream manhole
		Continue along longest length of sewer line
		Repeat as necessary for additional laterals
Lateral Sequence Number: (left)	**5005 - 9999**	Used for laterals
		Left hand side of trunk, when viewed towards upstream
		Start at five (5005)
		Start at the downstream manhole
		Continue along longest length of sewer line
		Repeat as necessary for additional laterals
Examples:	BKR0005-0000	Baker trunk
	BKR0005-0005	Baker lateral right
	BKR0005-5005	Baker lateral left

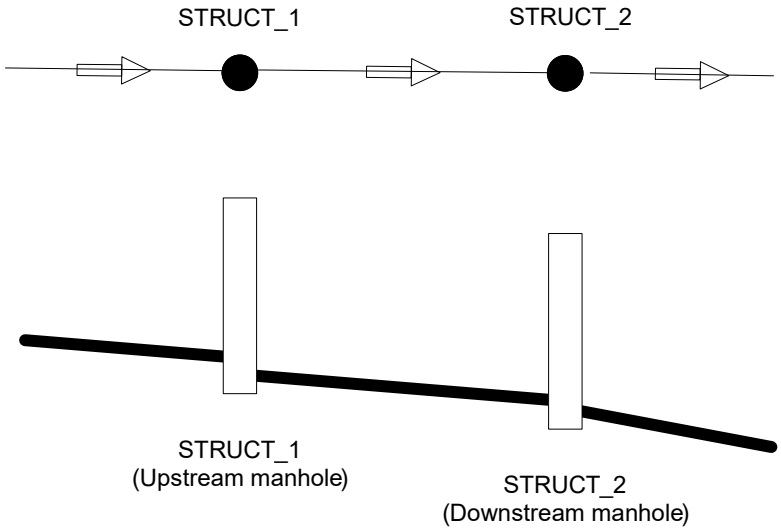


3.7.2 Gravity Sewer Line Numbering

Struct_2 (Downstream manhole)	**AAA#### - ####**	Refer to Section 3.7.1 Downstream manhole number shall always be located first.
Struct_1 (Upstream manhole)	**AAA#### - ####**	Refer to Section 3.7.1
Examples:	BKR0005-0000:BKR0010-0000 BKR0005-0005:BKR0005-0010 BKR0005-5005:BKR0005-5010	Baker trunk sewer line Baker lateral sewer line right Baker lateral sewer line left

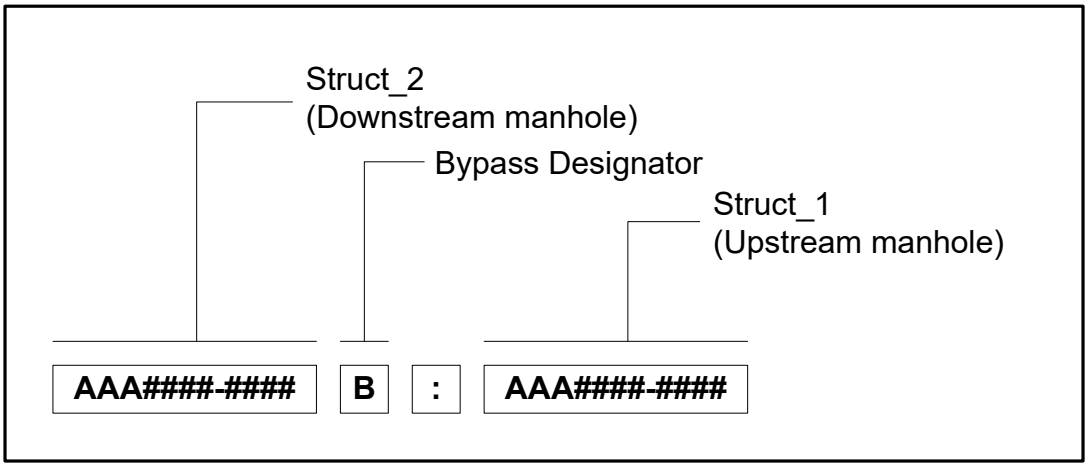


PIPE ID = STRUCT_2 : STRUCT_1



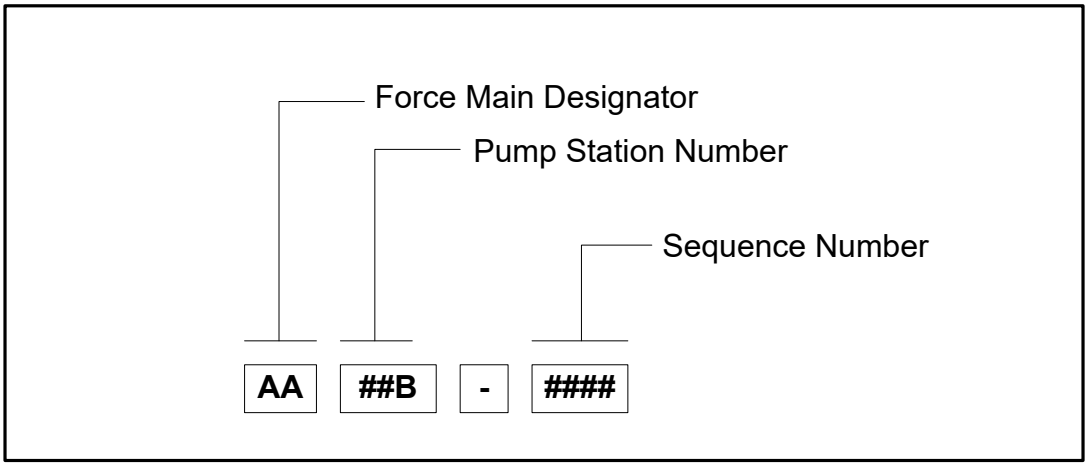
3.7.3 Bypass Line Numbering

Struct_2:	**AAA#### - ####**	Refer to Section 3.7.1
(Downstream manhole)		Downstream manhole number shall always be located first.
Bypass Designator:	**A – E**	Used for siphons and parallel lines.
		Numbered from left to right, while looking upstream.
		Left most line segment will not use bypass designator
	F – Z	Used for vent lines
		Numbered from left to right, while looking upstream.
		Left most line segment will not use bypass designator
Struct_1: (Upstream manhole)	**AAA#### - ####**	Refer to Section 3.7.1
Examples:	BKR0005-0000A:BKR0010-0000	Baker trunk sewer line siphon
	BKR0005-0000F:BKR0010-0000	Baker trunk sewer line vent

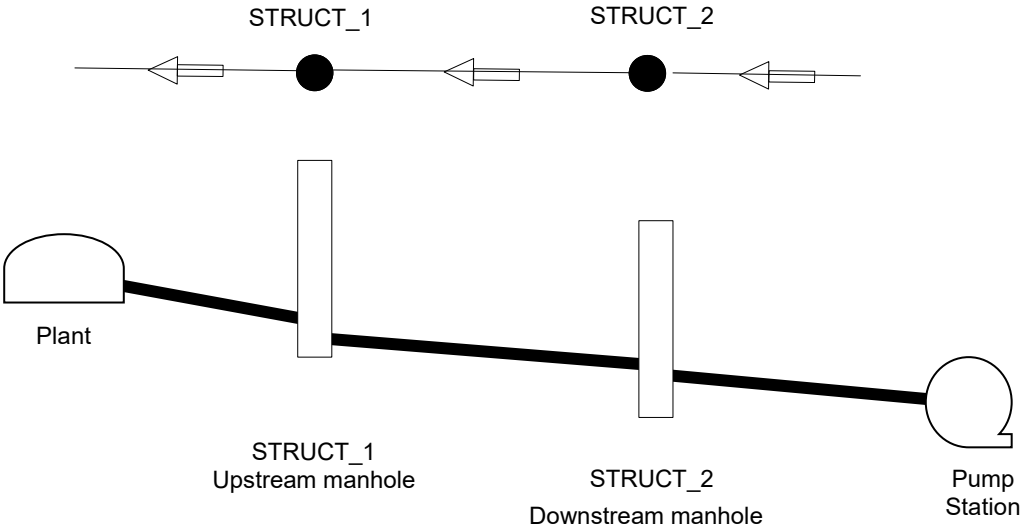


3.7.4 Force Main Numbering

Force Main Designator:	**FM**	Designates a force main
Pump Station Number:	**##B**	Refer to Section 1.4.6
Sequence Number:	**0000 – 9995**	Start at zero (0000)
		Incrementing by five (5)
		Start at the downstream pump station.
		Increment at physical assets only, ex: manhole, valve.
Examples:	PS-58C:FMN5302-0005 FMN5503-0130:SAR0345-0555	Pump station force main Force main Node to SARI line manhole

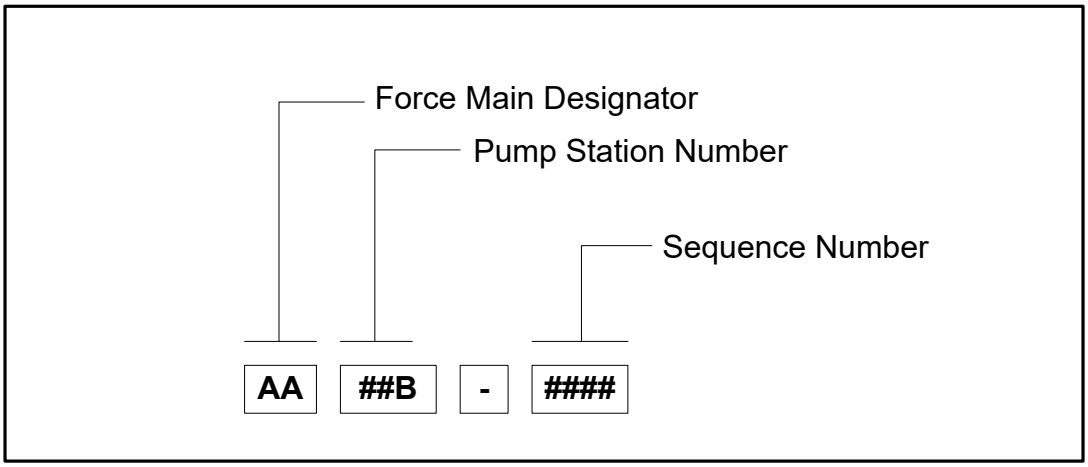


PIPE ID = STRUCT_1 : STRUCT_2



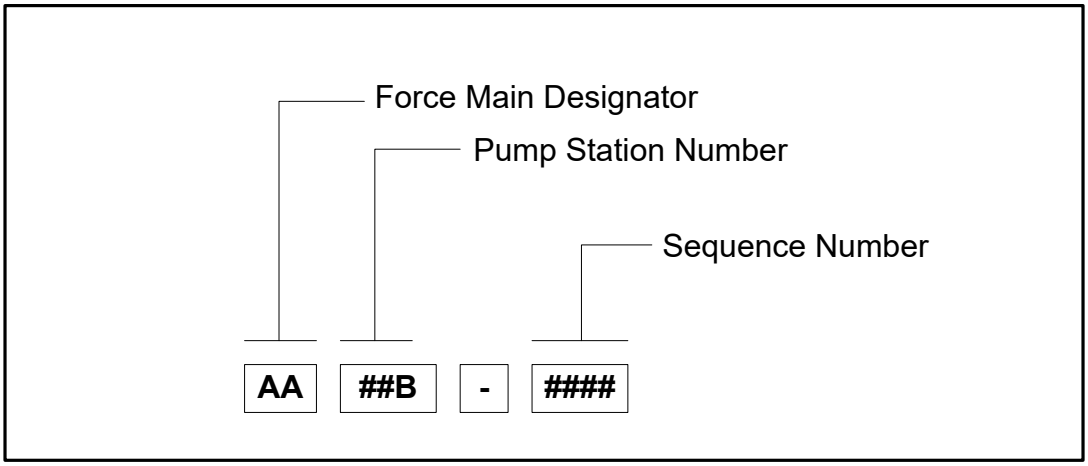
3.7.5 Force Main Valve Numbering

Force Main Valve Designator:	**FMV**	Designates a force main Valve
Sequence Number:	**0000 – 9995**	Start at zero (0000)
		Incrementing by five (10)
		Start at the downstream pump station.
		Increment at physical assets only, ex: manhole, valve.
Examples: FM55C-0005 FM55D-0005		Lido pump station force main 14th Street pump station force main



3.7.6 Force Main Node Numbering

Force Main Node Designator:	**FMN**	Designates a force main Node
Sequence Number:	**5000 – 9995**	Start at zero (0000)
		Incrementing by five (10)
		Start at the downstream pump station.
		Increment at physical assets only, ex: manhole, valve.
Examples: FMV5506-0120 FMV5503-0060		



3.7.7 Trunk Sewer Abbreviations

Abbreviation	Trunk Name
14S	14th Street Pump Station
AST	A Street Pump Station
BAY	Bay Bridge Pump Station
BKR	Baker-Main
BPT	Bitter Point Pump Station
BUS	Bushard
COL	College Avenue Pump Station
CRY	Crystal Cove Pump Station
CST	Coast
EUA	Euclid A
EUB	Euclid B
HAT	Hats Sewer Line
IPA	Interplant A
IPB	Interplant B
IPC	Interplant C
IPD	Interplant D
KML	Knott-Miller
KNT	Knott
LID	Lido Pump Station
MLR	Miller
NHP	Newhope
NPT	Newport
RED	Redhill
RPT	Rocky Point Pump Station
SAN	Santa Ana
SAR	Santa Ana River Interceptor
SUN	Sunflower

3.8 File/Folder Standards

Working files and folders are considered temporary and will eventually be moved and/or deleted. The following standards will be used.

3.8.1 CAD Template

A drawing template has been created that contains various standard settings such as layers, text style names, external reference files, etc. The file is stored in the default **J:_CAD Standards_Project Template** folder.

The filename is **OCSD-Sewer Atlas Template.dwt**

3.8.2 CAD Standards File

A standards file has been created that contains a list of approved layer names and font styles. The file is stored in the default **J:_CAD Standards_Project Template** folder.

The filename is **OCSD-Sewer Atlas Template.dws**

3.8.3 Working Folder Standards

Working folders will be named according to the following standards

Type	Format
Discrepancy Folders	ID XXXX
CIP Folders	CIP ####
Plot Files – Full Size	\Full
Plot Files – Half Size	\Half

The network location for working folders is **J:_Field Discrepancy**

The XXXX equals the discrepancy ID number. Refer to Section 3.2, *Tracking Spreadsheet Column Descriptions and Expectations.*

The ##### equals the OC San project number.

3.8.4 Working File Standards

Working files will be named according to the following standards.

ID XXXX_Task

Task	Description
None	Standard working file
EDIT	Working file containing only new, modified or abandoned features. (Status = INSRV, ABAND)
DEMO	Working file containing only demolished or deleted features. (Status = DEMO, DELETE)

3.8.5 Data Transfer Profile

A data transfer profile consists of settings used repeatedly to map GIS attributes to AutoCAD attributes. The default location is **H:\apps\gis.dta\740_data\SA Data\CAD export files**.

3.8.6 Shapefile Standard

The Shapefile will be named according to the following standard:
ID###_Task_Classification where:

Item	Description/Example
ID###	Discrepancy ID Number
Task	ADD MOD DEL
Classification	FM (Force Main) MH (Manhole) SEW (Sewer Line) FMV (Force Main Valve) FMN (Force Main Node) PS (Pump Station) CON (Connection)

3.9 New Features

The MPG is designed to place assets with the correct layer, font style, color, etc. The following standards are to be used as reference only.

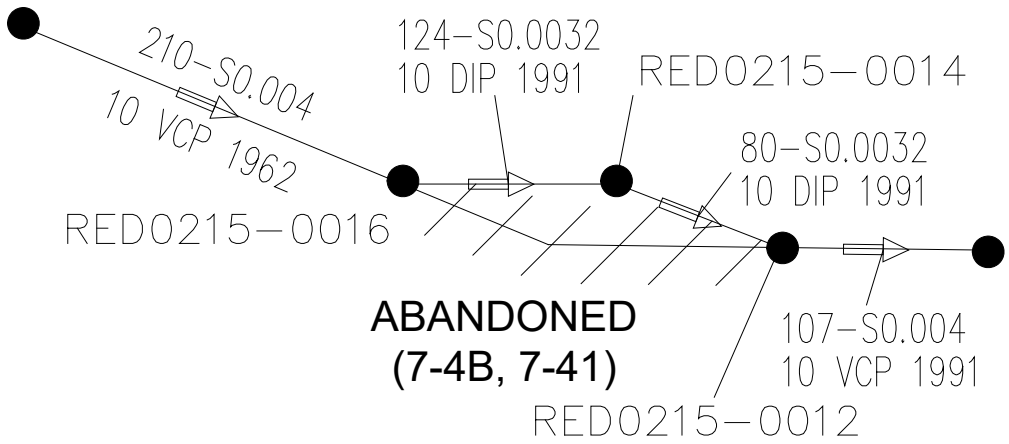
3.9.1 Layer Convention

See Appendix 4.3, *CAD Layers*.

3.9.2 Block Library

See Appendix 4.4, *MPG Block Library*.

3.10 Abandoned Features



3.10.1 Layer Convention

Layer Name	Color	Linetype	Description
C-SSTR-OCSD-ABND	6	Continuous	Abandoned OC San manholes
C-SSTR-OTHR-ABND	6	Continuous	Abandoned OC San maintained manholes
C-SSWR-OCSD-ABND	10	Continuous	Abandoned OC San sewer lines
C-SSWR-OTHR-ABND	170	Continuous	Abandoned OC San maintained sewer lines
C-SSFM-ABND	4	Continuous	Abandoned OC San force mains
C-ABND-PATT	21	Continuous	Abandoned hatch pattern
C-ANNO-TEXT	31	Continuous	Annotation
C-ANNO-TEXT-BLWP	31	Continuous	Annotation in balloon blow-up

3.10.2 Graphic Elements

To create the hatch boundary:

- Offset the sewer line or force main 20 feet to each side and create a closed shape.
- Do not overlap sewer lines that are in service.
- Hatch the boundary using the following pattern.
- Delete the boundary once the hatch pattern has been created.
- Make sure the hatch pattern is on the correct layer.

Pattern	Angle	Scale
ANSI31	Varies	200
ANSI31	Varies	80 (balloon blowup)

3.10.3 Object Data

Attribute	Value	Description
STATUS	ABAND	The physical object remains in the ground but is no longer in service. The asset remains in CMMS.
	DEMO	The physical object has been removed and no longer exists. The asset remains in CMMS.
	DELETE	The physical object never existed and has been removed. The asset will be removed from CMMS.

3.11 Demolished Features

A demolished or “delete” file has been created that contains OC San assets that have been removed from the Master File, this includes abandoned manholes.

The file is stored in the **J:\facility models\model** folder.

The filename is **OCSD_C-Demo.dwg**

3.12 Annotation Guidelines

The items below are guidelines to be used placing annotation such as manhole id, pipe labels, etc.

If flow arrow will not fit between manholes and the flow can be determined from either upstream or downstream of the pipe, delete it.

Blocks are never to be scaled unless they are in a balloon blowup.

By default, the flow arrow is placed at the mid-point of the sewer line. If the flow arrow is moved, the pipe annotation and/or leader must still point to the flow arrow.

When placing manhole ID#'s or leaders, do not cross over sewer lines or other assets. Place the annotation on the same side as the asset.

Before printing a map book page check for overlapping elements i.e.; pipe annotation, leaders crossing, manhole ID's, street names, etc.

Manhole ID's should be placed horizontal.

Pipe attributes should be placed parallel to pipe. If not possible, place horizontal and use leader to mid-point of line.

Easement dimensions should follow (parallel) to boundary.

3.13 Balloon Blow Ups

Under Development

3.14 QA Reports

QA Reports consist of a series of database reports, run in succession. The reports will examine the CSV data for missing data and errors.

Report	Description
Struct_1	Are there records that do not have a valid STRUCT_1
Duplicate Struct_1	Are there duplicate IDs
Missing Inverts and manhole depth	Are there any missing invert elevations or manhole depths.
Constructed length	Is the constructed length (record drawing length) within 8' plus/minus of the real length
Slope	Using the inverts and constructed length, is the slope within tolerance
Invert match	Does the manhole upstream and downstream inverts match the sewer line upstream and downstream invert elevations?

SECTION 4 APPENDIX

The items contained within the appendix are copies of the original documents. Where ever possible the path to the original document has been provided. The original documents should be used whenever specific detailed information is required.

4.0 Field Lengths

Attribute Name	Field Length
TIF_NUM	39
SHEET_NO	7
IMAGE_AVAILABLE	1
BC_ID	12
STRUCT_1	12
OLD_STRUCT_1	1
MH_D7_NUM	12
MH_NUM_LTFM	1
STA_NUM_W_PLUS	10
STATION_EQ_YN	1
TRUNK	3
STATUS	5
ORIGINAL_CONTRACT_NO	9
DATUM_DESIGN	3
INSTALLATION_DATE	10
YEAR_RECONSTRUCTED	10
OWNER_CODE	4
AREA_DESIGNATOR_CODE	3
STREET_NAME	31
CROSS_STREET	31
STRUCTURE_LOCATION_CODE	6
DRAINAGE_BASIN_CODE	6
MH_STRATEGIC_PLAN_NUM	1
X_GRID	1
Y_GRID	1
MAP_REFERENCE	4
CAD_DRWG_INDEX	4
MANHOLE_TYPE_CODE	5
MANHOLE_LID_TYPE_CODE	6
WALL_TYPE_CODE	6
MH_SHAPE_DIMENSIONS	16
PIPE_LAT1_DIR	3
PIPE_LAT1_DROP	5
PIPE_LAT2_DIR	5
PIPE_LAT2_DROP	1
REHAB_CROSREF_CONTRACT	9
REHAB_CROSREF_SHEET	6
REHAB_DESCRIBE	131
REHAB_ISSUES	16
FIELD_201	10
FIELD_202	10
FIELD_216	9
FIELD_217	50
FIELD_218	1
FIELD_219	1

4.1 CAD Layers Mapping

4.2 Sample Memorandum

4.3 CAD Layers

4.4 MPG Block Library

4.5 Object Data Tables

4.6 Change Management Checklist

4.7 Field Discrepancy & Data Collection Sheets

4.8 OCB Standard Operating Procedure

4.9 CCTV video Files

\\Filer-1\sewermovies\

Although, securities have been set on this directory to a limited few, Administrators still have modify and write permissions. Please ensure that your team does not add or edit files and directories – as this will corrupt the relationship between this set of files and our CCTV database.

The directory currently holds 12,236 video files. Files were originally stored in the "TagNumbers" sub-directory organized by CD/DVD barcode number with the original filename from the CCTV vendor. As we rename the original files, they are moved from the "TagNumbers" sub-directory into the "SewerMovies" main directory by a batch program (which also archives the original filename in our database). Over the next few days, all of the files that remain in the "TagNumbers" directory (approx. 1000+) will be renamed and moved. The naming convention for video files in the SewerMovies directory is outlined below.

Naming Convention

- Formerly videos had all sorts of names, some examples:
  - **MPEG_A_05242007_1206_1_1i.mpg**
  - **133+80_128+46__090430_.mpg**
  - **KNT0455-0005_KNT0455-0000_091210_26.mpg**
  - **PC-N_DS-C_060401_1.mpg**
  - **OCSD C69440 050609_9_1a.mpg**
  - **Tape1A.mpg**
- Although, renaming the video files is not necessary for our system and a future Wincan system to work, it does make it easier for a user to find a specific video without having to search our database – he or she can simply scroll to or search for a file in Windows Explorer.
- The new file naming convention looks like this (example): **RED0420-0160_RED0420-0000_20040107_0853_00101502.mpg**
  - The first two items in the name are the nodes or assets, where the survey started and where it was intended to end, in this example, the survey was started at **Manhole RED0420-0160** and is intended to end at **Manhole RED0420-0000** (the survey may be abandoned before reaching its intended end). Please not that files are not named according to upstream and downstream manhole – but named according to survey start and survey end.
  - The third item is the survey date, in this example 20040107 is **January 7th, 2004**.
  - The fourth item is the survey time, in this example 0853 is **08:53 AM**.
  - The fifth and final item is the video identification number, **#101502**, which is used in our database to track specific video files and as a relation to future Wincan survey numbers.
  - It's possible for some of the above information to be unavailable, e.g. the start/end assets, date or time - which can result in one of the following (note the video number is always available, i.e. all videos have a number):
    - **----------_----------_20040107_0853_00101502.mpg** (No assets, i.e. the video location is unknown)
    - **RED0420-0160_RED0420-0000_--------_----_00101502.mpg** (No date/time, i.e. the video date and time is unknown)

- **RED0420-0160_RED0420-0000_20040107_----_00101502.mpg** (No time)
- **----------_----------_20040107_----_00101502.mpg** (No assets or time)
- **----------_----------_--------_----_00101502.mpg** (No assets or date/time)

APPENDIX K3

Field Discrepancy Form & Data Collection Sheet

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	01/2011		Original
1	3/14/2022	A. Saqui	Updated logo
2	3/22/23	M. Mendez	• No changes
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ORANGE COUNTY SANITATION DISTRICT

FIELD DISCREPANCY FORM & DATA COLLECTION SHEET

(ADDITIONS, DELETIONS OR MODIFICATIONS TO THE COLLECTIONS SYSTEM)

GENERAL INFORMATION Date: _____

CMMS W.O. No.: _____ Discrepancy Form I.D. No.: _____

Name of Staff: _____ Division No.:_____ Extension No.:_____

Sewer Map Book Service Area No.: _____ Page No.: _____ Grid No.:_____

DISCREPANCY ASSET INFORMATION: ☐ Manhole ☐ Line Segment

Existing Upstream Manhole I.D. No.: _____

Existing Downstream Manhole I.D. No.: _____

Is the Asset Currently Documented on an OCSD Record Drawing? ☐ Yes ☐ No

Contract No.: _____ Sheet No.:_____

DISCREPANCY ASSET LOCATION

Approximate Address or Cross streets: _____

DESCRIBE ACTION NEEDED:

_____

_____

_____

MANHOLE DATA

STATUS: IN-SERVICE ☐ or ABANDONED ☐ or OUT-SERVICE ☐ (*Check One)*

DISTANCE FROM EXISTING MANHOLE (MH): _____ **MANHOLE DEPTH:** _____

MANHOLE TYPE(S): ☐ STANDARD ☐ DIVERSION ☐ DROP ☐ SIPHON
☐ VENT ☐ JB ☐ METER ☐ C/O *(If connection is present enter data on next line)*

CONNECTION TO OCSD ASSET: ☐ Yes ☐ No **DIRECTION OF CONNECTION(S):** _____

GPS DATA COLLECTED: ☐ Yes ☐ No (*Check One)*

LINE SEGMENT DATA

STATUS: IN-SERVICE ☐ or ABANDONED ☐ or OUT-SERVICE ☐ (*Check One)*

PIPE DIAMETER: _____ **PIPE MATERIAL:** _____

PIPE LENGTH: _____

HOW TO FILL OUT THE DISCREPANCY FORM

Before sending a completed Discrepancy Change Form, please check all of your information to see that it is properly referenced to existing CMMS information, Sewer Atlas, Electronic Map Book and record drawings. If it does not, you may need to gather some additional information from other locations or reference documents. If you need help, please call the Engineering Data Management Group at EXT. 3733.

1) From your computer desktop select (approved path for location of Discrepancy Form) and select the **Discrepancy Change Form**. The Discrepancy Change Form should now be open.
2) ***General Information – This section contains general contact, tracking and location information related to the subject discrepancy.***
   a) ***Date,*** Enter the date the Discrepancy Change Form is filled out.
   b) ***Time,*** Enter the time the Discrepancy change Form is filled out and circle either am or pm***.***
   c) ***CMMS Work Order No. and Discrepancy Form ID No.*** Enter the CMMS work order number of the work which was in progress when the discrepancy was discovered (if applicable). The Discrepancy Form ID No. will be assigned by the Engineering Data Management Group after they have received the completed form.
   d) ***Name of Staff, Division Number and Phone Extension No. Name of Staff,*** Enter the name, division number and phone extension number of the contact person if additional information is required in processing the submitted Discrepancy Change Form.
   e) ***Sewer Map Book Service Are No., Page No. and Grid No.***, Enter the service area the discrepancy is located in and provide the map book page number and grid number.
3) ***Discrepancy Asset Information***, this section contains information related to the specific asset(s) or associated asset(s) and their location on OCSD record drawings (if applicable).
   a) ***Manhole or Line Segment,*** Check the appropriate box for the asset being documented on the Discrepancy Form.
   b) ***Existing Upstream Structure ID No. (MH),*** Enter the closest upstream manhole number in the provided field.
   c) ***Existing Downstream Structure ID No. (MH),*** Enter the closest downstream manhole number in the provided field.
   d) ***Is the Asset Currently Documented on an OCSD Record Drawing,*** Check the appropriate box, yes or no (if the answer is yes complete the next two items).
   e) ***Contract Number,*** Enter the engineering contract number from the project record drawing.
   f) ***Sheet Number,*** Enter the record drawing sheet number containing the subject asset.
4) ***Discrepancy Asset Location,*** This section addresses information necessary to determine the approximate location of the subject asset.
   a) ***Approximate Address,*** Enter the nearest property address located near the subject asset.
   b) ***Nearest Cross Street,*** Enter the nearest cross street to the subject asset and the city it is located in.
5) ***Describe Action Taken,*** Describe the general condition of the asset and provide additional details related to the structures immediate surrounding area such as ease of access or traffic control requirements.
   a) ***Attached Manhole Inspection Sheet Required,*** If the discrepancy was discovered during or as a result of a manhole inspection, a copy of the manhole inspection form must be attached to the completed discrepancy form.

APPENDIX M

System Evaluation and Capacity Assurance Plan

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	04/24/09		•
2	04/15/11		•
3	09/14/12		•
4	03/26/14		•
5	10/08/14		•
6	11/14/16	E. Yong	• Updated status of the collection system capacity CIP projects; page 3
7	07/24/17	W. Smith	• Updated plan and Table M-1
8	07/20/18	W. Smith	• Updated page 3, paragraph 2: and Table M-1
9	07/11/19	J. Fenton	• Updated Plan and Table M-1
10	07/08/20	C. Falzone	• Updated Plan and Table M-1
11	09/21/21	T. Edwards	• Updated Plan and Table M-1; OCSD to OC San
12	09/19/22	T. Edwards	• Updated page 1 - paragraph 3, budget year, and Table M-1
13	09/22/23	T. Edwards	• Updated plan and Table M-1
14	03/11/25	T. Edwards	• Updated per new WDR Requirements
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Orange County Sanitation District
System Evaluation and Capacity Assurance Plan

Overview

Orange County Sanitation District (OC San) System Evaluation and Capacity Assurance Plan (SECAP) follows the General Waste Discharge Requirements (WDR) sequentially; that is, each section of the SECAP is presented in the order of and corresponds to a specific sub-section in the WDR which allows the reviewer and auditor to easily reference the WDR for further information if necessary. The goal of the SECAP is to develop user-friendly documents for staff use, regulator use, and public review as required by the WDR order. More detailed information can be obtained from the individually referenced documents, but this submittal is designed to specifically identify how the requirements of Attachment D, Section 8 (a) System Evaluation and Condition Assessment, (b) Capacity Assessment and Design Criteria, (c) Prioritization of Corrective Actions, and (d) Capital Improvement Plan.

WDR Attachment D Section 8.1 System Evaluation and Condition Assessment:

Procedures to:

- *Evaluate the sanitary sewer system assets utilizing the best practices and technologies available;*
- *Identify and justify the amount (percentage) of its system for its condition to be assessed each year;*
- *Prioritize the condition assessment of system areas that:*
    - *o 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;*
- *Assess the system conditions using visual observations, video surveillance and/or other comparable system inspection methods;*
- *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;*
- *Maintain documents and recordkeeping of system evaluation and condition assessment inspections and activities; and*
- *Identify system assets vulnerable to direct and indirect impacts of climate change, including but not limited to: sea level rise; flooding and/or erosion due to increased storm volumes, frequency, and/or intensity; wildfires; and increased power disruptions.*

OC San Engineering Planning Division evaluates the capacity in the collection system every five to ten years and last completed a major model update as part of the 2019 Collections Capacity Evaluation Study Master Plan Update (2019 MPU) in 2020. The 2019 MPU and supporting model documentation outlines the updated steps and assumptions for the evaluation of the sewer collection system. This document includes the approach for estimating capacities, deficiencies, and a characterization of the flow components contributing to the sewer system for the years 2017 and 2040. The evaluation was done for dry weather and wet weather flow conditions. Assessments of inflow and infiltration for wet weather flow conditions were conducted as part of the evaluation. It should be noted that a 10-year design storm was utilized which reflects OC San's high level of service goals. The capacity model was calibrated using flow monitor data collected from November 2016 – May 2018. Where deficiencies were found, projects were prioritized and recommended for inclusion in OC San's capital improvement program. Where alleviation of hydraulic deficiencies has occurred (either from changing flow conditions or more accurate modeling results) projects were canceled and are no longer a part of OC San's capital improvement program (see Table M-1 for current project status).

OC San accepts a limited quantity of dry weather urban runoff diversions to the sanitary sewer system. Each dry weather connection must be approved by the Board of Directors prior to connection. This is a permit-based program and hydraulic flow and capacity issues are assessed on a case-by-case basis as part of the permit review and approval process. OC San also utilizes the model to review major development proposals submitted to the Planning Division through the CEQA process. If not included in the CEQA documents, OC San staff requests wastewater flow estimates for large projects, projects tributary to known system deficiencies, and projects located in areas with rapid development or rapidly changing land use. The flow estimates are introduced to the model as inflows and model runs are executed that reflect present day dry and wet weather flow conditions. The results are evaluated for impacts. If the model indicates a capacity deficiency, OC San staff works with the member agency to better quantify the flows and identify possible solutions. Projects that are not a cause for concern are tracked; however, the flows are not incorporated into the model because the projects are only in the preliminary planning stages and may not be constructed. OC San staff is confident that increased flow patterns due to future projects will be reflected in the population estimates used as the basis for generating wastewater flows (developed by the Center for Demographic Research [CDR]). In any case, projects not reported to CDR are researched and consolidated as part of the periodic collection system capacity evaluation.

WDR Attachment D, Section 8.2 Capacity Assessment and Design Criteria:

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;*

The project initiation criteria used in the 2019 MPU was as follows: 1) sewers larger than 12 inches in diameter were determined to be deficient where the model showed a surcharge of greater than two (2) feet, or if the surcharging came to within 5 feet of the ground surface, unless the system was designed to operate under a surcharged condition, without a spill occurring, during peak wet weather flow conditions, 2) sewer 12 inches in diameter or smaller were determined to be deficient when the ratio of the peak depth of flow to pipe diameter (d/D) was greater than 1.0 (indicating that the pipe was full) during peak wet weather flow, 3) d/D was greater than 0.75 for existing pipes during peak dry weather flow, and 4) d/D was greater than 1.0 for lined pipes during dry weather flow. The project initiation criteria for capacity concerns are lower for smaller pipes because they are generally more affected by blockages and hydraulic inefficiencies such as offset joints. This allowed capital improvement projects to be scheduled and completed before spills would occur due to capacity restrictions.

OC San's design standards indicate that when redesigning sewers from 8 to 18 inches in diameter the desired ratio of peak depth of flow to pipe diameter (d/D) is equal to 0.5. For pipes larger than 18 inches the desired ratio of the peak depth of flow to pipe diameter (d/D) is equal to 0.75. As with all design criteria, the parameters listed here are guidelines. Each site-specific design will address project specific limitations and may not meet the strict bounds of the criteria above.

WDR Attachment D, Section 8.3 Prioritization of Corrective Action:

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.

The 2019 MPU identifies both short-term and long-term capital improvements needed to address identified hydraulic deficiencies. Prioritization of projects was based on the severity of the hydraulic deficiency and the potential consequences of spills occurring in those areas identified. Project recommendations were incorporated into OC San's annual project validation effort the results of which are reflected in the Adopted Budget FY 2024-25. Table M-1 includes the latest project status, project start date, as well as the reasons for the change in schedule (if applicable). Projects not previously included in OC San's CIP have been deleted from the table.

WDR Attachment D, Section 8.4 Capital Improvement Plan:

The capital improvement plan must include the following items:

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

OC San's CIP is validated annually, and major revisions are incorporated into the agency's budget cycle. The validation process consists of evaluating existing and certifying new CIP projects for the next ten-year period. Active and future projects in the CIP are described in detail in the budget book. Significant changes in the project scope and/or implementation schedule are noted within the project's justification portion of the project page.

Asset management is an essential part of OC San and our overall mission to deliver safe, economical, and reliable wastewater treatment services. Every part of our organization is involved in some aspect of asset management and ensuring that assets are designed, const-ructed, operated, and maintained to reliably deliver the required level of service to our customers. Through a very collaborative effort, each group plays an important role in ensuring that the individual asset management initiatives are properly executed.

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APPENDIX P1

SSO Response Flow Chart

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	05/01/09		Original
1	01/23/12		•
2	08/15/12		•
3	11/25/13		•
5	12/08/16	D. Carrillo	• Updated CMMS service request to Maximo service request
6	03/21/18	D. Carrillo	• Under Notification/Reporting-changed "Collections Staff" to "Compliance Staff; Under Response Action-added the responsibility for Collections staff to collect sewage samples
	09/26/19	D. Carrillo	• Reviewed – no changes
	09/24/20	D. Carrillo	• Reviewed – no changes
7	09/30/21	P. Echavarria	• Updated Logo
	03/17/22	D. Carrillo	• Reviewed – no changes
	09/26/22	D. Carrillo	• Reviewed documents and deferred changes until December 2022 when the proposed SSS WDR Order is scheduled to be approved
8	07/19/23	D. Stokes	• Updated with respect to 2022 SSS WDR Order. E.g. added removal of sewage in catch basin and drainage channel.
9	03/11/25	D. Stokes	• Updated terminology
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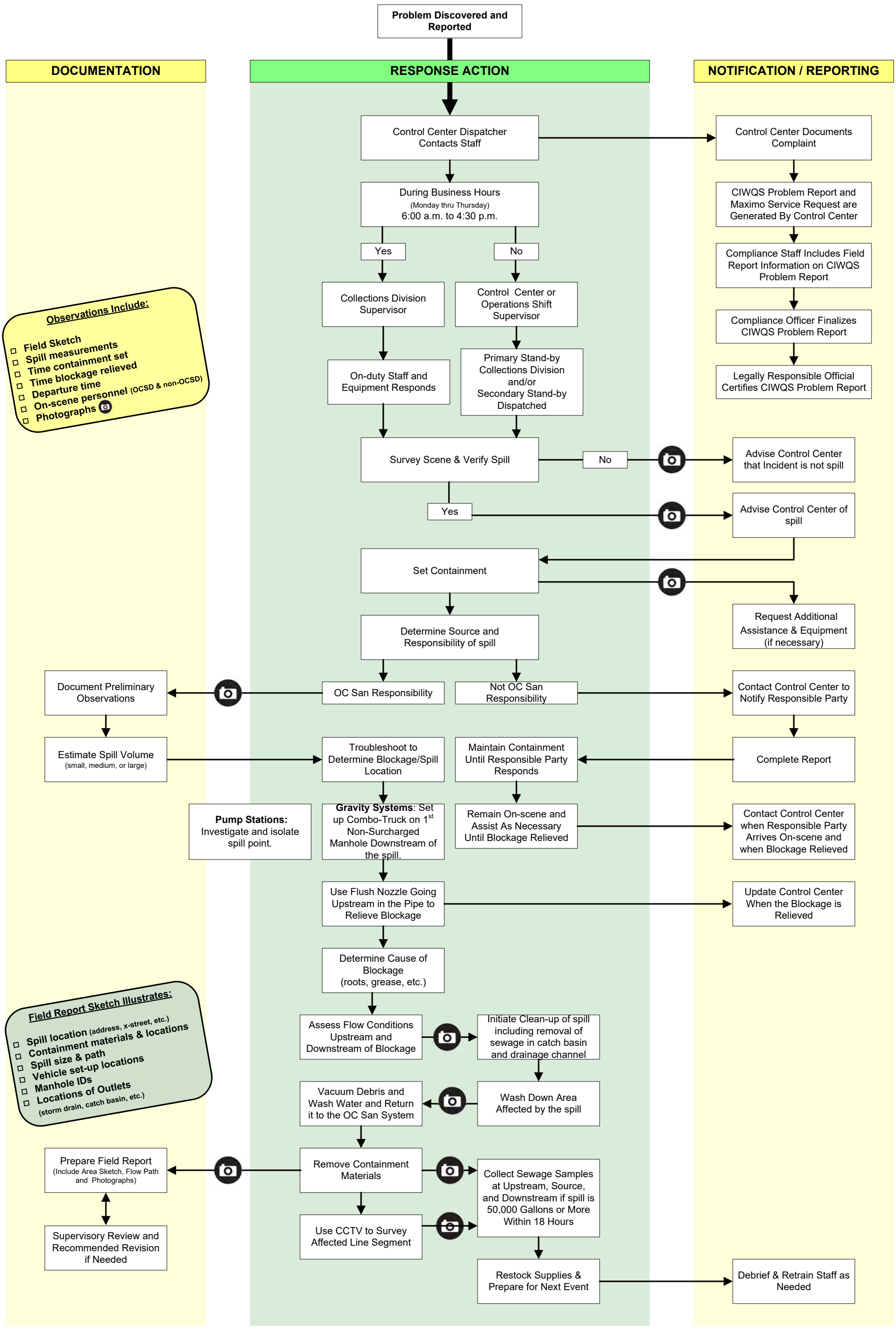
OC SAN
ORANGE COUNTY SANITATION DISTRICT

SPILL RESPONSE FLOW CHART



APPENDIX P2

SSO Response Procedure

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	03/30/04	R. Ghirelli	Original
1	04/12/06	R. Ghirelli	
2	08/21/07	E. Torres	
3	01/16/09	E. Torres	
4	12/10/11	J. Colston	•
5	08/04/15	J. Colston	•
6	03/23/16	J. Colston	• Added the Water Quality Monitoring Requirements – Sampling and Testing • Updated the OCSD and external staff contacts • Updated the OCSD division names • Updated the SSO Notification and Reporting guidelines • Added Category 3 guidelines
7	01/18/17	R. Coss	• Updated division names and staff • Updated responsibilities due to reorganization • Transferred District 7 responsibilities to EOCWD
8	02/27/18	R. Coss	• Updated Att B: OCSD and external staff contacts
9	03/21/19	R. Coss	• Updated Staff Contacts
	09/26/19	D. Carrillo	• Reviewed – no changes
10	10/01/20	R. Coss	• Updated contacts
11	09/30/21	D. Carrillo	• Updated logo • Change LMC name to Compliance • Replaced Ron C. & Lisa F., with Lan W. & Tom M. • Updated OC Public Works weblink for storm drain map. • Added Susan Bremser to Spill Back-up list. • Deleted OC San staff that left OC San.
	03/17/22	D. Carrillo	• Reviewed – no changes
	09/26/22	D. Carrillo	• Reviewed documents and deferred changes until December 2022 when the proposed SSS WDR Order is scheduled to be approved
	06/02/23	D. Carrillo	• Reviewed and made changes according to 2022 WDR Order.
12	11/13/23	D. Carrillo	• Added Groundwater Producers information.
13	03/11/25	D. Carrillo	• Updated terminology
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ORANGE COUNTY SANITATION DISTRICT	**Procedure No:** LMC-SOP-008
	Path: H:\dept\es\610\Compliance\Reg_SOPs_Compliance\Water\SSOs
Compliance Sanitary Sewer Overflow Response Procedure	**Date:** **October 16, 2023**
	Approved by: Lan Wiborg

PROCEDURE REVISION HISTORY		
Rev.	**Date**	**Approval**
0	June 24, 2005	Edward M. Torres, ECS Manager
1	November 19, 2007	Michael D. Moore, ECRA Manager
2	May 28, 2008	Michael D. Moore, ECRA Manager
3	January 4, 2011	James E. Colston, EC Manager
4	September 25, 2013	James E. Colston, EC Manager
5	August 4, 2015	James E. Colston, EC Manager
6	March 23, 2016	James E. Colston, EC Manager
7	November 2, 2016	Ron Coss, LMC Manager
8	February 27, 2018	Ron Coss, LMC Manager
9	October 1, 2020	Ron Coss, LMC Manager
10	September 22, 2021	Lan Wiborg, ESD Director
11	May 31, 2023	Lan Wiborg, ESD Director
12	October 16, 2023	Lan Wiborg, ESD Director
13	May 2, 2025	Lan Wiborg, ESD Director

1. PURPOSE AND SCOPE

The purpose of the Compliance Sanitary Sewer Overflow (SSO)Response Procedure is to establish an efficient spill response plan and reporting procedure to ensure prompt notification and documentation to appropriate public agencies of an unauthorized release of wastewater (raw or treated sewage or industrial wastewater). This procedure augments the existing Sanitary Sewer Overflow Notification Procedures SOP by further clarifying Compliance staff's role in responding to spills. It also clarifies general responsibilities of Compliance staff regarding spill response and reporting responsibilities.

2. DEFINITIONS

A. **CASC:** Countywide Area Spill Control Program

B. **CC:** Operations – Plant No. 1 Control Center

C. **CIWQS:** California Integrated Water Quality System - Spill Reporting System

D. **Non-Working Hours:** Hours when day-shift staff is not onsite. Monday – Friday, 5:00 p.m. – 6:30 a.m.; Saturday & Sunday

E. **OC Public Works:** Orange County Public Works

F. **OCHCA:** Orange County Health Care Agency

G. **OC San Service Area:** Includes corridors where the regional trunk sewers, interceptor, and pump stations are located. Also includes local sewers where OC San has operations and maintenance responsibility.

H. **OES:** Office of Emergency Services

I. **Private Property SSO:** Sewage discharges that are caused by blockages or other problems within a privately owned lateral. SSOs that are caused by a blockage in an OC San-owned line are not considered private property per the definition in OC San's Statewide GWDR permit.

J. **QA/QC:** Quality Assurance/Quality Control

K. **RWQCB:** California Regional Water Quality Control Board, Santa Ana Region

L. **SOP:** Standard Operating Procedures

M. **SSS WDR Order:** Sanitary Sewer System (SSS) Waste Discharge Requirements (WDR) for sanitary sewer systems issued on June 5, 2023, by the SWRCB to all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility.

N. **SWRCB:** State Water Resource Control Board

O. **Working Hours:** Monday – Friday, 6:30 a.m. – 5:00 p.m.

3. RESPONSIBILITIES

A. Control Center

- Serves as the initial point of contact (intake) of all actual and probable OC San SSOs.
- Contacts the Primary Spill Responder and backups in accordance with the Compliance Contact Information Order until a spill responder is affirmatively established (Attachment A).

B. Primary Spill Responder

- Ensure initial regulatory agency notifications are made within the required timeframe.
- Make additional mandated notifications during work hours or when the spill is a significant threat.

- Visit OC San spill site when appropriate.
- Contact CASC contractors to respond to spills that have either entered or are in imminent risk of entering one or more flood control channel(s).
- Communicate with regulatory agencies.
- Document the actions performed.
- Validate spill reports provided by OC San Collections and O&M staff.
- Accurately and thoroughly compile and submit spill reports as Category 1, 2, 3, or 4 reports through the CIWQS Spill Reporting System.
- Attend spill compliance meetings and provide timely responses to questions regarding spill incident.

C. **Back-up Spill Responder**

- Back-up to Primary Spill Responder.
- Perform all duties of a Primary Spill Responder as needed.

D. **Compliance Supervisor**

- Provide oversight of spill response.
- Approve spill response procedures.
- Ensure training and resources available for program.
- Visit OC San spill site as needed.
- Respond to questions and concerns from regulatory agencies.
- Review and approve Category 1, 2, 3, or 4 reports prior to submittal through the CIWQS Spill Reporting System.

4. EQUIPMENT

Compliance Spill Response Kit (located in Laboratory Building)

- Documents and Forms
  - Chain of Custody Form
  - Contact Cards
  - Compliance Sanitary Sewer Overflow SOP
  - SSO SOP
- Sampling Equipment
  - Disposable Gloves
  - Disposable Plastic Ziplock Bags
  - Handwash Foam
  - Paper Towels
  - Sample Bottles
- Tools
  - Black Sharpie Marker
  - Black Pen

- Field Notebook
- Flashlight
- Map (OC Water Quality Monitoring Locations)

5. PROCEDURE FOR PRIMARY SPILL RESPONSDER

NOTE: Regulatory and other affected agencies require initial notification as soon as possible but within two (2) hours of when the Enrollee has knowledge of the spill.

A. Spill Notification Process (Working Hours and Non-Working Hours)

1. A spill call is answered in the Control Center (CC). The CC will send an email describing the spill through the "Spill Notification – Sewage" email distribution list.
   - The email should include the following:
     - The location of the spill.
     - The volume of the spill as determined, classified, and reported by Collections staff:
       - Extra small (<50 gallons), Small (50-999 gallons), Medium (1,000 – 9,999 gallons), Large (>10,000 gallons)
     - Whether the spill entered a storm drain.
     - The responsible agency of the spill and if they have been notified of the spill .
     - If OC San's Collections staff is in transit to spill site.
2. Confirm spill email by calling CC at x7025.
   - Confirm spill email and request for updated information.
   - If primary spill responder does not confirm receipt of email with CC, they will contact primary responder by phone. If not reached, CC will call through the Compliance Contact Information order until a spill responder is contacted (Attachment A).
3. If the spill is not OC San's responsibility, confirm with CC that they have spoken with the responsible agency and that they are responding to the SSO.
   - Note OC San does not need to complete a CIWQS Spill Reporting System report.
4. If the spill is OC San's responsibility, call appropriate regulatory/municipal agencies to update them of the spill (Attachment B and Attachment D).
   - As needed, email regulatory/municipal agencies (e.g., RWQCB, OCHCA, OCPW, Groundwater Producers, etc.) that a spill has occurred once the OC San spill has been confirmed.

During non-working hours, Compliance will make the appropriate notifications.

B. Spill Field Visitation

1. Visit OC San spill site when:

- CC states that an Incident Command System is implemented. This is usually based on the following:
  - Spill volume is greater than 10,000 gallons.
  - The volume of sewage that entered the storm drain system is greater than 1,000 gallons and occurred during working hours.
  - Significant threat of impact to receiving waters.
  - Significant threat to public health.
  - Water quality monitoring plan is required.
- OCHCA, RWQCB, OCPW or the media are onsite or have requested information that is not readily available from field staff.

2. Compliance may, at their own discretion, visit other spill sites.
3. Upon visiting a spill site, communicate with the regulatory agencies that are onsite or by phone.
   - Update regulatory agencies with new information.
     - Person reporting spill.
     - Agency responsible for spill.
     - Spill start time and spill end time.
     - Containment information.
     - Spill volume, spill volume contained, spill volume lost.
     - Component where spill occurred (e.g., manhole or cleanout).
     - Cause of spill.
     - Final destination of sewage.
     - Notifications made.
     - Description of all water quality sampling activities conducted including available analytical data and evaluation of the results.
     - Detailed location map illustrating all water quality sampling points.
   - If the media is present and it is an OC San spill, contact Public Affairs as they are responsible for communicating with the media.
4. Use Compliance Spill Response Field Report to document observations and discussions with regulatory agencies and media (Attachment C).
   - Confirm the observations on the CIWQS Spill Reporting System report with the Compliance spill response field report.
   - This information is secondary to the information that Collections staff should also be collecting.
5. Contact OC Public Works to determine if spill can be contained in the flood control channel.

- If the spill has entered a storm drain, OC Public Works will be able to assess if containment is feasible in the flood control channel.
- If requested, contact CASC Contractors to contain and recover spill in flood control channel.

6. Contact Groundwater Producers of the confirmed spill that is in close proximity to their groundwater wells (see Attachment D).
7. Using the maps (OC San Sewer Atlas or OC Water Quality Monitoring Locations Map online map (Documents & Maps | OC Infrastructure Programs California (ocpublicworks.com)) to determine the path of the spill from the storm drain to the recreational water that it impacts.
   - If the spill is proven to not enter a recreational water, then no beach closure can be issued by OCHCA.

C. Spill Reports

1. Submittal of a Category 1, 2, 3, or 4 report through the CIWQS Spill Reporting System is required after a spill has occurred (Attachment B).
   - No Spill Occurred.
     - A 'No Spill Certification Report" is required to be submitted within 30 days after the end of the calendar month through the CIWQS Spill Reporting System.
2. The designated Collections staff will compile the Category 1, 2, 3, or 4 report package and provide it to the Primary Spill Responder to enter the information into the CIWQS Spill Reporting System.
   - The report package should consist of the following items:
     - Problem report, field report, field sketches, maps, spill photos, spill calculations, and pertinent email.
       - Collections staff completes the field report, takes pictures, maps, and sketches can be found at the ECAP spill site.
       - Collections staff completes the spill calculations.
       - For references of previous spills, the database problem report and monthly spreadsheet report can be found at the ECAP spill site.
3. Receive the information required for the Category 1, 2, 3, or 4 report from designated Collections staff.
   - Category 1 report package will be provided within 2 business days.
   - Category 2 report package will be provided within 2 business days.
   - Category 3 report package will be provided on the second week after the end of the calendar month in which the spill occurred.
   - Category 4 report package will be provided on the second week after the end of the calendar month in which the spill occurred.

4. Verify and update the information contained in the CIWQS Spill Reporting System using the Category 1, 2,3, or 4 report package.
    - If any information is missing, contact designated Collections staff to obtain the information.
5. A draft report must be submitted through CIWQS within three business days for all Category 1 and Category 2 reports using the "Submit Draft" button.
6. Once the final QA/QC of the Category 1 or Category 2 report has been completed on the CIWQS Spill Reporting System, click on "Ready to Certify" which will prompt the LRO that the report is completed and ready for their certification.
    - Notification to OES within 2 hours of a spill 1,000 gallons or greater.
    - The Category 1 and Category 2 report must be certified within 15 calendar days of the spill end date.
    - A Spill Technical Report must be submitted within 45 calendar days after the end date of any Category 1 spill in which 50,000 gallons or greater are spilled to surface waters.
    - Collections staff or others must conduct water quality sampling of the receiving water within **18 hours** of initial knowledge of spill of 50,000 gallons or greater to surface waters.
7. A Category 3 report does not require a Draft Report but can still be submitted if required. Once all information is entered on the report, click on "Ready to Certify" which will prompt the LRO that the report is completed and ready for their certification.
    - This report must be certified within 30 calendar days after the end of the calendar month in which the spill occurred.
8. A Category 4 report occurs for spills less than 50 gallons that do not discharge to surface waters.
    - No notification is required.
    - If a Category 4 spill occurs during the calendar month, it requires to certify the estimated total spill volume exiting the SSS, and the total number of all Category 4 spills in the CIWQS within 30 days after the end of the calendar month in which the spill(s) occurred.
    - Upload and certify a report of all Category 4 spills to CIWQS by February 1st after the end of the calendar year in which the spills occur.
9. If requested, meet with the LRO or designee for final certification of the report in the CIWQS Spill Reporting System and to answer any questions.
10. In the event the CIWQS Spill Reporting System is not functional, the spill report must be faxed to the Santa Ana Regional Water at fax (951) 781-6288 according to the time schedules. Afterwards, the spill report must be entered into the CIWQS Spill Reporting System as soon as it is functional again.

6. REFERENCES

A. California Code of Regulations, Title 23, Section 2250

B. California Fish and Game Code, Chapter 2, Article 1, Section 5650

C. California Health and Safety Code, Division 5, Chapter 6, Article 2, Sections 5410-5415, 5460-5462

D. California Water Code (Porter Cologne Act) Section 13271

E. Sanitary Sewer Overflow Notification Procedures SOP, Compliance -SOP-009

F. State Water Resources Control Board Order No.2022-0103-DWQ, Statewide Sanitary Sewer Systems General Order

7. ATTACHMENTS

A. Spill Notification Contact

B. Spill Reporting Guidelines

C. Compliance Spill Response Field Report

D. Groundwater Producers Notification List

Attachment A
Spill Notification Contacts

COMPLIANCE CONTACT INFORMATION

Name	Back-Up Order	Internal	Pager/Cell
Dindo Carrillo	1 - 650	x 7476	(714) 343-0333
Jenny Gomez	2 - 650	x 7446	(909) 720-2688
Matthew Smith	3 - 650	X7439	(949) 614-9445
Tom Meregillano	4 - 650	x 7457	(714) 655-7568

SPILL NOTIFICATION CONTACTS

Normal Hours	After Hours
OCHCA (714) 433-6419 (Office Support Staff)	Control 1: (714) 628-7008 (will contact OCHCA on-call staff)
RWQCB - Santa Ana Region (951) 782-4130 Fax (951) 781-6288	RWQCB: (951) 782-4130 (voice mail) OES: (800) 852-7550
OES (Office of Emergency Services) (800) 852-7550	24 hours
OC Public Works (714) 955-0600 (storm drain/flood channel facility owners) (877) 89-SPILL (897-7455) 24 HR Hotline	Control 1: (714) 628-7008
Caltrans (949) 724-2607	24 hours
California Highway Patrol (949) 559-7888 (Traffic control/roadway hazard on highways and unincorporated areas)	24 hours

Attachment B

Sanitary Sewer Overflow Reporting Guidelines

Type of SSO	Initial Notification Timeframe*	Agency to Notify by Phone	Monitoring	Report Timeframe
Category 1 – Spills to Surface Waters.	**Within two (2) hours** of the Enrollee's knowledge of a Category 1 spill of 1,000 gallons or greater, discharging or threatening to discharge to surface waters: Notify the OES	• OES • OCHCA • OC Public Works and city	• Conduct spill-specific monitoring; • Conduct water quality sampling of the receiving water within **18 hours** of initial knowledge of spill of 50,000 gallons or greater to surface waters	• Submit Draft Spill Report **within three (3) business days** of the Enrollee's knowledge of the spill • Submit Certified Spill Report **within 15 calendar days** of the spill end date • Submit Technical Report **within 45 calendar days** after the spill end date for a Category 1 spill in which **50,000 gallons or greater** discharged to surface waters
Category 2 – Spills of 1,000 gallons or greater that DO NOT discharge to surface waters	**Within two (2) hours** of the Enrollee's knowledge of a Category 2 spill of 1,000 gallons or greater, discharging or threatening to discharge to waters of the State: Notify the OES	• OES • OCHCA • OC Public Works and city	• Conduct spill-specific monitoring	• Submit Draft Spill Report **within three (3) business days** of the Enrollee's knowledge of the spill • Submit Certified Spill Report **within 15 calendar days** of the spill end date
Category 3 – Spills of equal or greater than 50 gallons and less than 1,000 gallons that DOES NOT discharge to surface waters	As soon as practical	• OCHCA	• Conduct spill-specific monitoring	• Submit monthly Certified Spill Report to the online CIWQS Sanitary Sewer System Database within **30 calendars days** after the end of the month in which the spills occur
Category 4 – Spills less than 50 gallons that Do NOT discharge to surface waters	As soon as practical	• OCHCA	• Conduct spill-specific monitoring.	• If a Category 4 spill(s) occurs during any calendar month, certify the estimated total spill volume exiting the sanitary sewer system monthly, and the total number of all Category 4 spills into the online

				CIWQS Sanitary Sewer System Database, within 30 days after the end of the calendar month in which the spills occurred • Upload and certify a report, in an acceptable digital format, of all Category 4 spills to the online CIWQS Sanitary Sewer System Database, by February 1st after the end of the calendar year in which the spills occur
Private lateral – Discharges of untreated or partially treated wastewater resulting from blockages or other problems within a privately owned sewer lateral connected to the enrollee's sanitary sewer system or from other private sewer assets	As soon as practical	• OCHCA • OC Public Works and city		Private sewer lateral discharges (PLSD) that the enrollee becomes aware of may be voluntarily reported to the CIWQS Online Spill Database

*If a spill occurs after hours, notify OES/Control 1 and they will make the necessary contacts.

Attachment C

COMPLIANCE SPILL RESPONSE FIELD REPORT
(Questions to ask and document)

Note: Main role for Compliance is to be the regulatory liaison and contact person.

Control Center and Collections staff should obtain the majority of the information below. However, this information should be obtained from appropriate staff in order to discuss with regulatory agencies and for reporting purposes.

Contact Information:

- Contact information of reporting party:
  - Name/Agency: _____
  - Phone number: _____

- Name/contact information of all the staff onsite and contacted:

  _____

  _____

Timeline:

- Time spill reported and to whom: _____
- Time spill started:_____
- Time of containment: _____
- Time spill stopped (flow stopped): _____
- Time of cleanup: _____
- Spill volume:_____

Spill Location (Collections should create a map and take photographs of the following):

- Address:_____
- Flow originated at what location (manhole, cleanout, etc.) (GPS coordinates): _____

  _____
- Location spill entered a storm drain (GPS coordinates) [maybe multiple locations]: _____
- Surface water was impacted (list which surface waters were impacted): _____

  _____
- Potential recreational water impacted:_____
- Document who took the photographs, date, and times: _____

  _____

Notifications Made:

- Name of person contacted: _____
- Time: _____
- Discussions with Regulatory Agencies (who, what, when, corrective actions, follow-up requests, contact information, times, full content of the discussion:

  _____

  _____

  _____
- Is there a beach closure? _____
- Name of person who decided to close the beach:_____

Preventative measures already in place (rubber mat, berm, containment boom, pump:

_____

_____

Corrective action taken (Demonstrate due diligence. Containment and cleanup measures): _____

_____

_____

_____

Long-term follow-up: _____

_____

Outstanding questions / concerns to follow-up on: _____

_____

_____

Internal meetings held / coordination activities: _____

_____

_____

After meetings and documentation are complete, this information will be used for reporting to the regulatory agencies.

Attachment D
Groundwater Producers Contact Information

CITY	NAME	PHONE	TITLE
City of Anaheim	Philip Bogdanoff	(714) 765-4129	Water Field/Operations Manager
City of Anaheim	Craig Parker	(714) 765-4268	Assistant General Manager of Water Services
City of Anaheim	Jon Sanks	(714) 765-4117	Environmental Services Manager
City of Buena Park	Mina Mikhael	(714) 562-3679	City Engineer
City of Buena Park	Mike McGee	(714) 562-3701	Water Quality Inspector
City of Fountain Valley	Lee Hye Jin		Public Works Director
City of Fountain Valley	Mark Sprague	(714) 593-4609	Utilities Manager
City of Fullerton	Yvette Hanna		Principal Civil Engineer
City of Fullerton	Richard Armendariz	(714) 738-6382	Water Systems Manager
City of Fullerton	Stephen Bise		City Engineer/Assistant Public Works Director
City of Fullerton	Delaney Felix	(714) 738-2835	Water Quality Specialist
City of Fullerton	Stacy Matsumoto	(714) 738-7803	Engineer Aid 3
City of Garden Grove	Robert Bermudez	(714) 741-5917	Water Production Supervisor
City of Garden Grove	Bill Murray	(714) 741-5349	Public Works Director
City of Garden Grove	Samuel Kim	(714) 741-5534	Water Services Manager
City of Garden Grove	Victoria Victoria	(714) 741-5398	Water Services Sr. Admin Analyst
City of Garden Grove	Raquel Manson	(714) 741-5398	Administrative Analyst
City of Garden Grove	Cel Pasillas	(714) 741-5276	Water Quality and Cross-Connection Technician
City of Garden Grove	Steve Porras	(714)349-0163	Collections Supervisor
City of Huntington Beach	Andy Ferrigno	(714)536-5291	Principal Civil Engineer
City of Huntington Beach	Chris Davis	(714) 375-5055	Sr. Admin Analyst

City of Huntington Beach	Chau Vu	(714) 374-1641	Acting Public Works Director
City of Huntington Beach	Alvin Papa	(714) 536-5503	Deputy Director Public Works
City of La Palma	Andy Ramirez	(714) 690-3313	Public Works/Community Services Director
City of La Palma	Jake Chavira	(714) 690-3313	Water/Maintenance Supervisor
City of La Palma	Carlo Nafarrete	(714) 690-3312	Water Supervisor
City of Newport Beach	Mark Vukojevic	(714) 642-2429	Utilities Manager
City of Newport Beach	Steffen Catron	(949) 718-3401	Water Operations Superintendent
City of Orange	Jose Diaz	(714) 288-2475	Assistant Water Manager
City of Orange	Chris Cash	(714) 744-5525	Public Works Director
City of Orange	Sonny Tran	(714) 288-2497	Assistant Water Manager
City of Orange	Tuan Cao	(714) 288-2492	Senior Civil Engineer
City of Orange	Rick Hurtado	(714) 288-2475	Assistant Water Manager
City of Santa Ana	Cesar Barrera	(714) 647-3387	Deputy Public Works Director
City of Santa Ana	Fallon Franklin	(714) 647-3378	Associate Engineer
City of Santa Ana	Armando Fernandez	(714) 647-3316	Principal Civil Engineer
City of Santa Ana	Nabil Saba	(714) 647-3378	Executive Public Works Director
City of Seal Beach	Darrick Escobedo	562 431-2527 (ext 1409)	Chief Water Operator
City of Seal Beach	Kathryne Cho	(562) 431-2527	City Engineer
City of Seal Beach	David Spitz	(562) 431-2527 (ext 1331)	Associate Engineer
City of Seal Beach	Iris Lee	562-431-2527 (ext 1322)	Public Works Director
City of Tustin	Mike Grisso	(714) 573-3382	Water Services Manager
City of Westminster	Scott Miller	(714) 548-3693	Water Superintendent
East Orange County Water District	Jerry Mendzer	(714) 538-5815	Superintendent
East Orange County Water District	Dave Youngblood	(714) 538-5815	General Manager

Golden State Water Company	Sunil Pillai	(714) 535-7711 (ext 230)	Water Quality Manager
Golden State Water Company	Samantha Chen	714-535-8010 (ext 248)	Water Quality Engineer
Golden State Water Company	Ken Vecchiarelli	714 683-0350	District Manager
Golden State Water Company	Toby Moore	(714) 535-7711 (ext 314)	Water Resource Manager/
Irvine Ranch Water District	Paul Cook	(949) 453-5590	General Manager
Irvine Ranch Water District	Paul Weghorst	(949) 453-5632	Executive Director of Water Policy
Irvine Ranch Water District	Wendy Chambers	(949) 453-5720	Executive Director of Operations
Irvine Ranch Water District	Kevin Burton		Executive Director Engineering & Water Quality
Irvine Ranch Water District	Dave Paulson	(949) 453-5674	Operations Supervisor
Irvine Ranch Water District	Lars Oldewage	(949) 453-5858	Laboratory Manager
Mesa Water District	Tracy Manning	(949) 631-1291	Manager of Eng. And Ops.
Mesa Water District	Paul Shoenberger	(949) 631-1206	General Manager
Serrano Water District	Jerry Vilander	(714) 538-0079	General Manager
Serrano Water District	Vittorio Roggero	(714) 538-0079	Business Manager
Yorba Linda Water District	Mark Toy	(714) 701-3021	General Manager
Yorba Linda Water District	Rosanne Weston	(714) 701-3102	Engineering Manager
Yorba Linda Water District	John DeCriscio	(714) 701-3122	Operations Manager
Yorba Linda Water District	John Brundahl III	(714) 701-3163	Production Superintendent
Yorba Linda Water District	Javier Martinez	(714) 701-3162	Water Production Superintendent
Yorba Linda Water District	Bryan Hong	(714) 701-3115	Water Quality Engineer
Yorba Linda Water District	Douglass Davert	(714) 701-3029	Assistant General Manager
Orange County Water District	John Kennedy	(714) 378-3304	Executive Director Engineering/Local Resources

APPENDIX P3

SSO Notification Procedure

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	06/24/05	E. Torres	Original
1	11/19/07	M. Moore	•
2	05/28/08	M. Moore	•
3	01/04/11	J. Colston	•
4	09/25/13	J. Colston	•
5	08/04/15	J. Colston	•
6	03/23/16	J. Colston	• Updated the OCSD and external staff contacts • Updated the OCSD division names • Updated the SSO Notification and Reporting guidelines • Added Category 3 guidelines
7	11/02/16	R. Coss	• Transferred District 7 responsibilities to EOCWD • Updated Division responsibilities due to reorganization • Updated Division names and staff
8	02/27/18	R. Coss	• Updated Att A; external staff contacts
9	03/21/19	R. Coss	• Updated staff contacts
	09/26/19	D. Carrillo	• Reviewed – no changes
	09/24/20	D. Carrillo	• Reviewed – no changes.
10	12/01/20	D. Carrillo	• Updated contact names in Attachment B
11	09/30/21	D. Carrillo	• Updated logo • Change LMC name to Compliance • Replaced Ron C. & Lisa F., with Lan W. & Tom M. • Updated OC Public Works weblink for storm drain map. • Added Susan Bremser to Spill Back-up list. • Deleted OC San staff that left OC San.
	03/17/22	D. Carrillo	• Reviewed – no changes
	09/26/22	D. Carrillo	• Reviewed documents and deferred changes until December 2022 when the proposed SSS WDR Order is scheduled to be approved
	06/02/23	D. Carrillo	• Reviewed and made changes according to 2022 WDR Order.
12	11/13/23	D. Carrillo	• Added Groundwater Producers information.
13	03/11/25	D. Carrillo	• Updated terminology
			•
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			•
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ORANGE COUNTY SANITATION DISTRICT	**Procedure No:** LMC-SOP-009
	Path: H:\dept\es\630\Compliance\SOPs_Compliance\Water\SSOs
Sanitary Sewer Overflow Notification Procedures	**Date:** November 1, 2023
	Approved by: Lan Wiborg

PROCEDURE REVISION HISTORY		
Rev.	**Date**	**Approval**
0	March 30, 2004	Robert P. Ghirelli, Technical Services Director
1	April 12, 2006	Robert P. Ghirelli, Technical Services Director
2	August 21, 2007	Edward M. Torres, Technical Services Director
3	January 16, 2009	Edward M. Torres, Technical Services Director
4	February 10, 2011	James E. Colston, EC Manager
5	August 3, 2015	James E. Colston, EC Manager
6	March 23, 2016	James E. Colston, EC Manager
7	November 8, 2016	Ron Coss, LMC Manager
8	February 27, 2018	Ron Coss, LMC Manager
9	July 9, 2019	Ron Coss, LMC Manager
10	September 21, 2021	Lan Wiborg, ESD Director
11	May 31, 2023	Lan Wiborg, ESD Director
12	November 1, 2023	Lan Wiborg, ESD Director
13	May 2, 2025	Lan Wiborg, ESD Director

1. PURPOSE AND SCOPE

The purpose of the Sanitary Sewer Overflow (SSO) Notification Procedures is to provide a procedure for prompt notification to Orange County Sanitation District (OC San) staff and appropriate public agencies of an unauthorized release of wastewater (raw or treated sewage or industrial wastewater). It also clarifies the roles of each division regarding spill response and reporting responsibilities.

2. DEFINITIONS

A. **CASC:** Countywide Area Spill Control Program

B. **CIWQS:** California Integrated Water Quality System - Spill Reporting System

C. **LRO:** Legally Responsible Official that certifies spill reports in CIWQS.

D. **Non-Working Hours:** Hours when day-shift staff are not on-site.

E. **OCHCA:** Orange County Health Care Agency

F. **OC San Service Area:** Includes corridors where the regional trunk sewers, interceptor, and pump stations are located. Also includes local sewers where OC San has operations and maintenance responsibility.

G. **OES:** Office of Emergency Services

H. **OC Public Works:** Orange County department that protects the public county-wide from the threat of floods by constructing, operating and maintaining major flood control channels, dams, retarding basins, pump stations.

I. **Private Property Spill:** Sewage discharges that are caused by blockages or other problems within a privately owned lateral. Spills that are caused by a blockage in an OC San-owned line are not considered private property per the definition in the Statewide SSS WDR permit.

J. **QA/QC:** Quality Assurance/Quality Control

K. **RWQCB:** California Regional Water Quality Control Board, Santa Ana Region

L. **SOP:** Standard Operating Procedures

M. **SSS WDR:** Statewide General Waste Discharge Requirements for sanitary sewer systems issued on December 6, 2022 by the SWRCB to all federal and state agencies, municipalities, counties, districts, and other public entities that own or operate sanitary sewer systems greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility.

N. **SWRCB:** California State Water Resource Control Board

O. **Working Hours:** Monday – Friday, 6:30 a.m. – 5:00 p.m.

3. RESPONSIBILITIES

A. **Control Center**

- Coordinate spill response by receiving and processing preliminary information on possible spills.
- Notify necessary divisions, member agencies, and regulatory agencies (afterhours) by phone, radio, and e-mail as necessary.
- Document actions by filling out the spill report in the CIWQS Spill Reporting System.
- If the CIWQS Spill Reporting System is down at the time of the spill, complete the spill report on the appropriate CIWQS Spill Reporting System data sheet found in the Collections System Binder and follow up by entering the data into the CIWQS Spill Reporting System at a later time.

B. **Public Affairs**

- Receive and respond to phone calls from the media or general public related to spills.
- Visit an spill site when media is present.

- Notify cities, fire departments, police departments, etc. of spills when public relations are warranted.

C. **Information Technology**
- Work with Collections O&M, Compliance, and Plant No. 1 Operations staff to resolve problems with Internet/Network connection when non-operational.
- Once the Internet/Network is operational, relay the information to the appropriate division.

D. **Risk Management Safety Security**
- Responds to ensure that the safety of responders and the public is not compromised while carrying our response operations.
- Risk Management provides critical support with spills, and emergency operations center activations including establishing an incident command post in the field.

E. **Collections Facilities O&M**
- Division responsible for the SSS WDR to develop, implement, maintain a preventative maintenance program, and certify spill reports.
- Respond to reports of possible spills from OC San's facilities.
- Contain and coordinate the cleanup of OC San spills, including making every effort to recover sewage from the storm drain before it reaches a surface water.
- Document actions taken using field reports, pictures, maps, etc.
- Assist member agencies when possible and document actions.
- Deal directly with private property owners. This does not necessarily mean field staff, but individuals should be instructed to contact supervisors/management if they have specific questions.
- The Collections Manager is a designated LRO that can certify spill reports.
- Respond to reports of possible spills that may involve industrial process waters and document actions taken.
- Responsible for the water quality monitoring requirements for collection of spill samples from spills to surface waters in which 50,000 gallons or greater are spilled to surface waters.
- This includes collection of spill samples, labeling of samples, delivery of samples to the Laboratory, replenishing water quality sampling spill kit supplies, and documenting the sampling.
- Compile all SSS WDR required spill information, including field reports, pictures, maps, problem reports, and submit the packet to Compliance staff in a timely manner for review.
    - For a Category 1 and 2 report, submit information by the second day.
    - For a Category 3 and 4 report, submit information by the 15th of the following month.

F. **Environmental Services - Compliance**
- Serve as the liaison with regulators and provide compliance oversight of SSS WDR compliance.
- Ensure regulatory agency notifications and any additional necessary

notifications are fulfilled.

- Visit spill site as required in the Compliance Spill Response Procedure, LMC-SOP-008.
- Submit drafts of the Category 1, 2, 3 and 4 spills to CIWQS for compliance with the SSS WDR.
- Review spill reports before certification by Legally Responsible Official (LRO).
- Assist with spill tracking and attend meetings to clarify compliance related issues and requirements.
- Provide support by contacting CASC contractors to respond to spills that enter flood control channels. Additionally, working with and contacting OC Flood Control.
- Coordinate the Water Quality Monitoring Requirements per Attachment E1 – Notification, Monitoring, Reporting and Recordkeeping Requirements; Section 2.3; Subsection 2.3.2, with Collections and Laboratory.
- Review and submit the Water Quality Monitoring results from the Laboratory to CIWQS.

G. **Environmental Services - Laboratory**

- Receive water quality samples from Collections O&M staff on spills to surface waters in which 50,000 gallons or greater are spilled to surface waters.
- Perform analysis on water quality samples.
- Report water quality sample results to Compliance staff.
- Supply Collections O&M staff with water quality sampling spill kits when requested.

H. **Member Agencies (Cities and Sanitation Districts)**

- Respond to reports of spills that may involve their Collections systems or private sewer systems that may impact the municipal storm drain system.
- Contain and clean-up their respective spills, protect their storm drains, and notify necessary regulatory agencies.

I. **OC Public Works and Stormwater Co-permittees**

- Protect County and co-permittee stormwater conveyance facilities from illegal discharges (including sewage).
- Provide support by contacting CASC contractors to respond to spills that enter flood control channels. Additionally, working with and contacting OC Flood Control.

J. **Orange County Health Care Agency**

- Goal is to protect the public health from a spill including responding to spills and closing beaches and other recreational waters.

K. **Private Property Owner**

- Remove the blockage (e.g., call a plumber) and stop using water that goes to the sewer until the blockage is removed.
- OC San may assist with containment and clean-up if sewage enters public right-of-way.

- Local city or OC Public Works or OCHCA stormwater code/ordinance enforcement can assist with uncooperative owners.
- OC San is not authorized and will not participate in the cleaning of any privately owned lateral lines.

4. SPILL REPORTING AND NOTIFICATION PROCEDURES

NOTE: Regulatory and other affected agencies require initial notification as soon as possible without jeopardizing the response process (no later than two hours has knowledge of the spill).

A. Spill Report Received

1. Control Center staff shall initiate documentation of the reported spill (who, what, when, where, and why) on a Spill Interview Form (Attachment A).
2. Control Center staff shall determine whether the reported spill is in the OC San service area or is the responsibility of another agency using the Sphere of Influence, Sewer Atlas, other available resources in the Control Center, and/or with the assistance of Collections O&M staff.

B. Spill from OC San Facilities

1. If the Control Center determines that the possible spill may be related to OC San facilities, Control Center staff shall contact and relay the available information for investigation and/or control of the reported spill to the on-duty Collections O&M Supervisor or Designee during the day shift or standby Collections O&M staff during after-hours.
2. Control Center staff shall notify OC San staff of the possible spill via an Outlook e-mail and provide the available information to the *Spill notification - Sewage* distribution list (see Attachment B for recipients) The following information should be included in the preliminary e-mail notification if available:
   - Responsible city, agency, private property owner
   - Date and time
   - Incident location including address and city
   - Problem description
   - Response status
   - If it entered a storm drain
   - Estimated volume
3. Upon arrival on site and preliminary investigation of reported spill Collections O&M staff will confirm whether there is a spill and the status of their response and containment.
4. Collections O&M staff will make sketches and take photographs of the spill, and they will forward digital files to the designated Compliance staff.
5. Control Center staff will send out intermittent updates as new information becomes available to the *Spill notification - Sewage* subscribers.
6. The on-duty member of the Compliance staff shall notify OCHCA staff with

a phone call for any spill volume (see Attachment C). If the spill is equal to or greater than 1,000 gallons also contact OES. If the spill enters the Flood Control Channel also contact OC Public Works. If the spill is in close proximity to a groundwater well, contact appropriate Groundwater Producer (see Attachment D).

- During the night and weekend shifts: contact the County of Orange Control 1 instead of OCHCA.
- Responsible staff shall complete all applicable regulatory notifications in accordance with the Decision Table in Attachment C.
- Groundwater Producers Contact List is referenced in Attachment D.

7. Collections O&M staff or managers may request Control Center staff to contact other staff that may be required. They may also request Control Center staff to determine the location and direction of flow for storm drains in the spill area. This information is located in the OC San Sewer Atlas or on a set of large County of Orange facility drawings in the Control Center or online at OC Public Works website Documents & Maps | OC Infrastructure Programs California (ocpublicworks.com)
8. Control Center staff shall create a service request number in the Maximo System. Staff will then enter the spill data into the CIWQS Spill Reporting System or if it's non-operational on the appropriate CIWQS Spill Reporting System data sheet found in the Collections System Binder and follow up by entering the data into the CIWQS Spill Reporting System at a later time. Control Center staff shall send updates to the *Spill notification - Sewage* distribution list as information becomes available.
9. When Collections O&M staff and Control Center staff believe the preliminary information is as complete as possible for the response and clean-up (usually after Collections O&M staff leaves the site), Control Center staff shall provide a final notification of the spill to the *Spill notification - Sewage* distribution list.
10. By the end of the reporting period, Collections O&M staff shall review the Collections Field report and submit to Compliance staff. Compliance staff will make any necessary changes and additions in the CIWQS Spill Reporting System. When all changes are complete, Compliance staff will click on the Ready to Certify button so that the LRO can certify the spill report for compliance. (see EC Sanitary Sewer Overflow Response Procedure, Compliance-SOP-008)

C. **Spill from Private Property**

1. Control Center staff shall notify and/or dispatch Collections O&M staff to determine if the OC San sewer is causing the problem.
2. See Section B above. Response is the same. However, no field pictures, sketches or calculations are required. Control Center staff shall note in the CIWQS Spill Reporting System that the problem was a private property spill. Information provided in the CIWQS Spill Reporting System will include the following:

- Responsible private property owner
- Date and time
- Incident location including address, city and zip code
- Problem description
- If it entered a storm drain
- Estimated volume

3. If Collections O&M staff informs Control Center staff that the blockage is located in the private property owner's lateral, they will request the owner/property manager to relieve the blockage (including calling out a plumber immediately if necessary). Due to liability concerns and the possibility of damage to the property owner's line in OC San trying to solve the situation, it is against OC San policy for Collections O&M staff to work on private lines. Although supervisors or management may authorize this work on a case-by-case basis.

4. ***If the property owner or the occupant of the property cannot be reached or refuses to call a plumber AND the private property discharge is entering the public right-of-way or a storm drain, Compliance staff shall call OC Health Care (714-433-6419) (Control 1 after hours – 714-628-7008) to request health code/ordinance enforcement assistance.***

   The County and the local cities are required by their Municipal Separate Storm Sewer (MS4) NPDES permit to not allow sewage to discharge to the storm drains. In addition, they have the legal authority to enforce their requirements, which may include shutting off the water supply and other measures.

5. If a member of the public calls to report a reoccurring or ongoing spill on private property or that we cannot otherwise assist them, they can report the problem by calling the **24-Hour Water Pollution Problem Reporting Hotline 877-897-7455 or logging onto** Report Pollution - H2OC Stormwater Program.. Staff can also use this mechanism, but official agency calls should be made to Control Center.

6. Control Center staff shall provide a final notification through *Spill Notification* (Attachment B) that the spill response has been completed.

7. Compliance staff will include the Private Property Spill Report as part of the CIWQS Spill Reporting submittal.

D. **Spills NOT Located in the OC San Service Area or OC San Staff Does NOT Respond to spill Site**

1. Control Center staff shall:
   a. Refer the problem to the correct agency.
   b. Document the agency's name, contact person, time of contact, and phone numbers on the internal Collections System Problem Report.

E. **Spill NOT OC San's Responsibility BUT Responsible Agency Requests Assistance**

1. Control Center staff shall notify and/or dispatch Collections O&M staff, if available.
2. See Section B above. Response is the same. However, no field pictures, sketches or calculations are required. Control Center staff shall note in the internal Collections System Problem Report that the problem was not an OC San spill.
3. Provide notification through *Spill Notification - Sewage* (Attachment B) as usual.

F. **Water Quality Monitoring Requirements – Sampling and Testing**

Water quality sampling and testing is required to assess impacts from spills to surface waters in which 50,000 gallons or greater are spilled to surface waters. Sampling is conducted by the Collections O&M staff or others, testing is conducted by the Laboratory staff, and reporting is conducted by Compliance staff. The water quality monitoring requirements are listed below:

1. In the event of a spill that reaches a surface water and has a volume of 50,000 gallons or greater the Collections O&M staff will inform their Supervisor and the Control Center that water quality sampling will be performed. The Control Center will then notify appropriate staff (e.g., Compliance spill reporting staff who will coordinate the Water Quality Monitoring response).
2. The Collections O&M staff shall use personal protective equipment (PPE) while performing sampling and proceed only when it is determined to be feasible and safe. The Collections O&M staff will be equipped with a water quality sampling spill kit (e.g., sterilized bottles, labels, and chain of custody form). This kit will be obtained from the Collections Shop inside the Lock Up Cabinet or from Laboratory staff as needed on the day of the spill.
3. The Collections O&M staff shall collect water quality samples no later than 18 hours after the Enrollee's knowledge of a potential discharge to a surface water from four (4) locations:
   i. Collect two (2) water samples, each day of the duration of the spill, at:
      - Discharge Conveyance System (DCS)-001 – A point in a drainage conveyance system before the drainage conveyance system flow discharges into a receiving water.
      - Receiving Surface Water (RSW)-001 Point of Discharge – A point in the receiving water where sewage initially enters the receiving water.
      - RSW-001U: Upstream of Point of Discharge – A point in the receiving water, upstream of the point of sewage discharge, to capture ambient conditions absent of sewage discharge impacts.

- RSW-001D: Downstream of Point of Discharge – A point in the receiving water, downstream of the point of sewage discharge, where the spill material is fully mixed with the receiving water.

4. Collections O&M shall photograph, map, and mark the location of the four (4) sample locations for future reference in the field report.
5. Collections O&M shall collect one (1) bacteriological water sample in a special sterilized bottle from the discharge conveyance system (DCS), upstream of receiving water point of discharge (RSW-001U), receiving surface water point of discharge (RSW-001), and downstream of receiving water point of discharge (RSW-001D). The sterile bottles can be found in the water quality sampling spill kit.
6. Collections O&M shall collect one (1) ammonia sample in a special sterilized bottle from the discharge conveyance system (DCS-001), upstream of receiving water point of discharge (RSW-001U), receiving surface water point of discharge (RSW-001), and downstream of receiving water point of discharge (RSW-001D). The sterile bottles can be found in the water quality sampling spill kit.
7. Collections O&M shall label the eight (8) field samples with the date, time, location, and sampler's initials.
8. Collections O&M shall keep the samples under ice until transferred to the OC San laboratory.
9. Collections O&M staff will bring samples back to the OC San Laboratory for analyses and fill out the chain of custody form (COC) at the time of sample collection.
10. Samples are assigned chain of custody forms that are completed throughout the sampling, analysis, and reporting process.
11. OC San Laboratory staff shall log the samples into LIMS and analyze the eight (8) field samples for ammonia and appropriate bacterial indicator. Ammonia and bacterial indicator analysis methods and procedures are maintained at the Laboratory.
12. The Laboratory shall provide the results of the analysis to Compliance for inclusion in the spill report.

5. REFERENCES

A. California Code of Regulations, Title 23, Section 2250

B. California Fish and Game Code, Chapter 2, Article 1, Section 5650

C. California Health and Safety Code, Division 5, Chapter 6, Article 2, Sections 5410-5415, 5460-5462

D. California Water Code (Porter Cologne Act) Section 13271

E. COMPLIANCE Sanitary Sewer Overflow Response Procedure, LMC-SOP-008

F. State Water Resources Control Board Order WQ 2022-0103-DWQ Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems

6. ATTACHMENTS

A. Control Center Spill Interview Form

B. Spill Notification Contacts

C. Spill Notification Decision Matrix and Contact List

ORANGE COUNTY SANITATION DISTRICT

Attachment A
Collection System Problem Report – Sample Form

Orange County Sanitation District
CONTROL CENTER SPILL INTERVIEW FORM

Call Initiated: Date: _____ Time: _____ Maximo Work Order #: _____

PERSON REPORTING PROBLEM:

Date First Noticed Spill: _____ Time First Noticed Spill: _____

Name: _____ Agency: _____

Spill Location: _____

City: _____ Phone # _____
(Use Unincorporated County if applicable)

Nearest Cross Street: _____ Thomas Guide® Page & Coordinates: _____

IF A RESIDENT IS REPORTING PROBLEM:				**Notes:**
For the field responders, is there a good reference landmark? (shops, houses, etc.)				
Did you see water flowing from a manhole?	Yes ☐	No ☐	Don't Know ☐	
If not, where is it coming from?				
Why do you think it's sewage? (Is there an odor? / Does the manhole say "OC San" or "sewer?")				
How fast is the water flowing? (Is it a small trickle out the side or is it gushing through all outlets with force?)				
Is the water flowing in or to the street gutter?	Yes	No	Don't Know	
Do you know if a storm drain catch basin is nearby?	Yes	No	Don't Know	
Is the water flowing to or about to get to that catch basin?	Yes ☐	No ☐	Don't Know ☐	
Approximately how wide and deep is the (flowing or wet) water path?	Deep:_____		Wide: _____	
Have you called any other agencies or did another agency refer you to us?				

IF ANOTHER AGENCY IS REPORTING PROBLEM:				**Notes:**
1. Do you have a crew currently onsite?	Yes ☐	No ☐	Don't Know ☐	
a. If so, have they contained the spill and protected storm drains?	Yes ☐	No ☐	Don't Know ☐	
b. If not, will your agency be responding?	Yes	No	Don't Know	
2. Is the water flowing in or to the street gutter?	Yes	No	Don't Know	
3. Is the water flowing to a storm drain/catch basin?	Yes	No	Don't Know	
a. Approximately how wide and deep is the (flowing or wet) water path?	Deep: _		Wide: _____	

If the answers to **1a and 1b. are NO**, and **2 or 3 is YES,** then you should state the following:	Although we will be responding as quickly as possible, we request that your staff start protecting the storm drains, setting up containment, and any necessary traffic control until we arrive onsite. These measures are important to protect the environment and possibly prevent a beach closure.
How fast is the water flowing? (Is it a small trickle out the side or is it gushing through all outlets with force?)	

ORANGE COUNTY SANITATION DISTRICT

Attachment A
Collection System Problem Report – Sample Form

Orange County Sanitation District
CONTROL CENTER SPILL INTERVIEW FORM

QUESTIONS FOR THE COLLECTIONS CREW: **Notes:**

General information:

Is this a District problem (i.e., in, from, or caused by District's facilities)? Yes ☐ No ☐

Type of spill: Sewage ☐ Chemical (I.W.) ☐ Other ☐ _____

Size of line (not cleanout):_____inches **Did any sewage reach storm drain?** Yes ☐ No ☐

List **receiving water** (*if known*): Newport Bay ☐ Santa Ana River ☐ San Gabriel River ☐ Other _____

Cause of spill: Grease ☐ Roots ☐ Other Debris ☐ Rain-related Inflow ☐ Line Break ☐
Vandalism ☐ Other ☐ _____

Initial Estimated **volume**:_____gallons Estimated amount **recovered** to sewer or vactored:_____gallons

Response:

Responding Personnel: _____

Responding Vehicles: _____

1.) Time Collections was first contacted: _____ 2.) Time arrived onsite:

3.) Time containment set: _____ 4.) Time blockage cleared:

5.) Time clean up complete/left site: _____

Attachment B
Spill Notification Contacts

CONTACTS CONTAINED IN *SPILL NOTIFICATION – SEWAGE* DISTRIBUTION LIST

Name	Division / Agency	Notified via E-mail
Rob Thompson	110	Email
Lorenzo Tyner	110	Email
Jennifer Cabral	140	Email
David Yager	620	Email
Hardat Khublall	750	Email
Dindo Carrillo	650	Email
Matt Smith	650	Email
Tom Meregillano	650	Email
Jenny Gomez	650	Email
Lan Wiborg	610	Email
Mark Kawamoto	620	Email
Mike Zedek	620	Email
Riaz Moinuddin	810	Email
Nick Oswald	820	Email
Peter Cheffs	820	Email
Erik Stratmoen	820	Email
David Andrade	820	Email
Brian Reed	830	Email
April Frost	830	Email
Jon Bradley	83	Email
Mark Melby	840	Email
Sam Choi	630	Email

CONTACTS CONTAINED IN *SPILL NOTIFICATION – SEWAGE* DISTRIBUTION – EXTERNAL

COMPLIANCE CONTACT INFORMATION

Name	Back-Up Order	Internal	Cell
Dindo Carrillo	1-COMPLIANCE	X 7476	(714) 343-0333
Jenny Gomez	2-COMPLIANCE	x 7446	(909) 720-2688
Matthew Smith	3-COMPLIANCE	X 7439	(949) 614-9445
Tom Meregillano	4-COMPLIANCE	X 7457	(714) 655-7568

NOTIFICATION CONTACTS

Normal Hours	After Hours
OCHCA (1) (714) 433-6419 (Office Support Staff)	Control 1: (714) 628-7008 (will contact OCHCA on-call staff)
RWQCB – Water Board Santa Ana Region (951) 782-4130	24 hours: (951) 782-4130 OES: (800) 852-7550
OES (Office of Emergency Services) (800) 852-7550	24 hours
OC Public Works (714) 955-0600 (storm drain/flood channel facility owners) (877) 89-SPILL (897-7455) 24 Hr Hotline	Control 1: (714) 628-7008
Caltrans (949) 724-2607	24 hours
California Highway Patrol OC Communications Center (949) 559-7888 (traffic control / roadway hazard on highways and unincorporated areas)	24 hours

CITY, SEWER, AND WATER AGENCY CONTACTS

CITY	BUSINESS HOURS	OFF-HOURS	COMMENTS
PUBLIC WORKS / CITIES			
Anaheim	(714) 765-6860 [1](714) 765-3300	(714) 765-6840 (714) 765-6860	24-hr Emergency Dispatch Off-hrs.
Brea	(714) 990-7648 (714) 990-7691	(714) 990-7911	Off-hours: Police Dept.
Buena Park	(714) 562-3655	(714) 562-3902	Off-hours: Police Dept.
Cypress	(949) 724-7502 (714) 229-6760	(562) 594-7232 (714) 229-6600	Off-hours: Police Dept.
Fountain Valley	(714) 593-4493 (714) 593-4600	(714) 593-4483	Off-hours: Police Dept.
Fullerton	(714) 738-6897	(714) 738-6715 (714) 738-6700	Off-hours: Police Dept.
Huntington Beach	(714) 960-8861 (714) 960-8830 (714) 536-5921	(714) 960-8825	Off-hours: Police Dept.
Irvine	(949) 453-5300 (949) 724-7516 (949) 724-7600	(949) 724-7000 P.D.	Off-hours: Call IRWD or Police Dept.
La Habra	(562) 905-9708 (562) 905-9792	(562) 905-9750	Off-hours: Police Dept.
La Palma	(714) 523-1140	(714) 690-3368	Off-hours: Police Dept.
Laguna Beach	(949) 497-0765	(949) 497-0717	Off-hours: Police Dept. Hours: 7am-3:30pm
Newport Beach	(949) 644-3011	(949) 644-3717	Off-hours: Police Dept.
Orange	(714) 744-5525 (714) 532-6480	(714) 538-1961	
Placentia	(714) 993-8245	(714) 993-8164	Off-hours: Police Dept.
San Clemente	(949) 366-1553 (949) 361-8224	(949) 366-1553	
San Juan Capistrano	(949) 493-6363 (949) 443-1171	(949) 443-1171	Off-hours: Answering Service
Santa Ana	(714) 647-3380/ 3344	(714) 834-4211 P.D.	Rick Sternberg cell: (714) 402-7042 or Police Dept.
Seal Beach	(562) 431-2527	(562) 799-4100	Off-hours: Police Dept.
Stanton	(714) 379-9222, x205	(714) 288-6742 (Sheriff's)	Off-hours: Sheriff's Dept.
Tustin	(714) 573-3150 (714) 573-3200, (Field Service)	(714) 573-3225 Police	Off-hours: Police Dept.
Villa Park	(714) 998-1500	Cell (714) 337-5214 (714) 497-7391	Off-hours: Lead Maintenance Mike Knowles and Ken Domer
Westminster	(714) 898-3311	(714) 898-3315	Off-hours: Jeff Howell,
	(0 for operator)	x326 (police dispatcher) or 911	Public Works Manager, Ext. 6290
Yorba Linda City	(714) 961-7170	(714) 990-7911	Off-hours: Police Dept.

[1] Daytime Secondary Number/Off-hours Answering Service

SANITATION DISTRICTS			
Costa Mesa	(949) 631-1731 (714) 393-4433 (714) 337-3535	(714) 754-5250 (714) 393-4433 / (714) 754-5252	Off-hours: Answering Service/Police Dept.
Dana Point (part of SCWD)	(949) 499-4555 (949) 496-9322	Ernie Garcia (949) 289-0137	Off-hours: Answering Service at (949) 499-4555
Garden Grove	(714) 741-5395	(714) 741-5704 P.D.	Off-hours: Police Dept.
L.A. Sanitation	(562) 699-7411		
Midway City and Westminster	(714) 893-3553	(714) 310-9004	Off-hours: Standby Cellular phone
OC San.	(714) 962-2411	(714) 593-7025	Off-hours: Control Center
Rossmoor Los Alamitos Sewering District	(562) 431-2223	(562) 708-1772 (562) 400-4022	Off-hours: Standby Pager OR General Manager Susan Bell OR Melody Hiller
Sunset Beach	(562) 493-9932 (714) 330-3728	(714) 330-3728	Off-hours: Answering Service
WATER DISTRICTS			
EOCWD	(714) 538-5815		
El Toro	(949) 837-0660	(949) 837-7050	Administration Center with Answering Service
Irvine Ranch	(949) 453-5300	(949) 453-5300	Off-hours: Answering Service
Los Alamitos	(562) 431-2223		Los Alamitos
Los Alisos (IRWD) Moulton Niguel[2]	(949) 830-0580 (949) 831-2500	 (949) 831-2500	After hour – answer service 24-hour service
Orange County Santa Margarita	(714) 288-2475 (714) 378-3200 (949) 459-6400	(714) 538-1961 [2](949) 459-6581	Off-hours: Answering Service
Santiago County (IRWD)	(714) 649-2630 (949) 453-5300		Off-hours: Answering Service
South Coast[3]	(949) 499-4555		Off-hours: Answering Service
Trabuco Canyon	(949) 551-8580 (949) 858-0277	(949) 856-0277	Trash only Off-hours: Answering Service
Yorba Linda	(714) 701-3050		Off-hours: Answering Service
OC Public Works	(877) 89-SPILL (897-7455)	(877) 89-SPILL (897-7455)	Off-hours: Answering Service

[1]Daytime Secondary Number/Off-hours Answering Service

[2]Cities served – Laguna Niguel, Aliso Viejo, Laguna Hills, Sections of Mission Viejo and North Dana Point

[3]Cities served – Dana Point, Capistrano Beach and South Laguna

Attachment C
Spill Notification Decision Matrix and Contact List
Page 1 of 1

Checklist Guidance	If YES, Notify:
If a possible spill of ***any size*** is reported to the OC San	• Collections Supervisor, Designee, or Standby • Plant No. 1 Chief Operator or Designee
If a spill of ***any size*** is confirmed by Collections staff	E-mail *brief* notification to internal staff, OCHCA, and RWQCB via the ***Spill notification - Sewage*** distribution list in Outlook. Include the following information, if known and available: • Responsible city, agency, private property owner • Notified date and time • Incident location including address and city • Problem description • Response status • If it entered a storm drain • Estimated volume
If Collections staff confirms the spill to be a **non-**District line	Call the responsible Agency or City. See Contact City List above. *(This includes private property spills where the spill is on City property.)* Fill out Collections System Problem Report.
If the spill is estimated to be *less than 1,000 gallons*	Call: **OCHCA*** (714) 433-6419 / 6015
If the spill is estimated to be *equal to or greater than 1,000 gallons*	Call: **OCHCA*** (714) 433-6419 / 6015 **OES** (800) 852-7550
If spill discharging to *storm drains / flood control*	Call **OCHCA*** (714) 433-6419 / 6015 **OC PUBLIC WORKS*** (714) 955-0600 **OES** (800) 852-7550
If the *private property owner is uncooperative* and public property and/or storm drains are impacted	Call **OC PUBLIC WORKS*** (714) 955-0600 **OCHCA*** (714) 433-6419 / 6015 (After Hours **Control 1**, at (714) 628-7008 and request storm water ordinance enforcement).
If the spill possibly contains *industrial process water?*	Call: **Resource Protection –** Jonathan Powell at (714) 593-7420 **OCHCA*** (714) 433-6419, *and* **RWQCB*** (951) 782-4130
If *hazardous materials* are a possible concern?	Notify the local police, fire, or sheriff's department, **Resource Protection –** Jonathon Powell at (714) 593-7420.
If *local oversight or enforcement* is needed	Contact the local/governing city, especially for gutter and storm drain response or if the spill is flowing to *city property*.
If command and control *authority* is needed	Notify the local police or sheriff's department. OCHCA and/or the local city may also be of assistance. OC PUBLIC WORKS/Control 1 can enforce against illegal discharges to storm drains throughout the county.
If *traffic control* is a concern	Notify the local police or sheriff's department, California Highway Patrol, (949) 559-7888 or Caltrans (949) 724-2607 as necessary
If the spill has the potential to *damage public or private property*	Notify Public Affairs Office.

* If an spill occurs after hours, notify Control 1 and they will make the necessary contacts

Attachment D
Groundwater Producers Contact Information

CITY	NAME	PHONE	TITLE
City of Anaheim	Philip Bogdanoff	(714) 765-4129	Water Field/Operations Manager
City of Anaheim	Craig Parker	(714) 765-4268	Assistant General Manager of Water Services
City of Anaheim	Jon Sanks	(714) 765-4117	Environmental Services Manager
City of Buena Park	Mina Mikhael	(714) 562-3679	City Engineer
City of Buena Park	Mike McGee	(714) 562-3701	Water Quality Inspector
City of Fountain Valley	Lee Hye Jin		Public Works Director
City of Fountain Valley	Mark Sprague	(714) 593-4609	Utilities Manager
City of Fullerton	Yvette Hanna		Principal Civil Engineer
City of Fullerton	Richard Armendariz	(714) 738-6382	Water Systems Manager
City of Fullerton	Stephen Bise		City Engineer/Assistant Public Works Director
City of Fullerton	Delaney Felix	(714) 738-2835	Water Quality Specialist
City of Fullerton	Stacy Matsumoto	(714) 738-7803	Engineer Aid 3
City of Garden Grove	Robert Bermudez	(714) 741-5917	Water Production Supervisor
City of Garden Grove	Bill Murray	(714) 741-5349	Public Works Director
City of Garden Grove	Samuel Kim	(714) 741-5534	Water Services Manager
City of Garden Grove	Victoria Victoria	(714) 741-5398	Water Services Sr. Admin Analyst
City of Garden Grove	Raquel Manson	(714) 741-5398	Administrative Analyst
City of Garden Grove	Cel Pasillas	(714) 741-5276	Water Quality and Cross-Connection Technician
City of Garden Grove	Steve Porras	(714)349-0163	Collections Supervisor
City of Huntington Beach	Andy Ferrigno	(714)536-5291	Principal Civil Engineer
City of Huntington Beach	Chris Davis	(714) 375-5055	Sr. Admin Analyst
City of Huntington Beach	Chau Vu	(714) 374-1641	Acting Public Works Director

City of Huntington Beach	Alvin Papa	(714) 536-5503	Deputy Director Public Works
City of La Palma	Andy Ramirez	(714) 690-3313	Public Works/Community Services Director
City of La Palma	Jake Chavira	(714) 690-3313	Water/Maintenance Supervisor
City of La Palma	Carlo Nafarrete	(714) 690-3312	Water Supervisor
City of Newport Beach	Mark Vukojevic	(714) 642-2429	Utilities Manager
City of Newport Beach	Steffen Catron	(949) 718-3401	Water Operations Superintendent
City of Orange	Jose Diaz	(714) 288-2475	Assistant Water Manager
City of Orange	Chris Cash	(714) 744-5525	Public Works Director
City of Orange	Sonny Tran	(714) 288-2497	Assistant Water Manager
City of Orange	Tuan Cao	(714) 288-2492	Senior Civil Engineer
City of Orange	Rick Hurtado	(714) 288-2475	Assistant Water Manager
City of Santa Ana	Cesar Barrera	(714) 647-3387	Deputy Public Works Director
City of Santa Ana	Fallon Franklin	(714) 647-3378	Associate Engineer
City of Santa Ana	Armando Fernandez	(714) 647-3316	Principal Civil Engineer
City of Santa Ana	Nabil Saba	(714) 647-3378	Executive Public Works Director
City of Seal Beach	Darrick Escobedo	562 431-2527 (ext 1409)	Chief Water Operator
City of Seal Beach	Kathryne Cho	(562) 431-2527	City Engineer
City of Seal Beach	David Spitz	(562) 431-2527 (ext 1331)	Associate Engineer
City of Seal Beach	Iris Lee	562-431-2527 (ext 1322)	Public Works Director
City of Tustin	Mike Grisso	(714) 573-3382	Water Services Manager
City of Westminster	Scott Miller	(714) 548-3693	Water Superintendent
East Orange County Water District	Jerry Mendzer	(714) 538-5815	Superintendent
East Orange County Water District	Dave Youngblood	(714) 538-5815	General Manager
Golden State Water Company	Sunil Pillai	(714) 535-7711 (ext 230)	Water Quality Manager

Golden State Water Company	Samantha Chen	714-535-8010 (ext 248)	Water Quality Engineer
Golden State Water Company	Ken Vecchiarelli	714 683-0350	District Manager
Golden State Water Company	Toby Moore	(714) 535-7711 (ext 314)	Water Resource Manager/
Irvine Ranch Water District	Paul Cook	(949) 453-5590	General Manager
Irvine Ranch Water District	Paul Weghorst	(949) 453-5632	Executive Director of Water Policy
Irvine Ranch Water District	Wendy Chambers	(949) 453-5720	Executive Director of Operations
Irvine Ranch Water District	Kevin Burton		Executive Director Engineering & Water Quality
Irvine Ranch Water District	Dave Paulson	(949) 453-5674	Operations Supervisor
Irvine Ranch Water District	Lars Oldewage	(949) 453-5858	Laboratory Manager
Mesa Water District	Tracy Manning	(949) 631-1291	Manager of Eng. And Ops.
Mesa Water District	Paul Shoenberger	(949) 631-1206	General Manager
Serrano Water District	Jerry Vilander	(714) 538-0079	General Manager
Serrano Water District	Vittorio Roggero	(714) 538-0079	Business Manager
Yorba Linda Water District	Mark Toy	(714) 701-3021	General Manager
Yorba Linda Water District	Rosanne Weston	(714) 701-3102	Engineering Manager
Yorba Linda Water District	John DeCriscio	(714) 701-3122	Operations Manager
Yorba Linda Water District	John Brundahl III	(714) 701-3163	Production Superintendent
Yorba Linda Water District	Javier Martinez	(714) 701-3162	Water Production Superintendent
Yorba Linda Water District	Bryan Hong	(714) 701-3115	Water Quality Engineer
Yorba Linda Water District	Douglass Davert	(714) 701-3029	Assistant General Manager
Orange County Water District	John Kennedy	(714) 378-3304	Executive Director Engineering/Local Resources

APPENDIX Q1

OCSD SSO Emergency Response Plan

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	05/20/09		•
2	12/19/11		•
3	10/02/14	D. Carrillo	•
	09/26/19	Jms Cabral	• Reviewed – no changes
	09/26/22	Jms Cabral	• Reviewed – no changes
4	07/19/23	D. Stokes	• Reviewed – made changes according to 2022 SSS WDR Order
5	03/11/25	D. Stokes	• Updated terminology
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Spill Emergency Response Plan
Description

May 2025

Introduction:

This Spill Emergency Response Plan (SERP) follows the Statewide Waste Discharge Requirements (WDR). After the State updated WDR was adopted on December 6, 2022, OC San updated its existing SSMP from the prior Santa Ana Regional Water Board WDR in order to meet its new requirements. OC San currently has an effective spill response program with extensive notification procedures.

Volume 1 of the final SSMP summarizes how OC San complies with the WDR. Volume 2 of the final SSMP contains specific support documents referenced in Volume 1 needed for quick access by staff or auditors.

Our goal is to develop user-friendly documents for staff use, regulator use, and public review as required by the WDR order. This SERP also becomes a part of OC San's Integrated Emergency Response Plan (IERP) for major local or regional disasters.

OC San has reviewed and updated its existing SERP. The SERP is illustrated in the "OC San Spill Response Flow Chart" Appendix P1 which provides a step-by-step description of the OC San spill emergency response procedures. The flow chart is also designed to be used as a decision tool for responding to different types of events in gravity sewers, force mains, and pump stations. Where appropriate, more detailed flow charts, procedures, and other referenced documents will be used as supplemental data based on staff input and professional judgment.

OC San SERP action items are as follows:

(i) Description of Organization:

(A) Administrative, Operations and Maintenance and Lines of Authority:
OC San currently maintains organization charts that provide this information. Much of this general information is available for review in our annual budget book. In addition, an SSMP program organizational chart is maintained. SSMP Volume II Appendix C includes the SSMP Organization.

The Collection Facilities O&M Division staff have the lead role in Spill response activities and retain current versions of SOPs for Spill Response and Spill Containment. Other agency staff and contractors assist them as necessary.

(B) Chain of Communication for Reporting Spills:

The chain of communication for reporting spills, from receipt of a complaint or other information, including the person responsible for reporting spills to the RWQCB, the

Orange County Health Care Agency (OCHCA), Orange County Public Works, and the State Office of Emergency Services (OES) are contained in Appendix P, Volume 2. These include the Spill Response flowchart that describes the OC San Control Center and Collection System staff procedures for reporting spills and response and notification procedures.

(ii) Spill Emergency Response Plan (SERP)
OC San has developed and implemented an overflow emergency response plan that identifies measures to protect public health and the environment and includes, at a minimum, the following:

> (A) Proper notification procedures so that the primary responders and regulatory agencies are informed of all spills in a timely manner.

The OC San spill response flow chart illustrates the established procedures that are followed when a problem is reported. The plan provides the following:

- Reporting of a problem from internal and external sources
- Actions taken during business hours (6:00 a.m. to 4:30 p.m., Monday thru Thursday) and non-business hours
- Staff or primary standby mobilization by the on duty Operations Supervisor or designee.

> (B) Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g., health agencies, Regional Water Boards, water suppliers, etc.) of all spills that potentially affect public health or reach the waters of the State in accordance with the WDR. All spills shall be reported in accordance with the WDR, the California Water Code, other State Laws, and other applicable Regional Water Board WDRs or NPDES permit requirements. The SSMP should identify the officials who will receive immediate notification.

As shown in the OC San spill response plan flow chart, when a problem is reported, the Control Center dispatcher notifies OC San staff in accordance with established procedures. The chain of communication for reporting is then implemented, beginning with a possible spill notification and communicating with those on the spill notification distribution list. OC San staff responds and investigates, while the notification of spills procedure provides notification processes for the following:

- Events that occur during rbjusiness (6:00 a.m. to 4:30 p.m., Monday thru Thursday) and non-business
- Non-OC San service area events
- Internal notification for support from the OC San Environmental Compliance (EC) division
- OC San laboratory staff or other appropriate OC San divisions
- Evaluation on a case-by-case basis to initiate monitoring, reporting, and additional control and elimination procedures as necessary.

(C) A program to ensure an appropriate response to all overflows.

As shown in the OC San spill response flow chart, OC San staff responds to all reported problems, including those spills that do not discharge to the waters of the State. OC San has a formal process to evaluate the jurisdictional responsibility and the cause of the problem. This also includes a process in the event the reported event cannot be located in the field. Once located, the following sequence occurs as outlined in the flow chart:

- Attempt containment using spill containment procedures.
- If the spill is OC San's responsibility, initiate the spill notification process.
- Control the spill and eliminate the problem.
- Recovery and clean-up.
- Field documentation.
- If the spill is not OC San's responsibility, the notification process includes notification of the responsible party, site assistance when requested, and field documentation of the event.

(D) Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the SERP and are appropriately trained.

OC San has an existing formal training program for OC San staff that requires mandatory safety training, technical skills training, and supervisory/management skills training. The program also uses California Water Environment Association (CWEA) certification and on-the-job training (OJT) as part of this program. The current program is being supplemented with a multiyear focused training and validation program.

OC San uses an on-site spill simulator that allows crews to practice spill response, containment procedures and estimate overflow volume using metered discharges from a manhole and cover. Documented SOPs are being developed for this purpose. Contract specifications for Capital Improvement Projects (CIP) require that contractors develop their own SERPs.

(E) Procedures to address emergency operations, such as traffic, crowd control, and other necessary response activities.

OC San has existing traffic and safety control procedures that comply with Caltrans and CalOSHA requirements. These include:

- Adherence to Work Area Traffic Control Handbook (WATCH) procedures
- Use of confined space entry/rescue certified personnel as necessary
- Use of personal protective equipment
- Site Security
- Use of law enforcement agencies as necessary for site-specific needs. Events requiring law enforcement assistance are evaluated on a case-by-case basis.
- Contractors are used to supplement agency staff as necessary.

(F) A program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated and partially treated wastewater to waters

of the US and to minimize or correct any adverse impact on the environment resulting from the spills, including such accelerated or additional monitoring as may be necessary to determine the nature and effects of the discharge**.**

The OC San spill response flow chart has steps identified that are specific to:

- Containment
- Control and elimination of the spill
- Clean-up
- Failure analysis and debriefing

Standard procedures and materials have been developed for the specific steps in the flow chart and are available in OC San vehicles. Equipment is also available to assist in containment, control, elimination, and clean-up.

Events are evaluated on a case-by-case basis. The need for monitoring is determined based on the possible impact on recreational waters and in coordination with RWQCB and OCHCA staff. OCHCA or the RWQCB has responsibility for sampling. OC San may provide assistance with sampling if requested.

OC San staff worked with the Orange County Public Works to develop a plan for containing and recovering spills to surface waters, storm drains, and channels. This may include hiring an on-call contractor to assist in recovering spills that have reached storm drains or channels. OC Public Works manages and executes the Countywide Area Spill Control (CASC) Program.

The OC San Control Center is staffed with dispatchers 24 hours a day, seven days a week. OC San has an on-call list with a primary contact. An assigned secondary staff person is contacted and dispatched if the primary contact cannot be dispatched. On-call staff is authorized to mobilize additional staff and equipment as needed. A response time of one hour or less is an established goal and measured performance metric. OC San has adequate staff and equipment to respond to historic normal service requests, including spills. Suppose additional resources are needed for extraordinary events. In that case, OC San maintains a contact list of contractors and suppliers and has standing blanket purchase orders to mobilize the additional resources rapidly and specific to the event, whether it is a gravity sewer or pump station problem.

OC San contractors are provided the Master Spec 02999 Temporary Handling of Sewage Flow. This document provides guidance and contains language on responding to sewage spills at the project work site. The document requires contractors, as needed, to develop a Spill Prevention, Control, and Countermeasure Plan, which includes spill notification, response, containment, and reporting protocols in the event a spill occurs.

For each spill event, a report is completed per the requirements of the WDR. The full documenting and reporting procedure is provided as part of the Environmental Services Department's Spill Response Procedure SOP.

OC San conducts an annual review and assesses the effectiveness of the SERP. The SERP is then updated as needed to reflect the current contact information and practices

followed by OC San. Post-spill assessments are also conducted of the spill response activities to determine if the spill response procedures were followed correctly and to determine if any changes to procedures are warranted. Additionally, OC San conducts full post-spill investigations of the causes of spill and takes the appropriate actions to ensure a reoccurence of a spill in that area does not reoccur.

APPENDIX Q2

SSO Response SOP

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	12/16/09	J. Gonzalez	Original
	09/26/19	Jms. Cabral	• Reviewed – no changes
	09/26/22	Jms Cabral	• Reviewed – no changes
1	07/19/23	D. Stokes	• Reviewed – made changes according to 2022 SSS WDR Order.
2	03/11/25	D. Stokes	• Updated Terminology
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COL-SOP-50-001	Sewer Spill Response	
Standard Operating Procedure (SOP)	Collections	Date: 3/26/25
Area – Collections System	Location: OC San Service Area	
Orange County Sanitation District	Approved By: Don Stokes Collections Manager	

Task Description: Responding to a Sewer Spill.

C - A - U - T - I - O - N
The SOP is subject to variations dependent on conditions and maintenance that may be occurring. Staff are encouraged to exercise judgement within the duty of care expectation. If you have questions or concerns consult with Supervision.

Overview

This SOP details the tasks performed in response to a sanitary sewer spill. The response is designed to protect the public's health and safety, minimize the impact to the environment, and satisfy all regulatory agency reporting and the Waste Discharge Requirement (WDR).

Safety & Other Precautions	Tools & Equipment Needed
• Notify Control Center upon arrival. • Traffic Control (cones, delineators, arrow board, etc.) • Personal Protective Equipment (PPE) • Direct Reading Air Monitoring Equipment (Max XT II) • Slip and Fall Danger (especially when working with sewage over bare soil surfaces, slopes and around water ways) • Open Manhole Hazards • Site Control	• Hand Tools • Traffic Control Equipment • Air Monitoring Equipment • Handheld Radios • Personal Protective Equipment (PPE) • Spill Containment Materials (rubber mats, absorbent pillows, booms, etc.) • Debris Catching Equipment (Rake) • Camera • Cleaning Materials (Broom, Shovel, Hoses, etc.) • Notebook • Combination Sewer Cleaning Truck (combo truck) • Trunk Sewer Atlas - GIS • Field Spill Report Form

This document is controlled when viewed online. When downloaded and printed, this document becomes UNCONTROLLED, and users should check the electronic original to ensure that they have the latest version.

Step 1: Notification & Mobilization

1. Upon receipt of a call from the Control Center, the supervisor will assign/dispatch a response team.
   a. If the spill is reported after normal business hours, the Control Center will contact the standby persons to respond.
2. Prior to the start of work, conduct a tailgate safety meeting to discuss safety precautions, review procedures, and assign responsibilities to each person on the crew.
3. Prior to mobilizing to the spill, identify the spill location on the Trunk Sewer Atlas to collect preliminary information. This information includes:
   a. OC San lines in the vicinity
   b. OC San line size(s)
   c. Direction the sewer line is flowing
   d. Distance between manholes
   e. Location of Diversion Structures
   f. Local storm drain entry points and path of travel
4. Select a vehicle and equipment appropriate for the spill location, typically a combination industrial sewer cleaning truck (combo truck).

NOTE: The line size located on the map will help determine the resources needed to respond to the spill.

Step 2: Spill Location Set-Up

1. Upon arrival at the spill location, the first responders typically perform multiple tasks within a relatively short amount of time. These tasks are listed below and described in further detail below and summarized in Attachment A: OC San Spill Response Flowchart.
   a. *Communication with Control Center.* The field personnel are to maintain communication with the Control Center to establish a timeline needed for reporting purposes. The key information that needs to be communicated are:
      i. arrival time
      ii. estimated spill volume
      iii. time spill containment was set
      iv. time the blockage was relieved, and
      v. time the containment was removed.
   b. *Spill Verification.* The field personnel are to determine whether the spill is a sewer spill or other type of spill.
   c. *Communication with Supervisor.* The field personnel are to maintain communication with a supervisor during work hours. The supervisor assigned is typically the person who dispatched the crew to the spill. Field personnel are to relay pertinent information to the Supervisor who will assign additional resources, as needed.

NOTE: If the spill occurs after hours, communicate directly with the Control Center.

Step 3: Spill Containment

1. *Traffic Control.* If the spill is located in an area where traffic control is needed, all traffic control setups should be consistent with the "Work Area Traffic Control Handbook (W.A.T.C.H.)" (Figure 1). 2. *Public Safety.* If additional resources are needed to manage or control the public safety, contact the Supervisor or Control Center and they will notify the appropriate agencies. Otherwise divert the traffic out of spill area.	 Figure 1: Traffic Control, Lane Closure (typical)
3. *Spill Containment.* Containment materials are to be set up in strategic locations to control and contain the spilled wastewater. These materials include: rubber mats, sand bags, absorbent materials (socks, pillows, broom), soil, or any materials located near the spill that can aid in spill containment. The containment materials should be set up to block the spill from entering (or continuing to enter) storm drains or other waterways (Figure 2). If possible, spills should be diverted to natural low areas where the materials can collect prior to removal. Refer to OC San SOP No. COL-SOP-GEN-003: Spill Containment for specific spill control procedures.	 Figure 2: Spill Containment Example
4. *Clean Up.* Vacuum/pump recovery of spilled wastewater. Wash down the site with clean water. Recover wash down water. Calculate the amount of fresh water used in cleanup and specify this amount on the report.	

Step 4: Spill Source Determination

Once spill containment is properly placed and working effectively, field personnel are to determine the source of the sewer spill (OC San, City, or private lateral) and relay that information to the Supervisor. If the spill is not an OC San sewer spill, continue with spill containment procedures until the responsible party or agency arrives. OC San will continue support, as needed.

NOTE: If the spill occurs after hours, communicate the spill source information to the Control Center

Step 5: Spill Volume Estimation

Document all assumptions made to get to an estimated volume. Use at least two methods to make the estimate. Take photos and video to document the situation and provide support for the given estimate.

1. Eyeball Estimation: Make a determination based on experience. Use for initial estimation only, use secondary estimation method for documentation.
2. Spill Volume Approximation Worksheet: Measure the height of the water exiting the vent holes or pick holes. Once the measurement is obtained, match the vent hole size and wastewater height on the and provide the Control Center with a preliminary spill volume assessment (small, medium, large). A copy of the Spill Volume Approximation Worksheet is included as Attachment B.

Figure 3: Manhole pick hole measurement

3. Upstream Connections: Duration x Flow Rate = Spill Volume.
4. Good for spills affecting a small portion of the collection system; must have reliable volume per household. Can be difficult to apply to areas with mixed use (residential, commercial, industrial).
5. Area/Volume: Size of the “Wetted Footprint” + Amount Captured/Contained, see Figure 3.
6. Area of a Right Triangle in Cubic Feet: Length x Width x 0.05 x Depth
7. Area of a Circle in Cubic Feed: Diameter Squared x 0.785 x Depth

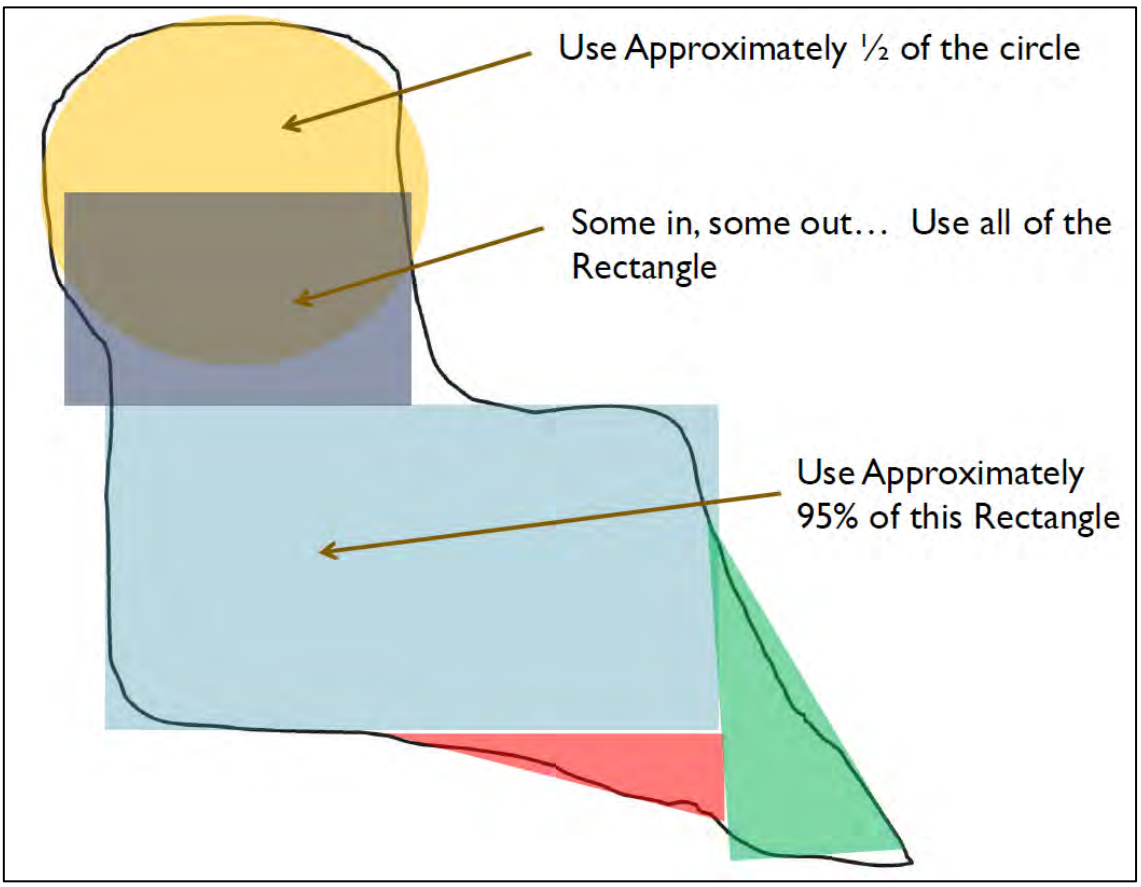


Figure 4: Spill Footprint Volume Estimation

8. Lower Lateral Estimator:
9. Lift/Pump Station Estimation: Use metered data to determine spill volume.
10. Spill Simulator/Photo Comparison: Determine the volume of a spill by increasing the volume (flow) on the simulator until it best resembles the actual flow.
11. Portable Flow Monitoring Equipment: Install the flow monitoring equipment in the same mainline segment that experience the spill after the event has concluded. Monitor for the same time (period/duration). Use the Average Flow Rate and apply it to the spill.

Step 6: Field Documentation

1. *Notes.* At a minimum, the field notes should include arrival time, time spill containment was set, time the blockage was relieved, departure time, and all persons and equipment mobilized to the scene. In addition, document any officials (law enforcement, health department, etc.) who are present. If any official gives direct orders that stray from the OC San spill response procedures, document that person's information (name, badge number, phone number) and notify the OC San supervisor; if the spill occurs after hours, relay the pertinent information to the Control Center.
2. *Sketch.* The field sketch should document the path of the flow, the height of the water coming from the manhole cover vent holes, the location of the sewage, storm drains, waterways, and the manhole or structure ID numbers.
3. *Photographs.* Photographs (preferably digital) should be taken of the spill area, spill containment measures, scene after cleanup, and any other information deemed pertinent (Figure 3).

Figure 3: Spill Area Documentation Photo (typical)

Step 7: Blockage Location Determination & Clearing

1. Field personnel are to determine the location of the blockage. The blockage location is determined by opening manhole covers downstream of the spill location to look for surcharge.
   - **Prior to opening the manholes (OC San or City), check for explosive or toxic gasses using a direct-reading air monitoring device by inserting tubing into the pick-holes. If explosive gases are present, DO NOT LIFT OR REMOVE the cover.**
2. Start by opening the first manhole downstream of the spill. If surcharge is observed, move to the next downstream manhole. When no surcharge is observed in a manhole, the blockage is located somewhere between that manhole and the spill location.
3. Once the blockage location has been determined, set up the combo truck on the first downstream manhole that was not surcharged.
4. Place one crew member on the downstream side of the combo truck with a rake or other device designed to catch the blockage.
5. Personnel at the combo truck are to run the penetrating nozzle upstream to relieve the blockage.
6. The crew member staged on the downstream side of the combo truck is to catch the blockage with debris catching equipment (i.e., rake). This minimizes the amount of blockage material traveling through the line to minimize future blockages. Identify blockage material to determine the cause of the obstruction and potential follow-up activities necessary. See Figure 4.

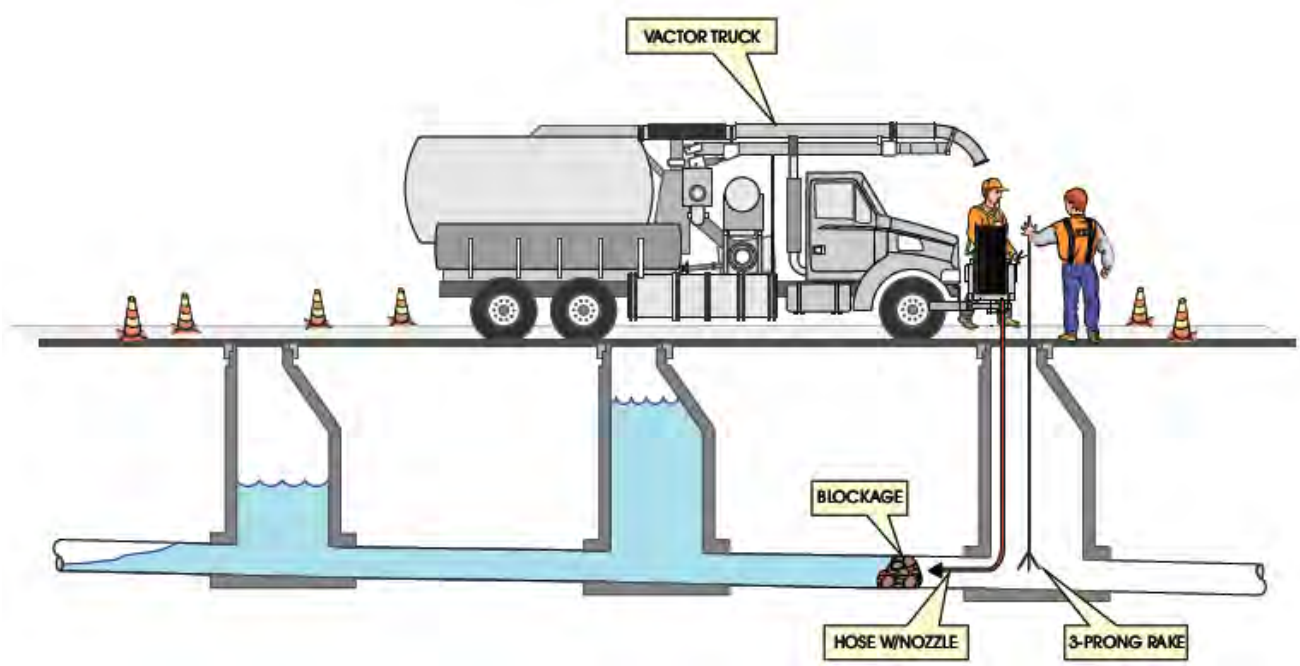
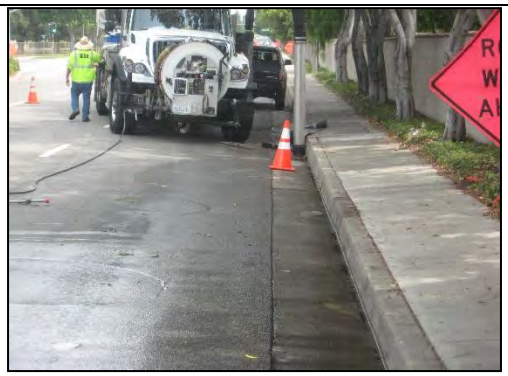


Figure 4: Clearing a Blockage Diagram

7. Once the blockage is cleared, document the time and relay the information to the Control Center as soon as possible. This information is extremely important in the final calculations used to determine the volume spilled.
   - If a blockage can't be relieved within a reasonable amount of time, contact the supervisor and/or Control Center to discuss response options (i.e., additional staff and equipment) or use of upstream diversion structures. It is important to contact the Control Center prior to diversion structure implementation to verify that potentially affected parties are notified.
8. Determine the further follow-up actions needed for the blockage area (i.e., root cutting if roots are collected on the rake, line cleaning if grease is observed, etc.). Follow-up procedures can include line cleaning, root cutting, line repairs, and CCTV.
9. Assess the flow in the line to verify that the blockage has not migrated to a downstream segment.
   - **Prior to opening the manholes (OC San or City), check for explosive or toxic gasses using a direct-reading air monitoring device by inserting tubing into the pick-holes. If explosive gases are present, DO NOT LIFT OR REMOVE the cover.**
10. If conditions are acceptable, open several downstream manholes and look for surcharge in downstream manholes. If no surcharge is present, the line segment is determined to be clear.

Step 8: Site Clean-Up

1. Once the blockage is cleared and the threat for additional related spills is relieved, use a combo truck to vacuum the wastewater that collected in the containment areas. 2. Wash down all areas covered by the spill, being sure to capture the wastewater. 3. Remove spill containment materials. 4. Return the wastewater to the OC San sewer system. 5. Notify the Control Center that the cleanup is complete.	 Figure 5: Site Cleanup Documentation (typical)

Step 9: Spill Response Wrap-Up

1. Demobilize field response.
2. Complete the Collection System Problem Report – Field Spill Report form. A copy of the Field Report Form is presented in Attachment C.
3. Restock the vehicle of materials used to contain and clean the spill.
4. Document all activities/tasks in Maximo work order:
   a. Attach photos
   b. Attach field spill report
   c. Create appropriate log
5. Return the completed Spill Report to the Supervisor. The Supervisor will review and initial the report and distribute it to the appropriate OC San personnel.

APPENDIX R

Sewer Spill Estimation Guide

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	11/17/11		•
2	05/16/16	M. Esquer	• Removed Spill Estimation presentation and replaced with new Sewer Spill Estimation Guide
3	03/21/22	W. Cassidy	• Revised Appendix title; Removed "Sanitary Sewer Overflow Response Training Facility at OCSD" power point presentation; Revised pick hole estimation chart (pgs10-11), changed OCSD to OC San and removed calculation example; Removed training facility at OCSD (pg 18)
	09/26/22	W. Cassidy	• Reviewed – no changes
	3/24/25	N. Oswald	• Reviewed – no changes at this time
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SEWER SPILL ESTIMATION GUIDE

Developed by the Orange County Area Waste Discharge Requirements Steering Committee

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Sewer Spill Estimation Guide

A Guide to Estimating Sanitary Sewer Overflow (SSO) Volumes

Developed by the Orange County Area
Waste Discharge Requirements Steering Committee
Orange County, CA

February 18, 2014
Revised May 15, 2014
Revised March 21, 2022

Acknowledgements

This Sewer Spill Estimation Guide has been compiled through the efforts of members of the Orange County Wastewater Discharge Requirements (WDR) Steering Committee. This committee was originally formed to address the requirements of the original WDR imposed by the California Regional Water Quality Board, Region 8 and later the statewide WDR imposed by the California State Water Resources Control Board. Committee members who assisted in the compilation of this Sewer Spill Estimation Guide are:

Nicholas J. Arhontes	Director Facilities Support Services	Orange County Sanitation District
Peggy Echavarria	Executive Assistant	Orange County Sanitation District
Gene Estrada	Environmental Program Manager	City of Orange
Rob Hamers	District Engineer	Costa Mesa Sanitary District
Robert Kreg	(Former) Director of Support Services	South Coast Water District (Retired)

Disclaimer

This Sewer Spill Estimation Guide is freely offered to agencies to assist the user with the estimation process for a sanitary sewer overflow. Methods used for spill estimation and the estimate itself are solely the responsibility of the agency making the estimate. The authors or contributors to this Sewer Spill Estimation Guide do not accept any responsibility for the spill estimation methods used; their accuracy or any spill estimate determined through the use of this guide. Information found in this guide is commonly available on the internet and is also common practice with many cities and sewering agencies throughout Southern California.

No statewide or national standards issued by a regulatory agency exist at this time.

Table of Contents

Acknowledgements 1
Disclaimer 1
SSO Volume Estimation 3
Start Time 4
Stop Time 4
Photographs 5
Flow Rate 5
Volume Estimation Methods 5
Visual or Eyeball Method 5
Measured Volume 6
Counting Connections 8
Pick and Vent Holes in Manhole Covers 8
Pick and Vent Hole Estimation Chart 10
Manhole Ring 12
Partially Covered Manhole 13
Open Manhole 15
Pictorial Reference 18
City of San Diego Manhole Overflow Picture Chart 19
SSCSC Manhole Overflow Gauge 20
Gutter Flow (Simplified Version) 21
Bucket Method 22
Pipe Size 23
Metered Flow 24
Rain Events 25
Saturated Soils 25
Combo Truck or Vacuum Truck Recovery 26
Conversion Factors 27
Volumes Recovered with Trucks or Pumped to Tanks 27
References 28
Sample Worksheet 29

SSO Volume Estimation

Accurate flow estimation is essential to determine the volume of a Sanitary Sewer Overflow (SSO). An accurate estimate of an SSO is required for reporting to the California Integrated Water Quality System (CIQWS) and to the local health care agency. The estimated volume of an SSO is used to determine the category of the SSO and can also be used in the calculation of penalties or fines from the State or Regional Water Quality Control Boards in California. Additionally, accurate flow estimation is important to determine the extent of the cleanup and its effectiveness.

Volume estimation is basically the flow rate (gallons per minute) times the amount of time (in minutes) the flow has occurred. Each SSO tends to be unique requiring different strategies for determining the volume of the SSO. Different methods can also be used for the same SSO acting as a check to ensure the most accurate estimate. The method(s) utilized will be determined by several factors including the type of SSO and the personnel responding. Some SSO volumes, due to terrain, rainfall or other factors, can be very difficult for field staff to determine and may require someone with additional expertise. There is no one method that works for all types of SSOs. The following are methods that may be utilized for SSO volume estimation. These methods are effective means of estimating a sewer spill volume during dry weather but may not be effective during rain events.

During rain events, infiltration and/or inflow into the collection system and runoff in the stormwater system, including the curb and gutter, can affect the SSO estimate. When estimating an SSO during a rain event, the SSO estimate is to include only the wastewater that left the collection system and not any waters that the wastewater comingled with after leaving the system. The same is true for any wash down water; although contaminated, the water is not considered part of the SSO estimate. Any water that infiltrated into the collection system upstream of the SSO and subsequently became part of the SSO is included in the SSO volume estimate.

Start Time

Determining the start time for an SSO is one of the most critical, yet can be one of the most difficult, factors to determine. Depending upon the location and time of day, an SSO may occur for some time before it is reported to the City or Agency or it may trickle for an extended period of time before being noticed. What is known is that the SSO started some time before the City or Agency was notified. It is common for SSOs to start and stop as flows in the pipeline routinely rise and fall because most blockages do not entirely block the flow in the pipe. Every effort should be utilized to determine the most accurate start time of each SSO. These efforts may include:

- If possible, contact the person who reported the SSO to determine when they became aware of the SSO.
- Make contact with residences or businesses in the area of the SSO to determine if there were any witnesses that could help establish the start time.
- Conditions change during the SSO. This is particularly true in remote areas out of public view. Initially, there may be an amount of toilet paper and solids around the spill site. This will increase the longer the SSO continues. After a few days to a week, these may form a light brown residue that may turn dark after a few weeks to a month.

Lacking direct evidence supporting a specific start time the operator should rely upon their experience and system flow characteristics based upon observed conditions to establish a reasonable estimated start time for the event. The agency's management staff should review the estimate before being finalized. Methods used to establish the start time should be documented.

Stop Time

The stop time is the time that wastewater stopped overflowing. For manhole covers in low areas, this is noted by water flowing back into the manhole through the vent holes and should be easy to determine by SSO response personnel. Care should be taken to accurately record the time that the SSO stopped.

Photographs

Take photographs of the spill event. Try to include objects of known size in the photographs to give a perspective of the extent of the spill. Photographs should include the initial spill, remediation efforts, clean up, and the spill area after the spill remediation has been completed. Photographs should be maintained with the spill report information.

Flow Rate

The flow rate is the volume of flow per unit time that is escaping from the collection system. SSOs do not always occur at a constant rate. This is because flows into the collection system are not constant and rise and fall throughout the day. Additionally, most blockages are not full blockages. Pressure buildup as the wastewater surcharges in the pipe can cause the blockage to clear or partially clear, resulting in changes to the flow rate.

To make an SSO volume estimate as accurate as possible, the onsite City or Agency employee should note the time and the amount of change of any significant differences in flow noticed during the event. For example, if the employee determines the flow rate escaping from the manhole is 100 gallons per minute when they arrive on scene but noticed that it has dropped to 50 gallons per minute five minutes later, their report should reflect that fact. The estimated flow rate and the time period for that flow rate should be recorded. During any one SSO event there could be multiple flow rates spread over the duration of the SSO.

Volume Estimation Methods

Visual or Eyeball Method

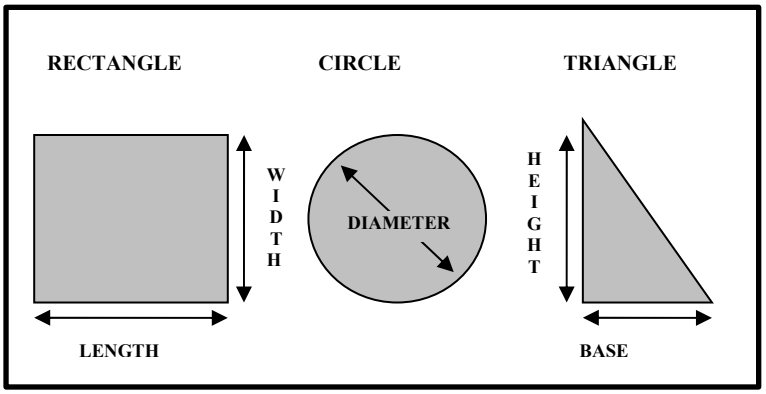
The volume of small spills can be estimated using an "eyeball estimate." To use this method, imagine the amount of water that would spill from a bucket or a barrel. A full bucket may contain 1, 2 or 5 gallons and a barrel contains 55 gallons when full. If the spill is larger than 55 gallons, try to divide the standing water into barrels and then multiply by 55 gallons. This method is useful for contained spills up to approximately 200 gallons. This method can be useful on spills that occur on hard surfaces such as concrete or asphalt. Crews can be trained

by estimating the volume of a measured amount of potable water spilled upon concrete and asphalt surfaces.

Measured Volume

The volume of most small spills that have been contained can be estimated using this method. The shape, dimensions, and the depth of the contained wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

Common Shapes and Dimensions



1. Sketch the shape of the contained wastewater.
2. Measure or pace off the dimensions.
3. Measure the depth at several locations and select an average.
4. Convert the dimensions, including depth, to feet.
5. Calculate the area:

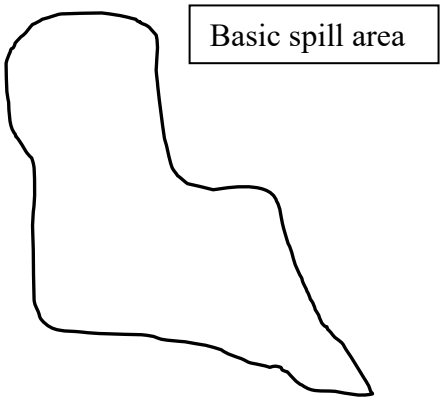
   Rectangle: Area = length (feet) x width (feet)

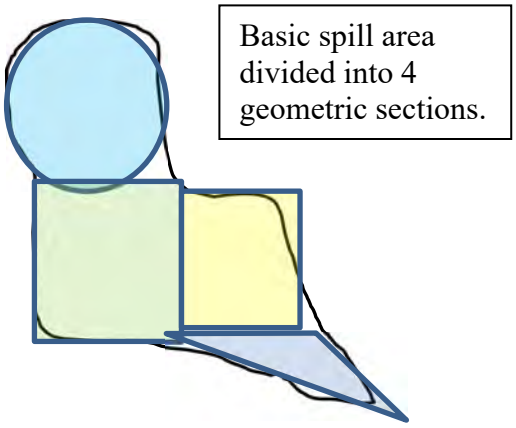
   Circle: Area = diameter (feet) x diameter (feet) x 3.14 divided by 4

   Triangle: Area = base (feet) x height (feet) x 0.5
6. Multiply the area (square feet) times the depth (in feet) to obtain the volume in cubic feet.
7. Multiply the volume in cubic feet by 7.48 to convert to gallons

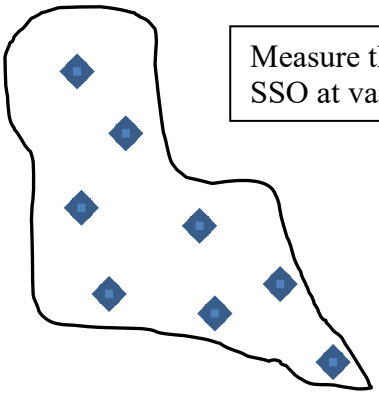
Not all SSOs will conform to a specific shape. When this occurs, break up the area of the SSO into various shapes or segments, then calculate the amount of wastewater spilled in each segment, adding them together to arrive at the total spill volume.

Example:





Determine the area of each of the geometric sections adding them all together to determine the total area of the spill.



Where it is difficult to measure wet spots on asphalt, use a depth of 0.0026'or 1/32". For wet spots on concrete use depths of 0.0013'or 1/64" for reasonable estimates.

Inch to Feet Conversion:

Inches	to	Feet
1/8"	=	0.01'
1/4"	=	0.02'
3/8"	=	0.03'
1/2"	=	0.04'
5/8"	=	0.05'
3/4"	=	0.06'
7/8"	=	0.07'
1"	=	0.08'
2"	=	0.17'
3"	=	0.25'
4"	=	0.33'
5"	=	0.42'
6"	=	0.50'
7"	=	0.58'
8"	=	0.67'
9"	=	0.75'
10"	=	0.83'
11"	=	0.92'
12"	=	1.00'

Sample Calculation:
A 20 ft x 20 ft square wet spot on concrete equals 3.9 gal and for asphalt is 7.8 gal.

Counting Connections

Once the location of the blockage has been established, the amount of the SSO could be estimated by counting the number of upstream connections. On the sewer atlas maps or GIS system, locate the pipeline where the SSO occurred. Count all of the developed parcels that are connected to the pipeline upstream of the blockage. The typical single family residential parcel may discharge 8 to 10 gallons of wastewater per hour during active times of the day. For a multi-family residential development such as an apartment or condo complex, count each apartment as a single family residential unit. Use the higher flow number (10 gallons per hour) during typical peak flow hours and the lower flow number (8 gallons per hour) during low flow periods. Multiply the number of connections times the average flow (8 to 10 gallons per hour) times the time period (duration) that the SSO occurred.

Example for an SSO occurring on a weekday at 8:00am:

Number of upstream connections	22
Estimated flow per parcel	10 gallons per hour
Duration of SSO event	45 minutes
Total spill estimation (22 x 10 x .75)	165 gallons

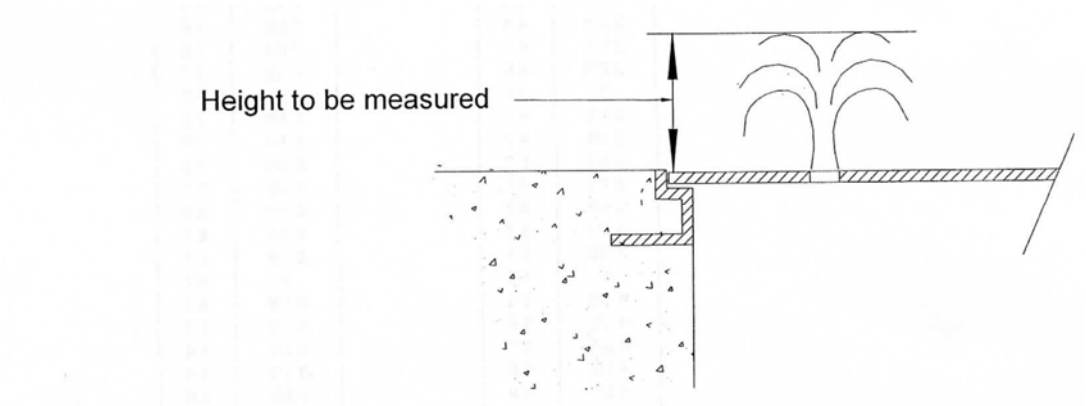
(22 connections x 10 gallons per hour x 45 minutes (.75 hour) = 165 gallons)

Data may be available in your drainage area from your capacity planners at your city or agency. Consult with them on reasonable flow amounts or rates of flow.

Pick and Vent Holes in Manhole Covers

Small SSOs will occur where the wastewater escaping from the manhole is isolated to the pick or vent holes in the cover. Larger SSOs may involve both the discharge from the pick and/or vent holes and the gap between the manhole cover and manhole frame. To estimate an SSO occurring from the manhole pick and vent holes, measure the height of the wastewater plume exiting the holes. Find that height and hole diameter on the manhole pick or vent hole chart to determine the flow rate escaping the pick/vent hole. Multiply the flow rate times the number of holes that are discharging wastewater. Once the total volume (gpm) has been determined,

multiply the gpm by the duration of the SSO in minutes. This will result in the total estimated gallons of the SSO.



Example: Measured height of plume exiting pick/vent hole is 1 inch from a ½-inch vent hole and there are 4 vent holes. The total volume per minute would be .94 gpm per hole (from attached chart) or 3.76 gpm total (.94 gpm x 4 holes) from the manhole cover. If the SSO lasted one hour, the total wastewater lost would be 226 gallons (3.76 x 60 = 225.6).

Number of pick holes	4
Flow from each pick hole	.94 gpm
Duration of SSO	60 minutes
Total SSO volume (.94 x 4 x 60=225.6)	226 gallons

Pick and Vent Hole Estimation Chart

Dia inches	Area Ft2	Water Ht inches	Water Ht inches	Time sec	velocity fps	Q cfs	Q gpm	Q gph
Vent Hole								
0.50	0.0014	1/64	0.02	0.0090	0.2894	0.0004	0.18	11
0.50	0.0014	1/32	0.03	0.0127	0.4093	0.0006	0.25	15
0.50	0.0014	1/16	0.06	0.0180	0.5789	0.0008	0.35	21
0.50	0.0014	1/8	0.13	0.0254	0.8187	0.0011	0.50	30
0.50	0.0014	1/4	0.25	0.0360	1.1578	0.0016	0.71	43
0.50	0.0014	1/2	0.50	0.0509	1.6373	0.0022	1.00	60
0.50	0.0014	3/4	0.75	0.0623	2.0053	0.0027	1.23	74
0.50	0.0014	1	1.00	0.0720	2.3155	0.0032	1.42	85
0.50	0.0014	1 1/4	1.25	0.0805	2.5888	0.0035	1.58	95
0.50	0.0014	1 1/2	1.50	0.0882	2.8359	0.0039	1.74	104
0.50	0.0014	1 3/4	1.75	0.0952	3.0632	0.0042	1.87	112
0.50	0.0014	2	2.00	0.1018	3.2747	0.0045	2.00	120
0.50	0.0014	2 1/4	2.25	0.1080	3.4733	0.0047	2.13	128
0.50	0.0014	2 1/2	2.50	0.1138	3.6612	0.0050	2.24	134
0.50	0.0014	2 3/4	2.75	0.1194	3.8399	0.0052	2.35	141
0.50	0.0014	3	3.00	0.1247	4.0106	0.0055	2.45	147
0.50	0.0014	3 1/4	3.25	0.1298	4.1744	0.0057	2.55	153
0.50	0.0014	3 1/2	3.50	0.1347	4.3320	0.0059	2.65	159
0.50	0.0014	3 3/4	3.75	0.1394	4.4840	0.0061	2.74	165
0.50	0.0014	4	4.00	0.1440	4.6311	0.0063	2.83	170
0.50	0.0014	4 1/4	4.25	0.1484	4.7736	0.0065	2.92	175
0.50	0.0014	4 1/2	4.50	0.1527	4.9120	0.0067	3.01	180
0.50	0.0014	4 3/4	4.75	0.1569	5.0466	0.0069	3.09	185
0.50	0.0014	5	5.00	0.1609	5.1777	0.0071	3.17	190
0.50	0.0014	5 1/4	5.25	0.1649	5.3055	0.0072	3.25	195
0.50	0.0014	5 1/2	5.50	0.1688	5.4304	0.0074	3.32	199
0.50	0.0014	5 3/4	5.75	0.1726	5.5524	0.0076	3.40	204
0.50	0.0014	6	6.00	0.1763	5.6719	0.0077	3.47	208
Vent Hole								
0.75	0.0031	1/16	0.06	0.0180	0.5789	0.0018	0.80	48
0.75	0.0031	1/8	0.13	0.0254	0.8187	0.0025	1.13	68
0.75	0.0031	3/16	0.19	0.0312	1.0027	0.0031	1.38	83
0.75	0.0031	1/4	0.25	0.0360	1.1578	0.0036	1.59	96
0.75	0.0031	1/2	0.50	0.0509	1.6373	0.0050	2.25	135
0.75	0.0031	3/4	0.75	0.0623	2.0053	0.0062	2.76	166
0.75	0.0031	1	1.00	0.0720	2.3155	0.0071	3.19	191
0.75	0.0031	1 1/4	1.25	0.0805	2.5888	0.0079	3.56	214
0.75	0.0031	1 1/2	1.50	0.0882	2.8359	0.0087	3.91	234
0.75	0.0031	1 3/4	1.75	0.0952	3.0632	0.0094	4.22	253
0.75	0.0031	2	2.00	0.1018	3.2747	0.0100	4.51	271
0.75	0.0031	2 1/4	2.25	0.1080	3.4733	0.0107	4.78	287
0.75	0.0031	2 1/2	2.50	0.1138	3.6612	0.0112	5.04	302
0.75	0.0031	2 3/4	2.75	0.1194	3.8399	0.0118	5.29	317
0.75	0.0031	3	3.00	0.1247	4.0106	0.0123	5.52	331
0.75	0.0031	3 1/4	3.25	0.1298	4.1744	0.0128	5.75	345
0.75	0.0031	3 1/2	3.50	0.1347	4.3320	0.0133	5.97	358
0.75	0.0031	3 3/4	3.75	0.1394	4.4840	0.0138	6.17	370
0.75	0.0031	4	4.00	0.1440	4.6311	0.0142	6.38	383
0.75	0.0031	4 1/4	4.25	0.1484	4.7736	0.0146	6.57	394
0.75	0.0031	4 1/2	4.50	0.1527	4.9120	0.0151	6.76	406
0.75	0.0031	4 3/4	4.75	0.1569	5.0466	0.0155	6.95	417
0.75	0.0031	5	5.00	0.1609	5.1777	0.0159	7.13	428
0.75	0.0031	5 1/4	5.25	0.1649	5.3055	0.0163	7.31	438
0.75	0.0031	5 1/2	5.50	0.1688	5.4304	0.0167	7.48	449
0.75	0.0031	5 3/4	5.75	0.1726	5.5524	0.0170	7.65	459
0.75	0.0031	6	6.00	0.1763	5.6719	0.0174	7.81	469

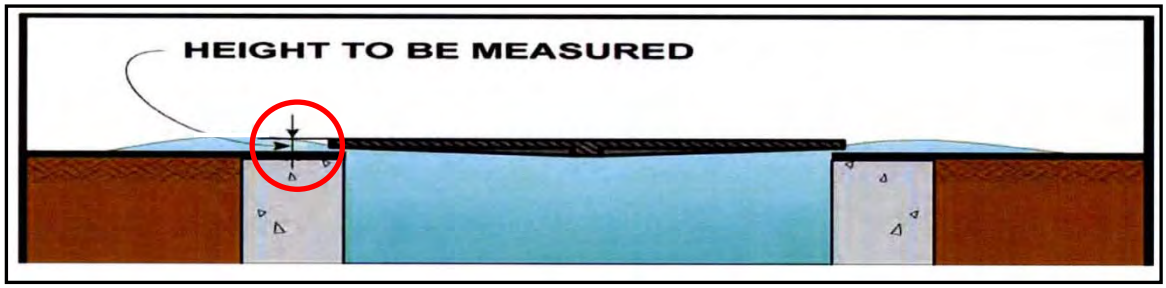
Pick and Vent Hole Estimation Chart - continued

Dia inches	Area Ft2	Water Ht inches	Water Ht inches	Time sec	velocity fps	Q cfs	Q gpm	Q gph
Vent Hole								
1.00	0.0055	1/16	0.06	0.0180	0.5789	0.0032	1.42	85
1.00	0.0055	1/8	0.13	0.0254	0.8187	0.0045	2.00	120
1.00	0.0055	3/16	0.19	0.0312	1.0027	0.0055	2.45	147
1.00	0.0055	1/4	0.25	0.0360	1.1578	0.0063	2.83	170
1.00	0.0055	1/2	0.50	0.0509	1.6373	0.0089	4.01	240
1.00	0.0055	3/4	0.75	0.0623	2.0053	0.0109	4.91	295
1.00	0.0055	1	1.00	0.0720	2.3155	0.0126	5.67	340
1.00	0.0055	1 1/4	1.25	0.0805	2.5888	0.0141	6.34	380
1.00	0.0055	1 1/2	1.50	0.0882	2.8359	0.0155	6.94	417
1.00	0.0055	1 3/4	1.75	0.0952	3.0632	0.0167	7.50	450
1.00	0.0055	2	2.00	0.1018	3.2747	0.0179	8.02	481
1.00	0.0055	2 1/4	2.25	0.1080	3.4733	0.0189	8.50	510
1.00	0.0055	2 1/2	2.50	0.1138	3.6612	0.0200	8.96	538
1.00	0.0055	2 3/4	2.75	0.1194	3.8399	0.0209	9.40	564
1.00	0.0055	3	3.00	0.1247	4.0106	0.0219	9.82	589
1.00	0.0055	3 1/4	3.25	0.1298	4.1744	0.0228	10.22	613
1.00	0.0055	3 1/2	3.50	0.1347	4.3320	0.0236	10.60	636
1.00	0.0055	3 3/4	3.75	0.1394	4.4840	0.0245	10.98	659
1.00	0.0055	4	4.00	0.1440	4.6311	0.0253	11.34	680
1.00	0.0055	4 1/4	4.25	0.1484	4.7736	0.0260	11.69	701
1.00	0.0055	4 1/2	4.50	0.1527	4.9120	0.0268	12.02	721
1.00	0.0055	4 3/4	4.75	0.1569	5.0466	0.0275	12.35	741
1.00	0.0055	5	5.00	0.1609	5.1777	0.0282	12.67	760
1.00	0.0055	5 1/4	5.25	0.1649	5.3055	0.0289	12.99	779
1.00	0.0055	5 1/2	5.50	0.1688	5.4304	0.0296	13.29	798
1.00	0.0055	5 3/4	5.75	0.1726	5.5524	0.0303	13.59	816
1.00	0.0055	6	6.00	0.1763	5.6719	0.0309	13.88	833
Pick Hole Semicircular area								
1.00	0.0027	1/16	0.06	0.0180	0.5789	0.0016	0.71	43
1.00	0.0027	1/8	0.13	0.0254	0.8187	0.0022	1.00	60
1.00	0.0027	1/4	0.25	0.0360	1.1578	0.0032	1.42	85
1.00	0.0027	1/2	0.50	0.0509	1.6373	0.0045	2.00	120
1.00	0.0027	3/4	0.75	0.0623	2.0053	0.0055	2.45	147
1.00	0.0027	1	1.00	0.0720	2.3155	0.0063	2.83	170
1.00	0.0027	1 1/4	1.25	0.0805	2.5888	0.0071	3.17	190
1.00	0.0027	1 1/2	1.50	0.0882	2.8359	0.0077	3.47	208
1.00	0.0027	1 3/4	1.75	0.0952	3.0632	0.0084	3.75	225
1.00	0.0027	2	2.00	0.1018	3.2747	0.0089	4.01	240
1.00	0.0027	2 1/4	2.25	0.1080	3.4733	0.0095	4.25	255
1.00	0.0027	2 1/2	2.50	0.1138	3.6612	0.0100	4.48	269
1.00	0.0027	2 3/4	2.75	0.1194	3.8399	0.0105	4.70	282
1.00	0.0027	3	3.00	0.1247	4.0106	0.0109	4.91	295
1.00	0.0027	3 1/4	3.25	0.1298	4.1744	0.0114	5.11	307
1.00	0.0027	3 1/2	3.50	0.1347	4.3320	0.0118	5.30	318
1.00	0.0027	3 3/4	3.75	0.1394	4.4840	0.0122	5.49	329
1.00	0.0027	4	4.00	0.1440	4.6311	0.0126	5.67	340
1.00	0.0027	4 1/4	4.25	0.1484	4.7736	0.0130	5.84	351
1.00	0.0027	4 1/2	4.50	0.1527	4.9120	0.0134	6.01	361
1.00	0.0027	4 3/4	4.75	0.1569	5.0466	0.0138	6.18	371
1.00	0.0027	5	5.00	0.1609	5.1777	0.0141	6.34	380
1.00	0.0027	5 1/4	5.25	0.1649	5.3055	0.0145	6.49	390
1.00	0.0027	5 1/2	5.50	0.1688	5.4304	0.0148	6.65	399
1.00	0.0027	5 3/4	5.75	0.1726	5.5524	0.0151	6.80	408
1.00	0.0027	6	6.00	0.1763	5.6719	0.0155	6.94	417

Estimation Chart courtesy of OC San: Created 5/17/99 and *modified 3/21/22*, as an estimating tool for field staff. Your city or agency may want to develop a similar tool.

Manhole Ring

Some manhole covers in use today typically only have one pick hole forcing most of the wastewater to escape from the perimeter of the manhole cover during higher flow SSOs. To estimate the volume in this example, measure the observed height of the wastewater plume exiting the manhole cover. Find the height and manhole diameter on the Manhole with Cover in Place to determine the flow rate escaping the manhole. The chart has two columns, one for 24-inch diameter covers and one for 36-inch diameter covers. Wastewater will also be escaping from the pick hole and must be accounted for separately by following the instructions for estimating an SSO from pick/vent hole. Multiply the flow rate times the number of holes that are discharging. The total estimated rate (gpm) is determined by adding together the rate being lost (gpm) from around the cover with the rate being lost (gpm) from the pick and/or vent hole(s). Once the total rate (gpm) has been determined, multiply the gpm by the duration of the SSO in minutes. This will result in the total estimated gallons of the SSO.



Example: The measured height of the plume exiting the ring of a 36-inch manhole is 1 inch. The total volume per minute would be 13 gpm from around the ring of a 36-inch manhole cover (from the attached chart). (Calculate the amount exiting the pick hole(s) and add to the total being lost around the ring). If the SSO lasted one hour the total wastewater lost would be 780 gallons (13 x 60 = 780).

Estimated loss around ring (from chart)	13 gpm
Duration of SSO	60 minutes
Total SSO (without loss from pick hole)	780 gallons

(13 gal/min x 60 minutes = 780 gallons plus amount lost from pick hole(s))

ESTIMATED SSO FLOW OUT OF MH WITH COVER IN PLACE

24" COVER

Height of spout above M/H rim H in inches	S S O FLOW Q in gpm	S S O FLOW Q in MGD	Min. Sewer size in which these flows are possible
1/4	1	0.001	
1/2	3	0.004	
3/4	6	0.008	
1	9	0.013	
1 1/4	12	0.018	
1 1/2	16	0.024	
1 3/4	21	0.030	
2	25	0.037	
2 1/4	31	0.045	
2 1/2	38	0.054	
2 3/4	45	0.065	
3	54	0.077	
3 1/4	64	0.092	
3 1/2	75	0.107	
3 3/4	87	0.125	
4	100	0.145	
4 1/4	115	0.166	
4 1/2	131	0.189	
4 3/4	148	0.214	
5	166	0.240	
5 1/4	185	0.266	
5 1/2	204	0.294	
5 3/4	224	0.322	6"
6	244	0.352	
6 1/4	265	0.382	
6 1/2	286	0.412	
6 3/4	308	0.444	
7	331	0.476	
7 1/4	354	0.509	
7 1/2	377	0.543	
7 3/4	401	0.578	8"
8	426	0.613	
8 1/4	451	0.649	
8 1/2	476	0.686	
8 3/4	502	0.723	
9	529	0.761	

36" COVER

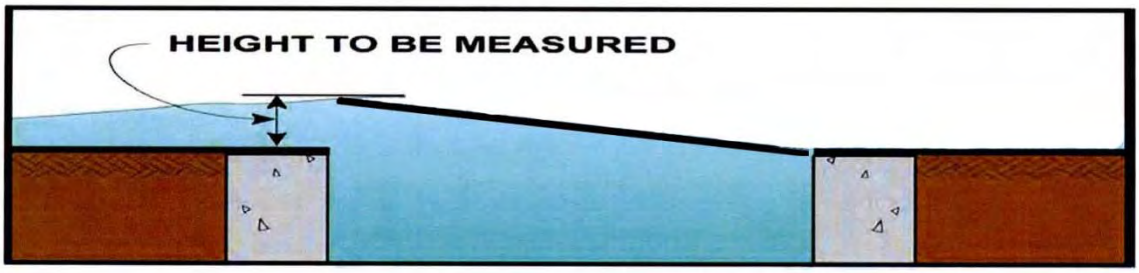
Height of spout above M/H rim H in inches	S S O FLOW Q in gpm	S S O FLOW Q in MGD	Min. Sewer size in which these flows are possible
1/4	1	0.002	
1/2	4	0.006	
3/4	8	0.012	
1	13	0.019	
1 1/4	18	0.026	
1 1/2	24	0.035	
1 3/4	31	0.044	
2	37	0.054	
2 1/4	45	0.065	
2 1/2	55	0.079	
2 3/4	66	0.095	
3	78	0.113	
3 1/4	93	0.134	
3 1/2	109	0.157	
3 3/4	127	0.183	
4	147	0.211	
4 1/4	169	0.243	
4 1/2	192	0.276	
4 3/4	217	0.312	6"
5	243	0.350	
5 1/4	270	0.389	
5 1/2	299	0.430	
5 3/4	327	0.471	
6	357	0.514	
6 1/4	387	0.558	8"
6 1/2	419	0.603	
6 3/4	451	0.649	
7	483	0.696	
7 1/4	517	0.744	
7 1/2	551	0.794	
7 3/4	587	0.845	10"
8	622	0.896	
8 1/4	659	0.949	
8 1/2	697	1.003	
8 3/4	734	1.057	
9	773	1.113	

The formula used to develop Table 1 measures the maximum height of the water coming out of the maintenance manhole above the rim. The formula was taken from Hydraulics and Its Application by A.H. Gibson (Constable & Co. Limited).

Partially Covered Manhole

Sometimes an SSO will occur that only lifts one side of the manhole cover. This is especially true of manholes where the cover is on an incline with the cover lifting on the downward side of the manhole. To estimate the volume of an SSO under these conditions, calculate the area (in square feet) from where the wastewater is escaping and the velocity (in feet per second) that the wastewater is normally traveling in the sewer at half the pipe depth. The velocity is estimated from visual observation with 2 feet/second or less being a small velocity, 4 to 5 feet/second being a medium velocity, and 7 feet/second or higher being a large velocity. Velocities in the sewer above 7 feet/second may be strong enough to blow the manhole cover off. Higher velocities also tend to raise the manhole lid higher. Next, multiply by the duration

(in seconds) that the SSO occurred. Finally, multiply by 7.48 to determine the volume of the SSO in gallons. The formula is Volume (gallons) = Area (sq. ft.) x Velocity (ft/sec) x Time (in seconds) x 7.48 (gal/cu. ft.).



Example: The measured height of the plume exiting the side ring of a 24-inch manhole is 2 inches. Based upon the data provided in the Area Calculation Chart below, a 2-inch plume from one side of a 24-inch manhole cover provides 0.524 square feet of area. The velocity of the flow is estimated at 4 ft/sec (visual observation) with the assumed duration of the flow lasting for one hour. The total amount of the SSO is estimated at 56,441 gallons (.524 x 4 x 60 x 60 x 7.48 = 56,441)

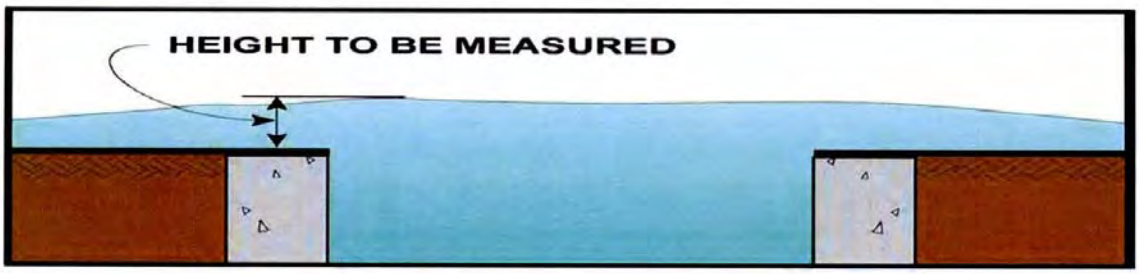
Height of plume	2 inches
Area for 24 inch manhole	0.524 square feet
Estimated velocity	4 ft/sec
Duration of SSO	60 minutes
Conversion from cu. ft. to gallons	7.48
Total estimated SSO volume	56,441 gallons

(.524 sq. ft. x 4 ft/sec x 60 minutes x 60 sec/min x 7.48 gal/cu ft = 56,441 gal)

Area Calculation Chart		
Height of Flow	24 Inch Manhole	36 Inch Manhole
.5 inches	0.131 sq. ft.	0.195 sq. ft.
1 inches	0.262 sq. ft.	0.391 sq. ft.
1.5 inches	0.393 sq. ft.	0.586 sq. ft.
2 inches	0.524 sq. ft.	0.782 sq. ft.
2.5 inches	0.655 sq. ft.	0.977 sq. ft.
3 inches	0.786 sq. ft.	1.173 sq. ft.
3.5 inches	0.917 sq. ft.	1.368 sq. ft.
4 inches	1.048 sq. ft.	1.564 sq. ft.

Open Manhole

In large events the force of the overflowing wastewater will have sufficient pressure and volume to unseat the cover from the frame and move the manhole cover away from the manhole. Typically, when the SSO rates reach approximately 7 cfs (approximately 3,000 gpm or about 4.32 mgd), there is sufficient flow and pressure to blow off the manhole cover. To estimate the volume of an SSO where the manhole cover has been removed, the average height of the plume of wastewater exiting the manhole must be measured. This measurement is from the pavement surface close to the manhole ring to the top of the plume. Take several measurements in several locations around the ring and average the findings. If possible, and being safe to protect yourself from the open manhole, find the average height of the plume for the size of the manhole lid (24-inch or 36-inch diameter) on the Area Calculation Chart to determine the rate of flow exiting the manhole. Multiply the flow rate expressed in gallons per minute from the chart multiplied by the duration of the SSO in minutes to determine the total volume of the SSO. A photo taken at a safe distance upon arrival may help you refine your estimate.



Example: Determine the observed height of the plume at several locations around the ring of the manhole and average the results. Determine the size of the manhole cover. If the average height of the plume exiting an open 24-inch diameter manhole is 2 inches, find 2 inches on the 24-inch Manhole Cover Removed Chart. Based upon the data provided in the Manhole Cover Removed Chart, the flow in gallons per minute would be 3,444 gpm. If the duration of the flow lasted for one hour (60 minutes), the total amount of the SSO would be estimated at 206,640 gallons (3,444 x 60 = 206,640).

Height of plume (average) on 24-inch manhole	2 inches
Estimated flow from chart	3,444 gpm
Duration of SSO	60 minutes
Estimated SSO total volume	206,640 gallons

(Est flow from chart 3,444 x 60 minutes = 206,640)

ESTIMATED SSO FLOW OUT OF M/H WITH COVER REMOVED

24" FRAME

Water Height above M/H frame H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/8	28	0.04	
1/4	62	0.09	
3/8	111	0.16	
1/2	160	0.23	
5/8	215	0.31	6"
3/4	354	0.51	8"
7/8	569	0.82	10"
1	799	1.15	12"
1 1/8	1,035	1.49	
1 1/4	1,340	1.93	15"
1 3/8	1,660	2.39	
1 1/2	1,986	2.86	
1 5/8	2,396	3.45	18"
1 3/4	2,799	4.03	
1 7/8	3,132	4.51	
2	3,444	4.96	21"
2 1/8	3,750	5.4	
2 1/4	3,986	5.74	
2 3/8	4,215	6.07	
2 1/2	4,437	6.39	
2 5/8	4,569	6.58	24"
2 3/4	4,687	6.75	
2 7/8	4,799	6.91	
3	4,910	7.07	

36" FRAME

Water Height above M/H frame H in inches	S S O FLOW Q in gpm	in MGD	Min. Sewer size in which these flows are possible
1/8	49	0.07	
1/4	111	0.16	
3/8	187	0.27	6"
1/2	271	0.39	
5/8	361	0.52	8"
3/4	458	0.66	
7/8	556	0.8	10"
1	660	0.95	12"
1 1/8	1,035	1.49	
1 1/4	1,486	2.14	15"
1 3/8	1,951	2.81	
1 1/2	2,424	3.49	18"
1 5/8	2,903	4.18	
1 3/4	3,382	4.87	
1 7/8	3,917	5.64	21"
2	4,458	6.42	
2 1/8	5,000	7.2	24"
2 1/4	5,556	8	
2 3/8	6,118	8.81	
2 1/2	6,764	9.74	
2 5/8	7,403	10.66	
2 3/4	7,972	11.48	30"
2 7/8	8,521	12.27	
3	9,062	13.05	
3 1/8	9,604	13.83	
3 1/4	10,139	14.6	
3 3/8	10,625	15.3	36"
3 1/2	11,097	15.98	
3 5/8	11,569	16.66	
3 3/4	12,035	17.33	
3 7/8	12,486	17.98	
4	12,861	18.52	
4 1/8	13,076	18.83	
4 1/4	13,285	19.13	
4 3/8	13,486	19.42	

Disclaimer:
This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

Pictorial Reference

Currently there are two picture charts being widely used to assist with estimating SSO volumes. The older chart is the city of San Diego's Manhole Overflow Rate Chart with the newer chart being the CWEA Southern Section Collection Systems Committee (SSCSC) Manhole Overflow Gauge. Each chart is a pictorial depiction of how an overflowing manhole appears at a given flow rate. The SSCSC Manhole Overflow Gauge has an additional picture for each flow rate showing a wide angle view of the spill area. When using either of the pictorial reference charts, select which picture most accurately represents the SSO being estimated. Use the gpm of the associated picture multiplied times the duration of the SSO to determine the total spill volume. Example: If the selected picture shows 300 gpm and the duration of SSO is 55 minutes, the total estimated spill volume would be 16,500 gallons (300 gpm x 55 min).

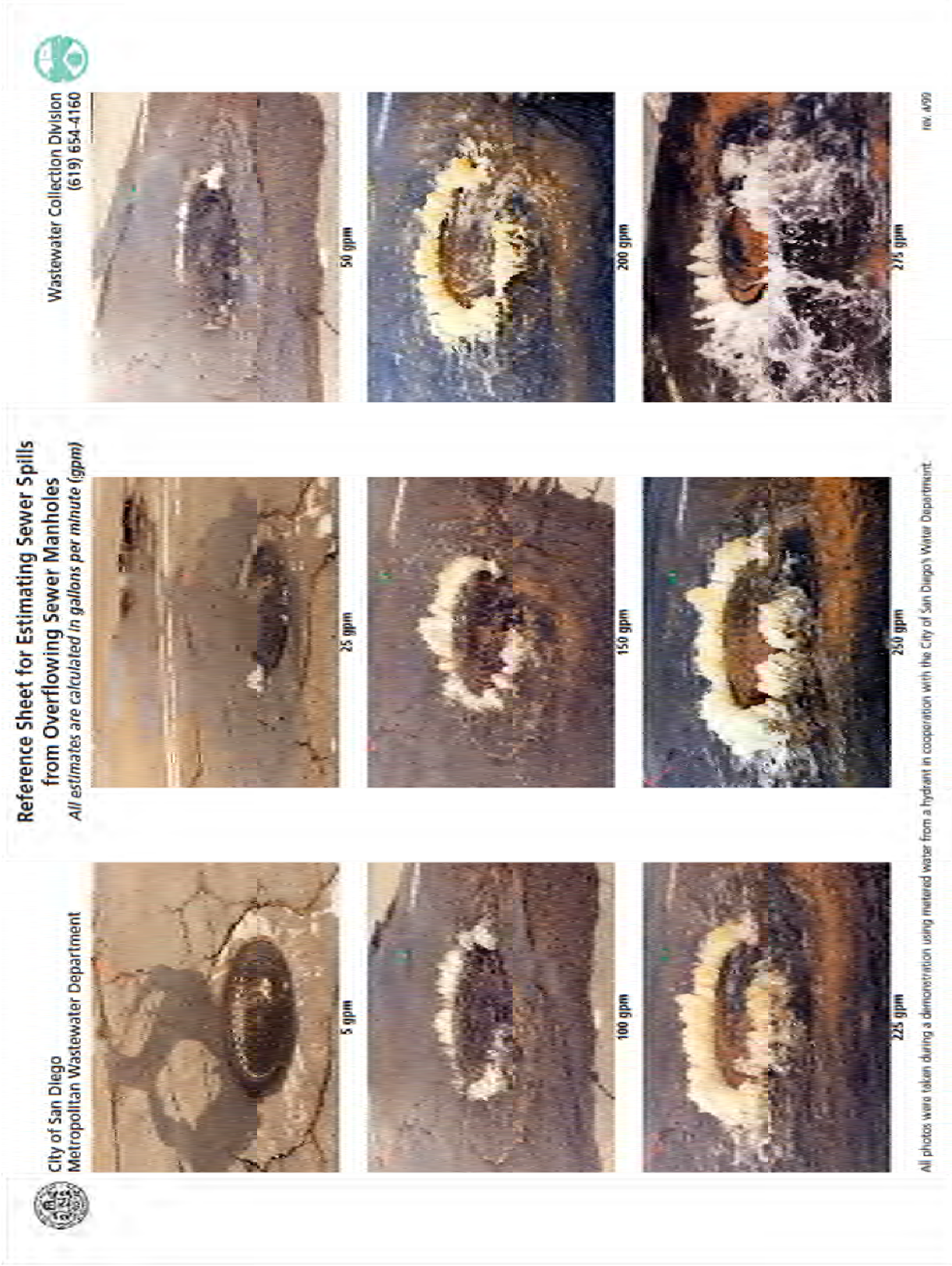
Selected picture volume	300 gpm
Duration of SSO	55 minutes
Total estimated SSO	16,500 gallons
(300 gpm x 55 minutes = 16,500 gallons)	

Note: Data was obtained at training facilities where potable water was metered and photos were taken at various flow rates.

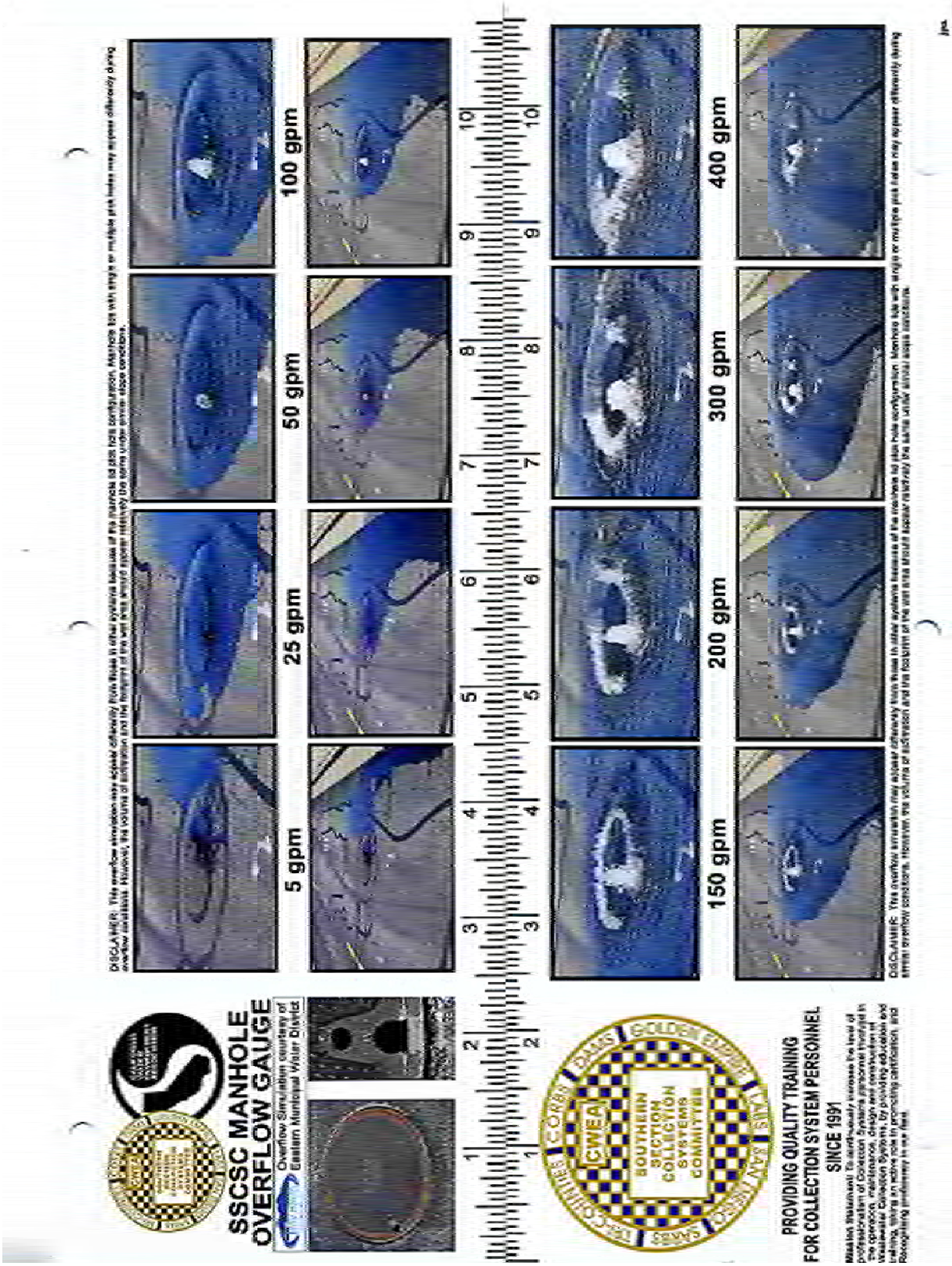
As a reference point, an 8-inch diameter sewer flowing half full at a velocity of 2.5 ft/sec would have a flow rate of about 192 gal/min. If fully blocked, the SSO rate would be 192 gpm. For a partial blockage, the SSO rate will be less.

Other agencies have developed above ground estimating tools such as frame and cover sets that can be pressurized using potable water and simple flow meters.

City of San Diego Manhole Overflow Picture Chart

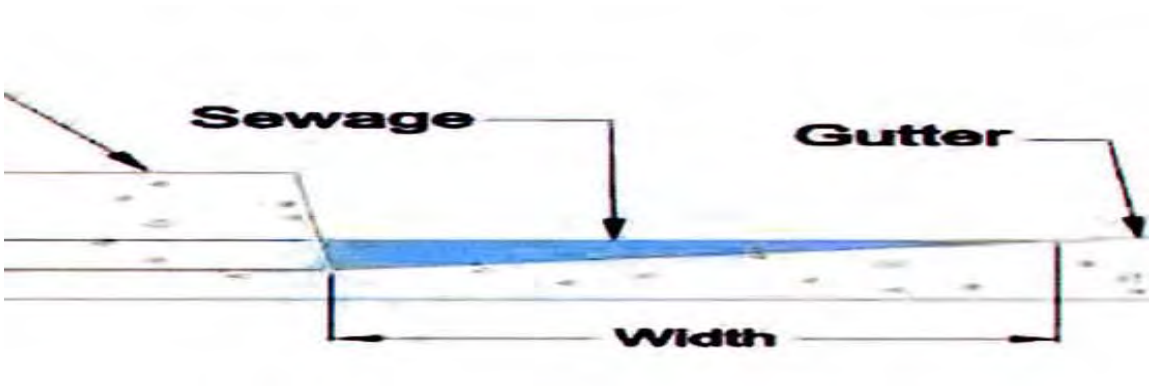


SSCSC Manhole Overflow Gauge



Gutter Flow (Simplified Version)

Although the traditional Manning's Equation is used to calculate flows in open channels, this simplified version can be used to measure SSOs that are flowing in open channels such as ditches, curb and gutter, etc. and still achieve reasonable estimations. Two things need to be determined to utilize this method of spill estimation, the cross sectional area of the channel and the velocity of the flow in the channel. First, determine the cross sectional dimensions of the channel (width and depth of flow) to determine the area of the flow. Then determine the velocity of the flow in the channel. To determine the velocity, drop a small floating object (ping pong ball, leaf, small piece of wood, etc.) into the flow and time how long it takes the object to travel a measured distance. This should be practiced several times in a non-SSO situation, and averaged to determine the flow velocity. The velocity of the flow multiplied by the cross sectional area of the flow multiplied by the duration of the SSO will result in the approximate volume of the SSO.



Q = V x A

Flow (gal/min) = Velocity (ft/sec) x Area (ft^2) x 7.48 gal/cu ft x 60 sec/min

Example: If the cross section triangular area of the spill is calculated at .5 sq.ft. with the velocity measured at .25 ft. per second, the flow would be .125 cubic feet per second. Multiply times 449 (one cubic foot per second equals 449 gallons per minute) to determine the gallons per minute (56 gpm). If the SSO lasted for 35 minutes the total estimated spill volume would be 1,964 gallons.

Simplified Cross Section Area of the SSO	
Estimated Triangular Area	0.5 square feet
Estimated Velocity	.25 feet per second
Duration of the SSO	35 minutes
Gallons per minute per cubic foot per second conversion	449
Total estimated spill volume	1,964 gallons

(Area .5 sq.ft. x Est velocity .25 ft. per sec. = .125 cfs x 449 = 56 gpm x 35 minutes = 1,964 estimated gallons spilled)

Gutters on steep hillsides will flow at higher velocities. Practice your estimating on flatter areas and steeper areas of your service area.

Bucket Method

This method can be used for small spills due to partial blockages where the entire flow stream could be captured in a bucket. Estimate how many minutes it takes to fill the bucket. Dividing the volume of the bucket (in gallons) by the elapsed time to fill the bucket (in minutes). This provides the flow rate in gallons per minute (gpm). Once the gpm has been established, multiply the gpm by the total time duration in minutes of the SSO until it stopped to determine the total estimated volume of the SSO.

Example: If it takes 30 seconds (.5 minutes) to fill a 5 gallon bucket and the total spill duration was 20 minutes, the total spill volume would be 200 gallons. (5gal/.5 min = 10 gpm x 20 min = 200 gal).

Time to fill a 5 gallon bucket	30 seconds (.5 minute)
Duration of SSO	20 minutes
Estimated spill volume	200 gallons

(5 gallons every 30 seconds equals 10 gallons per minute x 20 minutes = 200 gallons)

You can practice visual estimating by filling a bucket of known volume for a measured time from a garden hose.

Pipe Size

To calculate an SSO based upon pipe size requires the diameter of the pipe, the depth of flow in the pipe downstream of the blockage during and after the blockage, and the flow velocity in the pipe. This method calculates the amount of flow in the pipe at the same time of the day during the blockage compared to the amount of flow normally in the pipe to determine how much flow had been lost over time.

To use this method, measure the flow depth at the nearest manhole downstream from the blockage. Record the depth reading. Once the blockage has been cleared and the flow stabilized, measure the flow depth at the same manhole as before and record the reading. The attached chart can be used on various size pipelines where the velocity is 2.0 feet per second. Pipelines of other rates will have to be calculated.

To use the attached chart, find the depth of the flow during the blockage in column 1. Follow the row across to the diameter of the pipe where the blockage has occurred. The number listed will be the flow rate in gallons per minute for pipelines with a velocity of 2 feet per second. Next find the flow depth after the blockage has been removed and the flow stabilized. Move across the chart to the proper pipe size and record the flow rate for a free flowing pipeline. Subtract the flow rate from the blocked pipe from the flow rate of the free flowing pipe. The remainder will be the flow rate lost. Multiply the flow rate lost times the duration of the SSO to determine the total flow volume lost. Example: If the flow depth during the blockage of a 10-inch pipe was 1 inch, the flow rate would 25 gpm. After the blockage was cleared and the flow stabilized, the flow depth was now 5 inches then the flow rate would be 240 gpm. To determine the amount lost, subtract the gpm (pipe blocked) from the gpm (pipe cleared) (240 gpm – 25 gpm = 215gpm) leaving the flow rate of the SSO. Multiply the remaining flow rate multiplied by the duration of the SSO in minutes to estimate the total volume of the SSO.

Flow Depth Inches	8 " PIPE	10" PIPE	12" PIPE	15" PIPE	18" PIPE	21" PIPE	24" PIPE
1	20 GPM	25 GPM	30 GPM	35 GPM	40 GPM	45 GPM	50 GPM
2	60	70	80	85	95	105	125
3	110	125	135	150	175	185	210
4	160	180	200	235	260	285	320
5	190	240	280	315	360	380	445
6	260	310	355	415	455	500	555
7	290	370	425	495	570	620	695
8	320	430	500	600	680	760	815
9		465	575	690	800	890	965
10		490	625	775	905	1005	1120
11			685	870	1020	1135	1275
12			715	935	1130	1260	1410
13				1020	1240	1415	1580
14				1070	1345	1520	1690
15				1105	1425	1650	1850
16					1495	1760	1990
17					1550	1880	2110
18					1595	1980	2285
19						2050	2410
20						2115	2530
21						2160	2630
22							2700
23							2765
24							2820

Note: the chart assumes V = 2.0 feet per second and n = 0.013

1. Record the time that spill was reported.
2. Record the flow, in inches, downstream of the spill or blockage. Record the pipe size in inches. Determine flow rate in gallons per minute (GPM) using chart above.
3. Re-establish flow and allow stabilizing. Record the time that flow stabilizes and the depth of flow, in inches. Determine flow rate using chart above.
4. Subtract the flow rate calculated in #2 from the flow rate calculated in #3.
5. Multiply the result of 4 by the minutes elapsed from notification to stopping overflow.
6. Report total amount in gallons on the SSO Report.

Note: The above chart is only for pipelines of the diameters shown and flowing at a velocity of 2.0 ft/sec.

Metered Flow

Estimates of the amount of wastewater spilled from a continuously metered system can be achieved utilizing upstream and downstream flow meters located close to the point where the wastewater escaped. Flow meters may be located at strategic locations throughout the wastewater collection system or at the intake or discharge of wastewater pump or lift stations. Flow metering usually occurs on pressure systems. If a spill is suspected on a metered upstream wastewater line, check the flow meter readings for abnormalities and note the time they start. Also check the flow meter readings at the downstream flow meter. If the downstream readings are lower than usual, the difference may be the amount of wastewater being lost to a spill. Abnormal pumping cycles for pump or lift stations located downstream from the spill can also be used to estimate the volume of a spill. Portable flow meters could also be installed in gravity sewers after a SSO event to help verify average flows at various times of the day when full or partial blockages may have occurred. You should also perform

this on the same day of the week that the SSO occurred. This is also a good way to understand how flows will change during the day in various parts of your system.

Rain Events

Previous examples of methods throughout the document were all in dry weather situations. Rain events cause substantial difficulties for SSO responders in establishing an accurate estimate of an SSO. Infiltration into the sewer system will increase, sometimes dramatically, the system flow including the amount of the SSO. When estimating the SSO amount during a rain event, the estimate is to include only the amount of wastewater that left the collection system (this includes any clear water inflow and/or infiltration (I&I) that entered the collection system upstream of the SSO) and not any waters that the wastewater comingled with after leaving the system. Although the comingled waters are considered contaminated by the SSO and may be involved in the cleanup, they should not be considered in the estimate of the volume of sewage spilled for the event. Consult with your city or agency management or your site-specific procedures to be used during wet weather SSOs.

Saturated Soils

Spills that have occurred on or migrated to grassy or dirt areas can be estimated if the area is dry and is not regularly irrigated like a field or dirt parking lot. This method is effective only during dry weather and not during or after a rain event. To estimate how much wastewater has been lost to the soil, first determine how many cubic feet of soil has been wetted. First determine the size of the area where the spill occurred. This is done in the same manner as for spills that occurred on hard surfaces and as discussed in the Measured Volume Method. Next determine how deep the soil has been saturated. To determine the depth of the soil saturation, dig several test holes with a round point shovel until dry soil is reached. Measure the depth of each hole and determine the average depth of the saturated soil. Multiply the area of the spill (in square feet) times the average depth of the soil saturation to determine the amount (in cubic feet) of saturated soil. Different types of soils will retain moisture in different amounts. Water will penetrate sandy soils quicker than clay soils and clay soils are capable of holding more moisture than sandy soils. Use an average of 18% moisture content when estimating the amount of wastewater that has saturated the soil.

Example: If the spill was contained in a dry dirt or grassy area of 10 feet by 20 feet, the area of the spill would be 200 square feet if it was a perfect rectangle (assumed). If the wastewater penetrated the soil to an average depth of 3 inches, the total amount of saturated soil would be 50 cubic feet (10 x 20 x .25 = 50 cf.). To determine the amount of wastewater suspended in the wetted soil, multiply the 50 cubic feet times 7.48 gallons per cubic foot (50 cf x 7.48 gal/cf = 374 gallons). Next multiply the gallons times the average amount of moisture the soil can hold (use 18% as a rough estimate or calculate the soil moisture) to determine the actual estimated amount of wastewater that has saturated the soil (374 gal x .18 = 67.3 gallons of wastewater contained in the soil for the area of the spill). Add the amount of wastewater estimated to be contained in the soil with the amount of surface wastewater that was removed to achieve an estimated total amount of the wastewater spill.

Simple method to calculate soil moisture content:
Equipment needed: One coffee filter; a funnel; a graduated measuring cup; a jar or bottle.
Place the coffee filter into the funnel. Place the funnel into the mouth of the jar or bottle. Place one cup of clean dry soil from the spill site onto the coffee filter. Pour one cup (8 ounces) of water onto the soil and allow the water to drain into the jar. Once the water has stopped dripping from the funnel, remove the funnel and measure the amount of water in the jar. The difference between the amount of water in the jar and the 8 ounces originally poured over the soil is the amount of moisture the soil retained.

Example: If six and one half ounces (6.5) remained in the jar, one and one half ounce (1.5) or 18.75% remained in the soil. The soil moisture content would be 18.75%.

Combo Truck or Vacuum Truck Recovery

When the spill is contained to a specific area and recovered by a combo or vacuum truck, the amount recovered can be used in calculating the amount of the original spill. If the spill is contained on a hard surface, estimate the total spill volume by what was captured by the combo or vacuum truck plus the amount that could not be captured. To estimate the amount not captured by the combo or vacuum truck, use the Measured Volume Method. For wet spots on concrete, use a depth of 0.0013 ft. or 1/64 inch. For wet stains on asphalt, use a depth of

0.0026 ft. or 1/32 inch. If the spill is contained on soil, use the Saturated Soils Method to determine how much of the spill soaked into the soil and add to the amount captured by the combo or vacuum truck.

Conversion Factors

1.0 cfs = .6463 mgd

One cubic foot of water (cf) = 7.48 gallons

One cubic foot of water per second (cfs) = 448.8 gallons per minute

A cylinder 1 foot in diameter and one foot deep = 5.87 gallons

A 1 square foot triangle 1 foot deep = 3.25 gallons

One inch or 1/12 ft = .083 feet

Volumes Recovered with Trucks or Pumped to Tanks

Level gauge on truck <u>or</u>

Known volume of the full tank <u>or</u>

Number of full tank trucks used during large SSO events

Use your agency's approved conversion factors, if available.

References

California Environmental Protection Agency

http://www.calepa.ca.gov/

State Water Resources Control Board

http://www.swrcb.ca.gov/

Sanitary Sewer Overflow (SSO) Reduction Program

http://www.swrcb.ca.gov/water_issues/programs/sso/index.shtml

Sample Worksheet

_____
(City or Agency Name)

SSO Volume Estimation Worksheet

SSO Address/Location:_____ **Date:** _____

_____

SSO Volume Method of Estimation (check appropriate box and provide appropriate information for method used below)

Pictorial Reference Flow Rate Chart (San Diego Chart ☐ CWEA Ruler ☐)
Vent or Pick Holes ☐ Eyeball estimate ☐

Measured volume ☐ Counting Connections ☐ Manhole Ring ☐ Partially Covered Manhole ☐ Open Manhole ☐

Bucket Method ☐ Pipe Size Method ☐ Gutter Flow Method ☐ Metered Flow ☐
Rain Event Method ☐

Saturated Soils Method ☐ Combo/Vacuum Truck Recovery Method ☐

Spill Start Date: _____ Spill Start Time:_____

Spill End Date: _____ Spill End Time: _____ Total Est. Spill Volume (gal):_____

Provide a detailed description of the method(s) used to determine the SSO estimate. (Use additional sheets as needed)

Signed: _____ **Date:** _____

APPENDIX S

Risk Management Program

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	01/29/07		Original
1	04/12/19	H. Janz	• Insurance limit updates
	10/11/19	T. Nguyen	• Reviewed – no changes
2	10/08/20	W. Ritchie	• Language updates due to Risk Mgmt structural changes
3	03/11/21	W. Ritchie	• Changed OCSD to OC San; added "property" to types of insurance
	09/14/21	J. Preston	• Reviewed – no changes
4	03/11/22	J. Preston	• Updated auto insurance limit requirements to reflect exposure; Sections 6.4.1.1.3 and 6.4.1.2.3.
	9/12/22	J. Preston	• Reviewed – no changes
5	9/13/22	J. Preston	• Reviewed – changed title Director of Finance
6	9/11/24	J. Preston	• Reviewed – no changes
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FINANCIAL MANAGEMENT DIVISION POLICY AND PROCEDURE			
Subject:	Risk Management Program	***Index: Number:***	Risk Management 201-4-1
Effective Date:	January 1, 2020	***Prepared by:***	Financial Management Division
Supersedes:	January 1, 2005	***Approved By:***	Director of Finance and Administrative Services

1.0 ***PURPOSE:***

It is the expressed intent of the District to establish and operate a comprehensive risk management program in order to protect District assets in as expeditious and cost-effective manner as possible and to reduce to the maximum extent feasible, adverse risk to citizens and employees.

2.0 ***ORGANIZATIONS AFFECTED:***

All District departments and employees.

3.0 ***REFERENCE:***

Addendum A: Insurance Glossary for OC San.

4.0 ***POLICY:***

The risk management program includes general liability, property, workers compensation, employee benefits and safety and is developed to support the following objectives:

4.1 The District balances risk against the premium cost for insurance coverage for property, construction, general liability, workers' compensation, performance bond, and boiler & machinery.

4.2 Coverage limits, deductible levels and claims procedures shall be

recommended by the risk manager and approved by the Board of Directors.

4.3 Minimize municipal risk and exposure wherever possible.

4.4 Provide the broadest insurance protection reasonably available.

4.5 Finance the cost of risk at the lowest possible level through a combination of education, risk retention and risk sharing.

4.6 Establish and operate an aggressive internal safety program includes provisions wherein each District employee is aware of potential risk exposures and is accountable through the organization for losses the District might incur.

4.7 Wherever possible and practical, continually transfer District liabilities to the other party to the contract and take steps to assure that party is adequately insured.

4.8 Establish a "firm, but fair" policy of handling claims brought against the District.

5.0 *DEFINITIONS:*

For the purpose of this policy statement, several terms are defined below:

5.1 **Claims Coordinators:** The individuals responsible for processing claims brought against the District. Individuals in the Human Resources Division will be assigned responsibilities for processing workers' compensation claims. Individuals within the Finance Department will be assigned responsibilities for processing all other types of claims against the District.

5.2 **Director of Finance:** Individual responsible for managing all property/liability insurance related matters.

5.3 **Risk Management Program:** A comprehensive plan, including procedures, insurance coverage, funding mechanisms, safety programs, contractual liability transfer programs, all of which are combined and coordinated to both protect the District against unexpected losses and provide a sound financial base for funding routine exposures.

5.4 **Risk Manager:** The individual responsible for managing all workers' compensation and employee benefit insurance-related matters, coordinating accident reporting requirements, establishment and operation of the District's Safety Committee, and ensuring compliance with all state safety and workers' compensation self-insurance laws.

5.5 **Risk Retention:** The dollar amount of risk assumed by the District.

5.6 **Risk Sharing:** Transfer of risk to other entities either by purchasing coverage or executing appropriate hold harmless agreements.

5.7 **Self-Insurance:** Assumption of the cost of losses incurred by the District.

5.8 **Self-Insured Retention:** A large deductible paid by the District.

6.0 ***PROCEDURE:***

6.1 Risk Management Program Structure – Risk management will systematically and continuously identify loss exposures, including but not limited to property, general liability, workers compensation, employee benefits, and safety. These exposures will be analyzed in terms of frequency and severity probabilities and the application of sound risk financing and risk control procedures will be applied so as to deal effectively with these exposures.

6.2 **Claim and Incident Reporting**

6.2.1 Workers' Compensation Claims – Please refer to Human Resources staff for detailed instructions as to how workers' compensation claims should be reported.

6.2.2 Accident of Property Loss Claims – Within 24 hours or at the start of the next business day after an accident, the appropriate accident report form should be completed and forwarded to the Finance Department. The forms must be completed as carefully and accurately as possible with attention to detail. Information reported will be vital in determining how a claim is adjusted and/or paid and what the District's exposure may or may not be.

6.2.3 Medical and Dental Claims – These claims and coverage limits will be submitted directly to the insurance carrier by the employee in accordance with the plan booklets available in the Human Resources Department.

6.3 **Responsibilities**

6.3.1 Human Resources – As it pertains to employee coverage and workers' compensation, it is the responsibility of the Human Resources Department to (1) ensure the District is properly protected against losses; (2) work with brokers to secure employee benefits coverages needed by the District; (3) audit and monitor broker and claims services; and (4) recommend coverage changes and premium levels to the Board

of Directors. It is also the Human Resources Department's responsibility to develop and administer the employee safety programs, medical and dental plans, coordinate accident and claim reporting requirements, and ensure compliance with state workers' compensation self-insurance laws, and for the establishment and operation of the District's Safety Committee.

6.3.2 Director of Finance – As it pertains to general liability, property, and boiler and machinery. It is the responsibility of the Director of Finance to (1) ensure the District is properly protected against losses; (2) work with brokers to secure any property/casualty insurance coverages needed by the District; (3) audit and monitor broker and claims services; and (4) recommend coverage changes and premium levels to the Board of Directors.

6.3.3 General Counsel – It is the responsibility of General Counsel to maintain a continual awareness of claims filed against the District and to provide legal counsel and/or legal defense as might be appropriate.

6.3.4 Contracts/Purchasing Manager is responsible for the review of contracts the District may enter into to ensure hold harmless and subrogation clauses are included where appropriate.

6.3.5 Other Department Directors – Other department directors are responsible to:

6.3.5.1 Be aware of the structure of the District's insurance program;

6.3.5.2 Actively promote the benefits of an aggressive safety program to minimize losses paid directly by the District from its Insurance Funds;

6.3.5.3 Recommend coverage changes or modifications wherein insurance coverage are not felt to be adequate or special coverage is required;

6.3.5.4 Aggressively pursue the assignment of risk to parties the District is contracting with wherever possible and reasonable;

6.3.5.5 Report claims as soon as possible. Investigate claims as indicated or requested;

6.3.5.6 Maintain a general sense of awareness of the risk exposures the District has and the potential high cost of lawsuits that may be being experienced by public entities

here and everywhere.

6.3.6 Employees – All employees are required to be aware of District safety programs, accident and incident reporting procedures, hazard reporting procedures, and to be cognizant of the necessity to minimize the risk of loss involved in all District operations.

6.4 **Purchasing Insurance Requirements**

6.4.1 The District maintains four different levels of purchasing insurance requirements, each requiring the District to be named as additional insured, as follows:

6.4.1.1 Level 1 – Required Insurance Coverage for Service Contracts under $50,000:

6.4.1.1.1 Workers' Compensation Coverage – $1.0 million minimum, including a waiver of subrogation against the District;

6.4.1.1.2 General Liability – $1.0 minimum per occurrence with a $2.0 million minimum aggregate, or $1.0 million aggregate separate for an individual contract;

6.4.1.1.3 Auto/Vehicle Liability Insurance – Combined single limit of $0.5 to $1.0 million (depending on vehicle use/exposure) or alternatively, $500,000 per person for bodily injury and $500,000 per accident for property damage;

6.4.1.1.4 Errors & Omission Insurance – as applicable to design work, technical specifications, and any service provided whereby faulty information could result in financial loss to the District. $1.0 million minimum per occurrence.

6.4.1.1.5 Cyber Liability Insurance – as may be applicable to computer technology services or products, use of which may cause financial or reputational loss to the District.

6.4.1.2 Level 2 – Required Insurance Coverage for Service Contracts over $50,000 and all contracts related to Maritime/Watercraft services:

6.4.1.2.1 Workers' Compensation Coverage – $1.0 million minimum, including a waiver of subrogation against the District and, on contracts for maritime/watercraft services, the standard form policy of coverage is to be used as provided for under the U.S. Longshore and Harbor Workers' Compensation Act and the Jones Act;

6.4.1.2.2 General Liability – $1.0 million minimum per occurrence with a $2.0 million minimum aggregate, or $1.0 million aggregate separate for an individual contract and, on contracts for maritime/watercraft services, the insurance shall include coverage for each of the following hazards:

6.4.1.2.2.1 Broad form property damage;

6.4.1.2.2.2 Severability of interest or cross-liability;

6.4.1.2.2.3 Personal injury- with the "employee" exclusion deleted.

6.4.1.2.3 Auto/Vehicle Liability Insurance – Combined single limit of $1.0 to $2.0 million (depending on vehicle use/exposure) or alternatively, $1.0 million per person for bodily injury and $1.0 million per accident for property damage.

6.4.1.2.4 Errors & Omission Insurance – as applicable to design work, technical specifications, and any service provided whereby faulty information could result in financial loss to the District. $1.0 million minimum per occurrence.

6.4.1.2.5 Hull and Machinery, including collision liability Insurance (on Maritime/Watercraft agreements) – in an amount not less than the market value of the watercraft;

6.4.1.2.6 Protection and Indemnity Insurance (on Maritime/Watercraft agreements) – In an amount not less than the market value of the watercraft, or $300,000, whichever is greater.

6.4.1.2.7 Cyber Liability Insurance – as may be applicable to computer technology services or products, use of which may cause financial or reputational loss to the District.

6.4.1.3 Level 3 – Required Insurance Coverage for Service Contracts covering hazardous materials removal, such as chemicals, and non-hazardous services such as bio-solids and grit and bar screen residual removal:

6.4.1.3.1 Workers' Compensation Coverage – $1.0 million minimum, including a waiver of subrogation against the District;

6.4.1.3.2 General Liability – Combined single minimum limit of $2.0 million ($5.0 million for removal of hazardous chemicals), or $2.0 million aggregate separate for an individual contract ($5.0 million for removal of hazardous chemicals) minimum per occurrence for bodily injury, including death, personal injury, property damage, and products liability, and the insurance shall include coverage for each of the following hazards:

6.4.1.3.2.1 Broad form property damage;

6.4.1.3.2.2 Severability of interest or cross-liability;

6.4.1.3.2.3 Personal injury – with the "employee" exclusion deleted;

6.4.1.3.2.4 Premises-Operations for removal of hazardous materials;

6.4.1.3.2.5 Products Liability for removal of hazardous materials.

6.4.1.3.3 Products Liability Insurance (for the removal of hazardous chemicals) – in the minimum amount of $2.0 million. This coverage can be provided either as part of or separate from the General Liability Insurance policy.

6.4.1.3.4 Auto/Vehicle Liability Insurance – Combined single limit of $2.0 million ($5.0 million for the removal of hazardous chemicals) or, alternatively $2.0 million per person for bodily injury, including death, personal injury and property damage;

6.4.1.3.5 Errors & Omission Insurance – as applicable to design work, technical specifications, and any service provided whereby faulty information could result in financial loss to the District. $1.0 million minimum per occurrence.

6.4.1.3.6 Cyber Liability Insurance – as may be applicable to computer technology services or products, use of which may cause financial or reputational loss to the District.

6.4.1.4 Level 4 – Required Insurance Coverage for Personal Service Agreements (PSA's) and Construction Contract Agreements. Coverage requirements are ascertained in consultation with Director of Finance or authorized individual.

6.4.3 In consultation with the General Counsel, the Contracts/Purchasing Manager may issue a hold harmless agreement in favor of the contractor if the contractor posts professional liability insurance at a level twice that required by the Contracts/Purchasing Manager.

6.4.4 All coverage and insurance certificates, including endorsements to the policy, shall be issued on forms approved by the District. The District shall be listed as "additional insured".

APPENDIX U

CIP Budget Process Information

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	04/2009		•
2	11/07/11		•
3	03/20/13		•
4	04/04/14		• Updated budget calendar
5	01/04/17	E. Yong	• Updated budget calendar
6	07/23/18	W. Smith	• Updated date column to address timing of budget process
	07/11/19	J. Fenton	• Reviewed – no changes
	07/08/20	C. Falzone	• Reviewed – no changes
	09/21/21	T. Edwards	• Reviewed – no changes
	09/15/22	T. Edwards	• Reviewed – no changes
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Typical Budget Update Process – Roles and Responsibilities

Tasks	Responsibility	Date Guidelines

PHASE I – BUDGET PREPARATION

Identify Preliminary Budget Assumptions	Financial Planning	December Prior FY
CIP – Complete annual resource forecast. Review resources needed to complete active CIP projects	Engineering Project Management Office (PMO)	January Prior FY
Present Preliminary Budget Assumptions & Draft Budget Calendar to Executive Management Team (EMT) & Managers	Financial Management	January Prior FY
Preparation for Budget Kickoff / Training Session: • Salary and benefits downloaded to Excel worksheets • Develop line item worksheets with mid-year actual expense • Prepare/update budget instruction manual	Financial Planning	January Prior FY
Budget Kickoff / Training Session: • Distribute budget instruction manual update • Conduct budget training session • Review submission deadlines	Financial Planning	January Prior FY
CIP – Validate existing and future CIP projects budgets and schedules; Create new projects as needed.	Engineering Planning and PMO	January through March Prior FY
CIP – Approve Non-engineering CIP project validation forms	Non-engineering Project Managers	February Prior FY
CIP – Deliver Preliminary capital equipment request estimates to PMO	Financial Planning	February Prior FY
CIP – Complete project budget reviews	Engineering PMO	March Prior FY
CIP – Deliver Validated CIP budgets to IT/Finance	Engineering PMO	March Prior FY

PHASE II - BUDGET REVIEW

Capital Equipment Budget – Requests Reviewed & Approved	Financial Planning, General Manager, & Department Heads	March Prior FY
CIP – Approve Proposed CIP Budget	EMT	March Prior FY

Typical Budget Update Process – Roles and Responsibilities

Tasks	Responsibility	Date Guidelines
CIP - Operations Committee Informational Item – Review of Proposed Budget	Engineering Planning	May Prior FY

PHASE III - BUDGET PRESENTATION

CIP - Final CIP Budget Document Preparation and Incorporation into Final Budget Document	Financial Planning	April Prior FY
CIP – Review draft of Final Budget Document pages with Engineering Planning & PMO	Financial Planning	April Prior FY
CIP – Complete Section 8 Executive Summary	Engineering Planning	April Prior FY
Final - Proposed Budget to Printer	Financial Planning	May Prior FY

PHASE IV - BUDGET DELIBERATIONS

Present Final Draft - Proposed Budget to Committees	Financial Management	June Prior FY
Public Hearing & Board Adoption	Board of Directors	June Prior FY

PHASE V – DISTRIBUTION OF BUDGET

Post final line item budget and equipment budgets in H:\ntglobal	Financial Planning	July Current FY

APPENDIX V

Sample Screen OC San Website

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/30/05		Original
1	05/01/09		•
2	03/27/12		•
3	09/17/12	I. Hellebrand	•
4	11/07/16	K. Newell	• Updated screen shots with new web site
5	01/29/19	P. Echavarria	• Updated screen shot of documents
6	11/17/20	P. Echavarria	• Updated web screen shots
7	02/03/21	P. Echavarria	• Updated web screen shots
8	09/24/21	K. Newell	• Reviewed – no changes
9	03/23/22	K. Newell	• Reviewed – no changes
10	3/22/23	K. Newell	• Updated broken link for SSMP; removed on website the name Peggy from contact list.
11	3/25/25	K.Newell	• Updated screen shots with new website
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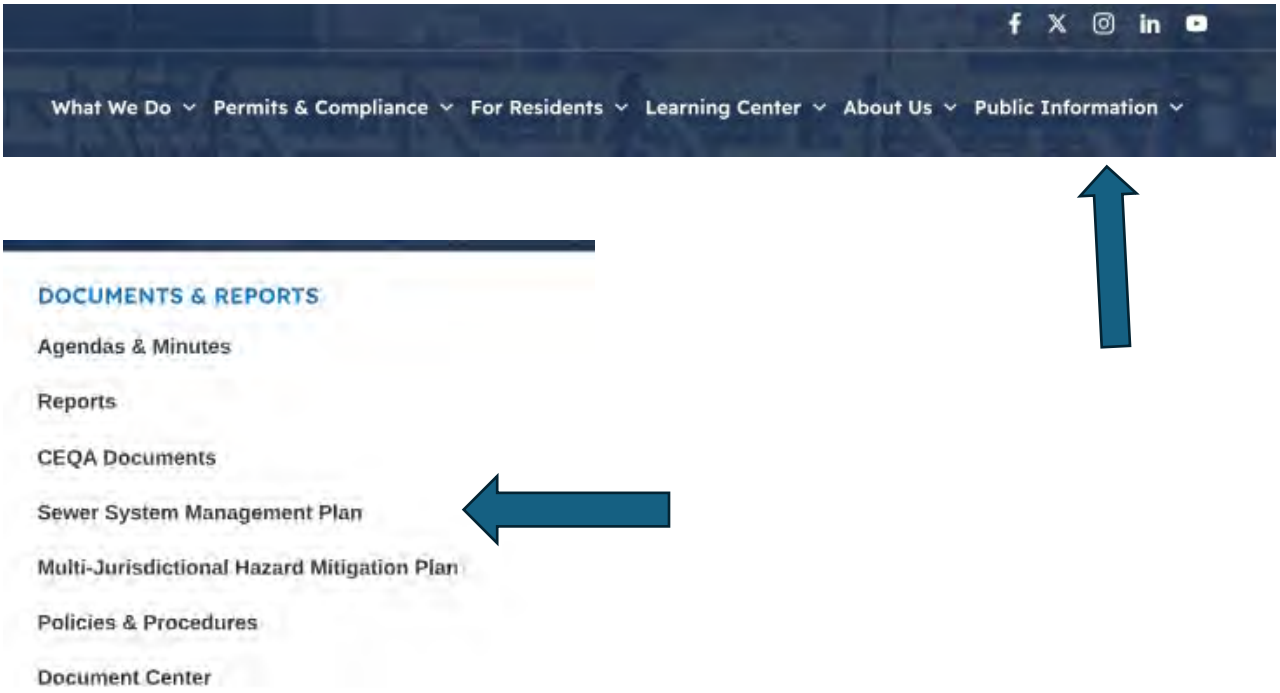
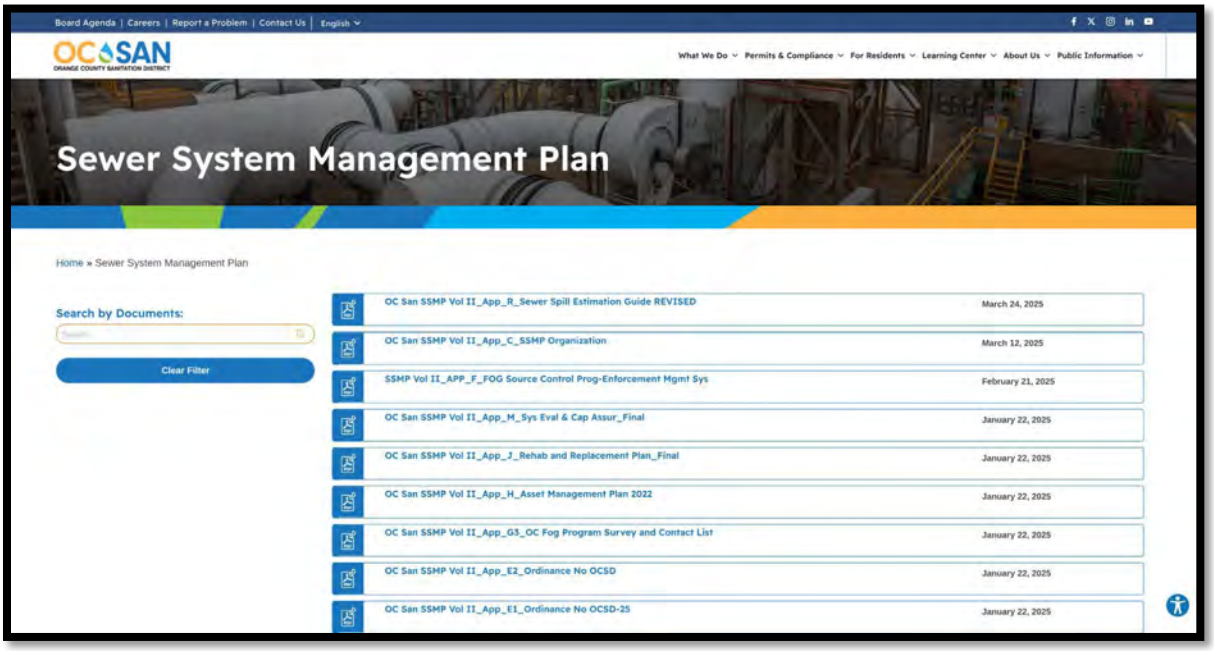
In your browser type: ocsan.gov

(1) Go to Public Information (2) Sewer System Management Plan

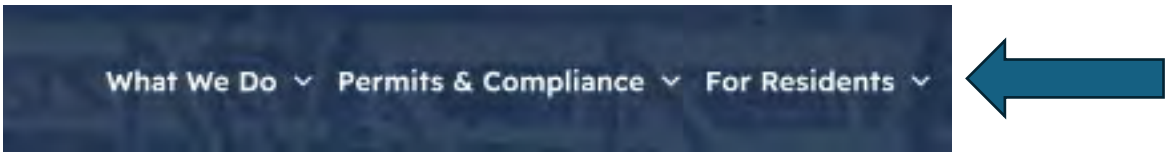


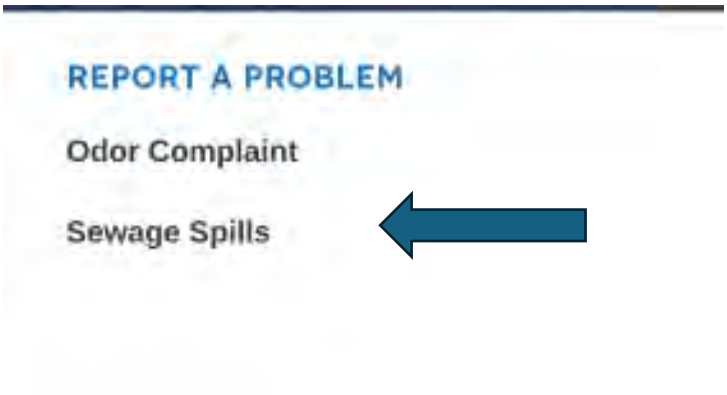
Select desired folder for viewing files



We have added additional information regarding sewer spills and Waste Discharge Requirements (WDRs).

(1) Go to Residents (2)Sewage Spills (3) Spill





This page also provides the public an additional link to the WDRs.

APPENDIX X1

SOP Procedure for
Environmental Audit Program

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	09/10/08		Original
1	08/17/10		• Updated roles and responsibilities. • Created an Environmental Auditing Program Share Point site. • Eliminated audit finding form and replaced it with audit findings spreadsheet.
2	08/22/11		• Updated roles and responsibilities
3	05/17/12		• Updated to change ECRA title to compliance. Changed to include budget location to be under division requesting audit versus under division where auditing program is located.
4	09/12/12		• Update for Sanitary Sewer Master Plan request
5	09/24/13		• Included appropriate SME duties
6	11/12/13		• Program Manager duties transferred to Subject Matter Experts
7	10/27/14		• Reincorporated Program Manager duties as overseer. SME duties remain the same as 11/12/13 SOP
8	03/12/15		• Corrected format; Definitions
9	09/01/15		• Added additional roles for Program Manager
10	05/08/17	M. Farmer	• Updated roles of SME and PgrMr. Assigned new control number.
11	09/25/17	L. Frigo	• Transferred invoice approval to SME
	09/27/20	L. Frigo	• Reviewed – no changes
12	09/24/21	T. Meregillano	• OCSD to OC San; logo update
	09/26/22	T. Meregillano	• Reviewed – no changes
13	10/17/23	T. Meregillano	• Updated hazardous waste auditing responsibility
14	09/23/24	S. Choi	• Reviewed – changed OCSD to OC San
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OC SAN ORANGE COUNTY SANITATION DISTRICT	**Orange County Sanitation District (OC San)** **Environmental Services Dept. Standard Operating Procedure**	**Control Number:**	**COMP-006**
		Version Number:	**5.0**
		Approved By:	**Lan Wiborg**
		Approved Date:	
Subject: Environmental Auditing Program		**Supersedes:**	**09/24/21**

I. Purpose

A. Provide independent verification that all divisions and outside contractors are complying with required environmental laws, regulations, and policies.

B. Determine that permit requirements and standard operating procedures are adhered to.

C. Provide regulatory information and best management practices (BMPs) to appropriate staff, when requested, during the audit process and audit findings follow-up period.

D. Help obtain a favorable viewpoint from regulatory agencies and the public.

E. Reduce liability for non-compliance issues.

F. Provide management of the status of the compliance and conformance with environmental programs.

Scope:

A. Environmental audits shall encompass federal, state, and local regulations and Orange County Sanitation District (OC San) BMPs relating to the environmental field.

B. Environmental Audits include, but are not limited to:
   1. Air Quality – Title V (conducted as requested)
   2. Air Quality – Non Title V (conducted as requested)
   3. Hazardous Waste (annual basis conducted by Safety Division- mandatory)
   4. Storm Water (bi-annual basis– mandatory requirement under NPDES Permit)
   5. Underground Storage Tanks (UST) (conducted as requested)
   6. Waste Discharge Requirements (WDR) (triennial basis – mandatory requirement under Sanitary Sewer WDR Order)

II. Objectives:

A. Determine whether the organization is in compliance with environmental regulations including permits, reporting requirements, and company directives, policies, standards, and procedures.

B. Evaluate the effectiveness of management systems that are in place to manage the organization's risks and ensure compliance.

C. Identify opportunities where waste can be minimized and pollution eliminated at the source.

D. Review the means of protecting physical assets through loss prevention measures such as management of change and preventative and predictive maintenance.

III. Definitions/Acronyms

A. **Audit:** A formal, discrete (snapshot) examination of the agency's compliance and conformance status in a defined program area. It includes interviews with staff, investigation and inspection of equipment, records, environmental control systems, testing and analysis procedures, and any other aspect that affects compliance and conformance.

B. **Audit Finding:** Require correction or resolution and shall be documented using the Audit Findings Spreadsheet in the Environmental Auditing Program (EAP) Share Point site. Final verification of the response to the audit finding shall be the responsibility of the Division Manager responsible for the area covered in the finding. Audit findings shall be presented to appropriate management and staff.

C. **Audit Findings Spreadsheet:** Used to document findings or concerns discovered during any audit and record resolutions of those findings. This spreadsheet is included in the EAP SharePoint site listed within the ECAP Share Point site.

D. **BMP:** Best Management Practice. Action or prohibition based on strength of experience, professional recommendation or other non-compliance related source designed to improve specific program area.

E. **Compliance:** Actions mandated or prohibited by permit, regulation or other act of an executive branch governmental agency.

F. **Conformance:** Action or prohibition determined by OC San policies, procedures or practices that are not compliance related.

G. **EAP:** Environmental Auditing Program.

H. **EAR:** Environmental Auditing Roundtable, a nationally recognized organization involved in the professional advancement of environmental audit programs.

I. **ECAP:** Environmental Compliance Awareness Program.

J. **EMS:** Environmental Management System.

K. **EMT:** Executive Management Team which consists of the OC San's Directors, Assistant General Manager, and General Manager.

L. **Internal Audit:** Is an independent appraisal of the OC San's environmental compliance and conformance functions. The objective of an internal audit is to assist District staff in performing their responsibilities more effectively, and is conducted by a third party certified lead auditor.

M. **Program Manager (PrgMr):** An OC San employee in charge of the Auditing Program and assures audits are completed by SMEs per schedule.

N. **Policy:** An operating procedure or management directive established by the District. Policies may be written or unwritten.

O. **Professional Conduct:** Environmental audits shall be conducted following the Professional Conduct Code of Ethics set forth by the Environmental Auditing Roundtable (EAR).

P. **Subject Matter Expert (SME):** Person in charge of a specific compliance program or area to be audited.

Q. **Task Owner:** Person responsible to resolve the audit finding and works with SME to post in the Audit Findings Spreadsheet.

R. **Third Party Auditor:** An outside contractor who is a certified environmental auditor experienced in conducting environmental audits. The third-party auditor is in charge of conducting audits and is managed by the PrgMr.

IV. OC San Roles and Responsibilities

A. **Executive Management:** Shall support the EAP and the timely approval of funds and staff resources necessary to resolve compliance and conformance findings.

B. **PrgMr:** Shall be responsible for maintaining the overall schedule of audits and contacting SMEs to assure audits are completed on schedule. The PrgMr will add reminders in ECAP for the SME to start the audit as well as to close findings.

The PrgMr shall be responsible for finalizing the Scope of Work (SOW) for the audit by coordinating comments from appropriate staff. Works with the Purchasing department to develop requests for bids (RFB) and requests for proposals (RFP) and creates list of CONTRACTORS the RFB and RFP should be sent to. Along with the SME, determines if the awarded third-party auditor possesses the necessary knowledge, skills, ability, and certification to perform the assignment. Schedules kick off meeting. Manages third-party auditors contracted to perform environmental audits. Attends field visits and interviews with the auditor, if desired. Reviews draft reports and findings and sends to SME for review. Sends draft with comments back to third-party auditor to incorporate. The PrgMr shall be responsible for posting the final report and findings spreadsheet on the EAP SharePoint site. Contacts the SME bi-annually to determine the status of the audit findings. At any time that the PrgMr suspects a potentially serious risk, the manager of the division and the compliance manager shall be informed.

C. **SME:** Works with the PrgMr to finalize the Scope of Work (SOW). Helps create a list of CONTRACTORS the RFB and RFP. Determines if the awarded third-party auditor possesses the necessary knowledge, skills, ability, and certification to perform the assignment. Determines who is to be interviewed by asking appropriate personnel. Responsible for notifying responsible parties. Schedules audit interviews or request Division Administrative Assistant to schedule interviews. Assures meeting invites are accepted. Sends e-mail to staff to be interviewed with an explanation of pending audit. Gathers auditor's requested documents from appropriate personnel and sends to third-party auditor for his/her review (copies the PrgMr). Attends all field visits and interviews with the auditor. Reviews draft reports and findings and send to appropriate personnel for review. Schedules closing meeting. In charge of updating the findings spreadsheet and ensures task owners close findings. For the WDR audit: once a reminder is received by the SME via ECAP, the SME will be accountable to respond to reminder by clicking "complete" and date of completion. And if not complete, document status. Note: item will remain red in the ECAP dashboard until complete.

D. **Division Administrative Assistant:** Schedules meetings and interviews, when requested. Completes the purchase requisition and sends it, along with the SOW, to purchasing.

E. **Third Party Auditor:** While conducting an audit, the auditor will provide analyses, appraisals, recommendations, and information concerning the activities reviewed.

F. **Audited Divisions:** Are expected to review, edit and comment on the Scope of Work or Request for Proposals (RFPs). Answer questions posed by the auditor and

to comply with information requests to provide records, documentation, and equipment for review. The audited divisions will verify the accuracy of any audit findings received and implement resolutions to the problems identified and notify the SME once the findings have been resolved. The budget for the area to be audited shall come from that division.

G. **Task Owner:** Accepts or does not accept findings. If accepts, informs the SME of his/her schedule to resolve the findings. Task owner works with the SME to post root cause analysis, corrective action, and date of resolution into the Environmental Auditing spreadsheet. Closes task in the audit findings spreadsheet. If the task owner does not accept a finding, post reasons in audit findings spreadsheet and closes task in EAP SharePoint site. For the WDR audit: Once a reminder is received by the task owner via ECAP, task owner will be accountable to respond to reminder by clicking "complete" and date of completion. If not complete, document status. Note: item will remain red in ECAP dashboard until complete.

H. **Division Manager**: Follows up with their staff who has been designated a task owner, to assure he/she has resolved a finding. The responsible manager may ask for clarification, resolve the issue immediately, or propose a schedule for resolution.

I. **Purchasing:** Finalize the SOW and RFB or RFP. Sends out the RFB or RFP to appropriate contractors, maintains list of contractors, checks references, and checks for appropriate certifications. Procures the third-party auditor/CONTRACTOR.

J. **Legal:** Legal review of audit documents or findings will only occur under exceptional circumstances on an "as needed" basis.

V. Procedure

A. Third-Party Audit

1. **PrgMr** – Reviews the audit schedule and determines when audits should be conducted. Confirms decision with compliance supervisor, applicable division supervisor and SME.
2. **ProgMr** – Notifies SME's supervisor and compliance supervisor of pending audit.
3. **SME** – Notifies appropriate staff of pending audit.
4. **ProgMr** – Notifies Purchasing Department of pending audit and consults whether it will be a Request for Bid, Request for Proposal, or contract renewal.
5. **ProgMr** – Reviews and edits SOW. Sends to SME for review and comment.
6. **ProgMr** – Consolidates comments into SOW to finalize. Populates final SOW into ECAP, Environmental Auditing Knowledge base.
7. **ProgMr** – Sends final SOW to Department's Administrative Assistant. Requests their Administrative Assistant to complete Purchase Requisition (PR) to send to Purchasing.
8. **Administrative Assistant in Div conducting audit** – Completes PR and obtains approval.
9. **Applicable supervisor or manager** – Approves PR.
10. **Administrative Assistant** – Sends PR and final SOW to Purchasing

11. **Administrative Assistant** – Notifies PrgMr that PR and SOW has been submitted to Purchasing.
12. **Purchasing** – Keeps PrgMr updated on RFB/RFP progress.
13. **PrgMr** – Keeps Supervisor and SME updated on RFB/ RFP progress.
14. **SME/PrgMr** – Reviews findings from previous audit (if one exists).ProgMr -
15. **Purchasing** – Procures third-party auditor and notifies PrgMr.
16. **ProgMr** – Notifies SME and supervisor of third-party auditor hired.
17. **SME** – Notifies appropriate staff of third-party auditor hired.
18. **ProgMr** – Schedules kick off meeting with SME, department's supervisor and third-party auditor.
19. **SME** – Sets up interviews with staff, PrgMr and third-party auditor. Gathers any documents requested by the auditor and sends to the auditor.
20. **SME** – Attends all auditing interviews.
21. **ProgMr** – Attends auditing interviews, as needed or desired.
22. **ProgMr** – Manages third-party auditor to assure SOW is being adhered to within budget.
23. **SME** – Approves invoices and notifies their supervisor and the ProgMR.
24. **ProgMr** – Receives and reviews draft audit report and findings spreadsheet (from CONTRACTOR). Sends to SME for review and comment.
25. **SME** – Reviews draft audit report and sends to interviewees for comment. 2-week turn around.
26. **ProgMr** – After audit is complete, add semi-annual reminders in ECAP for the SME to work with task owners to close findings. The PrgMr will include the SME Supervisors in ECAP Share Point site to be automatically notified when ECAP dashboard turns yellow and red.
27. **SME** – Schedules closing meeting with vendor, interviewees, and PrgMr.
28. **Task owner or SME** (SME determines process) – Inputs root cause analysis, the corrective action, and date that corrective action completed.
29. **Task owner or SME** (SME determines process) – Closes task.
30. **Responsible division manager, supervisor, or SME** - Assures findings are resolved, tasks are completed and closed.
31. **SME or task owner** (SME determines process) – Populates finding spreadsheet with resolution, dates, corrective action, and root cause analysis.

B. **CONTRACTOR** for a third-party audit should normally include the following components:

1. Kick off meeting with appropriate personnel. Third-party auditor provides agenda
2. Safety orientation and debriefing
3. Records/documentation review

4. Developing questionnaires
5. Staff interviews
6. Physical inspection of facilities and site
7. End of day summary reviews with SME
8. Filling out Audit Findings Spreadsheet
9. Final closing meeting to present findings, agree to responsible division(s), and a schedule to resolve findings/recommendations
10. Draft Audit Report and draft findings spreadsheet.
11. Final Audit Report and final finding spreadsheet that includes comments from District staff.
12. Audit report shall include employees interviewed, their division and documents requested and reviewed by the third-party auditor.

VI. Recordkeeping

All records created or generated in the course of this procedure shall be legible and stored in a way that they are readily retrievable in facilities or electronic document/content management systems that provide a suitable environment to prevent damage, deterioration, or loss. Records may be in the form of any type of media, such as hard copy or electronic media. The OC San Records Retention Schedule is the official procedure governing the retention, retirement, and destruction of District records. Document owners should use these schedules to determine the item and series that best fit their records. Document owners are responsible for insuring that documents are properly marked, indexed, and filed for their projects or area of responsibility.

VII. Related Documents

1. Audit Findings Spreadsheet (template)
2. Audit Schedule
3. Final Audit Reports and Findings Spreadsheets
4. SOWs

VIII. References

A. *Professional Conduct Code of Ethics* by the Environmental Auditing Roundtable

B. BEAC Performance and Program Standards for the Professional Practice of Environmental, Health and Safety Auditing.

IX. Revision History

Version	Date	By	Reason
0	09/10/08		Original
1	08/17/10		• Updated roles and responsibilities. • Created an Environmental Auditing Program Share Point site. • Eliminated audit finding form and replaced it with audit findings spreadsheet.
2	08/22/11		• Updated roles and responsibilities
3	05/17/12		• Updated to change ECRA title to compliance. Changed to include budget location to be under division requesting audit versus under division where auditing program is located.
4	09/12/12		• Update for Sanitary Sewer Master Plan request
5	09/24/13		• Included appropriate SME duties
6	11/12/13		• Program Manager duties transferred to Subject Matter Experts
7	10/27/14		• Restablished Program Manager duties as overseer. SME duties remain the same as 11/12/13 SOP.
8	03/12/15		• Corrected format, Acronyms
9	09/01/15		• Added additional roles for Program Manager
10	05/08/17	M. Farmer	• Updated roles of SME and Pgr Mr. Assigned new control number.
11	09/25/17	L. Frigo	• Transferred invoice approval to SME
12	09/27/20	L. Frigo	• Reviewed – no changes
13	09/24/21	T. Meregillano	• OCSD to OC San; logo update
14	10/5/2023	T.Meregillano	• Updated Scope Section
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X. Attachments – None

APPENDIX X2

Audit Finding Spreadsheet Template

Revision History			
Revision	**Date**	**Approval**	**Reason**
0	08/22/11		Original
1	09/12/12		•
2	09/24/13		•
3	11/18/14		•
4	06/14/16	M. Velasco	• Updated Heading Row
5	04/04/17	M. Farmer	• Updated Heading
6	09/12/19	M. Farmer	• Updated columns
7	09/27/20	L. Frigo	• Updated heading
8	11/16/20	L. Frigo	• Updated Heading
9	09/24/21	T. Meregillano	• Updated Heading – OC San branding
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ORANGE COUNTY SANITATION DISTRICT

AUDIT FINDINGS SPREADSHEET

Name of Audit (ie, Waste Discharge Requirements)

Month, Year

AUDIT PERFORMED BY: (Consultant Name)

No.	Interviewee Name	Descripton of Finding	Finding Type: Options are: 1) Compliance -Regulatory requirement 2) Conformance - needs to be done in anticipation of regulatory requirement 3) Best Management Practices on what are we doing well and 4) Opportunities for improvement.	Quote the Requirement	Previous Finding? (yes or no)	Third Party Auditor Recommended Correction Action	Name of Auditor	Corresponding Page # in Audit Report	Person(s) interviewed	*Responsible Division	*OC San contact (person responsible for resolution)	*OC San Manager or Supervisor	*Estimated cause/reason for finding (root cause)	*OC San Corrective Action (CA) and Preventative Action (PA)	*Date Corrective Action Expected to be Completed	*Date Corrective Action Actually Completed

*To be filled out by OC San Task Owner