

**DEL NORTE COUNTY SERVICE AREA NO. 1
SEWER SYSTEM MANAGEMENT PLAN**

**Prepared for:
Del Norte County
Community Development Department
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INTRODUCTION

This Sewer System Management Plan (SSMP) has been prepared in compliance with requirements of the State Water Resource Control Board (SWRCB) pursuant to Statewide Sanitary Sewer Systems General Order 2022-0103-DWQ included in Appendix A. The WDR requires development and implementation of a written SSMP and defines eleven mandatory SSMP elements. The WDR also defines associated monitoring, record keeping, reporting, and public notification requirements.

This SSMP is intended to be a living document and should be updated as needed to reflect changes to the SSMP elements. The intent of this SSMP is to meet the requirements of the General Order 2022-0103-DWQ. This document presents eleven elements in the order presented in the WDR:

1. Goals;
2. Organization;
3. Legal Authority;
4. Operation and Maintenance Program;
5. Design and Performance Provisions;
6. Overflow Emergency Response Plan;
7. Sewer Pipe Blockage Control Program;
8. System Evaluation, Capacity Assurance Plan and Capital Improvements;
9. Monitoring, Measurement, and Program Modifications;
10. Internal Audits; and
11. Communication Program.

The County of Del Norte is situated on the beautiful Northern California coast, bordering Oregon to the north, Siskiyou County to the east, and Humboldt County on the south. The area offers an abundance of outdoor recreational activities utilizing the proximity of the Pacific Ocean, the Smith River and the Klamath River, Redwood National and State Parks, and the Smith River National Recreation Area.

Summer coastal temperatures average 60 to 70 degrees, with inland temperatures being much warmer. Winter temperatures average 40 to 50 degrees.

The City and the CSA each maintain separate sanitary sewer collection systems within their service areas. Wastewater flows generated within the CSA are collected and conveyed to the limits of the City's system. The City system then conveys combined City and CSA generated flows to the Crescent City Wastewater Treatment Plant (WWTP), which is owned, operated, and maintained by the City, Figure 1.

According to the 2023 NPDES Permit, treatment includes primary treatment consists of two grit removal tanks followed by two rectangular primary clarifiers. Secondary treatment is provided by operating the rotating biological contactors (RBC) and membrane bioreactor (MBR) in parallel. The RBC system consists of three trains of four-stage, RBCs with a combined surface area of 1.2 million square feet. Flow from the RBCs reach three rectangular secondary clarifiers. Flows from the clarifiers and any flow from the MBR unit that is not used for recycled water use are commingled and disinfected using sodium hypochlorite and dechlorinated using sodium bisulfite prior to discharge to the Pacific Ocean at Discharge Point 001.

The sewerage service areas are on the Smith River Plain bordered by the Pacific Ocean to the west, with the base of the coastal range mountains lying to the east. The CSA and City are in a coastal terrace area with slopes gently declining south toward the harbor and declining east toward Elk Creek. Elevations within the CSA range from 0 to 150 feet above mean sea level (msl). The Northcrest area has elevations ranging from 40 to 60 feet msl. The Bertsch Ocean View area, slopes from the base of the Coast Range both west and south to natural drainage channels and low-lying wetlands.

ELEMENT 1: SEWER SYSTEM MANAGEMENT PLAN GOAL AND INTRODUCTION

The intent of this section is to identify the goals that Del Norte County CSA # 1 (the CSA) has established for its SSMP. These goals are intended to provide focus for CSA staff to continue proactive management of its wastewater collection system. The goals of the CSA's SSMP include:

- Maintaining or improving the condition of the collection system infrastructure in order to provide reliable services now and into the future;
- Cost-effectively minimizing infiltration/inflow (I/I), and provide adequate sewer capacity to accommodate design storm flows;
- Minimizing the number and impact of sanitary SSOs that occur;
- Preventing unnecessary damage to public and private property;
- Working cooperatively with local, state, and federal agencies to investigate the causes of, minimize, and mitigate the impacts of SSOs;
- Meeting all applicable regulatory notification and reporting requirements;
- Being available and responsive to the needs of the public to prevent and restore interruptions in service, and to minimize public health and property impacts related to SSOs;
- Implementing regular, proactive maintenance of the system to remove and control roots, debris, and fats, oils and grease (FOG) that may cause SSOs;
- Prioritizing renewal and replacement of wastewater collection system facilities to maximize their useful life and optimize capital expenditures; and
- Maintaining the SSMP, which will serve as a reference for the CSA's sanitary sewer system management practices.

1.1 Regulatory Context

The regulatory context of the CSA's sanitary sewer management plan is governed by a combination of federal, state, and local regulations designed to safeguard public health and the environment. Federal standards, particularly those established by the Environmental Protection Agency (EPA) under the Clean Water Act, require effective wastewater treatment and mandate measures to prevent sanitary sewer overflows.

At the state level, the California State Water Resources Control Board (SWRCB) enforces further requirements pursuant to Statewide Sanitary Sewer Systems General Order 2022-0103-DWQ, to ensure compliance and protection of water quality. Together, these regulations ensure the CSA's sewer infrastructure operates safely, efficiently, and in a manner that minimizes risks to both the environment and the community.

1.2 Sewer System Management Plan Update Schedule

Del Norte County Service Area No. 1 (CSA) developed an initial SSMP in 2012. A SSMP Audit was conducted in 2017, the SSMP was updated in 2017, and an

SSMP audit was conducted in 2020. The SSMP was updated in 2022. A SSMP Audit was prepared in 2025. This SSMP is an update of the 2022 SSMP and has incorporated the results of the 2025 SSMP Audit (Appendix B).

The Del Norte County Service Area No. 1 (CSA) SSMP has been prepared with the assistance of the City of Crescent City (City). This SSMP is intended to be a living document and should be updated as needed to reflect changes to the SSMP elements. The intent of this SSMP is to meet the requirements of the State-wide WDR. This document presents eleven elements in the order presented in the WDR:

This SSMP (2026) is an update of the initial SSMP and has incorporated the results of the SSMP Audits and the new requirements of General Order 2022-0103-DWQ. The schedule for future audits and updated is included below:

Schedule	
SSMP Audit	2029
SSMP Audit	2031
SSMP Update	2031

1.3 Sewer System Asset Overview

As described in the Crescent City NPDES permit, the City of Crescent City owns, operates, and maintains a municipal wastewater treatment plant and associated collection system and disposal facilities that serves Crescent City and a portion of Del Norte County adjacent including the Del Norte County Service Area # 1, (CSA #1). The City of Crescent City wastewater treatment works provides primary treatment, including two grit removal tanks and two clarifiers; and secondary treatment. Secondary treatment is provided by operating rotating biological contactors and a membrane bioreactor in parallel

The wastewater treatment plant serves a total population of approximately 17,905 (including the CSA) with a small number of commercial and institutional users.

The combined collections system (Crescent City and CSA #1) consists of 85.6% residential connections, 14.3% commercial connections, and 1% industrial connections.

The combined sewer collections system (Crescent City and CSA #1) is 56.33 total miles in length, consisting of 54 miles of gravity mainline, 2.33 miles of pressurized mainline, and 21 lift stations, and no siphons. The CSA also operates a separate stormwater collection system within the same service area boundaries.

The County’s Geographic Information System (GIS) is the primary Data / Asset management system used by the CSA.

ELEMENT 2: ORGANIZATION

The intent of this section of the SSMP is to identify the CSA staff members responsible for implementing this SSMP, responding to SSO events, and meeting the SSO reporting requirements. This section also includes the designation of the Legally Responsible Official (LRO) or authorized representative to meet SWRCB requirements for completing and certifying spill reports.

2.1 Regulatory Requirements for the Organization Element

The WDR requires that the Organization element of the SSMP provide a narrative documentation that includes:

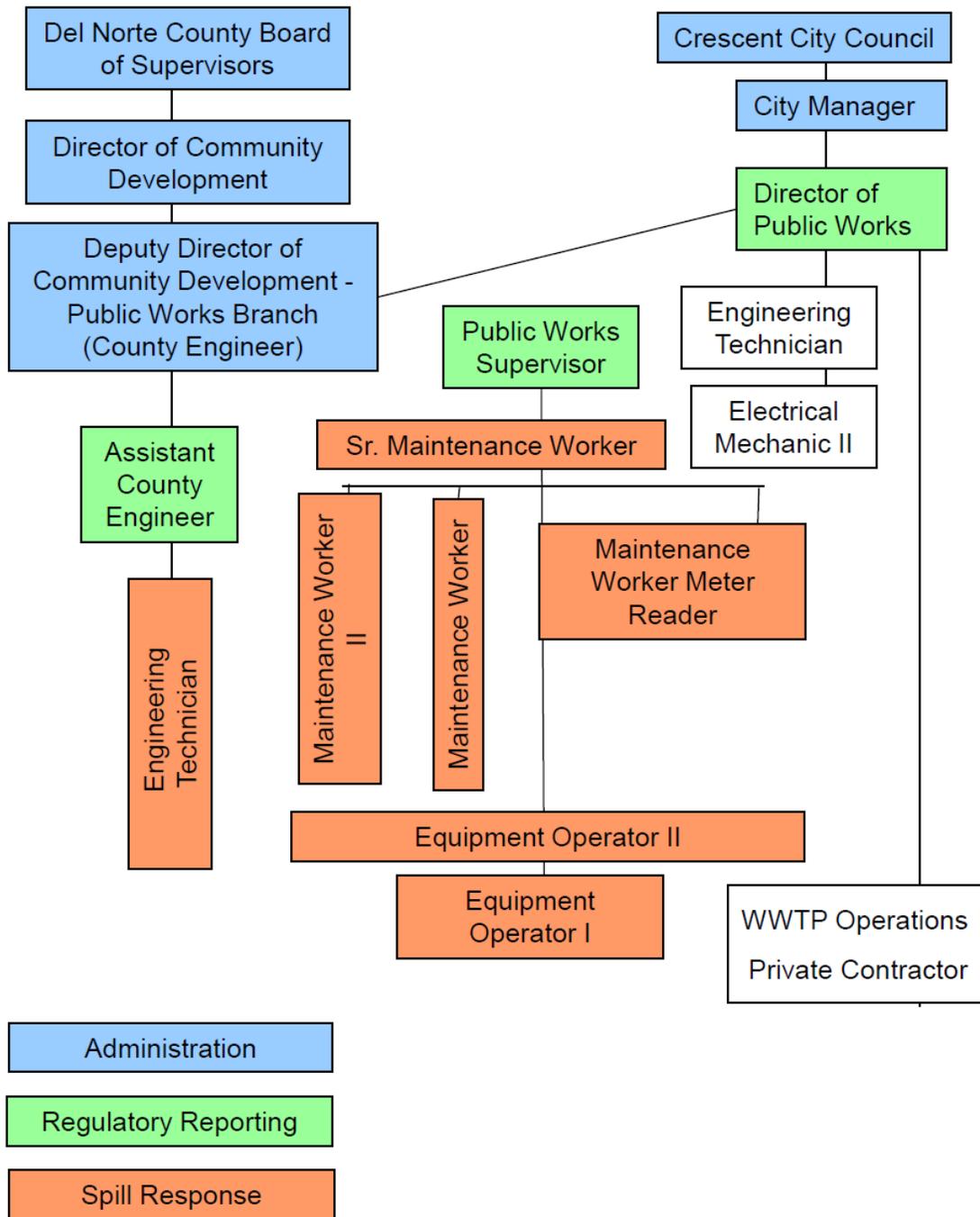
- The name of the Legally Responsible Official as required in section 5.1 (Designation of a Legally Responsible Official) of this General Order;
- The position titles, telephone numbers, and email addresses for management, administrative, and maintenance positions responsible for implementing specific 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.

2.2 Organization

The CSA owns and operates the wastewater collection system within the County. The City of Crescent City Public Works Department provides all maintenance and emergency response services, under contractual agreements, with the CSA but does not fund, operate or have control over the CSA collection system.

The CSA has two employees who assist with administering the CSA, along with the Deputy Director of Community Development – Public Works Branch. The Crescent City Department of Public Works is made up of many positions including the Director of Public Works, Public Works Supervisor, Engineering Technician, Water/Wastewater Operations Technician, and the Public Works Maintenance Crews, which is comprised of two work crews with a Lead Person for each work crew. The WWTP is operated by a private contractor, Jacobs. Since the City is the agency that is responsible for the maintenance and emergency response for the CSA facilities, their lines of authority are included in addition to the CSA's.

The lines of authority are from the Del Norte County Board of Supervisors through the Director of Community Development to each individual position as shown in the organization chart on the following page. Each position within the CSA's and City's organization has specific and clearly defined responsibilities and authorities that are designed to meet the CSA's goals for the wastewater program and collectively cover all of the SSMP elements. This ensures that each element of the program is properly addressed and accomplished.



The City is not responsible for the organization of Del Norte County staff or for implementing the SSMP within the CSA. The CSA owns its own collection systems within the unincorporated County and has prepared a SSMP program that mirrors the City's program. The City is under contract to operate the CSA's collection system. To ensure the implementation of their respective SSMP programs, periodic meetings have been setup between the City's Director of Public Works and County staff.

The City's organizational goal is to clearly define responsibility and authority for accomplishing each program work element. This is accomplished through organization charts, work assignments, and position descriptions.

Each position is responsible for its own work assignments. Principal positions within CSA #1 have responsibility for the wastewater collection system and are shown in the following table. Accountability is ensured by monitoring and reporting by the various positions at weekly staff meetings. The Director of Public Works oversees these meetings and monitors the progress of various functions and activities within the SSMP.

Del Norte County Staff with SSMP Duties		
Position	Current Staff	Responsibility
Director of Community Development/ Manager of CSA	Heidi Kunstal	Director of Community Development is responsible for administration of the Del Norte CSA wastewater collection system.
County Engineer-/ Deputy Director of Community Development – Public Works Branch	Jon Olson (707) 464-7229 work	The County Engineer / Deputy Director of Community Development – Public Works Branch is the duly authorized representative who oversees all facets of the CSA's wastewater and storm water collection systems. Duties include, but are not limited to, design, construction review, planning of capital improvement projects, overseeing GIS mapping, operation and maintenance.
Assistant County Engineer	Rosanna Bower (707) 464-7229 work (707) 951-2399 work cell	Fulfills the County Engineer duties of the Deputy Director of Community Development – Public Works Branch in their absence and assists the Deputy Director of Community Development – Public Works Branch and Engineering Technician in the operation of the CSA.
Engineering Technician	Ezekial Humphrey work 707 464-7229 "	Assists multi-functional centralized engineering services, which include design and construction liaison, planning and research. Also provides construction management services for sewerage system construction projects, including emergency sewer repairs, and lift station rehabilitation. Assists in the design of rehabilitation and capital improvement projects.

Crescent City Department of Public Works Staff with SSMP Duties		
Position	Current	Responsibility
Director of Public Works/	David Yeager (707) 951-3275 work/cell dyeager@creascentcity.org	The Director of Public Works is the duly authorized representative who oversees all facets of the City's wastewater and storm water collection system. Duties include, but are not limited to, design, construction review, planning of capital improvement projects, overseeing GIS mapping, operation and maintenance.
Public Works Maintenance Manager	Wade Mayers (707) 951-3170 wmyers@creascentcity.org	Operates and maintains the City's wastewater and storm water collection and conveyance systems, including pumping stations. Provides emergency response, notification, reporting and follow-up actions. Provides support for training, safety programs, and employee selection and provides technical support in maintenance optimization, planning, and design. Oversees daily activities and quality control for the crews in the field. Assists multi-functional centralized engineering services, which include design and construction liaison, planning and research. Also provides construction management services for sewerage system construction projects, including emergency sewer repairs, and pumping station rehabilitation. Assists in the design of rehabilitation and capital improvement projects.
WWTP Treatment Chief Plant Operator	Contractor- Jacobs Austin Nova (707) 954-0713	Oversees operation of the City's wastewater treatment plant including daily activities and quality control for the crew.
Electrical Maintenance Operations Technician II	Dan Borges (707) 951-0714 dborges@creascentcity.org	Maintains the City's water and wastewater collection system. Duties include troubleshooting and maintenance of all city systems.
GIS Mapping	Fritz Ludemann (707) 464-9506 work fludemann@creascentcity.org	Updates GIS maps per data collected from flow monitoring, smoke testing, Closed Circuit Television (CCTV), and structural and operation grading of pipes.

PW Crews and WWTP Operators	On-call Duty phone (707) 951-5862	Maintenance, rehabilitation, and some new sewer construction. Their duties include but are not limited to: routine cleaning, pump station maintenance, overflow response, and rehabilitating existing sewers.
Engineering Project Manager	James Queen (707) 464-9506 work 1-707-954-5110 jqueen@crescentcity.org	Oversees project development and implementation, documents project progress, tracks financials and assists on SSO reporting as needed.

2.3 Authorized Representative

The County Engineer, Jon Olson, is the Legally Responsible Official (LRO) and duly authorized representative to prepare, certify and submit electronic spill reports to the (Regional Water Quality Control Board) (RWQCB) and SWRCB and to notify other government agencies.

2.4 SSO Reporting Chain of Communication

Sanitary system overflow (SSO) detection, notification, response, and reporting processes will be described in Element 6 – Overflow Emergency Response Plan. The SSO detection, notification, and response process is discussed below.

The CSA and City operation and maintenance crews continually monitor the condition and performance of the collection system with the goal of identifying and fixing any potential problem before it becomes an SSO. In addition, the CSA and City have stepped up efforts to assess the condition of sewers in the collection systems. Once a spill is reported or observed, it immediately becomes the highest priority.

Citizens can report any problems with the CSA wastewater collection system 24 hours per day, 7 days per week. During normal business hours reports are made to the Engineering and Surveying Division of the Del Norte County Community Development Department at 707-464-9506. After hours reports are made to the Del Norte County Sheriff's Office by calling 707-464-4191. The Del Norte County Sheriff's Office has an after-hours call list for the City's Public Works Department. If calls are received by the Crescent City Police Department, Crescent City Fire and Rescue, or 911 they are routed to the City's Public Works Department during normal business hours or to the Del Norte County Sheriff's Office after hours.

All SSO incidents in the CSA are immediately reported to the County Engineer and the Crescent City Director of Public Works/Public Works Supervisor. A City crew is assembled, the problem is evaluated, a solution is found and implemented.

If the SSO occurs in the CSA jurisdiction, the Deputy Director of Community Development – Public Works Branch and Assistant County Engineer will be notified immediately by the Crescent City Director of Public Works or Crescent City Director of Public Works/Public Works Supervisor. County staff will respond to all SSOs within the CSA.

The CSA and City emphasize timely and accurate notification and reporting. The chain of communication for reporting SSOs has been effective. The CSA and City

maintain a minimum time in responding to an SSO and meets its legal obligation and social responsibility for notification and reporting.

If the SSO occurs in the CSA jurisdiction the Deputy Director of Community Development – Public Works Branch makes sure the proper agencies are contacted starting with the Director of Community Development.

If the SSO occurs in the City the Director of Public Works makes sure the proper agencies are contacted, including the City Manager.

The decision is then made, depending on the SSO, to contact additional resources as needed (the order will be determined by the nature of the event).

Agency	Contact	Phone Number
Del Norte County Community Development Department, Environmental Health Division	Houawa Moua, REHS Senior Environmental Health Specialist	(707) 465-0426
Crescent City Fire and Rescue	Bill Gillespie Interim, Fire Chief	(707) 464-2421
Crescent City Police	Richard Griffin, Police Chief	(707) 464-2133
Del Norte Sheriff	Garret Scott, Sheriff	(707) 464-4191
Regional Water Quality Control Board, North Coast Region		(707) 576-2220

ELEMENT 3: LEGAL AUTHORITY

This element of the SSMP discusses the CSA's Legal Authority, including County Code Title: 15 – Utilities and agreements with other agencies. This section fulfills the Legal Authority requirement for the WDR (Element 3).

3.1 Regulatory Requirements for the Legal Authority Element

The requirements for the Legal Authority element of the SSMP are summarized below. The CSA must demonstrate, through collection system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

1. Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.);
2. 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;
3. Require that sewers and connections be properly designed and constructed;
4. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency;
5. Enforce any violation of its sewer ordinances, service agreements, or other legally binding procedures; and
6. Obtain easement accessibility agreements for locations requiring sewer system operations and maintenance, as applicable.

The legal authority required for the SSMP is contained within:

- Del Norte County Code (DNCC) Section 15.8 through 15.44 available at (<https://delnortecounty.municipalcodeonline.com>)
- Board of Supervisors County of Del Norte, State of California County of Del Norte, Ordinance No. 2021 - 002 an Ordinance Establishing Regulations for Pretreatment of Industrial Wastewater (Appendix C).
- Agreement (2002-054) to jointly exercise powers Monitoring and enforcement of significant industrial Users Located Within County Service Area no.1 and Discharging to the Crescent City Wastewater Treatment plant (Appendix D).

County of Del Norte Ordinance 2021-002 contains;

To effectuate the requirements of the federal regulations and the conditions of the City's permit, the City's Industrial Waste Pretreatment Ordinance, Crescent City Municipal Code (CCMC) 13.40, as from time to time amended, is made applicable within the area of the CSA. Any violation of the requirements of said ordinance, including any permit requirement or condition, is a violation of the

County Code, and subject to the same penalties and methods of enforcement as any other violation of the County Code.

In order to give the City the enforcement authority necessary for the City to comply with its permit, the County will enter into a joint powers agreement pursuant to Government Code §6500 et seq. under which the City will be granted the power to administer its Industrial Pretreatment Program within the area of the CSA.

Del Norte County Agreement 2021-054, Agreement to Jointly Exercise Powers Monitoring and Enforcement of Significant Industrial Users Located Within County Service Area No.1 and Discharging to the Crescent City Wastewater Treatment Plant contains;

POWERS TO BE EXERCISED. Both parties hereto have the legal authority and responsibility to monitor significant industrial users that discharge into the municipal wastewater system. By way of this Agreement, both the City and the County intend to fulfil their legal responsibilities to monitor significant industrial users within their respective boundaries.

INDUSTRIAL PRETREATMENT PROGRAM. The City of Crescent City will administer the industrial pretreatment program for wastewater, specifically including:

- a. Issuing industrial waste discharge permits to significant industrial users that discharge into either the City collection system or the CSA collection system;*
- b. Monitoring compliance with permits and provisions of the Industrial Wastewater Pretreatment Ordinance, as amended from time to time;*
- c. Enforcing both the terms of the permits and the provisions of the Industrial Wastewater Pretreatment Ordinance, as amended from time to time, pursuant thereto.*

Crescent City Municipal Code (CCMC)13.40 is accessible at:
<https://ecode360.com/CR4919>.

Based on the Del Norte County Code (DNCC), and agreements with Crescent City the CSA fulfills the legal authority requirements of the SSMP as indicated below:

1. Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.).

Illicit discharges into the wastewater collection system are prevented through enforcement of prohibitions listed in CCMC 13.40.050 – 13.40.080 which includes:

- Prohibited Discharge Standards;
- National Categorical Pretreatment Standards;
- State Pretreatment Standards; and

- Local Limits.

The CSA also has authority through the following DNCC:

County of Del Norte

County Code Title: 15 - Utilities

Chapter: 08 - Sewer System-Definitions

Section: 560 - Uncontaminated water

"Uncontaminated water" means any wasted water of the community not contaminated or polluted with wastewater and which is suitable or could readily be made suitable for discharge to the municipal storm water drainage system. (Ord. 77-42 § 155, 1977.)

Chapter 15, Section 28 - Sewer System-Use Restrictions

Chapter 15, Section 28,10 - Discharge of rainwater or uncontaminated water prohibited:

No person shall discharge or cause to be discharged any rainwater, storm water, groundwater, street drainage, subsurface drainage, yard drainage, water from yard fountains, ponds or lawn sprays, cooling water, or any other uncontaminated water into any sewerage facility which directly or indirectly discharges to facilities owned by the district.

Chapter 15, Section 28 - Sewer System-Use Restrictions

Chapter 15, Section 28, 30 - Industrial wastewater discharges prohibited

No industrial wastewaters shall be discharged to a trunk sewer or to a sewer discharging directly or indirectly to a trunk sewer until a permit for industrial wastewater discharge has been approved and issued by the district.

Chapter 15, Section: 28 - Sewer System-Use Restrictions

Chapter 15, Section 28, 40 - Discharge of certain wastes prohibited

No person shall discharge, cause or permit to be discharged into any public sewer wastes prohibited by resolution of the board in conformance with Section 15.12.060. (Ord. 77-42 § 603, 1977.)

Plumbing on private properties is under the jurisdiction of the Building Inspection Division of the Community Development Department. DNCC Title 14, Chapter 4, Section 10 includes the incorporation of uniform industry codes including the California Plumbing Code based on the Uniform Plumbing Code. The California Plumbing Code prohibits the connection of storm water or surface water drains into the sanitary sewers.

The Building Inspection Division is responsible for ensuring new building construction and rehabilitation projects comply with plans and specifications. County standards do not allow connection of inflow sources into the wastewater conveyance and collection system.

The CSA is responsible for controlling infiltration and connections of inflow sources in their jurisdiction.

2. Requires collaboration 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;

Stormwater generated in the CSA jurisdiction either discharges to drainages that outfall to waters of the State, or flow into the Crescent City stormwater system that discharges to waters of the State. The CSA is in full collaboration with Crescent City regarding stormwater emergency spill response, and SSO response. The City and County staff are trained annually in responses to SSOs and responses to illicit discharges into the storm sewer.

3. Require that sewers and connections be properly designed and constructed.

County of Del Norte

County Code Title: 15 - Utilities

Chapter: 24 - Sewer System-Design and Construction

Section: 10 - Design and construction standards

A. Minimum standards for the design and construction of sewers within the district shall be in accordance with district planning goals. District design standards heretofore or hereafter adopted by district engineer, with the consent of the board, may permit modifications or may require higher standards where unusual conditions are encountered. Reimbursement to developers for oversizing costs will be based upon real difference in costs due to oversizing or trench depth. Final cost to the district will be established by the manager. Modifications may include larger pipe diameters and increased depth of pipe. B. Three complete sets of "as-built" drawings showing the actual location of all mains, structures, wyes and laterals shall be filed with the district before final acceptance of the work. (Ord. 77-42 § 507, 1977.)

4. Ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the Public Agency.

The CSA has authority through the DNCC to ensure access for maintenance, inspection, or repairs for portions of the lateral owned or maintained by the CSA as shown below;

County of Del Norte

County Code Title: 15 - Utilities

Chapter: 44 - Sewer System-Enforcement

Section: 150 - Access to facilities

The facilities of the district are considered to be critical facilities with regard to the health, safety and welfare of the general public. Access to these facilities must be maintained for use by authorized personnel of the district. Vehicular access to all sewer lift stations shall be maintained for use by authorized persons only and prohibited where posted with signage indicating "No Parking Any Time." Any persons obstructing any areas where parking is prohibited as provided herein shall be subject to civil liabilities pursuant to Section 15.44.200. (Ord. 98-012 § 2 (part), 1998.)

Chapter: 08 - Sewer System-Definitions

Section: 280 - Local sewerage agency

"Local sewerage agency" means Del Norte County Service Area No. 1, or other public agency legally authorized to construct, maintain and operate a system of lateral or collecting sewers. (Ord. 77-42 § 127, 1977.)

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

County of Del Norte

County Code Title: 15 - Utilities

Chapter: 44 - Sewer System-Enforcement

Section: 10 – Violation Notice required Time limit for correction

Any person found to be violating any provision of Chapters 15.08 through 15.44, or any other ordinance, rule or regulation of the district, shall be served by an authorized person of the district with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. Said time limit shall be not less than two nor more than seven working days. The offender shall, within the period of time stated in such notice, permanently cease all violations. All persons shall be held strictly responsible for any and all acts of agents or employees done under the provisions of Chapters 15.08 through 15.44, or any other ordinance, rule or regulation of the district. Upon being notified by the district of any defect arising in any sewer, or of any violation of the ordinance codified in Chapters 15.08 through 15.44, the person or persons having charge of said work shall immediately correct the same. (Ord. 77-42 § 901, 1977.)

Chapter: 44 - Sewer System-Enforcement

Section: 30 – Disconnection Managers authority

As an alternative method of enforcing the provisions of Chapters 15.08 through 15.44, or any other ordinance, rule or regulation of the district, the manager shall have the power to disconnect the user or subdivision sewer system from the sewer mains of the district. Upon disconnection, the manager shall estimate the cost of disconnection from the reconnection to the system and such user shall deposit the cost, as estimated, of disconnection and reconnection before such user is reconnected to the

system. The district shall refund any part of the deposit remaining after payment of all costs of disconnection and reconnection.

3.3 Agreements with Other Agencies

The CSA collection system discharges to the Crescent City's collection system that discharges to the Crescent City Wastewater Treatment Facility. The CSA has agreements with the City including, Del Norte County Agreement 2021-054, Agreement to Jointly Exercise Powers Monitoring and Enforcement of Significant Industrial Users Located Within County Service Area No.1 and Discharging to The Crescent City Wastewater Treatment and Ordinance no. 2021 - 002 an Ordinance Establishing Regulations For Pretreatment of Industrial Wastewater.

A description of the various ordinances and agreements is provided below:

Agreement	Date	Contents
<p>RESOLUTION NO. 1980- 61, RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CRESCENT CITY ADOPTING AN AGREEMENT WITH THE COUNTY OF DEL NORTE' REGARDING WASTEWATER TREATMENT CONNECTIONS AND AUTHORIZING THE CITY MANAGER TO EXECUTE SAID AGREEMENT ON BEHALF OF THE CITY.</p>	<p>2-Jun-80</p>	<p>Provides authority to enter into the "1980 Agreement".</p>
<p>1980 AGREEMENT BETWEEN THE CITY OF CRESCENT CITY, CALIFORNIA AND DEL NORTE COUNTY SERVICE AREA NO.1 PERTAINING TO THE NORTHCREST AREA AND BERTSCH-OCEAN VIEW- AREA</p>	<p>19-May-80</p>	<p>CITY agrees to furnish such manpower and equipment as needed to perform maintenance of the equipment and Lines of the SERVICES AREA sewage system upon the CITY 'S acceptance of the equipment and lines and upon request of the SERVICES AREA.</p> <p>The SERVICES AREA shall not permit industrial discharger,,to connect to the System without prior written approval of the CITY.</p> <p>The CITY shall have the right to inspect the construction to assure itself of compliance with approved plans and specifications.</p> <p>The CITY shall have access to all parts of the SERVICES AREA'S system.</p>

		The SERVICES AREA shall adopt and enforce. either the current· ICBO' Plumbing Code or current uniform Plumbing Code as respects discharges into a sewer system.
BOARD OF SUPERVISORS COUNTY OF DEL NORTE STATE OF CALIFORNIA ORDINANCE NO. 2011- 008	8-Nov-11	The Board of Supervisors hereby adopts Ordinance No. 757 of the City of Crescent City, an uncodified ordinance referred to as the City of Crescent City Industrial Wastewater Pretreatment Ordinance, as that ordinance may be amended from time to time, by this reference, and repealed County wastewater regulations in DNCC Section 15, 32, 30 to 15, 32,120.
		The Board of Supervisors is authorized to enter into a memorandum of understanding or similar agreement(s) with the City of Crescent City to provide for the administration and enforcement of this Ordinance.
BOARD OF SUPERVISORS COUNTY OF DEL NORTE, STATE OF CALIFORNIA COUNTY OF DEL NORTE, STATE OF CALIFORNIA ORDINANCE NO. 2021 - 002 AN ORDINANCE ESTABLISHING REGULATIONS FOR PRETREATMENT OF INDUSTRIAL WASTEWATER	27-Apr-21	Repealed ORDINANCE NO. 2011- 008 in its entirety including the repeal of DNCC Section 15, 32, 30 to 15, 32,120. As a result, re-enacted DNCC Section 15, 32, 30 to 15, 32,120, and added DNCC Section 15 32,30.
		Industrial Waste Pretreatment Ordinance, Crescent City Municipal Code 13.40, as from time to time amended, is made applicable within the area of the CSA.
		Any violation of the requirements of said ordinance, including any permit requirement or condition, is a violation of the County Code, and subject to the same penalties and methods of enforcement as any other violation of the County Code.
		Authority for JPA in which the City will be granted the power to administer its Industrial Pretreatment Program within the area of the CSA.

<p>DEL NORTE COUNTY AGREEMENT NUMBER 2001-054, AGREEMENT TO JOINTLY EXERCISE POWERS, MONITORING AND ENFORCEMENT OF SIGNIFICANT INDUSTRIAL USERS LOCATED WITHIN COUNTY SERVICE AREA NO.1 AND DISCHARGING TO THE CRESCENT CITY WASTEWATER TREATMENT PLANT</p>	<p>4-Nov-21</p>	<p>Both parties hereto have the legal authority and responsibility to monitor significant industrial users that discharge into the municipal wastewater system.</p>
		<p>The City of Crescent City will administer the industrial pretreatment program for wastewater, specifically including Issuing Industrial Discharge Permits, Monitoring Compliance, and Enforcement.</p>

ELEMENT 4: OPERATION AND MAINTENANCE PROGRAM

4.1 Regulatory Requirements for the Operations and Maintenance Program Element

The WDR states that the CSA shall develop and implement an Operations and Maintenance (O & M) Program which should include the following:

- 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;
- The CSA must describe routine preventive operation and maintenance activities by staff and contractors; including a system for scheduling:
 - Inspection and maintenance activities;
 - Higher-frequency inspections and maintenance of known problem areas, including areas with tree root problems; and
 - Regular visual and closed-circuit television (CCTV) inspections of manholes and sewer pipes.
- The CSA must provide training on a regular basis for staff in sanitary sewer system operations, maintenance, and require contractors to be appropriately trained. Training must include:
 - The requirements of the General Order 2022-0103-DWQ;
 - 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.
- The CSA must provide equipment and replacement part inventories, including identification of critical replacement parts.

4.2 Maps

The CSA has computer-aided design (CAD) mapping of their sanitary sewer collection system. The CSA also relies on the City geographic information system (GIS) sewer mapping system which covers the CSA sewer collection system. The City provides all necessary sanitary sewer mapping information including gravity line segments, manholes, pumping facilities, pressure pipes and valves in the CSA. A map including sanitary sewer mains is included as Figure 2.

The Crescent City mapping of stormwater features does not include the entire CSA's stormwater system. The County of Del Norte has launched a Regional Drainage Study and Capital Improvement Plan (Project). This will be the first countywide review of drainage conditions along all 294 miles of County-maintained roads. This Project is about more than infrastructure, it is about protecting communities from flooding, keeping roads safe and passable, and planning ahead for the challenges of stronger storms, rising sea levels, and changing climate conditions. The project includes mapping stormwater

features for the entire County including the CSA #1 jurisdiction adjacent to the Crescent City jurisdiction. The Project goals are to:

- Assess current drainage systems and identify areas at risk;
- Identify priority areas for upgrades and maintenance; and
- Inform a long-term roadmap for smarter, more resilient infrastructure investments.

The **Del Norte Regional Drainage Study and Capital Improvement Plan** process will continue until March of 2027. Currently the study has generated GIS data for CSA # 1 including inlets, junctions, manholes, outfalls, culverts, closed pipes, and open channel ditched. This information is readily available at the webpage for the project (<https://drainage.dnco.org/>). A current map of the stormwater features is include as Figure 3.

The City and CSA's goal is to actively use the GIS system for management, decision-making, and prioritization of work. The GIS system will be routinely updated to include system expansion, rehabilitation, and storm sewer changes.

The City uses GIS software to maintain a wastewater atlas printed at a useable scale and indexed to a map Key (includes the CSA). iPad versions of the atlas are kept in the wastewater office and in field vehicles. The wastewater atlas is used to locate and identify wastewater and storm drainage structures and aid in the response to an SSO.

4.3 Routine Preventive Operation And Maintenance Activities

All preventive operation and maintenance of the CSA sewer collection system is conducted by agreement with the City. All of the City's preventive operations and maintenance activities cover the CSA collection system. The City's wastewater staff perform a variety of scheduled, preventive, predictive, and breakdown maintenance on a diverse spectrum of equipment. The main goal of maintenance activities is to ensure equipment availability to meet plant process operation requirements.

The City uses a work order system to schedule and track maintenance activities by staff and contractors; including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The City is implementing a new system for asset management that will include regularly scheduled preventive maintenance activities. The City tracks annual cleaning/jetting of the sewer system within the City limits. The City maintains a binder that tracks jet cleaning of hot spots, monthly preventive maintenance on the entire system, and quarterly preventive maintenance on the entire system. The Crescent City Public Works Department currently performs all the every-other-year maintenance of the gravity sewer mains. Each year, specific sewer lines are identified for routine cleaning by the City. The City's policy dictates that all sewer mains will be cleaned at least once during any given two-year period. Problematic sewer lines are cleaned more frequently based on past experience.

Sewer System (pipeline) Maintenance

CSA maintenance is performed by the City under agreement with the CSA. The City has a proactive and preventive maintenance program for its sewer system. Preventive maintenance is focused on critical and problematic areas. Problem sewers are identified,

prioritized, and scheduled for maintenance based on comprehensive review of the maintenance history and system characteristics of all the sewers in the City including overflows, blockages, excessive maintenance, age, material, condition, etc. Maintenance includes high velocity cleaning, visual inspections, and preventive repairs. SSOs caused by obstructions are inspected within 24-hours after the initial occurrence of an overflow. Closed circuit television CCTV may be used to identify any necessary repairs or special maintenance needs. In addition to the preventive maintenance, the City implemented a proactive maintenance program where “non-problem” sewers are also scheduled for maintenance and cleaning (Sewer Basin Cleaning), but on a less frequent basis. The City has implemented this proactive maintenance program that provides cleaning and maintenance of the “non-problem” sewers at least once every five years. Also, the City developed and implemented a system-wide manhole inspection program that is performed at least once every two years. Proactive maintenance is performed on a basin-by-basin approach.

Lift Station Maintenance

The CSA currently owns and operates the following 15 sewage lift stations within the CSA’s service areas.

1. Tedsen Lift Station
2. Walmart Lift Station
3. Pebble Beach Lift Station
4. Small Lift Station
5. Modoc Lift Station
6. Hodge Lift Station
7. Roy Lift Station
8. Elk Valley Lift Station
9. Olive Lift Station
10. Burtschell Lift Station
11. Seawood Lift Station
12. Pacific Lift Station
13. Oregon Lift Station
14. Madison Lift Station
15. Northcrest Lift Station

All of the lift stations utilize an emergency alarm system for monitoring power failures and high wet well conditions. The alarm system is monitored 24 hours per day through a Supervisory Control and Data Acquisition (SCADA) computer system, which notifies key City personnel of a problem which will be installed in the next 12-months. The City employees then respond to the emergency as required in the City and CSA collection systems.

The City has a routine preventive operation and maintenance program for its six sewage pumping stations. All pumping stations have the capability to have portable backup emergency generators attached to them. Generally, each pumping station is visually inspected weekly to ensure proper function. When there is a problem with the pumping

stations be it mechanical or a power outage, the sewage will reach a predetermined level to trip an alarm in the cloud-based SCADA system (Mission Communications). All significant alarms activate an automatic dialing system which dials staff until someone is reached. Staff will then assemble a crew, the problem is evaluated, and a solution is implemented. These actions have significantly reduced overflows caused by power outages. Operation and maintenance crews weekly monitor the condition and performance of the system with the goal of identifying and fixing a potential problem before it causes an SSO. In addition, the City has increased its efforts to assess the condition of sewers in the collection system.

Once a spill is reported or observed, it immediately becomes the highest priority. Citizens can phone 24 hours per day, 7 days per week to report any problems with the wastewater collection system.

All overflow incidences are immediately reported to the City Director of Public Works/Public Works Supervisor, and Deputy Director of Community Development – Public Works Branch (if the SSO is in the CSA). A City crew is assembled, the problem is evaluated, a solution is found and implemented.

The CSA and City emphasize timely and accurate notification and reporting of SSOs in the City and CSA collection systems. The chain of communication for reporting SSOs has been effective. The City and CSA maintain a minimum time in responding to an SSO and meet their legal obligations and social responsibility for notification and reporting.

Root Control

The City and CSA have had some problems with roots mainly in laterals. If inspection determines roots are an issue in a line, a root cutter will be used to eliminate the issue or the line will be excavated and repaired.

Odor Control

The CSA and City receive very few odor complaints. Any odor complaints will be addressed promptly by the City.

Non-Routine Maintenance

The CSA utilizes contract services for emergency cleaning and a combination of contract and in-house services for cleaning of known trouble spots. Non-routine maintenance activities include investigation and response to any complaints regarding a manhole overflow, missing or shifted manhole covers, manhole covers that are excessively noisy, residential plumbing problems, lift station malfunction, unexpected sewer odor, etc. Sewer complaints are investigated, and appropriate actions are taken to resolve the source of the problem.

Special Needs Maintenance

The City has a hot spot sewer cleaning program for identified problematic line segments in the City and CSA collection systems. The hot spot sewer cleaning program prevents blockages and SSOs with a monthly or every 2-week cleaning cycle. Frequencies of cleaning cycles may be adjusted based on the observations during the sewer cleaning. The frequency will be increased for line segments with moderate to heavy accumulations and decreased for line segments with lesser accumulations.

Emergency Maintenance

The CSA's collection system facilities have periodically experienced blockages and/or SSOs that require unplanned maintenance under emergency conditions. The City has developed emergency maintenance procedures contained within their *Sanitary Sewer Overflow and Backup Response Plan*. For more information refer to Element 6. The City has on call personnel available 24-hours a day weekends and holidays who will respond to emergencies in the City and CSA collections systems.

Information Systems/Data Collection

The City currently tracks maintenance activities in the City and CSA collection system using CMMS work orders.

4.4 Rehabilitation and Replacement Program

Based on an agreement between the CSA and the City, the City utilizes a combination of inspection activities to assess the condition of sewer assets in the City and CSA collection systems including:

- Routine aboveground and underground inspections of the collection system facilities, and lift stations to identify defects, damage or other identified problems;
- A flow monitoring capacity analysis was performed for the Facilities Plan; and
- Smoke testing and dye testing may be used to monitor and reduce I/I.

Recent Projects and Advancements Planned and Implemented

- CSA recently performed a series of smoke tests in the Bertch Ocean View area which identified and eliminated several sources of I/I;
- Completed rehabilitation of all CSA lift stations including the installation of chopper pumps, and new valves and pumps, and new control panels;
- SCADA master plan complete with hardware and software has been completed at all lift stations;
- Constructed covered storage for all mobile generators;
- Added a fixed generator with automatic transfer switch to the Burtschell Lift Station; and
- CSA has another fixed generator that is ready to be installed at another location TBD pending funding.

4.5 Training

CSA staff is limited to two full-time filled positions available on an as needed basis part-time basis to serve the CSA (Engineering Technician and Assistant County Engineer). The Engineering Technician is the primary person allocated to routinely serve the CSA. The Engineering Technician and Assistant City Engineer participate in the City staff training program. City crews and the Engineering Technician are trained in the proper operation and maintenance of all new major mobile equipment and facilities by the contractor/manufacturer. Written operation and maintenance manuals are used as resource material for initial start-up training as well as new staff training.

Annually City and CSA staff receive combined training on:

- ORDER WQ 2022-0103-DWQ Statewide Waste Discharge Requirements General Order for Sanitary Sewer Systems;
- Crescent City Sewer System Management Plan (SSMP), 2023;
- Crescent City Spill Emergency Response Plan (SERP), 2023 (SSO);
- Crescent City Spill Response Plan for Illicit Discharges to the Storm Drain System (2023) (Not SSO); and
- Review and assess effectiveness of the Spill Emergency Response Plan.

Safety training is an integral part of the City's program. Every staff member receives formal safety training. Crews are trained in confined space entry as well hazardous materials management, as required by regulations.

The CSA currently requires contractors to have all State and Federal required trainings and certifications and to comply with contractor safety requirements.

4.6 Equipment Inventory

City crews maintain the lift stations and perform repair or replacement of sewer pipelines in the City and CSA collection systems. The City maintains an inventory of equipment, replacement parts, and supplies. A structured process is followed to ensure an up-to-date accounting and complete inventory of equipment and replacement parts for their specific duties. Parts that are needed for lift station preventive maintenance are identified ahead of time for each specific maintenance task. Parts are secured prior to the start of the preventive maintenance. Redundancy is provided for key lift station equipment, and all lift stations have backup power available to minimize the risk of a complete lift station shutdown. In advance of severe storms, the City pre-deploys the VAC-Con® truck to known trouble spots in the City and CSA collection system. As a backup, City managers have credit authority to purchase needed materials and supplies from local vendors of non-stock items when they are critically needed. There has been little need to purchase parts through this means, which attests to the City's readiness.

The City maintains equipment such as sump pumps, portable generators, traffic control and night lighting systems, etc., in a ready state for immediate deployment in an emergency.

The CSA and City have adequate funding, staff, facilities, and equipment to quickly respond to routine or emergency maintenance needs. The City has a fleet of trucks and equipment used in the operation and maintenance of the over 17 miles of public sewers, and 21 lift stations, and can quickly minimize impacts and mitigate emergency conditions. The City and CSA have staff and contractors available who can respond 24 hours a day.

City crews operate out of the centrally located maintenance yard. The geographical locations allow efficient operations and ready response to the City and CSA collection systems. The City maintenance yard is fully equipped with modern equipment and spare parts. The City tracks the use and maintenance history of each vehicle and piece of equipment and replaces them based on a schedule of service time and use. General services and scheduled maintenance on fleet vehicles as well as replacement is based on operating records of the equipment.

ELEMENT 5: DESIGN AND PERFORMANCE PROVISIONS

The intent of this section of the SSMP is to document the City's design and performance provisions.

5.1 Regulatory Requirements for the Design and Performance Provisions

The WDR requires that the Design and Performance element of the SSMP provide the following:

- The CSA must have Updated Design Criteria and Construction Standards and Specifications; and
- The CSA must have Procedures and Standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.2 Standards for Installation, Rehabilitation and Repair

New and rehabilitated sewer systems and lift stations are designed and constructed to meet or exceed the performance standards in the industry and the DNCC as indicated below.

County of Del Norte

County Code Title: 15 - Utilities

Chapter: 24 - Sewer System-Design and Construction

Section: 10 - Design and construction standards

A. Minimum standards for the design and construction of sewers within the district shall be in accordance with district planning goals. District design standards heretofore or hereafter adopted by district engineer, with the consent of the board, may permit modifications or may require higher standards where unusual conditions are encountered. Reimbursement to developers for oversizing costs will be based upon real difference in costs due to oversizing or trench depth. Final cost to the district will be established by the manager. Modifications may include larger pipe diameters and increased depth of pipe. B. Three complete sets of "as-built" drawings showing the actual location of all mains, structures, wyes and laterals shall be filed with the district before final acceptance of the work. (Ord. 77-42 § 507, 1977.)

The DNCC establishes the requirements for the design and construction of sewers and connections. The DNCC requires that all sewers constructed in the County comply with the County's standard plans, specifications, policies and practices. The DNCC gives the authority and responsibility to the Deputy Director of Community Development – Public Works Branch to develop and enforce construction and design standards. These standards are continuously updated to incorporate new materials and construction methods to ensure that the completed installations meet the high-performance standards of the County. Construction plans and technical specifications are prepared for each new or rehabilitation project that documents the standard of

performance for the construction and the standards for acceptance. The Del Norte County Board of Supervisors enacts changes to the DNCC that affect the CSA.

5.3 Standards for Inspection and Testing of New, Rehabilitated, and Repaired Facilities

The DNCC provides for the inspection of new and rehabilitated building sewers and mainline sewers to ensure that the installation meets the high-performance standards of the County and the DNCC as indicated below.

County of Del Norte

County Code Title: 15 - Utilities

Chapter: 12 - Sewer System-General Provisions

Section: 70 - District inspector Manager authority

The manager may personally perform or employ some fit and qualified person or persons to perform the duties of inspecting the installation, connection, maintenance and use of all side sewers and public sewers, and facilities in connection therewith in said district, to be known as the "district inspector." (Ord. 77-42 § 211, 1977.)

Chapter: 44 - Sewer System-Enforcement

Section: 90 - Power and authority of inspectors

The officers, inspectors, managers and any duly authorized employees of the district shall carry evidence establishing his position as an authorized representative of the district and upon exhibiting the proper credentials and identification shall be permitted to enter in and upon any and all buildings, industrial facilities and properties for the purposes of inspection, reinspection, observation, measurement, sampling, testing or otherwise performing such duties as may be necessary in the enforcement of the provisions of the ordinances, rules and regulations of the district.

Chapter: 36 - Sewer System-Permits and Charges

Section: 230 - Sewer construction Inspection Certification of completion

All sewer construction work shall be inspected by an inspector acting for the district to insure compliance with all requirements of the district. No sewer shall be covered at any point until it has been inspected and passed for acceptance. No sewer shall be connected to the district's public sewer until the work covered by the permit has been completed, inspected and approved by the district inspector. If tests prove satisfactory and the sewer has been cleaned of all debris accumulated from construction operations, the inspector shall issue a certification of satisfactory completion. (Ord. 77-42 § 823, 1977.)

The Engineering and Surveying Division of the Community Development Department is responsible for enforcing technical compliance with the construction contracts and for testing and inspecting new sewer and rehabilitated sewer installations.

Del Norte County Board of Supervisors enacts changes to the DNCC that affect the CSA. The Del Norte County Building Inspection Division is responsible for reviewing,

issuing permits and enforcing the California Plumbing Code for new and rehabilitated building sewer service connections.

All sewage collection system facilities are designed to meet permit requirements of the various federal, state and local agencies. In addition, environmental documents are prepared to comply with the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both as appropriate. This process ensures that new and rehabilitated facilities are designed to the highest industry standards.

Design

All gravity sewer line systems within the City and CSA are designed to meet standards for the State of California. Pipe sizes are determined by the ultimate service area and available slope. All gravity sewer line plans are designed by registered civil engineers and reviewed and approved by the City or CSA prior to construction.

Construction:

Qualified contractors, who must have a Class 'A' general contractor's license when working within the City/CSA road right-of-way, construct all gravity sewer line systems. The contractors work is inspected by the City or CSA. Connections to the gravity sewer system are not permitted until final approval by the City or CSA, and recorded drawings have been filed.

ELEMENT 6: SPILL EMERGENCY RESPONSE PLAN

The intent of this section of the SSMP is to document the CSA's Spill Emergency Response Plan (SERP). The City, under agreement with the CSA, provides overflow emergency response services in the CSA collection system. Following an SSO response by City staff, the CSA will be responsible for contracting sewer repair services if necessary.

6.1 Regulatory Requirements for the Spill Emergency Response Plan

The CSA shall develop and implement an SERP that identifies measures to protect public health and the environment. At a minimum, this 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.

The City of Crescent City, under agreement with the CSA, provides overflow emergency response services in the CSA collection system. The City's Spill Emergency Response Plan is included in Appendix E and complies with the above requirements.

ELEMENT 7: SEWER PIPE BLOCKAGE CONTROL PROGRAM

The intent of this section of the SSMP is to document the CSA's sewer pipe blockage Program. The City of Crescent City, under agreements with the CSA, provides FOG Control services in the CSA collection system.

7.1 Regulatory Requirements for the Sewer Pipe Blockage Control Program

The intent of this section of the SSMP is to document the CSA's sewer pipe blockage program (FOG Program). The City of Crescent City, under agreements with the CSA, provides FOG Control services in the CSA collection system.

The regulatory requirements for this program include:

- 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 prohibiting 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.

The City of Crescent City has a FOG Control Policy (Appendix F) and FOG ordinance that apply to dischargers in the CSA. Based on the Del Norte County Code, County of Del Norte Ordinance 2021-002, Del Norte Agreement 2021-054, and CCMC 13.40, the CSA fulfills the requirements of the SSMP as indicated in this section.

7.2 Public Education and Outreach Program

Public education and outreach occur at the time of the FOG inspections that take place at a frequency based on individual facility compliance history. FOG inspections are performed in the City and CSA service areas. During the initial FOG inspection process the City representative provides operators with copies of the City's FOG Control Policy and Ordinance. The City representative discusses the importance of FOG control and answer questions. Additionally, the City has posted FOG information on its webpage.

7.3 Disposal of FOG

FOG discharge to the sewer is prohibited. Users are required to properly dispose of pretreatment wastes (brown grease) and cooking grease (yellow grease). Neither City nor the CSA has a registration system for FOG waste haulers. The WWTP does not accept trucked or hauled waste at this time.

The City and CSA do not own or operate a FOG disposal facility. Licensed FOG hauling contractors are available for the City and CSA areas and are required to dispose of grease to a certified disposal facility. The frequency of cleaning for a Food Service Establishments (FSE's) grease control device will be on a case-by-case basis and therefore a schedule for FOG disposal will also be on a case by case basis. A list of FOG pumping and/or FOG waste hauling contractors in Del Norte County is provided in Appendix G.

7.4 Legal Authority for FOG Program

Legal authority for the CSA FOG Program is contained within the Del Norte County Code, County of Del Norte Ordinance 2021-002, Del Norte Agreement 2021-054, and CCMC 13.40 as indicated in the sections below.

Legal authority for the Crescent City/CSA FOG Program is partially contained within CCMC 13.40.050 – 13.40.150.

1. Prevent illicit discharges into its wastewater collection system (examples may include infiltration and inflow (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.); CCMC 13.40.050 "Prohibited Discharge Standards".
2. Limit the discharge of fats, oils, and grease and other debris that may cause blockages; CCMC 13.40.050 "Prohibited Discharge Standards", CCMC 13.40.150 "Interceptor Requirements".
3. Enforce any violation of its sewer policies; CCMC 13.40.500–570 "Administrative Enforcement Remedies"; CCMC 13.40.589–610 "Judicial Enforcement Remedies"; and CCMC 13.40.620–680 "Supplemental Enforcement Action".

Additional legal authority for the CSA FOG Program is contained within County of Del Norte County Codes as described below:

County of Del Norte

County Code, Title: 15 - Utilities

Chapter: 08 - Sewer System-Definitions

Section: 410 - Sanitary sewer

"Sanitary sewer" means a sewer which carries sewage and to which storm, surface and groundwater are not intentionally admitted. (Ord. 77-42 § 140, 1977.)

Chapter: 28 - Sewer System-Use Restrictions

Section: 10 - Discharge of rainwater or uncontaminated water prohibited

No person shall discharge or cause to be discharged any rainwater, storm water, groundwater, street drainage, subsurface drainage, yard drainage, water from yard fountains, ponds or lawn sprays, cooling water, or any other uncontaminated water into any sewerage facility which directly or indirectly discharges to facilities owned by the district. (Ord. 77-42 § 601, 1977.)

Chapter: 28 - Sewer System-Use Restrictions

Section: 30 - Industrial wastewater discharges prohibited

No industrial wastewaters shall be discharged to a trunk sewer or to a sewer discharging directly or indirectly to a trunk sewer until a permit for industrial wastewater discharge has been approved and issued by the district.

Chapter: 28 - Sewer System-Use Restrictions

Section: 40 - Discharge of certain wastes prohibited

No person shall discharge, cause or permit to be discharged into any public sewer wastes prohibited by resolution of the board in conformance with Section 15.12.060. (Ord. 77-42 § 603, 1977.)

Chapter: 44 - Sewer System-Enforcement

Section: 10 – Violation Notice required Time limit for correction

Any person found to be violating any provision of Chapters 15.08 through 15.44, or any other ordinance, rule or regulation of the district, shall be served by an authorized person of the district with written notice stating the nature of the violation and providing a reasonable time limit for the satisfactory correction thereof. Said time limit shall be not less than two nor more than seven working days. The offender shall, within the period of time stated in such notice, permanently cease all violations. All persons shall be held strictly responsible for any and all acts of agents or employees done under the provisions of Chapters 15.08 through 15.44, or any other ordinance, rule or regulation of the district. Upon being notified by the district of any defect arising in any sewer, or of any violation of the ordinance codified in Chapters 15.08 through 15.44, the person or persons having charge of said work shall immediately correct the same. (Ord. 77-42 § 901, 1977.)

7.5 Requirements to Install Grease Removal Devices

County of Del Norte

County Code, Title: 15 - Utilities

Chapter: 28 - Sewer System-Use Restrictions

Section: 50 - Grease oil and sand interceptors required when Grease, oil and sand interceptors shall be provided when, in the opinion of the manager, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand and other harmful ingredients except that such interceptors shall not be required for buildings used for residential purposes. All interceptors shall be of a type and capacity approved by the manager and shall be so located as to be readily and easily accessible for cleaning and inspection. (Ord. 77-42 § 604, 1977.)

Additional, CCMC 13.40.150 "Interceptor Requirements" contains requirements to install grease removal devices.

7.6 Authority to Inspect Grease Producing Facilities

County of Del Norte

County Code, Title: 15 - Utilities

Chapter: 12 - Sewer System-General Provisions

Section: 70 - District inspector Manager authority

The manager may personally perform or employ some fit and qualified person or persons to perform the duties of inspecting the installation, connection, maintenance and use of all side sewers and public sewers, and facilities in connection therewith in said district, to be known as the "district inspector." (Ord. 77-42 § 211, 1977.)

Additional CSA inspection authority is provided in CCMC 13.40.460 "Right of Entry: inspection and Sampling".

The City has developed a list of problem areas, primarily caused by grease blockages in the City and CSA collection areas.

7.7 FOG Source Control Measures

The City has developed and implemented a FOG Control Policy in the City and CSA service areas that is included in Appendix F. Implementation of the FOG Control Policy included the following steps:

- Development of a FOG source list;
- Perform initial inspections;
- Follow-up inspections to verify maintenance;
- Create FOG records system for the retention of site-specific FOG information; and
- Perform semi-annual FOG inspections and maintain records.

ELEMENT 8: SYSTEM EVALUATION, CAPACITY ASSURANCE, AND CAPITAL IMPROVEMENTS

This section of the SSMP discusses the CSA's capacity management measures, and recommended capacity improvement projects.

8.1 Regulatory Requirements for the System Evaluation and Capacity Assurance Plan

The WDR requirements for the System Evaluation and Capacity Assurance element of the SSMP are summarized below:

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

8.2 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.

In 2025, the CSA completed a CCTV assessment of all sewer assets in Water District 1 (Bertsch Oceanview Area). Smoke testing in District 1 (Bertsch Oceanview Area) was performed in 2025 which resulted in the identification and elimination of several areas of

significant I/I. There are no current plans to perform a CCTV assessment of District 2 (Northcrest Area), but the CSA is scheduled to perform smoke testing in District 2 (Northcrest Area) in the summer of 2026.

Depending on funding availability, the CSA is planning to perform a CCTV assessment of the District 2 (Northcrest Area) in the next 5 years.

The findings of the recent CCTV assessment of District 1 (Berth Oceanview Area) are still being processed and evaluated. Upon evaluation the CSA will prioritize areas for repair, and or, replacement. During the evaluation it will be determined if exiting of sewage from the system could reasonably be expected to discharge to waters of the State.

Data from the CCTV condition assessment has been stored in digital format and accessible through WinCan VX. The goal is for all of the CCTV assessment data to be incorporated into the County GIS system.

The County will evaluate the CCTV data utilizing the Pipeline Assessment Certification Program (PACP) to rank the conditions of sewer line segments. Based on evaluation results, the County will prioritize repairs of Significantly Defective (PACP grade 4 or 5) gravity lines in the collection system located within two hundred (200) feet of a surface water and any such sewer line that, in Del Norte's professional judgment, may pose a risk to human health or the environment. If the condition assessments determines that there are multiple gravity lines located within two hundred (200) feet of surface water that are Significantly Defective (PACP grade 4 or 5), the County will develop a plan to prioritize repairs of those lines in an orderly fashion and complete repairs in a reasonable time thereafter

According to the ***California's Fourth Climate Change Assessment, North Coast Region Report, 2018:***

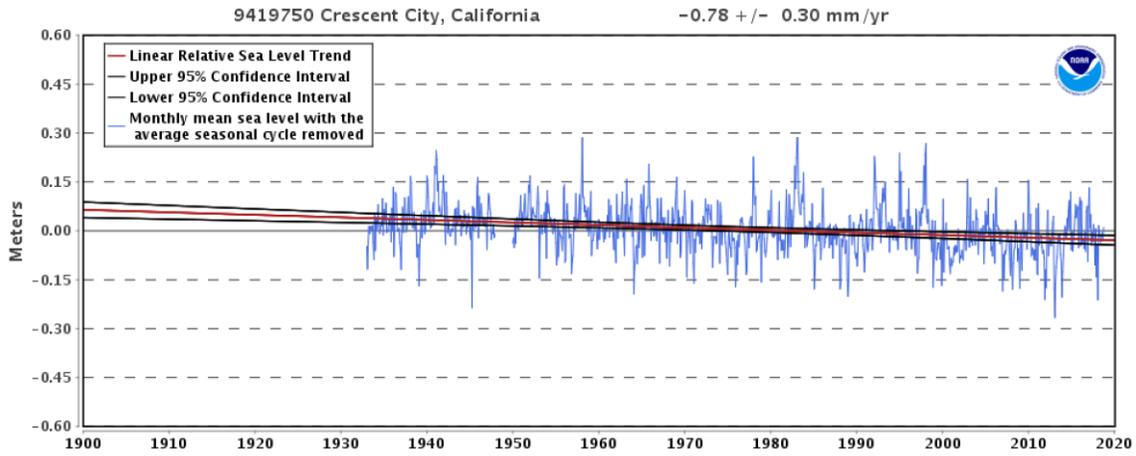
- Most of coastal California is experiencing inter-seismic uplift, which ameliorates the effect of sea-level rise. Crescent City, for example, is uplifting faster than long-term global sea-level rise, which results in a negative or decreasing local sea-level rise rate (Anderson 2018).
- The North Coast region is notable for its extensive natural ecosystems, abundance of water, and rural character. In some ways, these characteristics make the region less vulnerable to climate change impacts than other parts of California. Higher annual precipitation and lower human water demands mean less social disruption during drought. Cooler overall temperatures limit public health risks associated with heat waves. The rugged and largely undeveloped coast line offers greater opportunity to accommodate sea-level rise than coastal regions to the south.

The table on the following page shows sea level rise predictions for locations along the coast with two models. Future, projected changes in annual precipitations are displayed for moderate (RCP 4.5 – blue) and business-as-usual (RCP 8.5 – red) emissions scenarios

YEAR	SAN FRANCISCO	HUMBOLDT BAY	CRESCENT CITY
2030	0.4	0.6	0.1
2050	0.9	1.3	0.4
2100 (RCP 4.5)	1.9	2.8	1
2100 (RCP 8.5)	2.5	3.3	1.5
2150 (RCP 4.5)	3	4.3	1.6
2150 (RCP 8.5)	4.1	5.3	2.6

Projected median (50% probability) sea-level rise for San Francisco, the north spit of Humboldt Bay, and Crescent City, relative to 1991-2009 mean sea level, in feet (Source: Anderson 2018).

According to **AB 691 Sea-Level Rise Assessment For Crescent City State Lands** (September 30, 2019):



Sea Level Rise Trend through 2020.

There is the possibility of increased flooding and/or erosion due to increased storm volumes, frequency, and/or intensity, and the potential increased power disruptions.

8.3 Capacity Assessment and Design Criteria

The City and CSA are not experiencing SSO discharges caused by hydraulic deficiency.

The City has prepared the Crescent City Wastewater Facilities Plan which contains the technical information required by this Element. Based on the Wastewater Facilities Plan, the City’s collection system has hydraulic capacity to convey current peak dry weather flows. Dry weather Sanitary Sewer Overflows are possible due to blockages although they rarely, if ever, occur. The City and CSA have virtually eliminated dry weather overflows resulting from power outages or equipment failures at the lift stations due to the

availability of portable backup generators, a well-stocked centrally located maintenance yard, and a trained and available crew.

If the flows are unusually high, it is normally not a capacity issue. The cause of the high flows is immediately determined through field investigations or flow analysis. The cause may be from a blockage, structural failure, unusually high discharges, or from continued growth in the basin. Once the cause has been determined, the solution, be it cleaning, maintenance, or rehabilitation will be scheduled and implemented on a priority basis.

The City and CSA has, and continues to invest in a substantial effort in identifying and documenting areas of high infiltration/inflow.

The City and CSA have appropriate design criteria as referenced in Section 5.2.

8.4 Prioritization of corrective actions

The CSA is having the recently collected CCTV data analyzed which will include a condition ranking system. Based on the ranking system, proximity to surface water, and likelihood of release prioritized corrective actions will be identified.

8.4 Capital Improvement Plan

At the time that the CSA has a prioritized corrective action list, they will develop a capital improvement plan for the sanitary sewer system.

ELEMENT 9: MONITORING, MEASUREMENTS, AND PROGRAM MODIFICATIONS

This section of the SSMP discusses parameters that the CSA tracks to monitor the success of the SSMP and how the City plans to keep the SSMP current.

9.1 Regulatory Requirements for Monitoring, Measurements, and Program Modifications

The WDR requirements for the Monitoring, Measurement, and Program Modifications element of the SSMP are summarized below:

- Maintaining relevant information, including audit findings, to establish and prioritize appropriate Plan activities;
- Monitor the implementation and measure the effectiveness of each element of the SSMP;
- Assessing the success of the preventive operation and maintenance activities;
- Update Plan procedures and activities, as appropriate, based on monitoring or performance evaluations; and
- Identify and illustrate spill trends, including spill frequency, location, and estimated volume.

9.2 Monitoring Information

The CSA will maintain information that can be used in SSMP performance monitoring through the California Integrated Water Quality System (CIWQS) database administered by the State and Regional Water Quality Control Boards to track information under the statewide general SSO order. All CIWQS information is available through the Public Reports portal at:

http://www.waterboards.ca.gov/water_issues/programs/ciwqs/publicreports.html

9.3 Performance Measures

The indicators that the CSA will use to measure the performance of its wastewater collection system and the effectiveness of its SSMP are:

- Total number of SSO locations per year;
- Volume of spilled wastewater recovered per year compared to total volume of wastewater spilled; and
- Volume of spilled wastewater discharged to surface waters per year compared to total volume of wastewater spilled per year.

These parameters were selected because they are straightforward, quantitative, and focused on results. These parameters are also available to both CSA staff and the public at all times through the CIWQS system.

9.4 Performance Monitoring and Program Changes

The SSMP should be updated periodically to maintain current information, and programs need to be enhanced or modified if they are determined to be less effective than needed. The CSA annually evaluates the performance of the wastewater collection system, during annual training, using the performance measures listed in Section 9.3. The CSA will

review the successes and needed improvements of the SSMP as part of the SSMP audit, described in Element 10 performed every 3-years.

CSA staff will update critical information, such as contact numbers and the SSO response chain of communication, as needed. A comprehensive SSMP update will occur every 5 years, as required by the SWRCB

ELEMENT 10: INTERNAL AUDITS

The intent of this section of the SSMP is to document the CSA's auditing program.

10.1 Regulatory Requirements for the SSMP Program Audits

The WDR requirements for the SSMP Program Audits are summarized below:

- The CSA shall conduct periodic internal audits appropriate to the size of the system and the number of SSOs. At a minimum, these audits must occur every three years and a report must be prepared and kept on file. This audit shall focus on evaluating the effectiveness of the SSMP and the CSA's compliance with the SSMP requirements, including identification of any deficiencies in the SSMP and steps to correct them.

10.2 SSMP Audits Discussion

The CSA audits its SSMP every three years. The first audit will be completed prior to December 2028 and will cover calendar years 2026, 2027 and most of 2028. The audit will determine whether the SSMP meets the current requirements of the WDR, whether the SSMP reflects the CSA's current practices, and whether the CSA is following the SSMP.

The audit will be conducted by a team consisting of CSA and City staff. The audit team may also include members from outside agencies and/or contractors. The scope of the audit will cover each of the sections of the SSMP.

The results of the audit will be included in the Audit Report. The Audit Report may contain information about successes in implementing the most recent version of the SSMP and identify revisions that may be needed for a more effective program. Information collected as part of Element 9 Monitoring, Measurement, and Program Modifications will be used in preparing the audit. Tables, figures, and/or charts may be used to summarize information about these indicators.

The CSA will update its SSMP at least every five years. The first update will be completed on or before June 1, 2032.

The CSA will determine the need to update its SSMP more frequently based on the results of the triannual audits and the performance of its sanitary sewer system using information from the Monitoring and Measuring Program. In the event that the CSA decides that an update is warranted, the process to complete the update will be identified at that time. The CSA will complete the update within one year following identification of the need for the update.

The CSA Staff will seek the approval from the Del Norte County Board of Supervisors acting as the Board of Directors of the CSA for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or limited procedural changes is delegated to the Deputy Director of Community Development – Public Works Branch.

ELEMENT 11: COMMUNICATION PLAN

The intent of this section of the SSMP is to identify a plan to communicate information regarding the CSA's SSMP activities to the public. The plan includes a process for the public to receive SSMP information as well as provide input to the City on the SSMP.

11.1 Regulatory Requirements for the Communication Plan

The WDR requirements for the Communication Plan element of the SSMP are summarized below. 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;
- The development, implementation, and update of its Plan, including opportunities for public input to Plan implementation and updates; and
- Owners/operators of systems that connect into the Enrollee's system, including satellite systems, for System operation, maintenance, and capital improvement-related activities

11.2 Communication Plan

The CSA has several methods for communicating information to and receiving information from the public. The following methods have been identified as alternatives that would be effective as part of the CSA's Communication Plan.

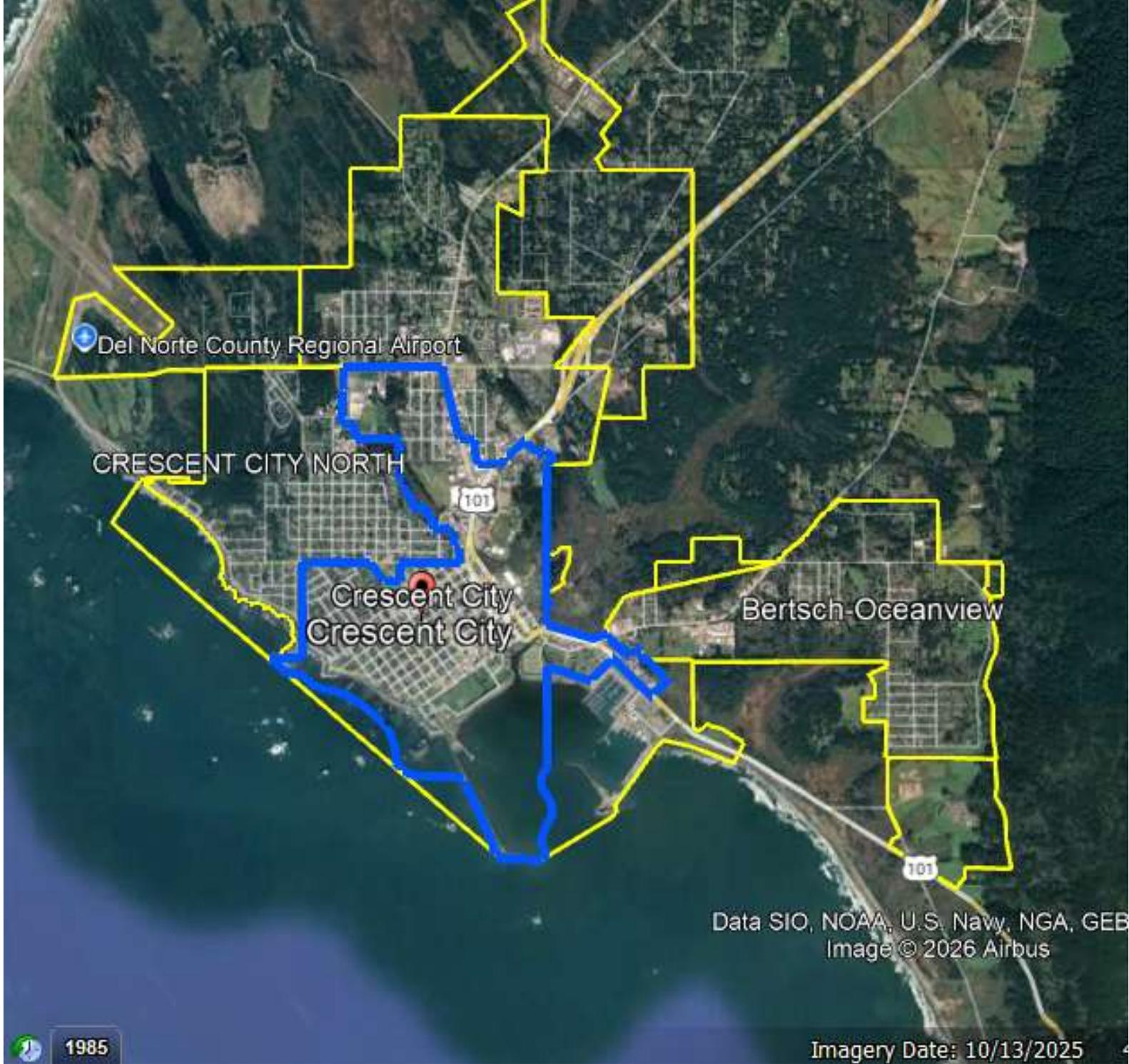
County Website – Information regarding the CSA could continue to be incorporated into the Engineering and Surveying Division webpages of the Community Development Department. Information could be added and/or maintained to include the SSMP, audit performance information, and methods to receive public input.

Monthly Water and Sewer Billing – An annual notice regarding the sanitary sewer system performance could be included in monthly water and sewer billings by the City. The notice could contain general SSMP information. The notice could also refer the customers to the website for additional CSA details.

Notices in Public Spaces – Notices of the SSMP project could be posted and handouts made available in public spaces such as at the Community Development Department (981 H Street, Suite 110, Crescent City, CA, 95531) and Crescent City Public Works Department (377 J Street, Crescent City, CA 95531).

The CSA provided a copy of the draft SSMP to the City for review and comments.

FIGURES



Del Norte County
Sewer System Management Plan

Figure 1
Del Norte County CSA
Service Area Jurisdiction



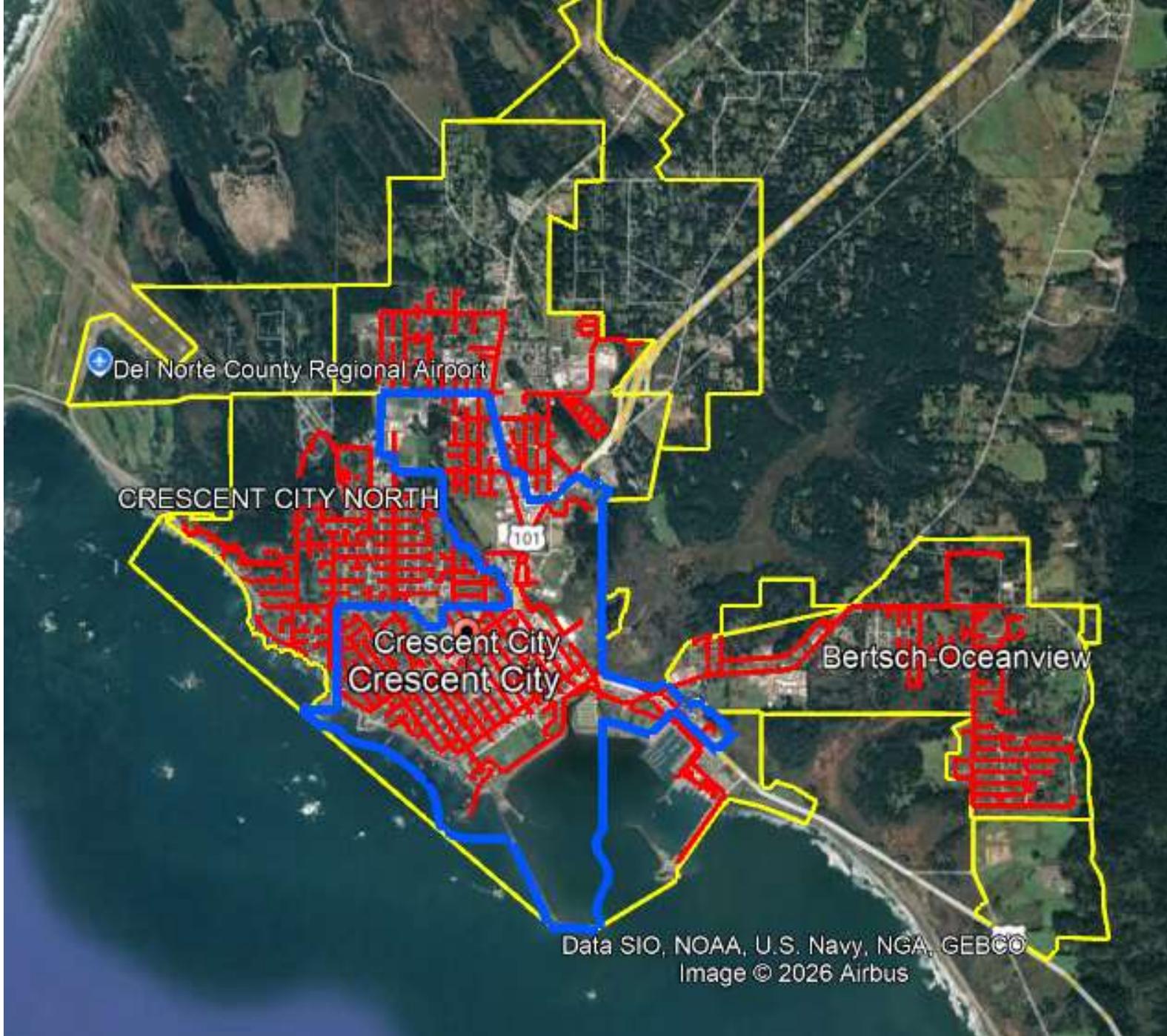
**Freshwater
Environmental
Services**

LEGEND

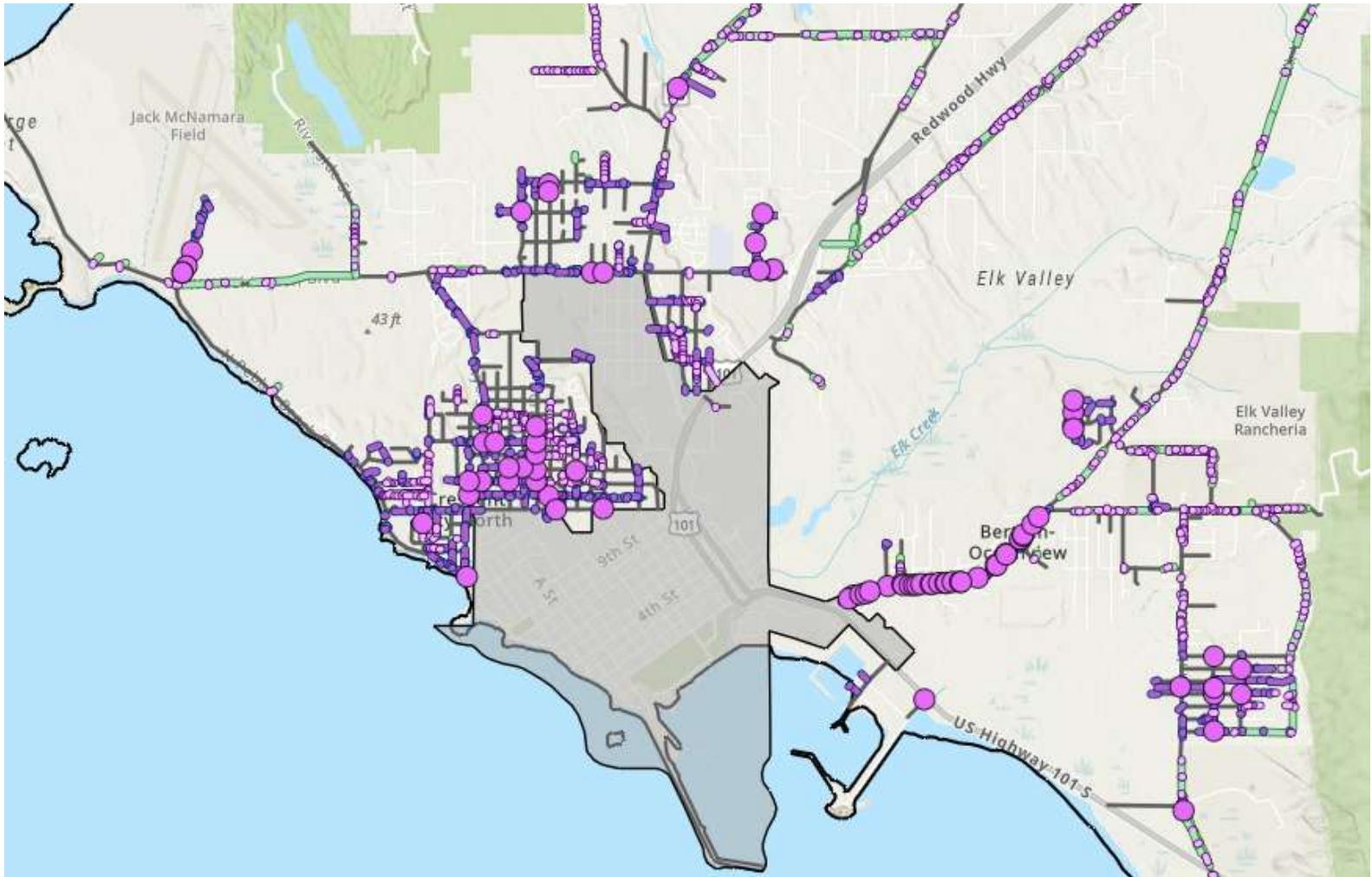
-  City Limits of Crescent City
-  County Service Area (CSA)

Base Image Data Source: Google Earth

ALL LOCATIONS APPROXIMATE



<p>Del Norte County Sewer System Management Plan</p>	<p>LEGEND</p> <ul style="list-style-type: none">  City Limits of Crescent City  County Service Area (CSA)  Sewer Line <p>Base Image Data Source: Google Earth ALL LOCATIONS APPROXIMATE</p>
<p>Figure 2 Del Norte County CSA Sewer Infrastructure</p>	
<div style="display: flex; align-items: center;">  <p>Freshwater Environmental Services</p> </div>	



Del Norte County
Sewer System Management Plan

Figure 3
Del Norte County CSA
Storm Sewer Infrastructure



**Freshwater
Environmental
Services**

LEGEND

-  Storm Sewer Infrastructure
-  Storm Sewer Line

Base Image Data Source: Google Earth

ALL LOCATIONS APPROXIMATE

APPENDIX A

**ORDER NO. 2022-0103, STATEWIDE GENERAL WASTE DISCHARGE REQUIREMENTS
FOR SANITARY SEWER SYSTEMS (WDR)**

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

 for

Jeanine Townsend
Clerk to the Board

STATEWIDE SANITARY SEWER SYSTEMS GENERAL ORDER

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STATEWIDE SANITARY SEWER SYSTEMS GENERAL ORDER

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.

STATEWIDE SANITARY SEWER SYSTEMS GENERAL ORDER

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

STATEWIDE SANITARY SEWER SYSTEMS GENERAL ORDER

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/) (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](#)

STATEWIDE SANITARY SEWER SYSTEMS GENERAL ORDER

(<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

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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.

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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.

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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)

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- 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 system-specific environmental, and climate-change impacts, including but not limited to:

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- 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

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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

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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/).

(https://www.waterboards.ca.gov/water_issues/programs/grants_loans/)

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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.

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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) (<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**

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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

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- 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 31 st date	July 1 st date after audit period
<i>Example</i>	<i>Certified Sewer System Management Plan Submittal Date of August 2, 2025 Audit Period of August 2, 2025 through December 31, 2027</i>	<i>July 1, 2028</i>

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
<i>Example</i>	<i>Last required Audit Period start date of August 2, 2021; Audit Period of August 2, 2021 through August 1, 2024</i>	<i>February 1, 2025</i>

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.

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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) (<https://ciwqs.waterboards.ca.gov>) prior to the individuals establishing a [CIWQS user account](https://ciwqs.waterboards.ca.gov/ciwqs/newUser.jsp) (<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."

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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.

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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.

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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.

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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

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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:

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- 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,

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- 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;

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- 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.

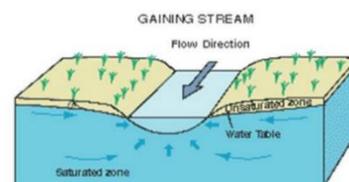
Governing Entity

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/).
(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:

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

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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;

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- 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;

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- 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

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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),

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- 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) (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;

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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;
 - o 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:
 - o Description of the drainage conveyance system transporting the spill;
 - o Photographs of the drainage conveyance system entry location(s);
 - o Estimated spill volume fully recovered from the drainage conveyance system;
 - o 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:
 - o 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
 - o The methodology(ies), assumptions and type of data relied upon for estimations of the spill start time and the spill end time;

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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;

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- 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) (<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

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- 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

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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 Enrollee 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;

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- 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);

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- 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.**

If a Sewer System Management Plan Audit is not conducted as required: 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

For an Existing Enrollee previously regulated by Order 2006-0003-DWQ: **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

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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,

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- 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:

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- 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	<p>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:</p> <p>Notify the California Office of Emergency Services and obtain a notification control number.</p>	<p>California Office of Emergency Services at: (800) 852-7550 (Section 1 of Attachment E1)</p>
Monitoring	<ul style="list-style-type: none"> • 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. 	<p>(Section 2 of Attachment E1)</p>
Reporting	<ul style="list-style-type: none"> • 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. 	<p>(Section 3.1 of Attachment E1)</p>

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	<p>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:</p> <p>Notify California Office of Emergency Services and obtain a notification control number.</p>	<p>California Office of Emergency Services at: (800) 852-7550</p> <p>(Section 1 of Attachment E1)</p>
Monitoring	Conduct spill-specific monitoring.	(Section 2 of Attachment E1)
Reporting	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<p>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:</p> <p>Notify California Office of Emergency Services and obtain a notification control number.</p> <p>Not applicable to a spill of less than 1,000 gallons.</p>	<p>California Office of Emergency Services at: (800) 852-7550</p> <p>(Section 1 of Attachment E1)</p>
Monitoring	<p>Conduct visual monitoring.</p>	<p>(Section 2 of Attachment E1)</p>
Reporting	<ul style="list-style-type: none"> • 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. 	<p>(Sections 3.6, 3.7 and 4.4 of Attachment E1)</p>

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

STATEWIDE SANITARY SEWER SYSTEMS GENERAL ORDER 2022-0103-DWQ

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

SSMP AUDIT REPORT, NOVEMBER 2025

Triennial Sewer System Management Plan Audit Report

Name of agency	Del Norte County Community Service Area (CSA)
Date of audit	November 7, 2025
Date of SSMP	June, 2022
SSMP Update Due Date	September 2028
Name of auditor	Jonathon Olson (Del Norte County CSA), Orrin Plocher (Freshwater Environmental Services)

The purpose of the Sewer System Management Plan (SSMP) Audit is to evaluate the effectiveness of Del Norte County's Community Service Area (CSA) SSMP and to identify whether updates are needed. This document was designed to meet the requirements of State Water Resources Control Board Order No. WQ 2022-0103-DWQ. Documentation of SSMP audits are kept on file at the Del Norte County Community Development Department and will be uploaded to the California Integrated Water Quality System (CIWQS) database. This audit report format is modified from audit reports(s) developed by Bay Area Clean Water Agency (BACWA).

ELEMENT 1. GOALS

1. Are the goals stated in the SSMP still appropriate and accurate? YES NO

ELEMENT 2. ORGANIZATION

2. Is the SSMP up to date with organization and staffing contact information? YES NO

Comment: Some employees' information is dated and not accurate.

ELEMENT 3. LEGAL AUTHORITY

3. Does the SSMP reference up-to-date information about legal authority? YES NO
4. Does Del Norte County CSA have sufficient legal authority to control sewer use and maintenance? YES NO

ELEMENT 4. OPERATIONS AND MAINTENANCE PROGRAM

4.a Map of the Sanitary Sewer System

5. Does the SSMP reference up-to-date information about maps? YES NO
6. Are collection system maps complete, up-to-date, and sufficiently detailed? YES NO

Comment: City maintains a current GIS application with system maps. Sewer system boundary submittal is required per section 5.14 of the General Order. **Continuing Enrollees:** The submittal must be completed by **December 31, 2025**.

4.b Preventative Maintenance Program

- 7. Does the SSMP contain up-to-date information about preventive operations and maintenance activities? YES NO
- 8. Are Del Norte County’s preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages? YES / NO

Comment: Minor updates are necessary to accurately describe preventive operations and maintenance activities (page 17 and 18)

4.c Rehabilitation and Replacement Plan

- 9. Does the SSMP contain up-to-date information about the rehabilitation and replacement program? YES NO
- 10. Does the SSMP contain up-to-date information about Closed Circuit Television (CCTV) inspections? YES NO
- 11. Are scheduled inspections and the condition assessment system effective in identifying, prioritizing, and addressing deficiencies? YES / NO
- 12. Does the Capital Improvement Plan (CIP) address prioritized projects for collection system assets? YES NO

Comment: Update information about CCTV inspection program, schedule, and goals. Verify condition ranking system. Include specific information regarding CIP.

4.d Training

- 13. Does the SSMP contain up-to-date information about existing training programs? YES / NO
- 14. Do supervisors believe their staff are sufficiently trained? YES / NO
- 15. Are staff satisfied with the training opportunities and support offered to them? YES / NO

Comment: The County also has a person certified through NASCCO.

4.e Equipment and Replacement Part Inventories

- 16. Does the SSMP reference up-to-date information about equipment and replacement part inventories? YES / NO

ELEMENT 5. DESIGN AND PERFORMANCE PROVISIONS

- 17. Does the SSMP contain up-to-date information about design and construction standards? YES / NO

ELEMENT 6. SSO & BACKUP RESPONSE PLAN

- 18. Does the SSMP contain an up-to-date version of SSO Response Plan? YES / NO
- 19. Is the Response Plan effective in handling SSOs? (if **YES**, indicate specific information under the “Evaluation of the Effectiveness of the SSMP” section below) YES / NO

Comment: Since 2019 the number of SSO events per year have decreased as well as the total annual volumes of SSOs.

ELEMENT 7. FATS, OILS, AND GREASE (FOG) CONTROL PROGRAM

- 20. Does the SSMP reference or contain up-to-date information about the CSA's FOG control program? **YES** / NO
- 21. Is the current FOG program effective in documenting and controlling FOG sources? **YES** / NO
- 22. Are all public outreach materials for the FOG program current? **YES** / NO

Comment: There have been no FOG caused SSOs since 2021 and before that since 2011.

ELEMENT 8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

- 23. Does the SSMP reference or contain up-to-date information about CSA's capacity assessment activities and documentation? YES **NO**
- 24. Is the CSA sufficiently addressing hydraulic deficiencies? **YES** / NO

Comment: The CSA has initiated a smoke-testing program that has been very effective at identifying and correcting defects leading the decreased I/I..

ELEMENT 9. MONITORING, MEASUREMENT, AND PROGRAM MODIFICATIONS

- 25. Does the SSMP reference up-to-date information about the CSA's data collection and organization (e.g. use of CMMS, performance indicators, etc.)? **YES** / NO
- 26. Is CSA's data collection and organization sufficient to evaluate the effectiveness of the SSMP? **YES** / NO

Comment: Update activities and goals schedule.

ELEMENT 10. SSMP PROGRAM AUDITS

- 27. Will this SSMP Audit be completed every three years starting in 2025? **YES** / NO

ELEMENT 11. COMMUNICATION PROGRAM

- 28. Is Del Norte County CSA's website up to date, including information related to providing an opportunity for public input on the SSMP? YES **NO**

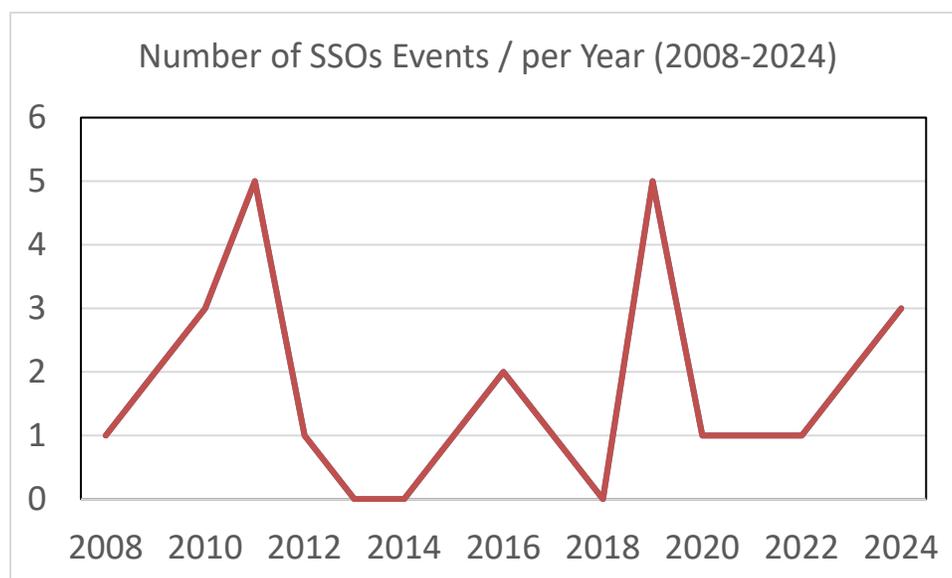
Comment: The current SSMP was located on the CSA website but does not provide a method to comment on the webpage.

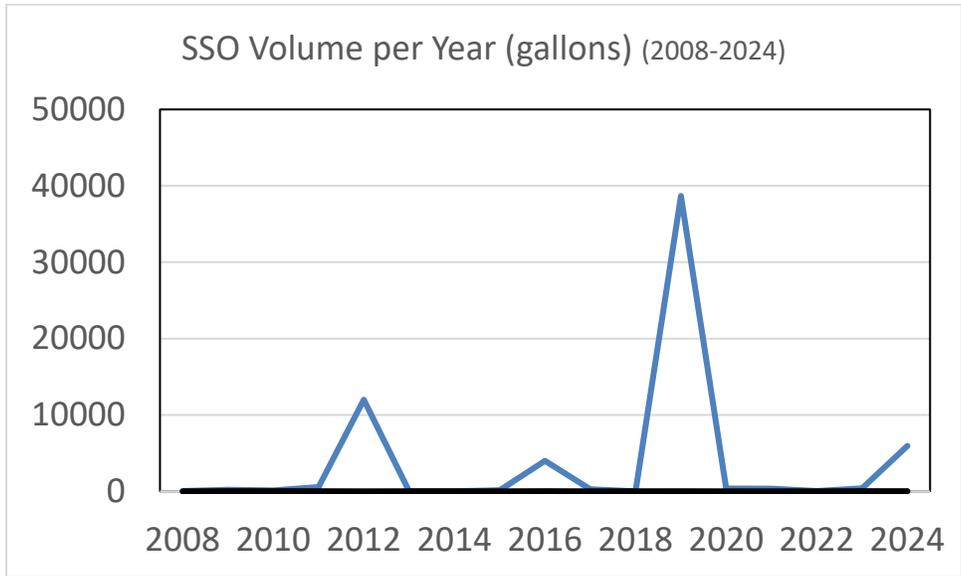
Evaluation of the Effectiveness of the SSMP

Below is a summary of SSOs associated with the Del Norte County CSA wastewater collection system:

Del Norte County CSA SSO Summary 2008 to 2024

Year	Number of SSOs	Total Volume	Recovered	% Recovery	Lift Station Malfunction	I/I (rain event)	Debris	FOG	Op Error
2008	1	30	0	0		1			
2009	2	195	15	0	1	1			
2010	3	125	15	12%	1	1		1	
2011	5	550	430	78%	1		1	2	1
2012	1	12000	0	0		1			
2013	0	0	0	NA					
2014	0	0	0	NA					
2015	1	135	0	0%	1				
2016	2	4000	0	0%		2			
2017	1	270	10	4%	1				
2018	0	0	0	NA					
2019	5	38675	1810	5%	2	3			
2020	1	360	300	83%	1				
2021	1	336	300	89%				1	
2022	1	35	0	0%					1
2023	2	390	190	49%	1		1		
2024	3	5950	500	8%	1	1			
Total					10	10	2	4	2
% of Total					36%	36%	7%	14%	7%





The SSMP has been effective at reducing SSOs caused by debris or FOG blockages. Last SSO reported due to blockage was in 2023 and before that in 2020.

Recent SSOs caused by excessive flow due to I/I creating a hydraulic deficiency and equipment failure. All lift stations have been rehabilitated and should result in more reliable operation, better communication (SCADA upgrade), and fewer or smaller SSOs.

It is anticipated that equipment failures will continue to reduce over time as causes for SSOs due to recent equipment upgrades. SSOs caused by extreme storm events may become more prevalent.

Review of Online SSO Reporting Data

Below is a list of comments and recommendations related to the review of online reporting of SSOs:

Observation	Recommendation
Annual Reports for 2024 are listed as “not started” and “Past Due.”	Complete past due 2024 Annual Report and Complete 2025 Annual Report by April 1, 2026.
Internal Audit Report for (05/03/2022 - 05/02/2025) is listed as due by 11/02/2025.	Internal Audit is under contract with and being prepared by FES.
SSMP for the period (05/03/2020 - 05/02/2026) is listed as due by 05/02/2026.	Previous SSMP was dated 2022 and the next update should be 2028. Contact CIWQS administrator to request an update to the due date.

The information contained in the CIWQS SSO database indicates the SSOs are being reported and certified as required.

Sewer system boundary submittal is required per section 5.14 of the General Order. Continuing Enrollees: The submittal must be completed by **December 31, 2025.**”

Description of Scheduled Updates/Changes to the SSMP

The sections of the SSMP that have a “NO” response on audit table above will be updated in the 2032 SSMP scheduled for completion in October 2028.

Recommendations

Since the SSMP has been effective at reducing/eliminating SSOs caused by debris or FOG blockages, and the changes noted in the Audit are not anticipated to substantially effect the performance of the SSMP, it is recommended that the SSMP Update be completed for 2028.

Verify, or complete, the submittal of the Sewer system boundary map is required per section 5.14 of the General Order. Continuing Enrollees: The submittal must be completed by **December 31, 2025**”.

APPENDIX C

**BOARD OF SUPERVISORS COUNTY OF DEL NORTE, STATE OF CALIFORNIA COUNTY
OF DEL NORTE, ORDINANCE NO. 2021 – 002**

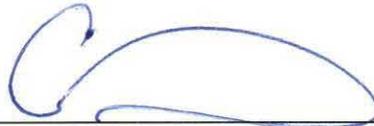
**BOARD OF SUPERVISORS
COUNTY OF DEL NORTE, STATE OF CALIFORNIA**

ORDINANCE NO. 2021-002

**AN ORDINANCE ESTABLISHING REGULATIONS FOR PRETREATMENT OF
INDUSTRIAL WASTEWATER**

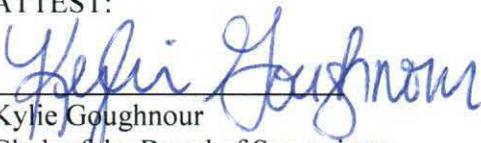
The following ordinance, consisting of 2 Sections, was passed and adopted by the Board of Supervisors of the County of Del Norte, State of California, at a regular meeting of the Board of Supervisors held on the 27th day of April, 2021, by the following vote:

AYES: *Supervisor Short, Starkey, Howard, Hemmingsen,
Berkowitz*
NOES: *None*
ABSENT: *None*

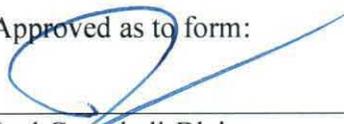


Chris Howard, Chair
Del Norte County Board of Supervisors
State of California

ATTEST:


Kylie Goughnour
Clerk of the Board of Supervisors
County of Del Norte County

Approved as to form:


Joel Campbell-Blair
Del Norte County Counsel

The Board of Supervisors of the County of Del Norte ordains as follows:

SECTION 1: Repeal of Ordinance 2011-008

Ordinance 2011-008, An Ordinance of the Del Norte County Board of Supervisors Adopting Regulations Pertaining to the Pretreatment of Industrial Wastewaters, is repealed in its entirety.

SECTION 2: An Addition to Chapter 32 of Title 15 – Industrial Wastewaters:

The following sections are added to the Del Norte County Code to read as follows:

Title: 15- Utilities

Chapter: 32 – Industrial Wastewaters

Section: 30 – Significant Industrial Users

- A. The County Service Area No. 1 (“CSA”) and the City of Crescent City (“City”) manage separate sanitary sewer collection systems within their service areas. Flows generated within the CSA are collected and conveyed to the City’s system, and then conveyed to the City’s waste water treatment plan (“WWTP”).
- B. The City’s WWTP is subject to a National Pollutant Discharge Elimination System (“NPDES”) permit under the federal Clean Water Act and the California Water Code. As a condition of that permit, the City is responsible for the performance of all pretreatment requirements contained in federal regulations, including 40 C.F.R. 403.8(f)(1), which requires the City to have the legal authority to enforce the pretreatment requirements of the Clean Water Act against industrial users. “Such authority may be contained in a statute, ordinance, or series of contracts or joint powers agreements.” (40 C.F.R. 403.8(f)(1).)
- C. To effectuate the requirements of the federal regulations and the conditions of the City’s permit, the City’s Industrial Waste Pretreatment Ordinance, Crescent City Municipal Code 13.40, as from time to time amended, is made applicable within the area of the CSA. Any violation of the requirements of said ordinance, including any permit requirement or condition, is a violation of the County Code, and subject to the same penalties and methods of enforcement as any other violation of the County Code.
- D. In order to give the City the enforcement authority necessary for the City to comply with its permit, the County will enter into a joint powers agreement pursuant to Government Code §6500 *et seq.* under which the City will be granted the power to administer its Industrial Pretreatment Program within the area of the CSA.

APPENDIX D

**AGREEMENT (2021-054)TO JOINTLY EXERCISE POWERS MONITORING AND
ENFORCEMENT OF SIGNIFICANT INDUSTRIAL USERS LOCATED WITHIN COUNTY
SERVICE AREA NO.1**

**AGREEMENT TO JOINTLY EXERCISE POWERS
MONITORING AND ENFORCEMENT OF SIGNIFICANT INDUSTRIAL
USERS LOCATED WITHIN COUNTY SERVICE AREA NO. 1 AND
DISCHARGING TO THE CRESCENT CITY WASTEWATER
TREATMENT PLANT**

This agreement to jointly exercise powers ("Agreement") is made by and between the Del Norte County Board of Supervisors, acting as the governing body of the County Service Area no. 1, a county service area organized under Government Code Section 25210 *et seq* ("County"), and the City of Crescent City, a California municipal corporation ("City") effective as of the date of its approval by both parties.

WHEREAS, the City of Crescent City owns and operates the Crescent City Wastewater Treatment Plant ("WWTP"), which discharges treated effluent into the Pacific Ocean pursuant to NPDES Permit No. CA0022756; and

WHEREAS, the County of Del Norte created County Service Area No. 1 in 1976 ("CSA"), which provides wastewater collection services to unincorporated areas within the Crescent City urban area; and

WHEREAS, the wastewater collected within the CSA is conveyed to the City WWTP where it is treated and discharged under the City's NPDES Permit; and

WHEREAS, on November 8, 2011, the County adopted by reference the City's Industrial Wastewater Pretreatment Ordinance (City Ordinance No. 757), as amended from time to time; and

WHEREAS, publicly-owned treatment works (POTW) is defined by 40 CFR 403.6(q) as a treatment works as defined by section 212 of the Clean Water Act, which is owned by a State or municipality (as defined by section 502(4) of the Act). 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 Clean Water Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works. The term Indirect Discharge or Discharge means the introduction of pollutants into a POTW from any non-domestic source regulated under section 307(b), (c) or (d) of the Clean Water Act; and

WHEREAS, significant industrial users (SIU) are defined by Federal regulations to include all Industrial Users subject to categorical pretreatment standards set forth at 40 CFR Chapter I, Subchapter N, parts 405 – 471 and any other industrial user that: **discharges an average of 25,000 gallons per day of process wastewater (excluding sanitary and 'dilute wastewater', as defined at 40 CFR 403.6 e(1)(i) under 'FD');** contributes a process wastestream which makes up **5 percent or more of average dry weather hydraulic or organic capacity** of the publicly-owned

treatment works; or is determined to have reasonable potential for adversely affecting the publicly-owned treatment works' operation or for violating any pretreatment standard or requirement; and

WHEREAS, SIU's are required by federal regulations to be controlled by a discharge permit issued by the control authority, which is defined as the publicly owned treatment works ("POTW"); and

WHEREAS, in 2015, the County received its first significant industrial user discharging into the CSA and requiring monitoring and a permit; and

WHEREAS, the City issued an industrial waste discharge permit to the County's significant industrial user; and

WHEREAS, the parties find it appropriate and necessary to formalize this relationship of enforcement and monitoring of significant industrial users discharging industrial wastewater into CSA sewer collection system; and

WHEREAS, the Joint Exercise of Powers Act (Government Code § 6500, et seq.) authorizes two or more public agencies to jointly exercise any power common to them upon the approval of their respective governing bodies.

NOW, THEREFORE, the County of Del Norte and the City of Crescent agree to the following terms:

- 1.0 POWERS TO BE EXERCISED.** Both parties hereto have the legal authority and responsibility to monitor significant industrial users that discharge into the municipal wastewater system. By way of this Agreement, both the City and the County intend to fulfil their legal responsibilities to monitor significant industrial users within their respective boundaries.
- 2.0 INDUSTRIAL PRETREATMENT PROGRAM.** The City of Crescent City will administer the industrial pretreatment program for wastewater, specifically including:
 - a. Issuing industrial waste discharge permits to significant industrial users that discharge into either the City collection system or the CSA collection system;
 - b. Monitoring compliance with permits and provisions of the Industrial Wastewater Pretreatment Ordinance, as amended from time to time;
 - c. Enforcing both the terms of the permits and the provisions of the Industrial Wastewater Pretreatment Ordinance, as amended from time to time, pursuant thereto.
- 3.0 FEES.** The City will not charge the County directly for its permitting, monitoring and enforcement activities under this Agreement. Instead, the City will establish a fee structure for the industrial waste discharge permits that will be designed to recover the City's costs of administering the program.

3.0 PERSONNEL. The City will be responsible for all costs of its personnel and contractors required to conduct permitting, monitoring, and enforcement activities hereunder. The City will provide competent, trained personnel and contractors to perform the services hereunder.

4.0 DURATION AND TERMINATION. This Agreement will continue in force and effect until either party gives the other party 60 days' written notice of termination of this Agreement.

5.0 REQUIRED JPA PROVISIONS.

5.01. Accounting. The City will be responsible for accounting for all costs and receipts as part of the program.

5.02. Property. Any property acquired as the result of the joint exercise of powers shall belong to City.

5.03. Surplus Funds. Upon the termination of this Agreement, any surplus money on hand shall be returned to the parties in proportion to the contributions made.

6.0 INDEMNIFICATION.

6.01. Comparative Fault. Except as otherwise specifically provided in this Agreement, neither party shall be liable for the negligent or wrongful acts of the other party in the performance of this Agreement.

6.02. By City. The City agrees to indemnify, defend, and hold harmless the County of Del Norte, its elected and appointed officials, officers, agents, and employees from any and all claims, demands, lawsuits, liability, judgments, debts, loss, damages and expenses (including, without limitation, costs and legal fees), arising from or connected with claims and lawsuits by third parties arising from the negligent or wrongful acts of the City in the performance of this Agreement.

6.03. By County. The County agrees to indemnify, defend, and hold harmless the City, its elected and appointed officials, officers, agents, and employees from any and all claims, demands, lawsuits, liability, judgments, debts, loss, damages and expenses (including, without limitation, costs and legal fees), arising from or connected with claims and lawsuits by third parties arising from the negligent or wrongful acts of the County of Del Norte in the performance of this Agreement.

7.0 GENERAL PROVISIONS.

7.01. Privileges and Immunities. All of the privileges and immunities from liability, exemptions from laws, ordinances and rules, all pension, relief, disability, workmen's compensation, and other benefits which apply to the activity of officers, agents or employees of any such public agency when performing their respective functions within the territorial limits of their respective public

agencies, shall apply to them to the same degree and extent while engaged in the performance of any of their functions and duties extraterritorially under the provisions of this Agreement.

- 7.02. **Severability.** In the event that any provision herein contained is adjudicated to be invalid, void, or illegal by final order of any court of competent jurisdiction, the same shall be deemed severable from the remainder of this Agreement and shall in no way affect, impair or invalidate any other provision contained herein. If any such provision shall be deemed invalid due to its scope or breadth, such provision shall be deemed valid to the extent of the scope or breadth permitted by law.
- 7.03. **Waiver.** No breach of any provision hereof can be waived unless in a writing signed by the non-breaching party. A written waiver of any particular breach of this Agreement shall not be deemed to be a waiver of any other breach of the same or any other provision of this Agreement.
- 7.04. **Headings.** The headings in this Agreement are used for convenience and reference. They are not intended to be used in the substantive interpretation of this Agreement.
- 7.05. **Entire Agreement.** The terms and conditions herein constitute the entire agreement between the parties relating to the subject matter of this Agreement and supersede any prior understanding of the parties, whether oral or written. This Agreement may be modified only by further written agreement between the parties hereto.

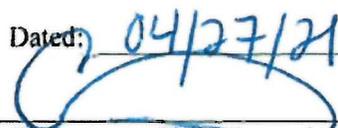
IN WITNESS WHEREOF, the Board of Supervisors of the County of Del Norte and the City Council of the City of Crescent City have approved and caused this Agreement to be executed as of the date last written below.

COUNTY OF DEL NORTE

CITY OF CRESCENT CITY

Dated: 04/27/21

Dated: 11/04/21


Chairperson Chris Howard
Board of Supervisors


Mayor Jason Greenough

ATTEST:

Kylie Goughnour, Clerk of the Board

ATTEST:

Robin Patch, City Clerk

Approved As To Form
Del Norte County Counsel

APPENDIX E

CRESCENT CITY SPILL EMERGENCY RESPONSE PLAN

**CITY OF CRESCENT CITY
SPILL EMERGENCY RESPONSE PLAN**

Prepared for:
City of Crescent City
377 J Street
Crescent City, California 95531



June 2023

Prepared by:
Orrin Plocher and Stan Thiesen
of



Freshwater Environmental Services

78 Sunny Brae Center
Arcata, California 95521
Phone (707) 839-0091

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1.0 INTRODUCTION

The purpose of the Spill Emergency Response Plan (SERP) is to support an orderly and effective response to Sanitary Sewer Overflows (SSOs). The SERP provides guidelines for responding to, cleaning up, and reporting SSOs that may occur within the collection system service area. Crescent City's response to a Sewer System Overflow ("SSO") is based upon the risk that the SSO may result in endangerment to human health or the environment, prioritizing that response to those locations, and using all available resources to address the SSO. High risk SSOs are discharges in any location which pose an imminent and substantial endangerment to public health or the environment.

High risk SSOs include those occurring within two hundred (200) feet of surface water. These areas are noted on the City GIS maps used during SSO response (Appendix A).

1.1 Regulatory Requirements for the Overflow Emergency Response Plan

State Water Resources Control Board ORDER WQ 2022-0103-DWQ requires the City to develop and implement a SERP that identifies measures to protect public health and the environment. The City 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.

At a minimum, this plan must include the 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 including, traffic control, maintain appropriate public notification signs and barricades, 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.

The City's overflow response requires full, immediate, and appropriate attention with the ultimate goal of minimizing impacts to public health and safety and the environment. Telephone calls to report overflows or other maintenance problems are answered 24-hours per day, 7-days per week. Crew leaders are immediately notified upon receipt of a reported sewage overflow and are instructed to respond immediately. Crew leaders are responsible for assessing the overflow, notifying supervisors, documenting the overflow, estimating the volume of the overflow, sampling, and laboratory analysis, posting warning signs and following up.

The highest priorities are to contain the overflow and to minimize or eliminate the volume of overflow that reaches the storm drain system, and to minimize or eliminate exposure to the public and impact on public health. The city's objectives are designed to protect public health and safety, meet all regulatory reporting requirements, and ensure immediate and effective response.

1.2 Goals

The City's goals with respect to responding to SSOs are:

- Respond quickly to minimize the volume of the SSO;
- Eliminate the cause of the SSO;
- Contain the spilled wastewater to the extent feasible;
- Minimize public contact with the spilled wastewater;
- Mitigate the impact of the SSO; and
- Meet the regulatory reporting requirements.

2.0 SSO NOTIFICATION PROCEDURE

The processes that are employed to notify the City of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by City Staff during the normal course of their work. This *SERP* (contains the procedures for receiving sewage overflow/backup reports.

Public Observation

During normal business hours calls regarding SSOs are received by the Public Works Department (707) 464-9506. Public Works personnel will contact the Utilities Director who will dispatch responders. In cases when the Utilities Director is not available, the Lead Utility Worker will be contacted who will dispatch responders.

After normal working hours calls regarding SSOs are received by the Del Norte County Sheriff's office. The Sheriff's office will contact on-call wastewater staff using the Public Works Call list. The on-call wastewater staff will be the initial responder to SSOs. If the situation warrants, additional utility workers will be contacted to respond.

In complex or **high risk** SSOs, the Utilities Director and or the Director of Public Works will be contacted for additional support and guidance. Information from the SSO and SSO response will be provided by the responders to the Utilities Manager who will make the necessary regulatory reports. The regulatory notification responsibility and requirements are included in the *SERP*.

Receipt of Alarm

The lift stations are monitored by an alarm system with autodialer. The autodialer system calls the "call-out" phone and then the County Sheriff if there is no response.

If the signal alarm in the wastewater treatment plant control room is activated, utility staff will be dispatched as initial responders.

City Staff Observation

City staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate City staff who respond to emergency situations.

2.1 External SSO Notification and Reporting Requirements

Category 1 SSOs

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.

Category 1 SSO External Notification Requirements

1. Call **Del Norte Environmental Health** at: **(707) 465-0426**.

Category 1 SSO **greater than or equal to 1,000 gallons** (discharged to surface water or spilled in a location where it probably will be discharged to surface water), the Utilities Superintendent shall notify the State Office of Emergency Services (OES) (and obtain a Spill Control Number) following, but **not later than 2 hours after becoming aware of the discharge:**

2. Call Cal OES at: **(800) 852-7550**

Cal OES forwards the SSO notification information to local government agencies and first responders including local public health officials and the applicable Regional Water Quality Control Board. Receipt of notifications for a single SSO event from both the SSO reporter and Cal OES is duplicative.

Category 1 SSO External Reporting Requirements

Category 1 SSO: Submit draft report within three business days of becoming aware of the SSO and certify within **3 business days of SSO** end date. **Within 15 calendar days** of the spill end date, the Enrollee shall submit a Certified Spill Report for Category 1 spills.

Category 1 SSOs in which **50,000 gallons or greater** are discharged, **within 45 calendar days** of the spill end date, the Enrollee shall submit a **Spill Technical Report** to the online California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database. Water sampling is required as described in Section 3.7. Data from this sampling will be made available to the Public at the City's office and the CIWQS database website.

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.

Category 2 SSOs

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.**

Category 2 SSO External Notification Requirements

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 **threatens discharge to waters of the state**, the Utilities Superintendent shall notify the State Office of Emergency Services (and obtain a Spill Control Number) following, but **not later than 2 hours after becoming aware of the discharge:**

1. Call Cal OES at: **(800) 852-7550**

Category 2 SSO External Reporting Requirements

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.

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.

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.

Category 3 SSOs

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.**

Category 3 SSO External Notification Requirements

External notifications are not required for Category 3 SSOs.

Category 3 SSO External Reporting Requirements

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.

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.

Category 4 SSOs

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.

Category 4 SSO External Notification Requirements

External notifications are not required for Category 4 SSOs.

Category 4 SSO External Reporting Requirements

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 spill occurred.

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.

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

Private Lateral Sewer Discharges (PLSDs): PLSDs that the enrollee becomes aware of may be voluntarily reported to the CIWQS online SSO Database.

PLSDs External Notification Requirements

Within 24 hours of becoming aware of a PLSD 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, from a sewer system that is not owned/operated by the Enrollee, the Enrollee is encouraged to report the observations to the online CIWQS database.

PLSDs External Reporting Requirements

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.

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).

3.0 SSO RESPONSE PROCEDURES

Sewer service calls and lift station alarms are considered high priority events that demand a prompt response to the location of the problem. The goals of the *Emergency Response Plan* are to protect the public from hazards, identify source of overflow and determine ownership, perform cleanup and abatement, complete proper reporting procedures and provide good customer service. The *SERP* provides detailed response procedures for the first responder and field crew responsible for identifying the source of the problem, correcting the cause of the overflow, and cleaning the surrounding area.

A reporting form to be completed by the first responder is included in Appendix B.

3.1 Priorities

The first responder's priorities are:

- To follow safe work practices;
- To respond promptly with the appropriate equipment;
- To contain the spill wherever feasible;
- To restore the flow as soon as practicable;
- To minimize public access to and/or contact with the spilled sewage;
- To promptly notify the Utilities Director or the Public Works Director in the event of any SSO;
- To return the spilled sewage to the sewer system; and
- To restore the area to its original condition (or as close as possible).

3.2 Safety During Response

The first responder is responsible for following safety procedures on all jobs. Special safety precautions must be observed when performing sewer work.

There may be times when City personnel responding to a sewer system event are not familiar with potential safety hazards peculiar to sewer work. In such cases, it is appropriate to take the time to discuss safety issues, consider the order of work, and check safety equipment before starting the job.

The first responder must assess the scene for hazards to the responders and/or the public. After completing the job hazard analysis the responder will:

- Utilize control devices such as signs, cones, delineators, lights, barricades, when work encroaches in lane(s) of traffic, or in an area subject to pedestrian or vehicle traffic;
- Utilize Personal Protection Equipment such as gloves; hardhat; safety glasses; safety vest; and splash goggles as needed; and
- Utilize proper lifting, pulling and bending techniques when removing a sanitary sewer access cover to protect the responders back.

3.3 Initial Response

The first responder must respond to the reported location or lift station site and visually check for potential sewer stoppages or overflows. All sewer system calls require a response to the reported location of the event.

The first responder will:

- Note arrival time at spill site;
- Verify the existence of a sewer system spill or backup;
- Identify and assess the affected area and extent of spill;
- Contact caller if time permits;
- Notify the Utilities Director and Director of Public Works in the event of a major SSO: and
- Post signage and barricades to protect public safety and route traffic around the SSO.

The SSO is considered high risk if the following conditions are present:

- SSOs are discharges in any location which pose an imminent and substantial endangerment to public health or the environment;
- SSOs include those occurring within two hundred (200) feet of surface water. These areas are noted on the City GIS maps used during SSO responses;
- The spill appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed;
- The spill is in a public roadway and help with traffic control is needed to protect workers and the public; or
- If additional help is needed. The Utility Worker or Utilities Director will contact other employees, contractors, and/or equipment suppliers.

During the response to a high-risk SSO City staff will initiate containment measures then proceed with actions to restore the flow.

If spill is large or in a sensitive area, the responder will document conditions with photographs as time allows. During the response to an SSO City staff will need to decide whether to proceed with actions to restore the flow, or to initiate containment measures.

The guidance for this decision is:

- Small spills – proceed with restoring flow;
- Moderate or large spill where containment is anticipated to be simple – proceed with the containment measures then proceed with restoring flow; or
- Moderate or large spills where containment is anticipated to be difficult – proceed with restoring flow; however, call for additional assistance after 15 minutes without restoration of flow and implement containment measures.

3.4 Initial Spill Containment Measures

The first responder should attempt to contain the spilled sewage using the following steps:

- Determine the immediate destination of the overflowing sewage;
- Plug storm drains using air plugs, sandbags, and/or plastic mats to contain the spill, whenever appropriate. If overflowing sewage has entered the storm drainage system during dry weather, attempt to contain the spilled sewage by plugging downstream storm drainage facilities;
- Contain/direct the spilled sewage using dike/dam or sandbags; and
- Pump around the blockage/pipe-failure/lift-station.

3.5 Recovery and Cleanup

The recovery and cleanup phase begins when the flow has been restored and the overflow of sewage has been stopped. The City can use contract services for recovery and cleanup

actions. Typically, the SSO recovery and cleanup procedures include an estimate of spill volume, recovery of spilled sewage and cleanup and disinfection of the area.

Estimate the Volume of Spilled Sewage

Whenever possible, document the estimate using photos of the SSO site before the recovery operation. Various detailed methods of spill volume estimating are included in (Appendix D).

Recovery of Spilled Sewage

Vacuum or pump the spilled sewage and discharge it back into the sanitary sewer system.

Cleanup and Disinfection

Cleanup and disinfection procedures should be implemented to reduce the potential for human health issues and adverse environmental impacts that are associated with an SSO event. The procedures described are for dry weather conditions and should be modified as required for wet weather conditions. Where cleanup is beyond the capabilities of City staff, a cleanup contractor will be used.

Cleanup Involving Private Property

- Offer assistance with cleanup and advise resident or property owner of claim procedures; and
- Contact insurance for damage assessment.

Cleanup of Hard Surface Areas

- Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms;
- Wash down the affected area with clean water until the water runs clear. Take reasonable steps to contain and vacuum up the wash water;
- Disinfect all areas that were contaminated from the overflow using the disinfectant solution. Apply minimal amounts of the disinfectant solution using a hand sprayer. Document the volume and application method of disinfectant that was employed; and
- Allow area to dry. Repeat the process if additional cleaning is required.

Cleanup of Landscaped and Unimproved Natural Vegetation

- Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms using proper PPE;
- Wash down the affected area with clean water until the water generated runs clear. The flushing volume should be approximately three times the estimated volume of the spill;
- Either contain or vacuum up the wash water so that none is released; and
- Allow the area to dry. Repeat the process if additional cleaning is required.

Steps for Cleanup of Natural Waterways

- The Department of Fish and Wildlife will be notified by the OES in the event an SSO impacts any surface water or riparian habitat. Fish and Wildlife will provide the professional guidance needed to effectively cleanup spills that occur in these sensitive environments;

- Cleanup should proceed quickly in order to minimize negative impact. Sewage causes depletion of dissolved oxygen which will kill aquatic life; and
- Any water that is used in the cleanup should be de-chlorinated prior to use (chlorine compounds are toxic to aquatic life).

Wet Weather Cleanup Modifications

- Omit flushing and sampling during heavy storm events with heavy runoff where flushing is not required and sampling would not provide meaningful results.

3.6 Public Notification

Post signs and place barricades to keep vehicles and pedestrians away from contact with spilled sewage. Do not remove the signs until directed by the Director of Public Works.

Creeks and streams that have been contaminated as a result of an SSO should have signs posted at visible access locations until the risk of exposure has subsided to acceptable background levels. The warning signs should be checked every day to ensure that they are still in place.

In the event that an overflow occurs at night, the location should also be inspected the following day. The Utility Worker should look for any signs of sewage solids and sewage-related material that may warrant additional cleanup activities.

Major spills may warrant broader public notice. The Public Works Director will contact the City's designated Information Officer who will contact local media when significant areas may have been contaminated by sewage.

3.7 Water Quality Sampling and Testing

Water quality sampling and testing is required whenever 50,000 gallons or more of spilled sewage enters surface water to determine the extent and impact of the SSO. The water quality sampling procedures are:

- The first responder will collect samples if required. Samples should be collected as soon as possible after the discovery of the SSO event.
- The water quality samples should be collected from upstream of the spill, from the spill area, and downstream of the spill in flowing water (e.g. creeks). The water quality samples should be collected near the point of entry of the spilled sewage and every 100 feet along the shore on impoundments (e.g. ponds).
- The City's laboratory and contract laboratory will analyze the samples to determine the nature and extent of the discharge. Additional samples will be taken to determine when posting of warning signs can be discontinued. The basic analyses should include total coliform, fecal coliform, biochemical oxygen demand (BOD), dissolved oxygen, and ammonia nitrogen.

4.0 SSO INVESTIGATION AND DOCUMENTATION

All SSOs should be thoroughly investigated and documented for use in managing the sewer system and meeting established reporting requirements. The procedures for investigating and documenting SSOs include a failure analysis investigation, SSO documentation, and post-SSO debriefing.

Failure Analysis Investigation

The objective of the failure analysis investigation is to determine the “root cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to reoccur.

The investigation should include reviewing all relevant data to determine appropriate corrective action(s) for the line segment. The investigation should include:

- Reviewing and completing the SSO reporting Form (Appendix C);
- Reviewing past maintenance records;
- Reviewing available photographs;
- Conducting inspections to determine the condition of the line segment immediately following the SSO and reviewing the video and logs; and
- Interviewing staff who responded to the spill.

The product of the failure analysis investigation should be the determination of the root cause and the identification of the corrective actions.

SSO Documentation

The first responder will complete the Sanitary Sewer Overflow Reporting Form found in the Appendix C.

The Utilities Director or Director of Public Works will prepare a file for each individual SSO. The file should include the following information:

All SSOs

- Initial service calls information;
- Sanitary Sewer Overflow Reporting Form;
- Failure analysis investigation results; and
- SWRCB California Integrated Water Quality System (CIWQS) Report(s).

Large SSOs and/or SSOs to sensitive areas

- Volume estimate;
- Appropriate maps showing the spill location;
- Photographs of spill location; and
- Water quality sampling and test results (as necessary).

Post SSO Event Debriefing

Every SSO event is an opportunity to thoroughly evaluate the response and reporting procedures. Each overflow event is unique, with its own elements and challenges including volume, cause, location, terrain, and other parameters.

As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures

used and to discuss what worked and where improvements could be made in preventing, responding to, and mitigating future SSO events. The results of the debriefing will be recorded and tracked to ensure the action items are completed.

5.0 EQUIPMENT AND TRAINING

This section provides a list of specialized equipment that is required to support this SERP.

Digital Cell Phones/Cameras

A digital or disposable camera is required to record the conditions upon arrival, during cleanup, and upon departure.

Utilities Trucks

Utility body pickup trucks are required to store and transport the equipment needed to effectively respond to sewer emergencies. The equipment and tools should include spilled sewage containment and cleanup materials.

Portable Pumps and Hoses

Portable pumps and piping will be used to pump around failed facilities and to recover spilled sewage. Additional portable pumps and hoses are available through local rental agencies or contractors.

Response Equipment

- 1 VAC-Con® truck equipped with a high-pressure rodder.
- 1 Dedicated logbook(s) to document fieldwork activities.
- 1 Hydro flusher(s) are owned and/or leased by the City.
- 1 Video (CCTV) inspection vehicle(s) are owned and/or leased by the City.
- 4 Utility truck(s) are owned and/or leased by the City.
- 3 portable sewage pump(s) are owned and/or leased by the City.
- 4 portable generator(s) are owned and/or leased by the City.

Equipment designed to block the storm drain system, in an emergency, to prevent untreated or partially treated wastewater from reaching surface waters.

Spill Response Supplies

Spill response supplies and personal protective equipment are stored at the wastewater treatment plant. Spill response supplies includes booms, pads, absorbents, brooms, rakes. Personal protective equipment including gloves, boots, and other supplies are kept with the spill response supplies so that they are easy to locate during a response

5.1 Training

This section provides information on the training that is required to support this SERP. Training documents are included in Appendix E.

Initial and Annual Refresher Training

All Wastewater personnel and contractors who have a role in responding to, reporting, and/or mitigating a sewer system overflow will receive training. This includes employees who serve as the after-hours on-call maintenance crew member. All new employees and contractors receive training before they are placed in a position where they may have to respond. Current employees receive annual refresher training on this plan and the procedures to be followed.

SSO Response Drills

Periodic training drills are held to ensure that employees and contractors are up to date on the procedures, the equipment is in working order, and the required materials are readily available. The training drills should cover scenarios typically observed during sewer related emergencies (e.g. mainline blockage, mainline failure, force main failure, lift station failure, and lateral blockage). The results and the observations during the drills should be recorded and action items should be tracked to ensure completion. This training will also include desk simulation of SSO exercises to be incorporated with weekly safety and equipment training.

5.2 Record Keeping

Records should be kept of all training that is provided in support of this plan. The records for all scheduled training courses and for each overflow emergency response training event should include date, place, content, name of trainer(s), and names of attendees. Records for the SSO response training will be maintained by the City Administrator.

APPENDIX A
MAPS OF HIGH RISK SSO AREAS



Legend

	High Risk Storm System Inlet		Storm System Outfall		Storm System Pipe
	High Risk Sewer System Manhole		Storm System Manhole		Sewer System Manhole
			Storm System Inlet		Sewer System Pipe

SSO Response Map

And Surrounding High Risk Sewer and Storm System Infrastructure

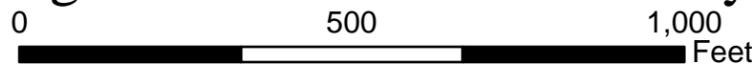


Figure A



Area Enlarged in Figure A

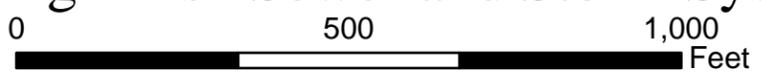
Figure A

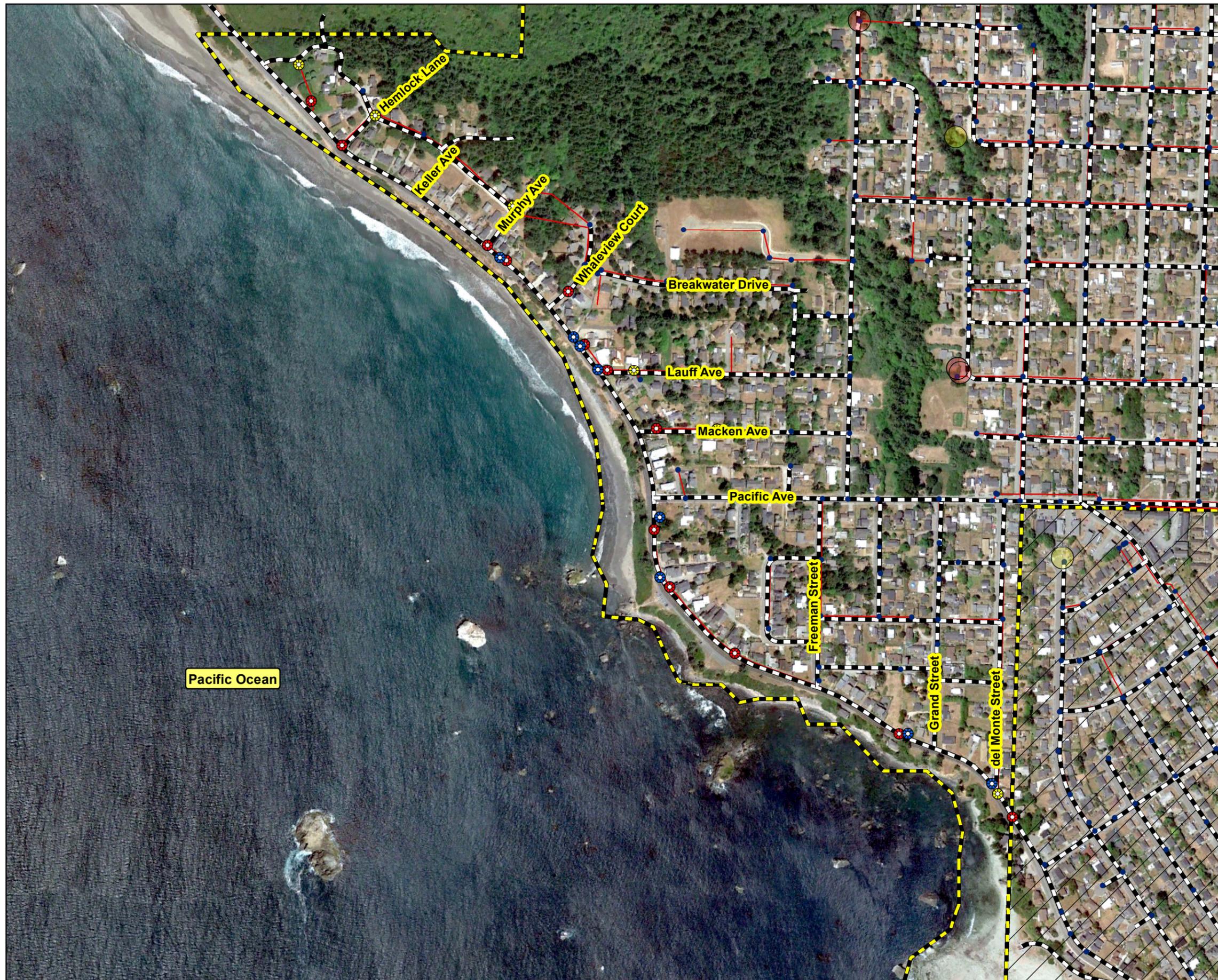
Legend

	High Risk Storm System Inlet		Storm System Outfall		Storm System Pipe
	High Risk Sewer System Manhole		Storm System Manhole		Sewer System Manhole
	Storm System Inlet		Sewer System Pipe		

SSO Response Map

And Surrounding High Risk Sewer and Storm System Infrastructure



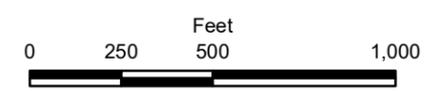


EXPLANATION

-  City Limits
-  County Service Area
-  Sewer Manhole (near water)
(City of Crescent City sewer manhole shapefile)
-  Sewer Manhole (further from water)
(City of Crescent City sewer manhole shapefile)
-  Other Sewer Manhole
(City of Crescent City sewer manhole shapefile)
-  Storm Drain Inlet
(field observation)
-  Sewer Pipe
(City of Crescent City sewer pipe shapefile)
-  County SSOs
(from CIWQS)
-  City SSOs
(from CIWQS)

Base Image Data Source:
Google Earth Pro: 2015

ALL LOCATIONS APPROXIMATE



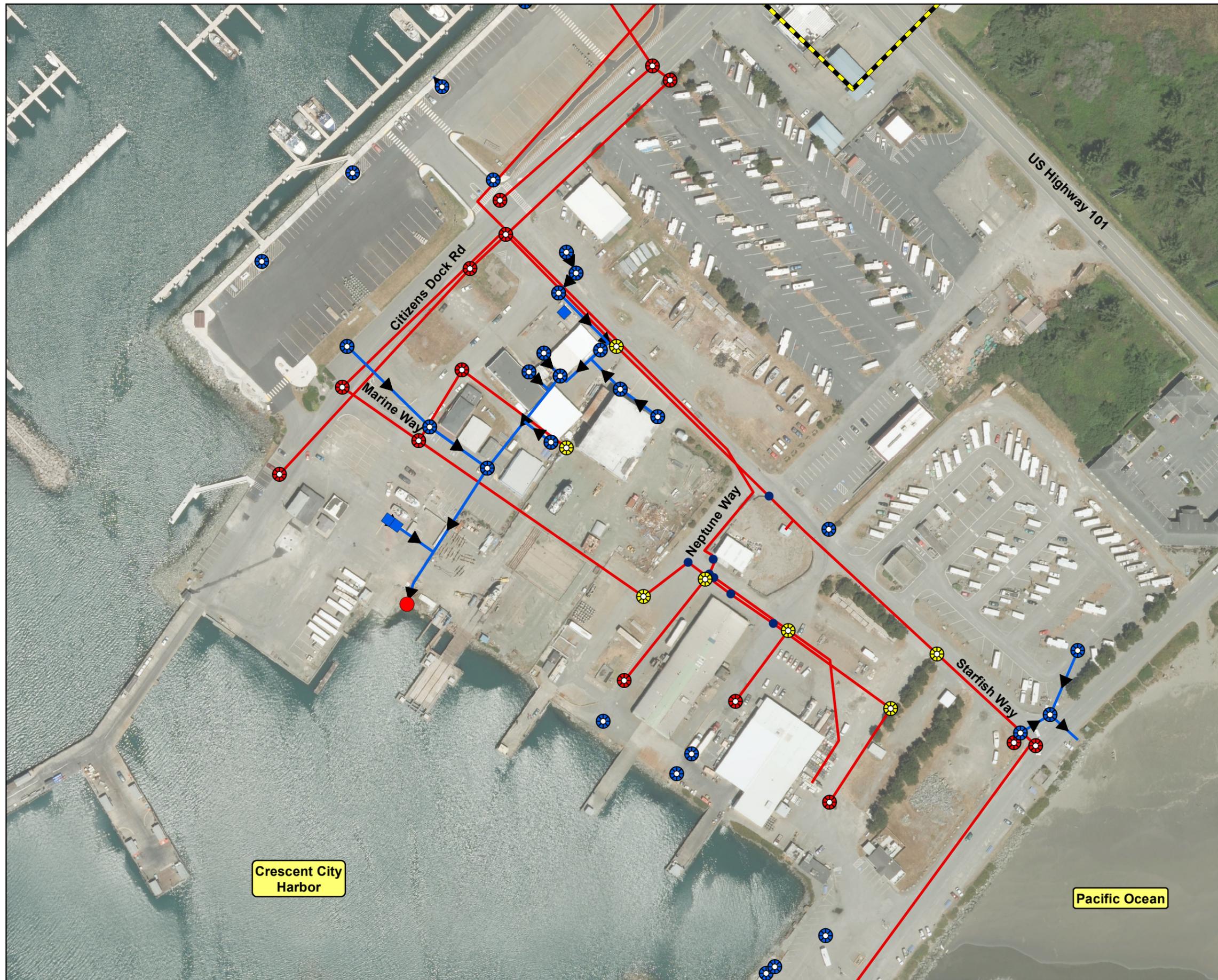
**City of Crescent City
Sewer Manholes Proximity**

**Figure 1
North Area
Sewer Manholes Near Water Bodies
and Storm Drain Inlets**

Project No. FES-149	Figure Date 12-11-23	By SJT
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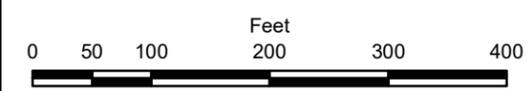
**Freshwater
Environmental
Services**



EXPLANATION

-  City Limits
-  Sewer Manhole (near water)
(City of Crescent City sewer manhole shapefile)
-  Sewer Manhole (further from water)
(City of Crescent City sewer manhole shapefile)
-  Other Sewer Manhole
(City of Crescent City sewer manhole shapefile)
-  Sewer Pipe
(City of Crescent City sewer pipe shapefile)
-  Storm Drain Inlet
(FES mapping 2016)
-  Storm Drain Pipe
(FES mapping 2016)
-  Discharge Point
(FES mapping 2016)
-  Strip Drain
(FES mapping 2016)

Base Image Data Source:
 Provided by Harbor District
 ALL LOCATIONS APPROXIMATE



**City of Crescent City
 Sewer Manholes Proximity**

**Figure 2
 Harbor Area
 Sewer Manholes Near Water Bodies
 (based on Crescent City shapefiles)**

Project No. FES-149	Figure Date 11-27-23	By SJT
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**Freshwater
 Environmental
 Services**

APPENDIX B
SSO RESPONSE FIRST RESPONDER FORM

Crescent City Sanitary Sewer Overflow Response First Responder Form

Fill out this form as completely as possible. Take photographs of damaged and undamaged areas.

Date:	Location:
Time SSO was reported or discovered:	Discovered or reported by:
Time Staff Arrived on-site:	Staff Names:
Cleaning Contractor Contacted? Yes No	Contractor Name: Contractor Telephone: Time When Called:
Source of Spill (manhole, cleanout, etc.):	SSO Cause (Roots, FOG, Debris, etc.):
Approximate Amount of Spill:	How was the volume calculated?
Number of Pictures Taken:	Photo comments.
What cleanup method was used for the spill?	What cleanup equipment and materials were used for the spill?
Did any material enter a drainage channel or surface water? Yes No	Is this the location of previous spills? Yes No
Did any material enter the storm sewer system? Yes No	What efforts were used to protect storm water inlets and drainage ways?
What efforts were used to capture material from the storm water inlet and return it to the sewer system?	Was all the material recovered? Yes No

APPENDIX C
SSO RESPONSE REPORT FORM

Crescent City Sanitary Sewer Overflow Response Report Form

This Report is (*check one*): Preliminary Final Revised Final

SPILL LOCATION	
Spill Location Name:	
GPS Latitude Coordinates:	GPS Longitude Coordinates:
Street Name and Number:	Street Direction (e.g., N, S, W, NE, SW, etc.):
Nearest Cross Street:	City: Zip Code:
County:	Spill Location Description:
SPILL DESCRIPTION	
Spill Appearance Point: <input type="checkbox"/> Building/Structure <input type="checkbox"/> Force Main <input type="checkbox"/> Gravity Sewer <input type="checkbox"/> Other Sewer System Structure <input type="checkbox"/> Pump Station <input type="checkbox"/> Manhole- Structure ID#: _____ <input type="checkbox"/> Other (specify):	
Did the spill reach a drainage channel and/or surface water? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If the spill reached a storm sewer, was it fully captured and returned to the Sanitary Sewer? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Was this spill from a service lateral? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If YES, name and address of facility:	
Final Spill Destination: <input type="checkbox"/> Beach <input type="checkbox"/> Building structure <input type="checkbox"/> Other paved surface <input type="checkbox"/> Storm drain <input type="checkbox"/> Street/curb & gutter <input type="checkbox"/> Surface water <input type="checkbox"/> Unpaved surface <input type="checkbox"/> Other (<i>specify</i>):	
Estimated spill volume (in gallons):	Method calculated:
Est. volume of SSO recovered (gal):	Were photos taken? <input type="checkbox"/> No <input type="checkbox"/> Yes – how many?
Estimated volume of spill reaching surface water, drainage channel, or not recovered from a storm drain (gal):	
SPILL OCCURRENCE TIME	
SSO Reported to:	SSO Reported by:
Phone:	Estimated spill start date and time:
Date and time spill reported to sewer crew:	Date and time sewer crew arrived:
Estimated spill end date and time:	
Weather conditions prior 72 hours: <input type="checkbox"/> Sunny Weather <input type="checkbox"/> Cloudy Weather <input type="checkbox"/> Measurable Rain <input type="checkbox"/> Rain for Several Days	

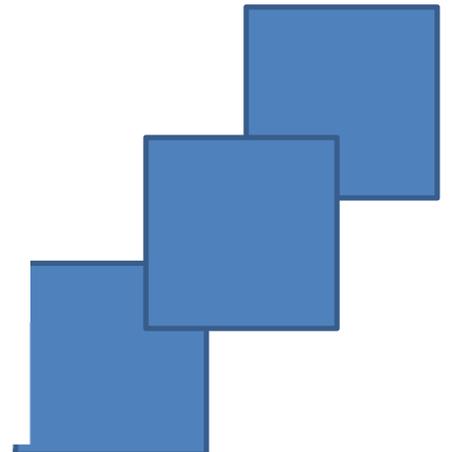
CAUSE OF SPILL	
SSO cause (check all that apply): <input type="checkbox"/> Debris/Blockage <input type="checkbox"/> Flow exceeded capacity <input type="checkbox"/> Grease <input type="checkbox"/> Operator error <input type="checkbox"/> Roots <input type="checkbox"/> Pipe problem/failure <input type="checkbox"/> Pump station failure <input type="checkbox"/> Rainfall exceeded design <input type="checkbox"/> Vandalism <input type="checkbox"/> Inflow/infiltration <input type="checkbox"/> Animal carcass <input type="checkbox"/> Electrical power failure <input type="checkbox"/> Bypass <input type="checkbox"/> Debris from laterals <input type="checkbox"/> Construction Debris <input type="checkbox"/> Other (specify):	
If SSO is caused by a service lateral, please specify: This is the <input type="checkbox"/> Owner <input type="checkbox"/> Tenant <input type="checkbox"/> Manager	
Property contact:	Contact telephone:
If SSO is caused by wet weather, choose size of storm: <input type="checkbox"/> 1-yr <input type="checkbox"/> 2-yr <input type="checkbox"/> 5-yr <input type="checkbox"/> 10-yr <input type="checkbox"/> 50-yr <input type="checkbox"/> 100-yr <input type="checkbox"/> >100-yr <input type="checkbox"/> Unknown	
Diameter (in inches) of pipe at point of blockage/spill cause (if applicable):	
Sewer pipe material at point of blockage/spill cause (if applicable):	
Description of terrain surrounding point of blockage/spill cause: <input type="checkbox"/> Flat <input type="checkbox"/> Mixed <input type="checkbox"/> Steep	
SPILL RESPONSE	
Spill response activities (check all that apply): <input type="checkbox"/> Cleaned up <input type="checkbox"/> Contained all/portion of spill <input type="checkbox"/> TV inspection <input type="checkbox"/> Restored flow <input type="checkbox"/> Returned all/portion of spill to sanitary sewer <input type="checkbox"/> Other (specify):	
Spill response completed (date & time):	Name of impacted waters (if applicable):
Visual inspection result of impacted waters (if applicable):	
Any fish killed? <input type="checkbox"/> Yes <input type="checkbox"/> No	Any ongoing investigation? <input type="checkbox"/> Yes <input type="checkbox"/> No
Name of impacted beach (if applicable): _____	Were health warnings posted? <input type="checkbox"/> Yes <input type="checkbox"/> No
Health warning/beach closure posting/details:	
Were samples of impacted waters collected? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If YES, select the analyses: <input type="checkbox"/> DO <input type="checkbox"/> Ammonia <input type="checkbox"/> Bacteria <input type="checkbox"/> Other	
Recommended corrective actions: <input type="checkbox"/> Add sewer to PM Program <input type="checkbox"/> Adjust PM schedule <input type="checkbox"/> Adjust PM method <input type="checkbox"/> Rehab sewer <input type="checkbox"/> Replace sewer <input type="checkbox"/> Enforcement action against FOG source <input type="checkbox"/> Other (specify):	
NOTIFICATION DETAILS	
CEMA (former OES) contacted date and time (if applicable):	
CEMA (former OES) Control Number (if applicable):	Spoke to:

APPENDIX D
SSO VOLUME ESTIMATION GUIDE



SEWER SPILL ESTIMATION GUIDE

**Developed by the Orange County
Area Waste Discharge
Requirements Steering Committee**



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

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:

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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 sewerage agencies throughout Southern California.

No statewide or national standards issued by a regulatory agency exist at this time.

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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

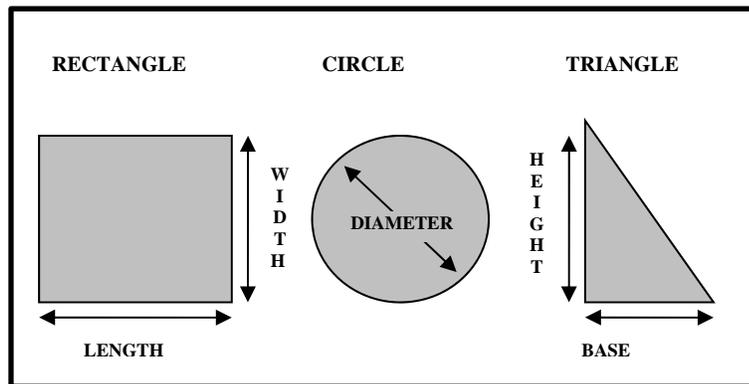
The volume of small spills can be estimated using an “eyeball estimate.” To use this method, imagine the amount of water that would spill from a bucket or a barrel. A full bucket may contain 1, 2 or 5 gallons and a barrel contains 55 gallons when full. If the spill is larger than 55 gallons, try to divide 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.

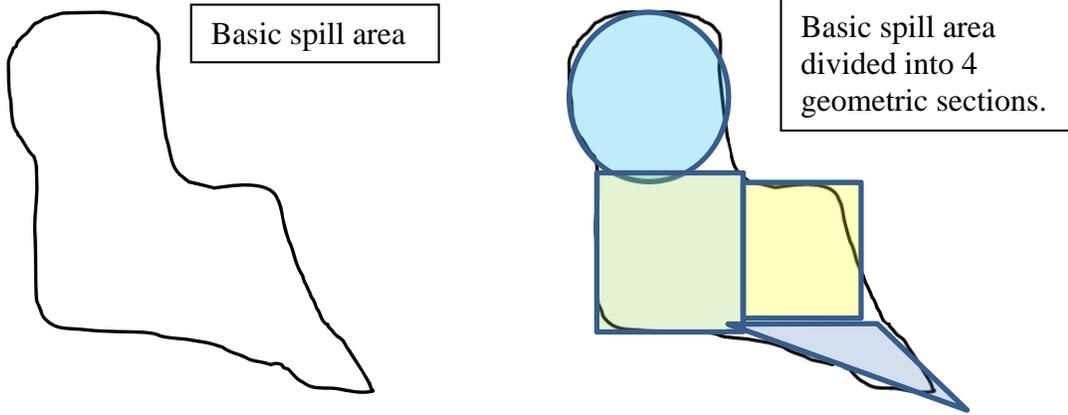
Common Shapes and Dimensions



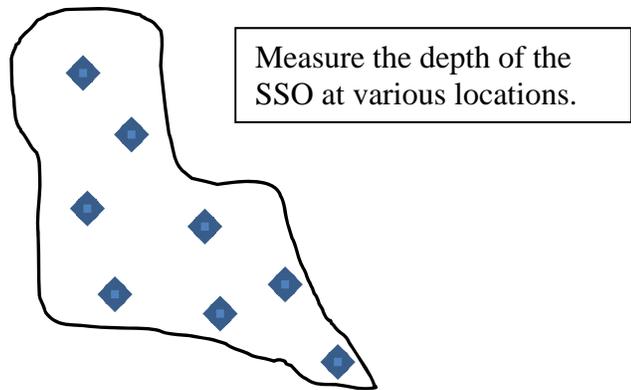
1. Sketch the shape of the contained wastewater.
2. Measure or pace off the dimensions.
3. Measure the depth at several locations and select an average.
4. Convert the dimensions, including depth, to feet.
5. Calculate the area:
Rectangle: Area = length (feet) x width (feet)
Circle: Area = diameter (feet) 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.



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'

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.

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:

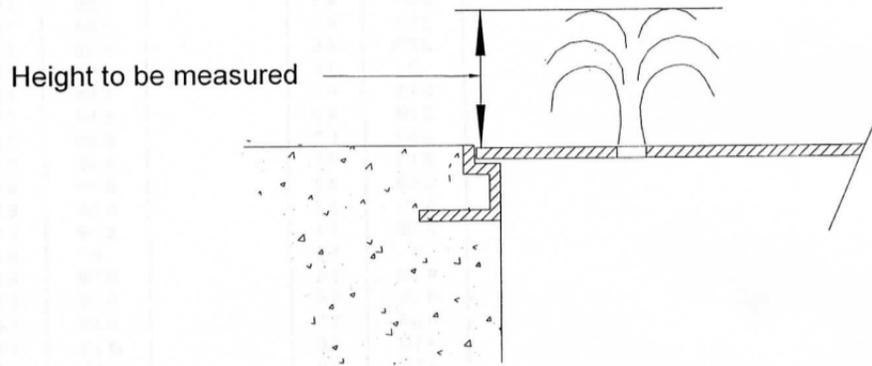
Number of upstream connections	22
Estimated flow per parcel	10 gallons per hour
Duration of SSO event	45 minutes
Total spill estimation (22 x 10 x .75)	165 gallons
(22 connections x 10 gallons per hour x 45 minutes (.75 hour) = 165 gallons)	

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

Estimated Flows thru Manhole Cover Vent Holes and Pick Holes for SSO estimating

Hole Dia. inches	Area sq. ft.	Coeff. of Vel. Cv	Coeff. Of Cont. Cc	C Cv x Cc	Water Ht inches	Water Ht inches	Water Ht feet	Q cfs	Q gpm	Q gph
	Formula: =0.785*Ax* Ax/144			Formula: =Ix*449			Formula: =Gx/12	Formula: =Ex*Bx*(S QRT(2*32. 2*Hx))	Formula: =Ix*449	Formula: =Jx*60
Vent Hole										
0.50	0.00136	0.945	0.70	0.662	1/16 th	0.063	0.005	0.0005	0.23	14
0.50	0.00136	0.945	0.70	0.662	1/8 th	0.125	0.010	0.0007	0.33	20
0.50	0.00136	0.945	0.70	0.662	1/4 th	0.250	0.021	0.0010	0.47	28
0.50	0.00136	0.945	0.70	0.662	one half	0.500	0.042	0.0015	0.66	40
0.50	0.00136	0.945	0.70	0.662	3/4 ths	0.750	0.063	0.0018	0.81	49
0.50	0.00136	0.945	0.70	0.662	1 inch	1.000	0.083	0.0021	0.94	56
0.50	0.00136	0.945	0.70	0.662	1 1/4 "	1.250	0.104	0.0023	1.05	63
0.50	0.00136	0.945	0.70	0.662	1 3/8"	1.375	0.115	0.0024	1.10	66
0.50	0.00136	0.945	0.70	0.662	1 1/2"	1.500	0.125	0.0026	1.15	69
0.50	0.00136	0.945	0.70	0.662	1 5/8"	1.625	0.135	0.0027	1.20	72
0.50	0.00136	0.945	0.70	0.662	1 3/4"	1.750	0.146	0.0028	1.24	74
0.50	0.00136	0.945	0.70	0.662	2 inches	2.000	0.167	0.0030	1.33	80
0.50	0.00136	0.945	0.70	0.662	2 1/4"	2.250	0.188	0.0031	1.41	84
0.50	0.00136	0.945	0.70	0.662	2 1/2"	2.500	0.208	0.0033	1.48	89
0.50	0.00136	0.945	0.70	0.662	2 3/4"	2.750	0.229	0.0035	1.56	93
0.50	0.00136	0.945	0.70	0.662	3 inches	3.000	0.250	0.0036	1.62	97
0.50	0.00136	0.945	0.70	0.662	3 1/4"	3.250	0.271	0.0038	1.69	101
0.50	0.00136	0.945	0.70	0.662	3 1/2"	3.500	0.292	0.0039	1.75	105
0.50	0.00136	0.945	0.70	0.662	3 3/4"	3.750	0.313	0.0040	1.82	109
0.50	0.00136	0.945	0.70	0.662	4.000	4.000	0.333	0.0042	1.88	113
Vent Hole										
0.75	0.00307	0.955	0.67	0.640	1/16 th	0.063	0.005	0.0011	0.51	31
0.75	0.00307	0.955	0.67	0.640	1/8 th	0.125	0.010	0.0016	0.72	43
0.75	0.00307	0.955	0.67	0.640	1/4 th	0.250	0.021	0.0023	1.02	61
0.75	0.00307	0.955	0.67	0.640	one half	0.500	0.042	0.0032	1.44	87
0.75	0.00307	0.955	0.67	0.640	3/4 ths	0.750	0.063	0.0039	1.77	106
0.75	0.00307	0.955	0.67	0.640	1 inch	1.000	0.083	0.0045	2.04	122
0.75	0.00307	0.955	0.67	0.640	1 1/4 "	1.250	0.104	0.0051	2.28	137
0.75	0.00307	0.955	0.67	0.640	1 3/8"	1.375	0.115	0.0053	2.39	144
0.75	0.00307	0.955	0.67	0.640	1 1/2"	1.500	0.125	0.0056	2.50	150
0.75	0.00307	0.955	0.67	0.640	1 5/8"	1.625	0.135	0.0058	2.60	156
0.75	0.00307	0.955	0.67	0.640	1 3/4"	1.750	0.146	0.0060	2.70	162
0.75	0.00307	0.955	0.67	0.640	2 inches	2.000	0.167	0.0064	2.89	173
0.75	0.00307	0.955	0.67	0.640	2 1/4"	2.250	0.188	0.0068	3.06	184
0.75	0.00307	0.955	0.67	0.640	2 1/2"	2.500	0.208	0.0072	3.23	194
0.75	0.00307	0.955	0.67	0.640	2 3/4"	2.750	0.229	0.0075	3.38	203
0.75	0.00307	0.955	0.67	0.640	3 inches	3.000	0.250	0.0079	3.53	212
0.75	0.00307	0.955	0.67	0.640	3 1/4"	3.250	0.271	0.0082	3.68	221
0.75	0.00307	0.955	0.67	0.640	3 1/2"	3.500	0.292	0.0085	3.82	229
0.75	0.00307	0.955	0.67	0.640	3 3/4"	3.750	0.313	0.0088	3.95	237
0.75	0.00307	0.955	0.67	0.640	4.000	4.000	0.333	0.0091	4.08	245
Vent Hole										
1.00	0.00545	0.960	0.65	0.624	1/16 th	0.063	0.005	0.0020	0.88	53
1.00	0.00545	0.960	0.65	0.624	1/8 th	0.125	0.010	0.0028	1.25	75
1.00	0.00545	0.960	0.65	0.624	1/4 th	0.250	0.021	0.0039	1.77	106
1.00	0.00545	0.960	0.65	0.624	one half	0.500	0.042	0.0056	2.50	150
1.00	0.00545	0.960	0.65	0.624	3/4 ths	0.750	0.063	0.0068	3.06	184
1.00	0.00545	0.960	0.65	0.624	1 inch	1.000	0.083	0.0079	3.54	212
1.00	0.00545	0.960	0.65	0.624	1 1/4 "	1.250	0.104	0.0088	3.96	237
1.00	0.00545	0.960	0.65	0.624	1 3/8"	1.375	0.115	0.0092	4.15	249
1.00	0.00545	0.960	0.65	0.624	1 1/2"	1.500	0.125	0.0097	4.33	260
1.00	0.00545	0.960	0.65	0.624	1 5/8"	1.625	0.135	0.0100	4.51	271
1.00	0.00545	0.960	0.65	0.624	1 3/4"	1.750	0.146	0.0104	4.68	281
1.00	0.00545	0.960	0.65	0.624	2 inches	2.000	0.167	0.0111	5.00	300
1.00	0.00545	0.960	0.65	0.624	2 1/4"	2.250	0.188	0.0118	5.31	318
1.00	0.00545	0.960	0.65	0.624	2 1/2"	2.500	0.208	0.0125	5.59	336
1.00	0.00545	0.960	0.65	0.624	2 3/4"	2.750	0.229	0.0131	5.87	352
1.00	0.00545	0.960	0.65	0.624	3 inches	3.000	0.250	0.0136	6.13	368

Pick and Vent Hole Estimation Chart - continued

Estimated Flows thru Manhole Cover Vent Holes and Pick Holes for SSO estimating

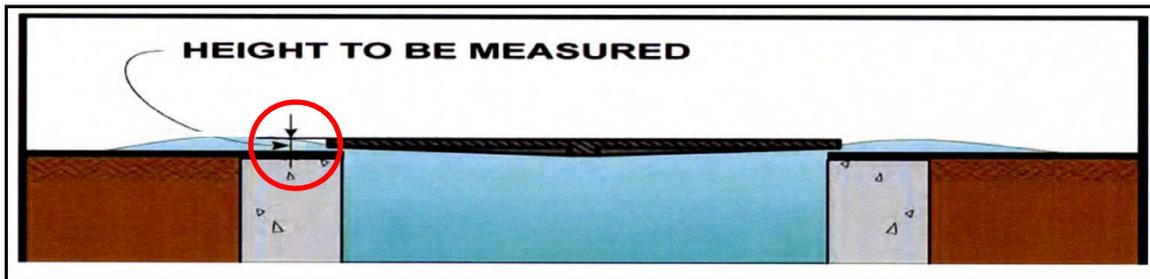
Hole Dia. Inches	Area sq. ft.	Coeff. of Vel. Cv	Coeff. Of Cont. Cc	C Cv x Cc	Water Ht Inches	Water Ht Inches	Water Ht feet	Q cfs	Q gpm	Q gph
	Formula: =0.785*A*x* A/x/144			Formula: =I*x^449			Formula: =G*x/12	Formula: =E*x*B*x*(S QRT(2*32. 2*H*x))	Formula: =I*x^449	Formula: =J*x*60
Vent Hole										
1.00	0.00545	0.960	0.65	0.624	3 1/4"	3.250	0.271	0.0142	6.38	383
1.00	0.00545	0.960	0.65	0.624	3 1/2"	3.500	0.292	0.0147	6.62	397
1.00	0.00545	0.960	0.65	0.624	3 3/4"	3.750	0.313	0.0153	6.85	411
1.00	0.00545	0.960	0.65	0.624	4.000	4.000	0.333	0.0158	7.08	425
Pick Hole semicircular area										
1.00	0.00273	0.960	0.65	0.624	1/16 th	0.063	0.005	0.0010	0.44	27
1.00	0.00273	0.960	0.65	0.624	1/8 th	0.125	0.010	0.0014	0.63	38
1.00	0.00273	0.960	0.65	0.624	1/4 th	0.250	0.021	0.0020	0.89	53
1.00	0.00273	0.960	0.65	0.624	one half	0.500	0.042	0.0028	1.25	75
1.00	0.00273	0.960	0.65	0.624	3/4 ths	0.750	0.063	0.0034	1.53	92
1.00	0.00273	0.960	0.65	0.624	1 inch	1.000	0.083	0.0039	1.77	106
1.00	0.00273	0.960	0.65	0.624	1-1/2 inch	1.500	0.125	0.0048	2.17	130
1.00	0.00273	0.960	0.65	0.624	2 inches	2.000	0.167	0.0056	2.51	150
1.00	0.00273	0.960	0.65	0.624	2 1/4"	2.250	0.188	0.0059	2.66	159
1.00	0.00273	0.960	0.65	0.624	2 1/2"	2.500	0.208	0.0062	2.80	168
1.00	0.00273	0.960	0.65	0.624	2 3/4"	2.750	0.229	0.0065	2.94	176
1.00	0.00273	0.960	0.65	0.624	3 inches	3.000	0.250	0.0068	3.07	184
1.00	0.00273	0.960	0.65	0.624	3 1/4"	3.250	0.271	0.0071	3.19	192
1.00	0.00273	0.960	0.65	0.624	3 1/2"	3.500	0.292	0.0074	3.31	199
1.00	0.00273	0.960	0.65	0.624	3 3/4"	3.750	0.313	0.0076	3.43	206
1.00	0.00273	0.960	0.65	0.624	4.000	4.000	0.333	0.0079	3.54	213

Courtesy of OCSD: Created 5/17/99 and modified 5/15/14, as an estimating tool for field staff. This is based on flow through orifices assumptions. Your city or agency may want to develop a similar tool.

**$Q=CA(2gh)^{.5}$ Where Q=cfs C=Cv x Cc A=area(sq. ft.) g=32.2 ft/sec/sec
h= water height (ft.)**

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 ($13 \times 60 = 780$).

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	SSO FLOW Q		Min. Sewer size in which these flows are possible
	in gpm	in MGD	
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

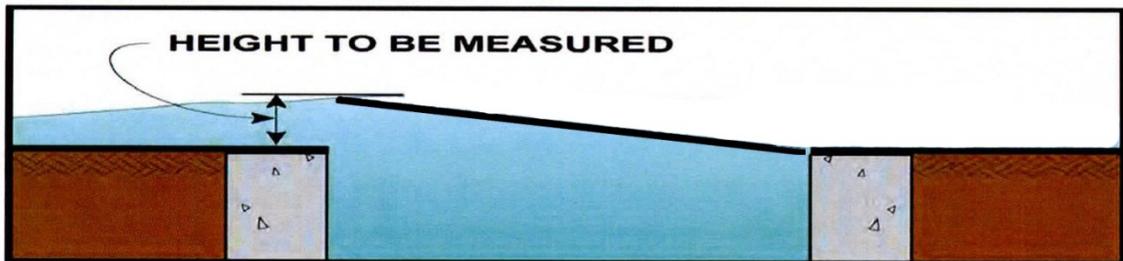
Height of spout above M/H rim H in inches	SSO FLOW Q		Min. Sewer size in which these flows are possible
	in gpm	in MGD	
1/4	1	0.002	
1/2	4	0.006	
3/4	8	0.012	
1	13	0.019	
1 1/4	18	0.026	
1 1/2	24	0.035	
1 3/4	31	0.044	
2	37	0.054	
2 1/4	45	0.065	
2 1/2	55	0.079	
2 3/4	66	0.095	
3	78	0.113	
3 1/4	93	0.134	
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.).



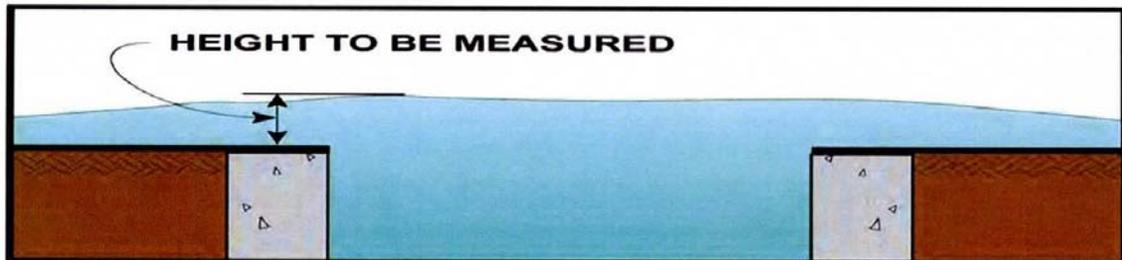
Example: The measured height of the plume exiting the side ring of a 24-inch manhole is 2 inches. Based upon the data provided in the Area Calculation Chart below, a 2-inch plume from one side of a 24-inch manhole cover provides 0.524 square feet of area. The velocity of the flow is estimated at 4 ft/sec (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 ($3,444 \times 60 = 206,640$).

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		Min. Sewer size in which these flows are possible
	Q		
	in gpm	in MGD	
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		Min. Sewer size in which these flows are possible
	Q		
	in gpm	in MGD	
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.

Training facilities also exist at the Orange County Sanitation District in Fountain Valley, CA.

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



Wastewater Collection Division
(619) 654-4160



rev. 4/99

**Reference Sheet for Estimating Sewer Spills
from Overflowing Sewer Manholes**
All estimates are calculated in gallons per minute (gpm)



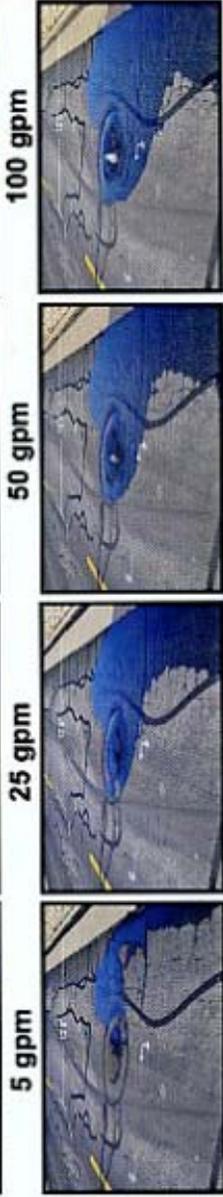
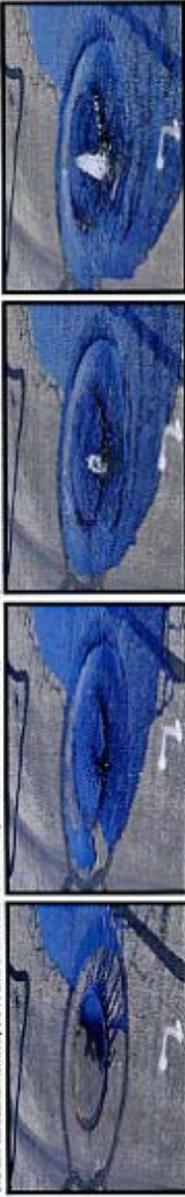
City of San Diego
Metropolitan Wastewater Department



All photos were taken during a demonstration using metered water from a hydrant in cooperation with the City of San Diego's Water Department.

SSCSC Manhole Overflow Gauge

DISCLAIMER: This overflow simulation may appear differently from those in other systems because of the manhole lid hole configuration. Manhole lids with steps or multiple disk holes may appear differently during overflow conditions. However, the volume of overflow and the footprint of the wet area should appear relatively the same under similar slope conditions.



SSCSC MANHOLE OVERFLOW GAUGE
 Overflow Simulation courtesy of
 Eastern Municipal Water District



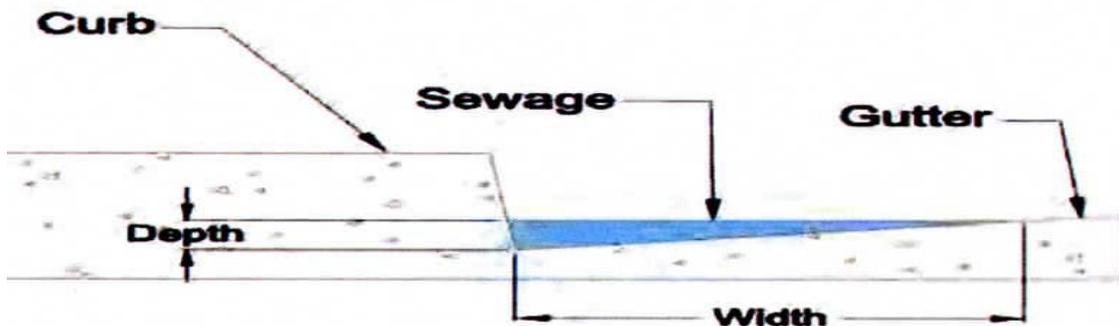
PROVIDING QUALITY TRAINING FOR COLLECTION SYSTEM PERSONNEL SINCE 1991

Mission Statement: To continuously increase the level of professionalism of Collection Systems personnel involved in wastewater collection systems by providing education and training, taking an active role in promoting certification, and recognizing proficiency in our field.

DISCLAIMER: This overflow simulation may appear differently from those in other systems because of the manhole lid hole configuration. Manhole lids with steps or multiple disk holes may appear differently during overflow conditions. However, the volume of overflow and the footprint of the wet area should appear relatively the same under similar slope conditions.

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.



$$Q = V \times A$$

$$\text{Flow (gal/min)} = \text{Velocity (ft/sec)} \times \text{Area (ft}^2\text{)} \times 7.48 \text{ gal/cu ft} \times 60 \text{ sec/min}$$

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) ($240 \text{ gpm} - 25 \text{ gpm} = 215 \text{ gpm}$) 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 ($10 \times 20 \times .25 = 50$ cf.). To determine the amount of wastewater suspended in the wetted soil, multiply the 50 cubic feet times 7.48 gallons per cubic foot ($50 \text{ cf} \times 7.48 \text{ gal/cf} = 374$ 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 ($374 \text{ gal} \times .18 = 67.3$ 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 or

Known volume of the full tank or

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 E
TRAINING DOCUMENTS

**Crescent City
Overflow Emergency Response Plan - Training Test**

Instructions: Following annual training on the **Crescent City Overflow Emergency Response Plan**, responders, staff with responsibilities within the plan, and contractors that respond to overflows should answer the questions below. Individuals are encouraged to provide any comments regarding the necessity to update or modify the plan.

1) What are the goals of the **Crescent City** OERP?

2) What are the priorities of a first responder to a SSO?

3) How do you locate the nearest stormwater inlet that could be impacted by the SSO?

4) How do you know the location of the outfall of a stormwater conduit impacted by an SSO?

5) What SSOs trigger a Failure Analysis Investigation?

6) What is determined by the Failure Analysis Investigation?

7) Who receives a copy of the Failure Analysis Investigation report?

8) Where are the materials stored for responding to an SSO?

9) What conditions constitute a Category 1 SSO?

10) If a large SSO occurs and **Crescent City** needs outside equipment or resources, who do you call? and what are their 24-hour phone numbers?

APPENDIX F
CRESCENT CITY FOG CONTROL POLICY

Crescent City, Fats, Oils, and Grease (FOG) Policy (2021)

Policy Objectives:

To set forth policies, procedures and requirements governing the installation and maintenance of grease and oil interceptors for Food Service Establishments (FSEs).

To protect the sewer collection system from grease accumulation and blockages that may cause sanitary sewer overflows (SSOs) in violation of the cities NPDES Permit, which can create public health hazards and subject the City to administrative penalties.

Authority:

CCMC 13.40.150 "Interceptor Requirements"
CCMC 13.40.120 "Additional Pretreatment Measures"

Assigned Responsibility:

Pretreatment Coordinator or delegate.

Applicability:

This policy shall apply to all Food Service Establishments (FSEs) within the Crescent City service area.

Definitions:

Fats, Oils, and Greases (FOG): Organic polar compounds derived from animal and/or plant sources that contain multiple carbon chain triglyceride molecules.

Grease Interceptor: Any plumbing appurtenance or appliance that intercepts fats, oil and grease from a wastewater discharge.

A. Hydromechanical Grease Interceptor: A plumbing appurtenance or appliance that intercepts fats, oil and grease from a wastewater discharge and is identified by flow rate, and separation and retention efficiency. The design incorporates air entrainment, hydromechanical separation, interior baffling, and/or barriers in combination.

1. Grease Removal Device: Any hydromechanical grease interceptor that automatically, mechanically removes FOG from the interceptor, the control of which are either automatic or manually initiated.

2. Grease Trap: A device designed to retain grease from one to a maximum of four fixtures.

3. Trapzilla or Approved Equal: A polyethylene large capacity hydromechanical grease interceptor.

B. Gravity Grease Interceptor: A plumbing appurtenance or appliance that is installed in a sanitary drainage system to intercept FOG from a wastewater discharge and is identified by volume, retention time, baffles, a minimum of two compartments, a minimum total volume of 750 gallons, and gravity separation. Gravity grease interceptors are generally installed outside.

Food Service Establishment (FSE): Those establishments primarily engaged in activities of preparing, serving, or otherwise making food available for consumption by the public. FSEs include but are not limited to restaurants, commercial kitchens, caterers, hotels, schools, hospitals, prisons, correctional facilities, and care institutions.

Best Management Practice (BMP): Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to reduce the FOG discharges.

FOG Requirements:

A. All FSEs where food is being prepared or kitchenware is being washed will be evaluated by the Pretreatment Coordinator to determine the necessity of a grease interceptor and if necessary, to install an appropriate type and sized grease interceptor approved by the Pretreatment Coordinator.

B. Existing FSEs with planned plumbing improvements or tenant improvement plans subject to a building permit shall be evaluated during the building permit process and shall install an appropriately sized grease interceptor if one is not already in place. If a grease interceptor is required, these facilities shall first obtain approval of device type and size from the Public Works Director or the Pretreatment Coordinator for proper device type and size prior to receiving a building/plumbing permit.

Newly constructed FSEs shall install an appropriately sized gravity grease interceptor in conformance with California Plumbing Code (CPC) Chapter 10. All such facilities shall obtain prior approval from the Public Works Director or the Pretreatment Coordinator for sizing prior to receiving a building permit.

C. All existing food service establishments that are determined by the Public Works Director or the Pretreatment Coordinator, to have a reasonable potential to adversely impact the City's sanitary sewer system will be required to install an appropriately sized grease interceptor or upgrade their current system to conform to the requirements of this policy. Facilities with undersized or nonfunctional grease interceptors as determined by the City will be required to install an appropriately sized grease interceptor or upgrade their current system to conform to the requirements of this policy. FSEs will be notified of their obligation to fulfill applicable requirements within 90 days or time period specified in a written notice.

Plan Review:

All building plans for the new construction of FSEs, as well as alterations of an existing FSE that require a building permit shall be approved by the Public Works Director or the Pretreatment Coordinator prior to issuance of the building permit.

Alternative Pretreatment Technology:

A. Devices required under this Policy shall be installed unless the Public Works Director or the Pretreatment Coordinator authorizes the installation of alternative pretreatment technology. The installation of alternative pretreatment technology will be considered where the installation of a grease interceptor is not feasible due to physical constraints or other considerations.

B. Alternative pretreatment technology includes, but is not limited to, devices that are used to trap, separate and hold grease from wastewater and prevent it from being discharged into the sanitary sewer. All alternative pretreatment technology must be appropriately sized and approved by the Public Works Director or the Pretreatment Coordinator.

Installation Requirements:

A. Grease interceptor sizing and installation shall conform to the current edition of the California Plumbing Code or other codes adopted by the City of Crescent City.

B. Waste lines leading from sinks, drains, and other fixtures or equipment in FSEs where grease may be introduced into the sanitary sewer system may be required to be connected to a grease interceptor.

C. Gravity grease interceptors shall be constructed in accordance with the City Standard. The minimum size gravity grease interceptor allowed is 750 gallons. If more than one interceptor will be installed to achieve the required storage capacity, the interceptors shall be installed in series. All interceptors except the final one shall be designed as a single chamber interceptor. Gravity grease interceptors shall not be located in a food or utensil handling area.

D. Trapzilla Hydromechanical Grease Interceptors or Approved Equal shall be a minimum size of 75 gallons per minute unless specifically authorized by the Public Works Director or the Pretreatment Coordinator.

E. Grease interceptors shall be installed at a location where they are easily accessible for inspection, cleaning, and removal of intercepted grease.

F. Grease traps are not allowed in new construction and remodels unless specifically approved by the Public Works Director or the Pretreatment Coordinator. Approval shall only be granted in instances where the installation of a gravity grease interceptor, grease removal device, Trapzilla (or Approved Equal), or alternative pretreatment technology is not feasible. Grease traps shall preferably not be located, in a food or utensil handling area.

G. Sanitary wastes shall not be discharged to a grease interceptor.

H. No food waste disposal unit or dishwasher shall discharge into any hydromechanical grease interceptor.

1. Existing facilities with food waste disposal units that discharge to hydromechanical grease interceptors or discharge directly to the sanitary sewer shall remove the food waste disposal unit or connect it to a gravity grease interceptor with a minimum size of 1,000 gallons.

2. Existing facilities with dishwashers that discharge to hydromechanical grease interceptors shall re-route the dishwasher to discharge directly to the sanitary sewer or with the approval of the Public Works Director or the Pretreatment Coordinator may discharge to a gravity grease interceptor with a minimum size of 750 gallons.

Maintenance Requirements:

A. All grease interceptors/devices shall be maintained in efficient operating condition in conformance with City's Ordinances. Accumulated grease and sediment shall be removed as required. At a minimum gravity grease interceptors and grease traps shall be cleaned when the volume of sediment and grease equals or exceeds 25% of the total depth of the sediment, water, and grease layers.

B. Grease Removal Devices, Trappillas (or Approved Equals), and Alternative Pretreatment Technologies shall be cleaned and maintained in accordance with the manufactures' recommendations.

C. No collected waste shall be introduced into the sanitary sewer.

D. All grease interceptors shall be kept free of non-food waste including but not limited to grit, rocks, gravel, sand, eating utensils, cigarettes, trash, towels, and rags.

E. The addition chemicals, enzymes, emulsifiers, live bacteria or other grease cutters or additives used for purposes of grease reduction to a grease interceptor is specifically prohibited.

F. If the Public Works Director or the Pretreatment Coordinator determines that a grease interceptor is not being properly cleaned and maintained, the City may mandate a maintenance program. Maintenance programs shall include but are not limited to mandatory cleaning frequencies. Facilities that fail to adhere to a mandated maintenance program may be required to install additional grease interceptors.

APPENDIX G

FOG WASTE HAULING CONTRACTORS

**Fats Oils and Grease Disposal Facilities,
Del Norte County, California**

Cal-Ore Grease Trap Services

2151 Northcrest Dr.

Crescent City, CA 95531

(707) 954-0422

SeQuential Pacific Biodiesel, LLC

(800) 447-3794