Olivehurst Public Utility District

Agenda Item Staff Report

Meeting Date: April 20, 2023

Item description/summary:

Consider certifying the 2022 SSMP Update, Audit, and Audit Report.
Every two years, OPUD is required to conduct an audit on the SSMP to ensure the goals and programs outlined in the SSMP are still being followed. The SSMP itself is also updated to ensure those goals are still accurate. SSMP was due in 2021 but due to turnover in staff, COVID, and reduction in staff, the SSMP was pushed back and includes the last three (3) years of data. Goal is to go back to two (2) year SSMP Audit Report and update.

Fiscal Analysis:

N/A

Employee Feedback

N/A

Sample Motion:

Move to certify the 2022 SSMP Update, 2022 SSMP Audit, and 2022 SSMP Audit Report.

Prepared by:

Swarnjit Boyal, Public Works Engineer

2022 SSMP AUDIT REPORT

OLIVEHURST PUBLIC UTILITY DISTRICT

PREPARED BY

Swarnjit Boyal, Public Works Engineer

Background

Olivehurst Public Utility District (OPUD) Board of Directors certified the District's SSMP on July 16, 2009. The State order requires an audit of the SSMP every two years at a minimum. The Sewer System Management Plan or SSMP is required by the State of California to provide a standard for maintenance and repairs of sewer collections systems thereby reducing the number and severity of sanitary sewer overflows or SSO's. Due to Covid, new Public Works Engineer coming in 2021, and turnover in staff, the SSMP was pushed back a year and includes the last three (3) years. OPUD will be back on track to a two (2) year schedule after this SSMP Audit.

Audit Report Format

The format for the report is as follows:

- State Order Section/Subsection
- Level of Compliance Ranking
    - Fully Complies
    - Substantial Compliance
    - Partial Compliance
    - Marginal Compliance
    - Not in Compliance
- Findings
- Reference Information
- Recommendations where appropriate

Audit of Goals, State Order D.13.i

Level of Compliance: Substantial Compliance

Findings:

OPUD has established 3 goals in the SSMP that comply with the goals of the State Order.

The OPUD goals are as follows:

1. *Maintain or improve the condition of the collection system infrastructure in order to provide reliable service now and into the future*. Proactive cleaning, pump upgrades and replacements, electrical upgrades, scheduled maintenance and implementation of the SSMP have all contributed to an improved system that had 3 SSOs since the last update in 2019. **Ongoing**
2. *Cost-effectively minimize infiltration and inflow (I&I) and provide adequate sewer capacity to accommodate design storm flows.* The storm drain agency for the OPUD service area is Yuba County. Historic Olivehurst has a very limited storm drain system mostly comprised of some main canals and road-side ditches to convey the storm water away from homes and roads. OPUD has met with the County and some improvements have been made to the storm drain system but for the most part the problem still exists. OPUD has taken a proactive approach to reducing I&I by system smoke testing and subsequent repairs. OPUD has employed the use of 2 new eco-friendly techniques to fix manhole and main leaks. Developers have been sent notices of broken, unaccepted infrastructure to be fixed. **Ongoing**
3. *Minimize the number and impact of sanitary sewer overflows (SSO's).* The number and impact of SSO's at OPUD has been reduced since the implementation of the SSMP. Since the last update, there have been no SSOs. Proactive cleaning, pump upgrades, electrical upgrades, scheduled maintenance and implementation of the SSMP have all contributed to an improved system with fewer SSO's. **Ongoing**

Reference: SSMP and support documentation

Recommendations: Continue to work with Yuba County to upgrade the storm drain system. Continue to clean and maintain the OPUD collection system with adherence to the SSMP. Continue diligence in pursuing developers with broken infrastructure and use of new repair techniques.

Audit of Organization, State Order D.13.ii

Level of Compliance: Complies

Findings:

Organizational structure shown in the SSMP reflects actual organizational structure at OPUD. All staffing information has been updated including the change in Public Works Engineer and General Manager positions.

Reference: SSMP, Section 2
SSMP, Figure 2-1
SSMP, Table 2-1
SSMP, Figure 2-2

Recommendations: Continue updates as needed.

Audit of Legal Authority, State Order D.13.iii

Level of Compliance: Complies

Findings:

OPUD adopted a Sewer Use Ordinance on February 19, 2009, that took effect on May 1, 2009. The ordinance meets the requirements of the General WDRs for sanitary sewer collection systems. The ordinance establishes a framework for OPUD to establish rules and regulations for appropriate sewer use and provides an enforcement mechanism for non-compliance with the ordinance. The Ordinance has been updated to strengthen OPUD's enforcement mechanisms.

Additionally, OPUD maintains files that document OPUD's right to access easements.

Reference: SSMP, Section 3-1
Sewer Use Ordinance No. 209
Easement Documents

Recommendations: None

Audit of Operation and Maintenance Program, State Order D.13.iv

Level of Compliance: Complies

Findings:

OPUD maintains up-to-date AutoCAD files and hard-copy maps of the sanitary sewer system showing all gravity line segments, manholes, pumping facilities, pressure pipes and valves and applicable storm water conveyance facilities. OPUD also utilizes the CMMS, CCTV software and GIS database to track collections system maintenance, identify needed repairs/maintenance, schedule repairs/maintenance, produce work orders and track progress of all the forgoing. OPUD provides training on a regular basis for its sanitary sewer system staff as well as requiring contractors working on the system to be trained. OPUD provides equipment and replacement part inventories including identification and inventory of critical replacement parts consistent with section 4.5 of our SSMP.

Reference: Section 4 OPUD SSMP and support documentation.

Recommendations: Continue to use the CMMS, CCTV software and GIS database to track collections system maintenance, identify needed repairs/maintenance, schedule repairs/maintenance, produce work orders and track progress of all the forgoing.

Audit of Design and Performance Provisions, State Order D.13.v

Level of Compliance: Complies

Findings:

The SSMP refers to the 2005 Standards and Specifications for Public Works Construction for new or upgrading facilities placing the element in compliance. Standards and Specifications are updated every few years, with the latest update in 2019. Developers and design consultants must reference or use current OPUD standards for design on new or rehabilitated sewer construction projects

In addition, reference is made to approved testing and inspections, to ensure that the infrastructure meets the design and performance provisions. Inspection and testing of sewer infrastructure construction projects is incorporated into the OPUD construction standards and specifications.

Reference: SSMP, Section 5
2005 Standards and Specifications
2019 Standards and Specifications
Project-based inspection forms.

Recommendations: None

Audit of Overflow Emergency Response Plan, State Order D.13.vi

Level of Compliance: Complies

Findings:

OPUD's Sanitary Sewer Overflow Emergency Response Plan addresses sections 6.1 through 6.6 of our SSMP

The Sanitary Sewer Overflow Emergency Response Plan (SSORP) provides information, response to SSOs, and post spill actions. A flow chart indicates the actions to take based upon the characteristics of the spill. The SSORP includes a spill reporting form for documentation. This plan details the resources to respond, contain, clean and mitigate the SSO.

Reference: SSORP, Sanitary Sewer Overflow Emergency Response Plan
SSMP, Section 6

Recommendations: None

Audit of FOG (Fats Oils and Grease) Control Plan, State Order D.13.vii

Level of Compliance: Complies

Findings:

OPUD has followed the FOG Control Program Assessment Plan and Schedule. The Public Education and Outreach program follows the SSMP. OPUD has developed and distributed pamphlets and flyers regarding the FOG Program, Interceptor Sizing, Best Management Practices and Grease Waste Service Providers. The FOG information is also included on the District Web Site. New commercial construction is reviewed at plan level to ensure FOG program compliance.

The Districts Sewer Use Ordinance prohibits discharge of FOG into the Wastewater Collections System. The ordinance also establishes OPUD enforcement authority.

Reference: SSMP, Section 7
Sewer Use Ordinance
FOG Handouts
District Website www.opud.org

Recommendations: None

Audit of the System Evaluation and Capacity Assurance Plan, State Order D.13.viii

Level of Compliance: Substantial Compliance

Findings:

OPUD contracted with CH2MHill to complete a Sewer System Capacity Evaluation Report in August of 2009. The report details OPUD's design criterion for OPUD's capacity and hydraulic evaluations. OPUD has not completed its Capacity Enhancement Measures but has completed its Capital Improvement Plan.

Reference: Section 8 of OPUD's SSMP and supporting documents

Recommendations: OPUD needs to continue to meet scheduled milestones per tables 4.2 and 8.1 of our SSMP to complete the Capacity Enhancement Measures per the CIP. We completed the CIP in 2013, ahead of schedule. Continued analysis of rate schedule to ensure adequate funding for additional maintenance and CIP Capacity Enhancement Measures.

Audit of the Monitoring, Measurement, and Program Modification, State Order D.13.ix

Level of Compliance: Complies

Findings:

OPUD conducted Monitoring, Measurement and Modifications to the program as needed using data from sources such as the CMMS to provide continual feedback to the collections crew as to the effectiveness of the SSMP.

Reference: SSMP section 9, OPUD 2011 SSMP Audit Report

Recommendations: Continue ongoing efforts.

Audit of SSMP Program Audits, State Order D.13.x

Level of Compliance: Complies

Findings:

OPUD has embarked on this audit of its SSMP with timeliness to allow the auditor adequate time to investigate, gather evidence, analyze and then report sufficiency and findings, and finally to make recommendations when appropriate.

Reference: SSMP, Section 10
This is the fourth audit of the OPUD SSMP.
This audit will become a reference for the August 2019 audit.

Recommendations: None

Audit of Communication Program, State Order D.13.xi

Level of Compliance: Complies

Findings:

OPUD communicates on a regular basis with the public and allowing input for interested parties on the development, implementation and performance of its SSMP. After the adoption, the SSMP was uploaded to the OPUD website for general public review.

With the completion of each audit, OPUD staff will share the audit findings and make the report available to the general public by posting on the OPUD website.

The general public will have an opportunity to provide input with the completion of each audit.

OPUD Directors and staff meet regularly at monthly Board of Directors meetings and sub-committee meetings to discuss the wastewater treatment and collection system. These meetings are open to the public and agendas are posted online and in an area accessible to the public.

Reference: SSMP, Section 11
OPUD Website
Meeting Agendas
Billing messages

Recommendations: It is recommended after each audit that OPUD staff develop an implementation plan to address any deficiencies identified during the audit.

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Introduction

On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted the Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 (Order). The Order requires all public agencies that own or operate sanitary sewer systems to develop and implement Sewer System Management Plans (SSMPs) and to report all Sanitary Sewer Overflows (SSOs) to the State Water Board's online database.

An SSMP comprises the 11 tasks listed below:

1. Goals and Organization Structure
2. Legal Authority
3. Operations and Maintenance Program
4. Overflow Emergency Response Program
5. Fats, Oils, and Grease Control Program
6. Design and Performance Provisions
7. System Evaluation and Capacity Assurance Plan
8. Monitoring and Program Modifications
9. Program Audits
10. Communication Program
11. Final SSMP Implementation

SSMP Development Plan and Schedule

One of the first steps in an SSMP is the creation of a Development Plan and Schedule. The SSMP Development Plan and Schedule that follows lists each of the 11 tasks required in an SSMP, the dates those tasks are due, and the person responsible for implementation of each task (Table I-1).

TABLE I-1
SSMP Development Plan and Schedule
Olivehurst Public Utility District SSMP

Task	Due Date	Responsible Party
SSMP Development Plan and Schedule	November 2, 2007	John Tillotson, Director of Public Works
Goals and Organization Structure	November 2, 2007	Tim Shaw, General Manager
Legal Authority	May 2, 2009	John Tillotson
Operations and Maintenance Program	May 2, 2009	Greg Axline, WWTF Chief Plant Operator
Overflow Emergency Response Program	May 2, 2009	Greg Axline
Fats, Oils, and Grease Control Program	May 2, 2009	Greg Axline
Design and Performance Provisions	August 9, 2009	John Tillotson
System Evaluation and Capacity Assurance Plan	August 9, 2009	John Tillotson
Monitoring and Program Modifications	August 9, 2009	Greg Axline
Program Audits	August 9, 2009	Tim Shaw
Communication Program	August 9, 2009	Tim Shaw
Final SSMP Implementation	August 9, 2009	Greg Axline

SECTION 1

SSMP Goals

The SWRCB's WDRs require the collection system agency to develop the goals of the SSMP. The goals of OPUD's SSMP are as follows:

1. Maintain or improve the condition of the collection system infrastructure to provide reliable service now and into the future.
2. Cost-effectively minimize infiltration/inflow (I/I) and provide adequate sewer capacity to accommodate design storm flows.
3. Minimize the number and impact of sanitary sewer overflows (SSOs) that occur.

SECTION 2

Organization

This section provides an overview of OPUD's organizational structure for implementing the SSMP, the chain of communication for reporting and responding to SSOs, and designation of the Authorized Representative for OPUD.

2.1 Authorized Representative

Greg Axline, OPUD's Chief Plant Operator, is the person appointed by the Board of Directors of OPUD as the Authorized Representative. As the Authorized Representative, Mr. Axline is responsible for certifying that all electronic SSO reports are accurate and are submitted to the SWRCB or Regional Water Quality Control Board (RWQCB) as required by the WDRs.

2.2 Personnel Responsible for SSMP Task Implementation

OPUD is a relatively small organization consisting of 28 employees and is responsible for wastewater service, water service, fire protection, street lighting, and parks. Figure 2-1 shows OPUD's organizational structure relative to wastewater service. Table 2-1 lists the individuals (along with their contact information) responsible for the implementation of the 11 components of the SSMP.

2.3 Chain of Communication for Reporting SSOs

The chain of communication for reporting SSOs is shown in Figure 2-2. The general response procedure begins when OPUD receives notification of an SSO. That notification goes to wastewater staff who will send out a field crew or to an emergency after-hours call center that will notify an on-call field crew. Once the crew is on site, it will contain the spill, fix the problem, and clean up the spill. The field crew will then coordinate with the responsible official to complete the reporting process. It should be noted that the Office of Emergency Services (OES) needs to be notified only for SSOs greater than 1,000 gallons (including spills to land) and/or all discharges of sewage into or on any waters of the state. OES must also be notified of discharges that may threaten or impact water quality.

FIGURE 2-1
OPUD Wastewater Organizational Structure
Olivehurst Public Utility District SSMP

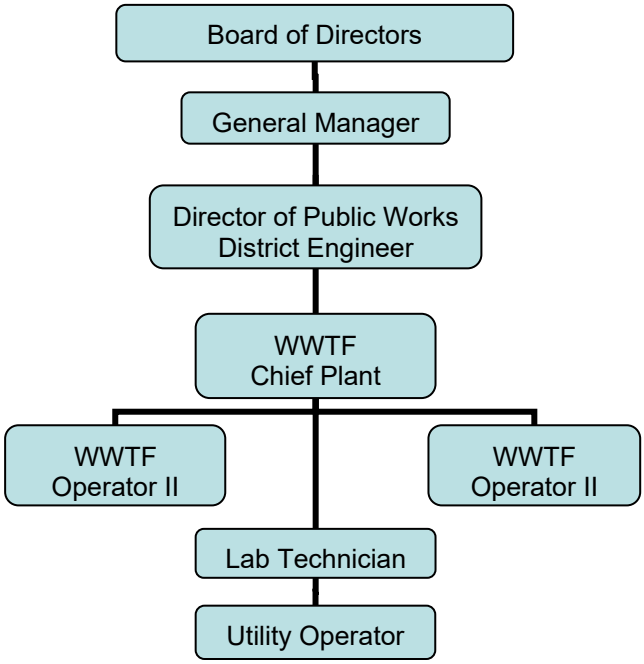
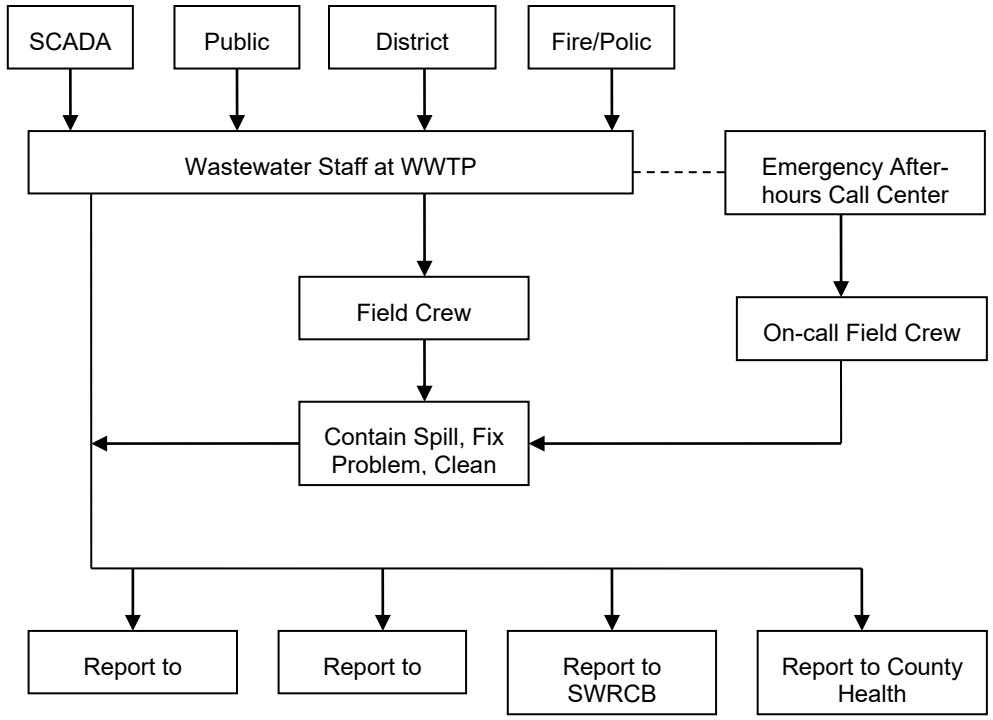


TABLE 2-1
SSMP Responsible Personnel
Olivehurst Public Utility District SSMP

Position	Name	Phone Number	Responsibilities
General Manager	John Tillotson	(530) 743-0317	• Goals and Organization Structure • Program Audits • Communication Program
Public Works Engineer	Swarnjit Boyal	(530) 743-8132	• SSMP Development Plan and Schedule • Legal Authority • Design and Performance Provisions • System Evaluation and Capacity Assurance Plan
WWTF Chief Operator	Greg Axline	(530) 743-0843	• Operations and Maintenance Program • Overflow Emergency Response Program • Fats, Oils, and Grease Control Program • Monitoring and Program Modifications • Final SSMP Implementation

FIGURE 2-2

Chain of Command for Reporting SSOs
Olivehurst Public Utility District SSMP



SCADA=

Supervisory Control and Data Acquisition
WWTP = Wastewater Treatment Plant

SECTION 3

Legal Authority

OPUD adopted a Sewer Use Ordinance on February 19, 2009, that will take effect on May 1, 2009. The ordinance meets the requirements of the General WDRs for sanitary sewer collection systems. The ordinance establishes a framework for OPUD to establish rules and regulations for appropriate sewer use and provides an enforcement mechanism for non-compliance with the ordinance.

3.1 Methods to Prevent Illicit Discharges

3.1.1 WDR Language

Prevent illicit discharges into the sanitary sewer system (examples may include infiltration/inflow [I/I], stormwater, chemical dumping, unauthorized debris and cut roots, etc.)

3.1.2 Ordinance Prohibiting Discharges

Ordinance No. 209, "Olivehurst Public Utility District Sewer Use Ordinance," prohibits illicit discharges into the sanitary sewer system in Article VI. Use of Public Sewers. Some of the sections applicable to prevention of illicit discharges include:

- Section 601. Drainage into Sanitary Sewers Prohibited. The ordinance prohibits surface drain connection and/or discharge to the sewer.
- Section 602. Types of Wastes Prohibited. The ordinance lists wastes that shall not be discharged to OPUD's sewer system, including stormwater and other waters.
- Section 603. Regulated Discharges. Provides OPUD the authority to use discretion and disallow discharges that are considered harmful or have an adverse effect on the sewer collection system.
- Section 604. Medical Wastes. This section addresses allowed and disallowed discharges from hospitals, clinics, offices of medical doctors, and convalescent homes.

Supporting Documentation

- Sewer Use Ordinance, Article VI. Use of Public Sewers

3.2 Methods to Ensure Proper Design and Construction

3.2.1 WDR Language

Require that sewers and connections be properly designed and constructed.

3.2.2 Design and Construction Standards

OPUD ensures that the sewer connections are properly designed and constructed by using various quality control mechanisms. OPUD's notice-to-proceed letter includes a statement

requiring compliance with its design standards. During and after construction, the work is inspected. If construction is not to standard, it is not accepted. OPUD Sewer Use Ordinance, Article IV. Building Sewers, Lateral Sewers and Connections and Article V. Public Utility District Sewer, address design and construction of sewers and connections. Approval of plans and specifications is required prior to connection to the sewer collection system as specified within the following sections of the municipal code:

- Section 401. Permit Required. A permit is required for side sewers or laterals, including for construction, repair, alteration, or connection to the sewer.
- Section 402. Construction Requirements. Public sewers and building sewers shall be subject to requirements of OPUD Standard Specifications.
- Section 406. Connection to Public Sewer. Specifies how building sewer connections shall be made to the public sewer.
- Section 501. Permit Required. A permit is required for construction, extension, or connection to the public sewer.
- Section 502. Plans Profiles and Specifications Required. Complete plans, profiles, and specifications are required to be submitted with the permit application. The District Engineer reviews and approves plans.
- Section 504. Persons Authorized to Perform Work. Requires a properly licensed contractor to perform sewer construction work.
- Section 507. Design and Construction Standards. Establishes minimum standards for design and construction in accordance with OPUD design standards.
- Section 508. Completion of Sewer Required. Requires testing and acceptance by the District Engineer.

Supporting Documentation

- Standard Design Criteria
- Standard Specifications and Construction Details for new construction, rehabilitation, and repair
- As-built drawings
- Sewer Use Ordinance, Article IV. Use of Public Sewers
- Sewer Use Ordinance, Article V. Public Utility District Sewer Construction

3.3 Access for Maintenance, Inspections, and Repairs

3.3.1 WDR Language

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

3.3.2 Access Authority

Portions of the sewer owned or maintained by OPUD require an easement or right-of-way for extension of the public sewer as described in Article V. Public Utility District Sewer Connection. Inspection of the sewer is described in Article IX. Miscellaneous Provisions.

- Section 503. Easements or Rights-of-Way. If an easement is required, a proper easement or right-of-way is to be designated to allow unrestricted access for maintenance of the sewer system extension or connection.
- Section 902. Powers and Authorities of Inspectors. Authorized employees shall be permitted to enter in and upon buildings, facilities, and properties for purposes of inspection, observation, measurement, sampling, testing, etc.

Supporting Documentation

- Sewer Use Ordinance, Article V. Section 503. Easements or Rights-of-way
- Sewer Use Ordinance, Article IX. Section 902. Powers and Authorities of Inspectors

3.4 Methods to Limit the Discharge of FOG and other Debris into the Sewer System

3.4.1 WDR Language

Limit the discharge of fats, oils, and grease and other debris that may cause blockages.

3.4.2 FOG-related Ordinance

The OPUD Sewer Use Ordinance, Article VI. Use of Public Sewers, regulates and limits the discharge of FOG and other debris into the sewer system.

- Sections 602 (J), (M), (N), and (V) include prohibition of FOG discharge to the sewer system.
- Section 605. Interceptors Required. Grease, oil, and sand interceptors are required as deemed necessary by OPUD. Interceptors must be properly sized and accessible for cleaning and inspection.
- Section 606. Maintenance of Interceptors. Grease, oil, and sand interceptors must be maintained by the owner, at owner's expense as necessary for efficient operation at all times.

Supporting Documentation

- Sewer Use Ordinance, Article VI. Use of Public Sewers

3.5 Methods to Enforce Violation of Sewer Ordinances

3.5.1 WDR Language

Enforce any violation of its sewer ordinances.

3.5.2 Enforcement Ordinance

The OPUD Sewer Use Ordinance authorizes enforcement actions against users of the system as described in Article VIII. Enforcement. Enforcement action includes:

- Section 801. Violation. Any person found in violation of the sewer use ordinance shall cease such violation and take corrective action.
- Section 802. Disconnection. The OPUD General Manager has the authority to disconnect the user of subdivision sewer system from sewer mains as an enforcement method.

Supporting Documentation

- Sewer Use Ordinance, Article VIII, Enforcement

SECTION 4

Operations and Maintenance Program

OPUD serves approximately 16,000 people and is located in the northern Sacramento Valley, 40 miles north of Sacramento. In addition to water, parks, and fire support for the community, OPUD provides services for and operates the wastewater collection system and wastewater treatment plant.

Until recently, OPUD's wastewater collection system served the historic Olivehurst area. As a result of significant home building commencing in 2003 and 2004, the collection system has been expanded to provide service to the newer areas. The Operations and Maintenance activities described in this section of the SSMP assume that, with the exception of mapping and the introduction of a computerized maintenance management system (CMMS) (both of which will be completed for the entire collection system), the work efforts associated with collection system preventive maintenance activities will first focus on the older conveyance system of historic Olivehurst. Work in the newer sections of the service area will be postponed until at least one full cycle of inspections has been completed on the older portions of the system.

4.1 Update Maps

4.1.1 WDR Language

Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities.

4.1.2 Collection System Maps

OPUD maintains an AutoCAD file for the historic Olivehurst collection system and other AutoCAD files for new construction developments. Modifications or additions to the collection system will be made to base maps on an ongoing basis. New additions to the collection system will require the project applicant (e.g., developer) to submit mapping information in a compatible format that can be added to existing electronic mapping information. Additionally, OPUD has a GIS database. OPUD has contracted with the GIS supplier. The supplier provides 2 hours per month of support dedicated to GIS database corrections and updates.

Historic Olivehurst contains the majority of sewer collection pipe, or approximately 32 miles of the overall system (the entire system totals 40 miles of gravity and pressure pipe). The conveyance system includes 18 pump stations, 10 of these are within historic Olivehurst.

The OPUD collection system includes the following areas:

- Historic Olivehurst
- River Glen

- Mapleton
- Heartlands
- North Plumas Lake
- South Plumas Lake
- Summerfield
- Wheeler Ranch

The OPUD pumping facilities include 18 pump stations ranging from 75 gpm to 6,600 gpm. Ten pump stations are located in historic Olivehurst.

Maps and Schematics

OPUD is working with a consultant to consolidate mapping into electronic format to enhance its mapping records. OPUD has the following resources that show the location of the collection system and associated conveyance facilities (e.g. pump stations, pipelines, and manholes):

1. ESRI GIS personal geodatabase and Computer Aided Design (CAD)—OPUD has database information showing conveyance system feature locations and attributes including sewer pipelines, pumping facilities, manholes, and sewer fittings.
2. As-built documents
3. System schematics
4. Electronic information

New developments are required to provide as-built data in electronic format that is compatible with OPUD's electronic mapping system. The developer is also required to provide Mylar as-builts that are stored at the administration office with all other facility drawings.

Stormwater Systems

Stormwater conveyance systems in Olivehurst are owned and operated by the County of Yuba (County). The County Code includes a Stormwater Quality Ordinance (Chapter 7.50) intended to protect public health and safety and water quality by controlling non-storm water discharges to the storm drain system. The ordinance prohibits any illicit discharge into the storm drain system including sanitary sewer overflows. The ordinance requires that reasonable actions be taken to contain illicit discharges. OPUD is required to take measures to prevent SSOs entering storm water drainage systems consistent with County stormwater regulations.

The County Storm Water Management Plan (SWMP) is under way and will meet requirements of the National Pollutant Discharge Elimination System (NPDES) Phase II program for Small Municipal Separate Storm Sewer Systems (Small MS4s). The County SWMP provides a plan for the affected agencies within the County to follow Best Management Practices (BMPs), measurable goals, and timetables for the implementation of the Six Minimum Control Measures required by the U.S. Environmental Protection Agency, and the State Water Resources Control Board.

Supporting Documentation

- Electronic maps and data
- Yuba County GIS
- As-built maps
- Map showing sewer sub-basins

4.2 Routine Operation and Maintenance Activities

4.2.1 WDR Language

Describe routine preventive operation and 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 Preventative Maintenance program should have a system to document scheduled and conducted activities, such as work orders.

4.2.2 Routine Operation and Maintenance Program

Routine Preventive Operation and Maintenance Activities

Sewer assessment on an ongoing basis has a major impact on SSOs and unauthorized discharges. The assessment program can identify potential sources of excessive I/I requiring remediation, areas of structural distress that require rehabilitation to avoid a collapse, or areas with significant blockage that require preventive maintenance to avoid a future obstruction-related discharge.

The goal for the routine preventive operation and maintenance program is to optimize planned maintenance and minimize unscheduled maintenance. Inspection data and asset information will be analyzed on an ongoing basis to develop and enhance the maintenance program. Areas with historical complaints or chronic problems resulting from system age, design, breakdowns, blockages, seasonal impacts of I/I, or capacity problems will be identified and documented on an ongoing basis, and additional efforts will be made to address or prevent those problems from escalating into permit violations.

The preventive maintenance program forecasts and schedules infrastructure maintenance, repair or replacement, of system components based on the useful life of equipment (depreciation), historical data, manufacturer's recommendations, or known maintenance needs. This program tracks and identifies trends within the system and encompasses all assets within the collection system. Emphasis is toward components deemed critical to the successful and continued availability within each system including:

- Pump stations
  - Mechanical, including pumps, valves, actuators, level controls
  - Electrical, including emergency generators
  - Data acquisition equipment
- Lines and force mains, including integrity (corrosion control), grease, roots, and debris
- Manholes, including integrity, lid seal, grease, and debris
- Service and safety equipment, including rolling stock and personal safety equipment.

OPUD has initiated a preventive maintenance program to minimize sewer overflows and to keep the wastewater flowing to the treatment plant by hiring new staff and has purchased a new vactor truck that is used for sewer line cleaning operations. OPUD also recently purchased CCTV (closed circuit TV) gear that will be used to inspect pipes for condition assessment.

OPUD will implement the preventive maintenance program by enhancing scheduling capabilities with the recently acquired CMMS Maintenance Connection. The system for scheduling regular maintenance and cleaning of the sanitary sewer system includes computerized software that allows for data entry to document scheduled and conducted activities to develop a practical and effective preventative maintenance schedule. The program schedules regular maintenance and cleaning activities in the collection system. The system will produce work orders and when the work is completed, work order data will be entered into the system. When fully implemented, the CMMS system will be able to recognize and track private assets outside of the system that have the potential to impact OPUD assets. Tasks may be altered by modifying the task work content, adjusting task intervals, and/or adjusting task dates to compensate for any adverse conditions found that warrant a modification in scheduling. Work order closeout procedures are in place to ensure that all work history is documented.

Pump/Lift Station Preventive Maintenance

The purpose of OPUD's pump station preventive maintenance program is to maintain pump stations in proper working order and maximize continuous operational efficiency. The goal is to minimize discharges and back-ups at pump stations. The operation of force main pump station portions of the collection system is automated and does not require continuous onsite operator presence. Wet wells, pumps, connections, valve condition and operation, odor control equipment, screens, covers and seals, emergency power equipment, and site security are inspected. Pump stations are drive-by checked on a daily basis. Operations and maintenance manuals for some of the older lift stations are not available for all equipment.

Activities for routine pump station preventive maintenance include verifying that pumps are operational, valves are inspected and exercised, wet wells are visually inspected, and pump run times observed at least twice per week. Pump run times are obtained from hour meters. The stations do not have flow meters, data loggers, or chart recorders. Pump run times are documented on a log sheet and kept in three-ring binders located at the wastewater treatment plant. If the operator notices a condition that requires attention, it is noted on the lift station checklist and the operations supervisor is notified. Lift stations in the historic Olivehurst area mostly have bubblers and the newer sections of the sewer system have float balls for level control. Pumps are serviced by a contractor and service requirements are based on the professional judgment of staff generally with a reactive approach.

Several of the pump stations had pump rehabilitation and replacement from 2019 to 2021. OPUD does not have back-up pumps for the lift stations.

Lift Station 1:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Design plans in to replace LS 1 and abandon current one

Lift Station 2:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 3:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 5:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 6:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 7:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 8:

- Grant plans to upgrade well and controls
- South side rebuilt, new pump, pipping, checks valves, and gate valves

Lift Station 9:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Look at possibly deleting LS 9 when New LS1 is built and put on line.
- Pulled pump, de-ragged, made new repaired pump stand, and reinstalled pump.
- Got a replacement pump on the self.

Lift Station 10:

- Completely rebuilt LS 10 above ground controls do to being destroyed in a residential fire.

Lift Station 11:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually

Lift Station 13:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually

Lift Station 14:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Replaced cooling fans for control cabinets
- Injecting macrobiotics into the system to try to lower H2S gas

Lift Station 15:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually

Lift Station 16:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually
- Injecting macrobiotics into the system to try to lower H2S gas
- Repaired emergency floats and controller for the wet well

Lift Station 17:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually
- Injecting macrobiotics into the system to try to lower H2S gas
- Repaired emergency floats and controller for the wet well

LS 18

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.

- Grease cookie removed from wet well annually
- Injecting site for macrobiotics into the system to try to lower H2S gas

LS 19

- Riverside Meadows Lift Station accepted by OPUD end of 2022
- Includes 5g Mission

LS 20

- River Oaks North V1 Lift Station accepted by OPUD in February 2023
- Includes 5g Mission

All new sanitary, manholes, and wet well to be made out on nonreactive material. AKA SDR2600/C900 Green and polymer concrete.

Back-up power sources are stationary at lift stations 11 through 18 and portable for stations 2, 3, and 5. OPUD has two portable generators that are shared between the lift stations requiring back-up power. There is no standard procedure for operations during power outages. Stationary generators are operated once per week and serviced annually by a vendor. The portable generators were purchased in 2008 and are not checked on a schedule; operation is checked randomly, e.g. prior to the onset of the storm season.

Lift station 14 is presently the only lift station that needs odor control. The current system is a mister system (Fogmaster) that will be replaced with a more effective system in the near future. Currently is on an extensive bi-weekly cleaning schedule.

Force Main Preventive Maintenance

The purpose of OPUD's force main preventive maintenance is to maintain force mains in proper working order and maximize efficiency and capacity. The goal of force main preventive maintenance is to maintain integrity of the lines and valves to keep discharge occurrences to a minimum. Routine inspections are not currently conducted. Once the new CMMS program is implemented, force main inspections will be scheduled and conducted to ensure normal functioning and to identify potential problems. Inspection may include checking the integrity of the force main surface and pipeline connections, unusual noise, vibration, pipe and pipe joint leakage and displacement, valve arrangement and leakage, pump station operation and performance, discharge pump rates and pump speed, and pump suction and discharge pressures.

Force main cleaning has not occurred and would be conducted only on an as-needed basis depending on factors that indicate that it is warranted. The need for pipeline cleaning depends on the overall performance of the pump station force main system, the extent of grease build-up, and other factors. Force main cleaning presents risks that could lead to SSOs and is carefully planned and coordinated. Appropriate indications that cleaning may be warranted include a notable decline in pump station efficiency or an increase in backups. Corrosion is rarely a problem in properly designed force mains (e.g., pipeline slopes designed to eliminate any high spots where head-space gasses can accumulate).

Gravity Line Preventive Maintenance

The purpose of OPUD's gravity line preventive maintenance program is to maintain the integrity of the conveyance infrastructure, prevent line constrictions that can lead to SSOs, and maintain design capacity of the system. Gravity line preventive maintenance plays a role in maintaining system capacity, clearing obstructions, and identifying potential condition problems requiring rehabilitation or replacement.

Activities identified under this program include:

1. Routine hydraulic cleaning
2. Routine mechanical cleaning
3. Root control program
4. Manhole maintenance

In 2008, OPUD purchased a vactor truck for sewer pipeline cleaning (hydraulic and mechanical) and CCTV for inspections. The cleaning is directed at hot spot locations as a priority for routine/frequent cleaning (e.g., annually prior to the rainy season). The locations with chronic blockages (hot spots) are located in the historic Olivehurst area of the collection system. Most problems are caused by roots.

The vactor truck is used to conduct routine line cleaning throughout the entire gravity collection system (California Water Environment Association [CWEA] recommends that the entire system be cleaned every 5 to 10 years). Cleaning of the gravity sewer system on a routine basis has started in the older sections of the system. After lines have been cleaned, they may be inspected with CCTV, and areas requiring further maintenance are scheduled for service. CCTV inspections are used to identify blockages, cracks, offsets, or other problems in the lines. Inspection information will be entered into the CMMS database and information used to prioritize, budget, and schedule necessary repairs to sewer lines.

OPUD's generally reactive work order system will be replaced with an enhanced computerized system to compile better information for tracking hot spots and to acquire accurate information (e.g., how many feet of pipe are cleaned and inspected annually). The phased-out work order system initiated a variety of work but did not provide a comprehensive record of work completed for operations and maintenance tracking.

Ideally, once the new CMMS program is implemented, OPUD will be able to schedule, generate, and track preventive, reactive, and corrective maintenance. Maintenance tasks for facilities and equipment are described in job plans with most work being preventive maintenance scheduled on a recurring basis.

Manholes

In a preventive maintenance program, manholes are inspected for access, cover and seal integrity, debris, blockage, and flow characteristics. OPUD does not presently inspect manholes on a regular basis. OPUD typically looks at problem areas, and inspections are mainly flow related. OPUD has recently implemented manhole numbering as a component of the mapping enhancement efforts in 2009. Each manhole has a unique number assigned within the mapping system. OPUD will be able to implement scheduled manhole inspections as a part of the CMMS program implementation. Inspections identify whether the manhole needs repair, cleaning, or has inflow and infiltration (during winter

inspections). Condition will be ranked by a numbering system, and repairs will be scheduled according to the highest priority and budget considerations. Manholes that are identified as needing repairs will be documented and prioritized based on the condition assessment. Primary repair mechanisms for manholes include chimney seals, full lining, grouting, and mechanical or chemical treatment. These repair costs can be included in the annual budget.

Inspection Procedures

The following inspection procedures are used when inspecting the assets identified for the OPUD wastewater collection, treatment, and disposal systems.

Routine Inspections. The Utility Area Supervisor coordinates staff to perform routine inspections. The various inspections are scheduled as part of the normal weekly staff activities so as to not to develop a backlog or interfere with day-to-day operations or staffing needs. On a monthly basis, the Utility Area Supervisor reviews the inspections conducted by staff to ensure the necessary follow-up and maintenance activities were performed. During this review, the maintenance schedules are reviewed and adjusted to meet inspection frequency goals and priorities discovered through previous inspection discoveries or seasonal needs.

As the CMMS database develops, the inspections will be entered electronically by utility area staff, including all noted maintenance, repairs, or follow-up mitigation resulting from the inspections. As the database develops further, the utility area staff will be able to electronically access maintenance history and develop a more complete understanding of the overall status of the collection system. This information will be used to prioritize and modify the Capital Improvement Program (CIP) on a continuing basis.

Revisions made to the inspection program, including procedures for conducting and documenting inspections and the CMMS database, will be incorporated into each utility area's standard operating procedures (SOPs) as they are implemented.

Breakdowns, Complaints, and Call-outs. As the CMMS database develops, all inspections conducted as a result of breakdowns, complaints, and call-outs are entered electronically by utility area staff, including all spill report information, maintenance, repairs, or follow-up mitigation resulting from the event.

Once fully implemented, it is anticipated that this system will be able to replace the need for manually filling out and completing service order or complaint forms as currently faxed to/from OPUD offices. This will be phased in over time as the capabilities of the system and staff develop. There will still be the opportunity for the public to call in complaints and that process will remain in place.

Inspection Frequency. The inspection frequencies for all of components within the system are targeted goals. Initially, each Utility Area Supervisor will establish a schedule to have each asset inspected. At a minimum, inspections will be performed as shown on Table 4-1 (consistent with CWEA recommendations).

TABLE 4-1
Collection System Components Inspection Frequency

Component	Activity	Schedule Cycle
Gravity Lines	Root control	3 year
Gravity Lines	Routine line cleaning	Entire system over 3 to 7 years
Gravity Lines	CCTV	Entire system over 7 to 7 years
Gravity Lines	Hot spot line cleaning	Annually
Force Main Lines	Cleaning	As determined necessary based on system performance indicators
Force Main Lines	Routine inspection	Annually
Pump Stations	Routine inspection	Daily
Manholes	Inspect/clean	All manholes over 5 to 10 years

Changes to the established schedule will be made as needed based on the equipment manufacturer's recommendations, experience, and awareness of the Utility Area Supervisor and staff, age and condition of assets, operational history of components, I/I, and service area growth.

Inspection Forms. The inspection forms that will be used to document routine inspections in the field will be developed for the different components of the system with the Utility Area Supervisor and staff, and be compatible for use in all utility areas. The goal is to develop and have direct access to the forms at each field office through the CMMS for field use, and incorporate updated features using the same screen layout for uploading inspection data to the system by field office staff when the inspection is complete. The inspection form(s) should be maintained at the respective utility area offices.

Condition Assessment. On most inspections, OPUD will use a simple grading system to establish the condition level for all the components of the collection systems, such as the example below.

Grade	Condition	Description
0	Abandoned	No longer in service
1	Very Good	Operable and well maintained
2	Good	Superficial wear and tear
3	Fair	Significant wear and tear; minor deficiencies
4	Poor	Major deficiencies
5	Very Poor	Obsolete, not serviceable

Assets found in poor condition, or with severe defects, will be addressed as soon as possible upon discovery. Less severe defects or condition issues shall be prioritized for cleaning, repair, rehabilitation, or replacement. The CMMS software will assist in the tracking and completion of scheduled maintenance activities.

Supporting Documentation

- CMMS software

- Maintenance histories (manual and electronic)
- As-builts for pump stations and force mains
- Procedures
- O&M manuals
- Inspection records
- Flow monitoring reports and records

4.3 Rehabilitation and Replacement Plan

4.3.1 WDR Language

Develop a rehabilitation and replacement (R&R) plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes and scheduling rehabilitation. R&R should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the R&R plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.

4.3.2 Rehabilitation and Replacement Process

Predictive maintenance, which is also proactive, is a method of establishing baseline performance data, monitoring performance criteria over a period of time, and observing changes in performance so that failure can be predicted and maintenance can be performed on a planned, scheduled basis. System performance will be reviewed as an indicator of how the system is operated and maintained. The condition assessment process that leads to a rehabilitation and replacement plan will consider a potential to fail evaluation (failure impact evaluation) and prioritize projects with consideration given to risk management.

OPUD will implement CCTV, smoke testing, and other technologies for:

- Identifying the location of sewer line blockage
- Finding areas that need to be cleaned to prevent backups
- Identifying pipes that need replacement or repairs
- Inspecting new pipe for proper installation
- Finding illegal or improper sewer connections

Gathering and assessing the information from the inspections will help to identify and prioritize structural deficiencies for short-term and long-term rehabilitation project planning.

Asset Management

The basic elements for an asset management strategy are asset inventory, asset condition assessment, renewal or replacement, analysis programs, evaluation of matrix alternatives, and risk evaluation. OPUD considers a structured approach to prioritizing asset management including SSO data collection and analysis.

OPUD's asset management approach prioritizes deficiencies based on several inputs including:

- CMMS information
- Customer complaints
- CCTV inspections
- Manhole inspections
- Hydraulic model
- Risk assessment to prioritize projects

Time Schedules for CIPs

OPUD's rehabilitation and replacement strategy includes short- and long-term CIP development. Areas identified as requiring upgrades for hydraulic deficiencies are also a part of the CIP and discussed in Section 8 of this report. The short-term component is designed to preserve functional requirements of the existing collection system including a variety of techniques including point and replacement repairs, joint testing and grouting or sewer lining. The long-term R&R strategy incorporates lifecycle costs and condition assessments. The short and long term components create the framework for optimizing maintenance strategies that will ensure long term operability of pipelines and facilities.

The OPUD Board of Directors has a subcommittee for the wastewater facilities (Water/Wastewater subcommittee). This committee meets regularly to discuss the wastewater collection system and needs. The committee reviews information provided by staff, has the ability to make recommendations to the entire Board for necessary projects, and reviews project alternatives.

CIPs have generally been determined by OPUD on an annual basis and are addressed in the budget. CIPs can be developed and reviewed to align with anticipated funding sources. The projects that do not have adequate funding should still be included on the list for planning purposes.

Short-term Rehabilitation Implementation Plan

Short-term rehabilitation projects are commonly prioritized for areas affected by structural deficiencies, notably in the older sections of the collection system. Condition assessment is a critical activity for a sustainable asset management program. Condition levels are tied to levels of service targets, and assessments focus on high-risk and projected near-term needs. The condition levels primarily drive short-term (5-year) decision making. Short-term corrective actions will utilize maintenance histories, inspections, and predictive modeling.

OPUD has no formal short-term CIP list developed. However, annual budgets include maintenance and projects identified prior to budgeting. A schedule to implement the short-term CIP is presented in Table 4-2.

TABLE 4-2
Capital Improvement Program for O&M Rehabilitation

Activity	Milestone Date
Initiate identification of problem areas	March 2009

TABLE 4-2
Capital Improvement Program for O&M Rehabilitation

Activity	Milestone Date
Prioritize system deficiencies	May 2012
Short-term (0-5 years) rehabilitation implementation Plan	May 2012
Short-term funding plan	October 2012
Long-term (6-20 years) rehabilitation implementation plan (CIP)	December 2013
Time schedule for implementation of CIP	March 2014
Long-term funding plan	September 2014

Long-term Rehabilitation Implementation Plan

OPUD realizes the importance of seeking and correcting structural deficiencies prior to system failure. OPUD will begin to perform periodic condition assessments on each sewer facility (e.g., manholes, main lines, and service laterals) to determine the location and extent of problem areas according to the schedule in Table 4-1.

OPUD selects capital improvement projects based on cost effectiveness to fit the capital expenditure budget. The CIP is based on fiscal conditions as well as financial planning, including tapping into revenue sources such as grants, loans, bonds, and user fees. Long-term projects are those that are considered for implementation in 6 to 20 years.

Project Financing

Project financing options will vary depending on the cost of the project. Funding availability will affect project planning and scheduling. Funding sources may include:

- OPUD wastewater operations budget
- OPUD special budgets (for specific maintenance efforts or projects)
- Local development contributions
- Federal/state/regional grants
- Federal/state/regional loans
- Municipal bonds

Current and future funding opportunities identified by the State Water Resources Control Board are listed in Table 4-3.

TABLE 4-3
Current and Future Funding Opportunities

Organization	Funding Program	Contact
California Infrastructure and Economic Development Bank (I-Bank) www.ibank.ca.gov	Infrastructure State Revolving Fund Program	Diane Cummings dcummings@ibank.ca.gov
Department of Housing and Community Development (HCD) www.hcd.ca.gov	Community Development Block Grant	Patrick Talbott ptalbott@hcd.ca.gov

TABLE 4-3
Current and Future Funding Opportunities

Organization	Funding Program	Contact
State Water Resources Control Board www.waterboards.ca.gov/funding/srf.html	Clean Water State Revolving Fund Loan Program	David Kirn dkirn@waterboards.ca.gov Sudhakar Talanki stalanki@waterboards.ca.gov
United States Environmental Protection Agency www.epa.gov/owm/cwfinance/cwsrf/index.html	Clean Water State Revolving Fund	Juanita Licata licata.juanita@epa.gov
United States Department of Agriculture Rural Development www.rurdev.usda.gov/ca	Water/Wastewater	Dave Hartwell dave.hartwell@ca.usda.gov
Other financing identified includes:		
Municipal Services Group, Inc. http://munibank.com/	Municipalities	Clint Spivey clints@munibank.com

The R&R plan must include a time schedule for implementing the short-term and long-term plans. In addition, a schedule for CIP funding development is required. The schedule is provided in Table 4-2.

The required SSMP audit will begin to track and trend system performance and indicate corrective actions. The initial biannual audit must be completed by August 2, 2011. Audit report information may be utilized to develop CIPs and the schedule reflects consideration of the first audit, which will help to identify and prioritize system deficiencies.

Supporting Documentation

- Historical maintenance and condition data tracked in the recently implemented CMMS
- Condition assessment data collection and review
- CIP and budget

4.4 Training

4.4.1 WDR Language

Provide training on a regular basis for staff in sanitary sewer system O&M, and require contractors to be appropriately trained.

4.4.2 OPUD Training Program

OPUD places a high level of importance on safety. Written safety procedures are provided to employees. Employees are required to follow the safety procedures, and disciplinary action may be used to enforce the safety procedures. The administration communicates safety procedures to field personnel mostly through job site training and memorandums. There are also bulletin board postings, posters, hands-on training, intranet, and some direct

communications. Current training requirements vary depending on the skill requirements of each position, and the individual's need to upgrade those skills.

OPUD O&M staff is trained to monitor, maintain, and operate the OPUD wastewater collection system during normal flow events and during large-scale flow events in order to manage flows and avoid SSOs. The current OPUD training program consists of both formal and informal elements, as described in the following sections.

On-the-Job Training and Craft Skills

OPUD O&M staff consists of Public Works Engineer, Engineering Technician, Plant Operators and Utility Operators. Most craft- or skill-related training occurs when new employees work closely with more experienced staff to become familiar with OPUD facilities and their mechanical, electrical, and control systems. OPUD typically uses a 6-month probationary period to evaluate employee development.

The training program is an ongoing process that includes technical and safety training. Funds are budgeted to provide training. Training may be obtained in several ways including in a classroom setting, seminars, correspondence, onsite, and self-paced courses. There are several organizations that provide training specific to wastewater operations.

Operational Training

The O&M supervisors direct O&M activities during normal and high-flow events. Current operational training for supervisors occurs through one-on-one mentoring at the supervisory level.

Safety Training

The purpose of OPUD's safety program is to protect the employees and the general public, as well as comply with applicable regulations. The goal of the program is to have no safety incidents. The program has the full support and backing of management. Weekly "tailgate" meetings are held to discuss safety.

Safety training that meets OSHA personnel safety and awareness requirements is provided to O&M staff. O&M staff receives training provided by equipment suppliers and vendors when new facilities are constructed. Employees are encouraged to attend skills training pertinent to their job duties. The local fire chief is designated as the safety officer.

Training for Contractors

Contractor operations are overseen by staff or consulting inspector to assure proper construction techniques are used and sanitary sewer overflow risks are avoided. Contractors construct to specifications and regulatory requirements established within contract and bid documents. Contractors are required to carry proper liability insurance coverage based on the scope of work. Emergency work is conducted by an approved list of contractors.

Supporting Documentation

- System schematics
- O&M manuals
- O&M support training videos

4.5 Equipment and Replacement Part Inventory

4.5.1 WDR Language

Provide equipment and replacement part inventories, including identification of critical replacement parts.

4.5.2 Inventory

Equipment and manufacturer's manuals are used to determine which spare parts to keep in stock. OPUD considers the frequency of usage of the part, how critical the part is, and how difficult the part is to obtain when deciding how many spare parts to keep in stock. Critical parts essential to the operation of the collection system are stored in a central location; parts not in OPUD inventory are generally readily available through local suppliers.

OPUD equipment that is critical for operations and maintenance includes:

- Vactor truck
- Power rodder
- Utility trucks
- Dump truck
- Backhoe
- High volume pumps (two 4" portable pumps and a newly rebuilt 8" pump)

Replacement parts for equipment are readily available and can be obtained quickly through identified suppliers. Equipment may also be rented from private businesses.

Critical Replacement Parts

Adequate supplies are kept in inventory to allow for at least two point repairs in the collection system. These supplies include items such as sewer pipe, pipe clamps, and mechanical joints.

Supporting Documentation

- Maintenance budget
- Parts inventory process

SECTION 5

Design and Performance Provisions

OPUD's design standards were last updated in 2005. In some cases the agency refers to Sacramento County Standards.

5.1 Design and Construction Standards

5.1.1 WDR Language

Design and Performance Provisions: Design and construction standards and specifications for the installation of new sewer systems, pump stations, and other appurtenances; and for the rehabilitation and repair of existing sewer systems.

5.1.2 Construction Standards and Specifications

OPUD has design and construction standards and specifications for sewer system construction activities. Developers and design consultants must reference or use OPUD standards for the design of new and rehabilitated sewer construction projects. Performance and payment bonds are required for appropriate projects to address substandard or incomplete work by contractors.

Supporting Documentation

- 2005 Standards and Specifications

5.2 Inspection and Testing

5.2.1 WDR Language

Design and Performance Provisions: Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.2.2 Inspection and Testing

OPUD requires inspection and testing **o**f new work before it will be accepted.

Inspection of sewer infrastructure construction projects is incorporated into the OPUD construction standards and specifications. Inspection and testing requirements for work that is put out to bid are included in the specific project contract documents. Inspection fees are collected to cover the cost of inspection services. An agency representative inspects the work before it is accepted, and OPUD has adequate inspection resources allocated to ensure that construction complies with standards and construction requirements.

Supporting Documentation

- Individual project contract documents

- 2005 Standards and Specifications
- Project-based inspection forms
- Test reports
- Contractor certifications/licenses

SECTION 6

Overflow Emergency Response Plan

6.1 Notification Procedures to Primary Responders and Verbal Notification to Regulatory Agencies

6.1.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan (plan) that identifies measures to protect public health and the environment, and includes proper notification procedures so that the primary responders and regulatory agencies are informed of all sanitary sewer overflows (SSOs) in a timely manner.

6.1.2 Overflow Emergency Response Plan

The Olivehurst Public Utility District has an overflow response plan, titled *Sanitary Sewer Overflow Emergency Response Plan* (SSORP) that provides basic information, response to SSOs, and post spill actions. A flow chart indicates the actions to take based upon the characteristics of the spill. The SSORP includes a spill reporting form for documentation.

Primary Responder (Internal) Notification Procedures

OPUD typically receives notification of an SSO from an external agency, the general public, representatives of the contributing agencies, or from OPUD staff. The priority is to stop the flow or ongoing spill. The SSORP describes OPUD notification procedures from the responding personnel to the Area Supervisor utilizing various available communication tools including radio dispatch, telephone, pager, or cell phone.

Notification of Regulatory Agencies

The SSORP includes a notification list including regulatory agencies. SSOs are identified by Category 1 or Category 2 spills and associated reporting requirements. There is also a notification checklist on OPUD's internal spill report form.

Once it has been determined that an SSO has reached storm drains, drainage channels, and or surface waters, the OPUD Area Supervisor or responding personnel will notify the following agencies within 2 hours consistent with the General WDR regulation:

1. Office of Emergency Services (OES)
2. Central Valley Regional Water Quality Control Board (RWQCB)
3. Yuba County Environmental Health Department
4. Public Works Storm Water Pollution (if the discharge enters the storm water system)

Supporting Documentation

- SSORP
- SSO Reporting Follow-up Measures, Section 5

- SSO Reporting Requirements Flow Chart
- Reporting to Other Regulatory Agencies
- SSO 2-hour Reporting Procedures
- SSO Reporting Timeline

6.2 SSO Response Program

6.2.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment, and includes a program to ensure an appropriate response to all overflows.

6.2.2 Overflow Response

OPUD's existing SSO procedure provides basic guidance for the first response and follow-up measures once an SSO has occurred.

First response and subsequent actions are identified. The current OPUD procedure indicates that the first concern is to stop the flow or ongoing spill. Follow-up measures are identified subsequent to reporting and notification. This includes clean up, sampling, and posting of warning signs.

The summary of primary roles and responsibilities for SSO response teams are as follows:

Field Crews

Responding staff's first priorities are to ensure public safety, contain the overflow, and make every effort to keep it from reaching a waterway. Once the SSO is contained, field crew will be responsible for mitigating the SSO, perform initial cleanup activities, coordinate additional resources for response activities, and complete follow-up remediation activities. OPUD calls in additional resources if necessary.

Area Supervisor

The Supervisor assures that the OPUD spill report form is complete and that the report has been made electronically on the California Integrated Water Quality System (CIWQS) consistent with regulation. The Supervisor follows regulatory reporting procedures, notifies affected agencies, determines receiving water contamination, collects samples for follow-up analysis, assesses the need for posting warning signs, and prepares all written reports.

Supporting Documentation

- SSORP, Section 4
- Overflow Response Procedures Flow Charts
- OPUD Intranet—SSO online reporting (CIWQS)
- SSO Sampling Procedures

6.3 Notification Procedures to Affected Entities and Reporting Program

6.3.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment, and includes a program to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities of all SSOs that potentially affect public health or reach waters of the state.

6.3.2 Notification Procedures

OPUD's SSORP identifies the agencies that require notification and, when applicable, provides the name of an individual at the agency. OPUD's internal wastewater spill report form includes a checklist of agencies notified.

Supporting Documentation

- SSORP, Section 3
- SSORP Interagency Notification Procedures - Contact List
- SSORP Notification Responsibilities Flow Chart
- SSORP Reporting Procedures
- SSO Spill Report Forms
- SSO Reporting Timeline
- Yuba Stormwater Program Notification
- Sewage Spill Sample Collection Guidelines

6.4 SSORP Training and Awareness Program

6.4.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that includes procedures to ensure that appropriate staff and contractor personnel are aware of and follow the SSORP and are appropriately trained.

6.4.2 Spill Response Training

OPUD holds weekly safety meetings and SSO response is addressed on an as-needed basis at these meetings. Spill response is reviewed by supervising staff on an ongoing basis, and adjustments are identified and applied based on the adequacy of staff spill response. Staff training is intensified during periods when spills are a greater risk, such as prior to significant storm events.

Supporting Documentation

- Training records

6.5 Public Safety during SSO Response Activities

6.5.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that includes procedures to address emergency operations such as traffic and crowd control, and other necessary activities.

6.5.2 Public Safety Measures

The emergency response plan includes procedures to address emergency operations such as traffic control and safety procedures are identified in the spill response plan. The plan also addresses site clean-up and posting of warning signs, and identifies local entities that can be called for emergency response mutual aid.

Supporting Documentation

- SSORP, Section 5.2.1
- SSO Public Advisories

6.6 SSO Prevention and Containment Measures

6.6.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that includes a program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated or partially treated wastewater to waters of the U.S. and to minimize or correct any adverse impact on to the environment resulting from the SSOs.

6.6.2 Spill Containment

Section 4.2.3 of the SSORP addresses containment and prevention of SSO discharges to waters of the United States. Steps to minimize the effects are included.

Supporting Documentation

- SSORP, Section 4
- SSO assessment and response procedures
- SSO Interagency Notification Procedures - Contact List

SECTION 7

Fats, Oils, and Grease Control Program

OPUD has successfully implemented its Fats Oils and Grease or FOG program. OPUD contacted and inspected each and every commercial customer that had the possibility to create a FOG problem. OPUD then implemented an annual permit system for the customers who were found to have had the ability to create a FOG problem. Additionally, OPUD has required all new FOG permitted commercial to install a District approved interceptor device. OPUD has included FOG information on its website at www.opud.org and in pamphlets to residential and commercial customers. OPUD performs annual inspections of all the FOG permitted customers in the District. Our sewer use ordinance gives us the authority to collect and inspection fee, inspect and regulate the FOG permitted connections in the District.

7.1 Applicability of a FOG Program

7.1.1 WDR Language

An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG.

7.1.2 Public Education and Outreach Program

OPUD plans to initiate a public education and outreach program in conjunction with the Communication Program (Section 11) by August 2009.

Public education and outreach efforts will include:

- Develop billing messages
- Develop/obtain pamphlets to distribute to hot spot areas
- Website development
- Make Best Management Practices available

Supporting Documentation

- Sewer Use Ordinance
- Website
- Billing messages
- Pamphlets
- Grease interceptor and grease trap information

7.2 FOG Disposal

7.2.1 WDR Language

A plan and schedule for the disposal of FOG 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 FOG generated within a sanitary sewer system service area.

7.2.2 Regional Grease Waste Service Providers

A regional service provider list has been established to provide local businesses with disposal information (Table 7-2). Much of this information is available to the public online. The list of facilities that can adequately dispose of FOG may include:

- Rendering Services (brown grease)
- Clean Grease (yellow grease/fryer grease disposal)
  - Biofuel
  - Grease bins
- Maintenance vendors
  - Darling International
  - Local septic tank firms
- Resources:
  - http://www.calfog.org/

– http://www.calfog.org/biodiesel.html

TABLE 7-2
Grease Hauling and Rendering Companies Serving Yuba County

Company	Contact Number
Darling International	(800) 473-4890 1-800-4-GREASE
Liquid Environmental Solutions	(866)-694-7327
Portosan Santa Rosa	(707) 566-2000
Rescue Rooter	(800) 869-6917
Roto Rooter	(800) 269-3747
Ameriguard Maintenance Services	(800) 347-7876 xt14
One More Time	(800) 624-5504
Sacramento Rendering Company	(800) 339-6493

Note:

Source: http: //www.calfog.org/Hauler.html#Yuba

7.3 Legal Authority

7.3.1 WDR Language

Establish the legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.

7.3.2 Sewer Use Ordinance Prohibitions

OPUD's Sewer Use Ordinance prohibits discharge of FOG into the wastewater collection system. The ordinance also establishes OPUD enforcement authority.

Supporting Documentation

- Sewer Use Ordinance
- Enforcement Actions

7.4 Commercial Facility FOG Prevention Program

7.4.1 WDR Language

If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include as appropriate, requirements to install grease removal devices (such as traps or interceptors) design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements; and

Establish the authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance.

7.4.2 Requirements for Commercial Facilities

Installation of grease removal devices is required by the Sewer Use Ordinance for all commercial establishments engaged in the preparation of foodstuffs for the general public. OPUD has adopted the Uniform Plumbing Code (Article III, Section 301 Sewer Use Ordinance) that requires grease removal devices. A commercial facility FOG prevention program will be designed and established to address the level of need identified during the assessment process. Condition assessment will include video inspection, identification of areas or line segments in commercial areas that have facilities that generate FOG, and the number of SSOs caused by FOG. The evaluation will indicate the needed source control measures and facility inspection needs. The assessment will indicate the appropriate level of FOG prevention to be implemented and will serve as the foundation for further developing the FOG program.

Supporting Documentation

- Sewer Use Ordinance
- Grease interceptor/trap handouts
- Universal Plumbing Code

7.5 Cleaning, Maintenance, and Source Control

7.5.1 WDR Language

An identification of sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section; and

Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each hot spot section identified.

7.5.2 Maintenance and Source Control

Food service establishments can be a significant source of FOG because of the amount of oils used in and grease generated from cooking. By implementing Best Management Practices (BMPs), these establishments should be able to significantly reduce the amount of FOG that goes down the drain and enters the collection system. BMP information will be compiled and made readily available to food service establishments.

Characterization of the FOG problem locations in the sewer system will be conducted according to the schedule shown in Table 7-1. Development and implementation of source control measures will depend on the extent of FOG problems determined during the assessment. OPUD will initially mitigate FOG in the collection system through preventative maintenance (line cleaning). If FOG is determined to cause SSOs that cannot be mitigated by preventive maintenance, then a comprehensive FOG source control program will be implemented.

Supporting Documentation

- CMMS data
- Cleaning schedules

SECTION 8

System Evaluation and Capacity Assurance Plan

This section describes how the Olivehurst Public Utility District (OPUD) evaluates its sanitary sewer system and provides for capacity to convey dry and wet weather flows to the wastewater treatment plant.

8.1 Evaluation

8.1.1 WDR Language

Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity), and the major sources that contribute to the peak flows associated with overflow events.

8.1.2 System and Capacity Evaluation

Sewer collection system evaluation and capacity assurance involves assessment to determine the capacity of its major trunk (larger) sewer pipes and the volume and rate of infiltration and inflow (I/I) it receives. The hydraulic analysis evaluates the impact of existing and future flows from the historic Olivehurst service area and determines capacity problems. System flow monitoring was conducted in the trunk lines serving the historic Olivehurst area from January 15, 2009, to March 3, 2009. The sewer systems in areas beyond historic Olivehurst are not being evaluated because they are single-family residential developments constructed within the past 10 years to OPUD current standards.

The emphasis of the hydraulic assessment is to develop a comprehensive planning approach that can be utilized by OPUD staff to identify and implement required improvements to the existing sewer system, as well as expansion of wastewater infrastructure to serve new developments consistent with the recent Yuba County General Plan Update.

The sewer system should be evaluated to determine the capacity of its major trunk (larger) sewer pipes and the volume and rate of rainfall dependant infiltration and inflow (I/I) it receives. The following steps are involved in the capacity evaluation of OPUD's sewer system.

8.1.2.1 Monitor Flow

Flow monitoring is one of the important steps to quantify the wastewater flows in OPUD's collection system. OPUD currently has one permanent flow monitor (meter) on the influent

pipe of the wastewater treatment plant (WWTP), but this flow monitor records flows beyond the historic Olivehurst area.

Seasonal flow monitoring was conducted by installing temporary flow monitors in the trunk lines in OPUD's wastewater collection system for historic Olivehurst. A total of six flow monitors, one event recorder, and three rain gauges were installed in OPUD's sewer system from January 2009 through March 2009. Additional flow monitoring details are presented in a separate report.

Drought conditions in the OPUD area resulted in scant rainfall, and an extended period of flow monitoring was required to capture meaningful rainfall events. Ultimately, the flow monitoring resulted in data for dry weather flows and wet weather flows. During dry weather flow conditions, the flow monitors identify the wastewater flows in each established collection system basin. The flow characteristics of each land use category were determined by performing the dry weather calibration using the dry weather flow monitoring data. The wet weather flow monitoring provided the data that indicate the sewer system response to rainfall.

The flow monitoring provided the data for dry weather calibration and wet weather calibration. The data from January 27, 2009, through February 4, 2009, was used for dry weather calibration. The data from March 1, 2009, and March 3, 2009, was used for the wet weather calibration. The flow monitoring data and the land use data were used to determine the dry weather flows and the wet weather flows for OPUD.

8.1.2.2 Determine Land Use

The 2008 Yuba County secured tax roll obtained from the Assessor's office provided information about the occupied and vacant parcels. The hydraulic analysis assumes that all the vacant parcels within the district will eventually be developed as single-family residential units.

Once the sewer system model is developed, the land use information will be included in the model. The main land use categories within the OPUD's sewer system are:

- Residential
- Commercial
- Industrial
- Schools
- Parks

8.1.2.3 Develop and Calibrate Sewer System Model

The hydraulic model will be utilized to assess the performance of the collection system and identify hydraulic deficiencies. This will lead to the development of strategies to improve hydraulic performance. In general, pipe sizes 8 inches and larger were modeled.

The model represents the actual features in the sewer system, including pipelines, manholes, valves, pump stations, and wet wells. Pump curves for the all major pump stations will be used to convey flows to the wastewater treatment plant.

8.1.2.4 Develop Wastewater Flows

The following flows were established from the flow monitoring:

Dry Weather Flows

Dry weather for the system is based on the dry weather flow monitoring data from January 27, 2009, through February 4, 2009. The dry weather flow pattern for this period is indicated on Figure 8-1. Note: Site TP is the flow monitor located upstream of the wastewater treatment plant which measured flows from the entire historic Olivehurst area and further information is provided in a separate document.

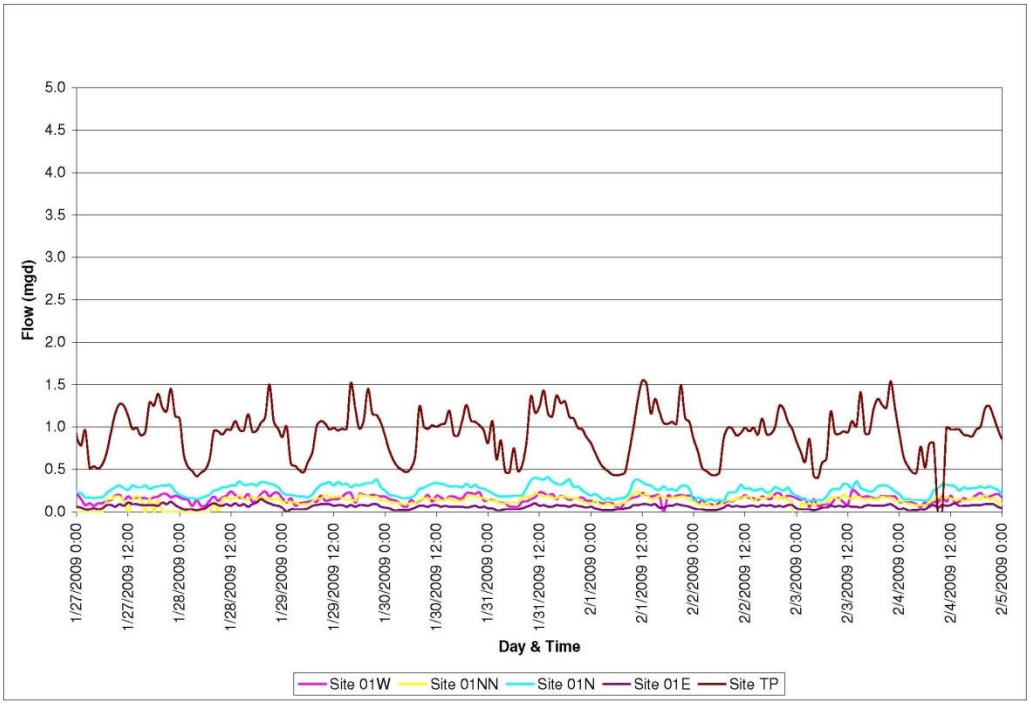


FIGURE 8-1
Dry Weather Calibration Data

The calibration will be performed by using the occupied parcels and initially applying a flow factor of 300 gallons per day per single-family unit. This factor will be adjusted based on the actual dry weather flow monitoring data.

Wet Weather Flows

The wet weather flows were established by performing the wet weather calibration of the system. The data used for the wet weather calibration are from March 1, 2009, and March 3, 2009, providing a cumulative effect rainfall-dependent I/I. The wet weather flow monitoring data used for wet weather calibration are indicated on Figure 8-2.

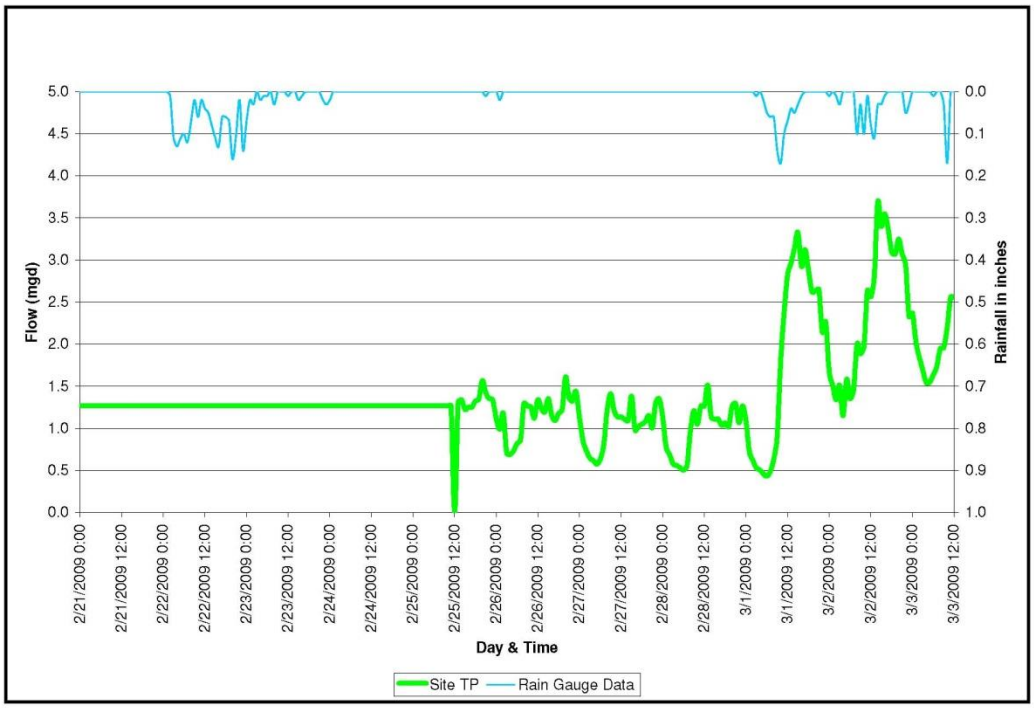
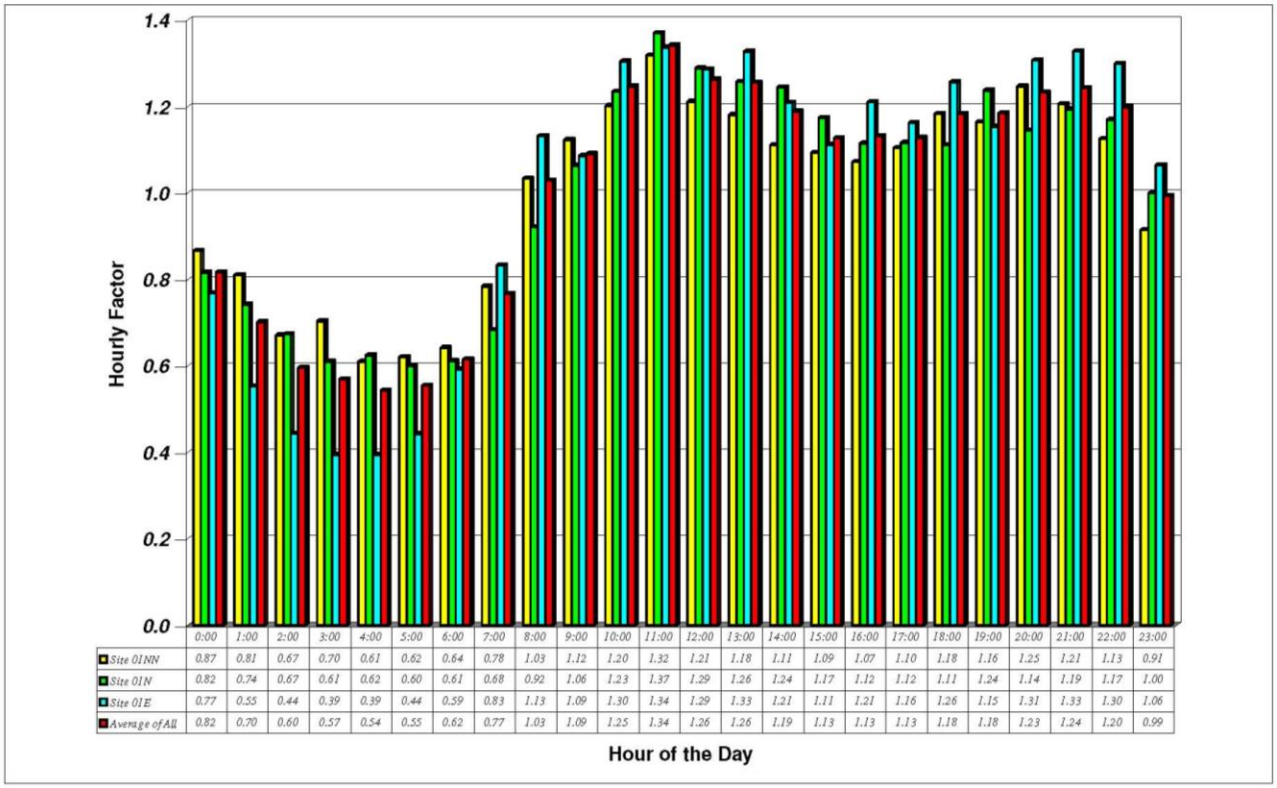


FIGURE 8-2
Wet Weather Calibration Data

The results of dry weather calibration and wet weather calibration are used to establish the wastewater flows for future developments. As the system conditions change with the significant addition of new customers, the flow calibration should be updated to determine the changing flow conditions. This information will serve as the basis for identified wastewater conveyance facilities needed to serve the OPUD for the next 20 years and the associated capital improvement plans (CIPs).

For the hydraulic analysis of the OPUD sewer system, a daily flow pattern is required. The daily flow pattern was determined based on the dry weather flow monitoring data. This flow pattern was used for the dynamic system analysis on an hourly basis to determine the flows into the OPUD sewer system and into the WWTP during various flow conditions.

The dry weather flow pattern for the historic Olivehurst area is indicated on Figure 8-3.



	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Site 01NN	0.87	0.81	0.67	0.70	0.61	0.62	0.64	0.78	1.03	1.12	1.20	1.32	1.21	1.18	1.11	1.09	1.07	1.10	1.18	1.16	1.25	1.21	1.13	0.91
Site 01N	0.82	0.74	0.67	0.61	0.62	0.60	0.61	0.68	0.92	1.06	1.23	1.37	1.29	1.26	1.24	1.17	1.12	1.12	1.11	1.24	1.14	1.19	1.17	1.00
Site 01E	0.77	0.55	0.44	0.39	0.39	0.44	0.59	0.83	1.13	1.09	1.30	1.34	1.29	1.33	1.21	1.11	1.21	1.16	1.26	1.15	1.31	1.33	1.30	1.06
Average of All	0.82	0.70	0.60	0.57	0.54	0.55	0.62	0.77	1.03	1.09	1.25	1.34	1.26	1.26	1.19	1.13	1.13	1.13	1.18	1.18	1.23	1.24	1.20	0.99

FIGURE 8-3
Hourly Dry Weather Flow Pattern

8.1.2.5 Perform Capacity Analysis

Capacity analysis is performed to determine the adequacy of the existing sewers for various flow conditions, these include:

- Existing dry weather flow conditions
- Existing peak wet weather flow conditions
- Future dry weather flow conditions
- Future peak wet weather flow conditions
- The hydraulic analysis will determine the bottlenecks within the sewer system at existing and future conditions for which improvements will be identified.

8.2 Design Criteria

8.1.1 WDR Language

Where planning and design criteria do not exist or are deficient, undertake the evaluation identified in Section 8.1 above to establish appropriate planning and design criteria.

8.1.2 Design Criteria for OPUD

A design criterion is based on growth projections and build-out requirements. Newer sections of the system go through planning processes including sewer impacts assessment as they are proposed. The sewer system planning will be based on the existing flow conditions and growth projections as per Yuba County's 2008 Secured Roll. The design criteria for OPUD's capacity evaluation and the hydraulic evaluations of the sewer system will be described in detail in a system analysis report that will be completed in 2009.

8.2 Capacity Enhancement Measures

8.2.1 WDR Language

The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

8.2.2 Capacity Enhancement

If the system has insufficient capacity to accommodate the flows from the capacity analysis, improvements will be identified to adequately accommodate the sewer flows considering cost effectiveness and the best appropriate solution. The capacity modeling identifies potential problem areas that are prioritized and implemented based on capacity assessments or the need for rehabilitation and/or repair.

The hydraulic modeling is used to confirm that sewers are designed to handle all the flows including rainfall dependant infiltration and inflow. The hydraulic evaluation determines where capacity problems exist or will develop in the future to help develop a list of facilities that need to be constructed.

In addition to capacity enhancement improvements, the hydraulic analysis will identify any operational improvements that could be implemented within the sewer system. Operational improvements include updating OPUD's SCADA, adding new controls on existing facilities, and changing the pump station operations.

8.3 Capital Improvement Plan Schedule

8.3.1 WDR Language

The enrollee shall develop a schedule of completion dates for all portions of the CIP developed in Sections 8.1, 8.2, and 8.3. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements.

8.3.2 Capacity Assurance and CIP Schedule

The requirement does not specify that a full Capacity Assurance Plan be completed by the state-required deadline (August 2, 2009). The full Capacity Assurance Plan and CIP may take years to complete, depending on needs and available resources. Based on the results of

hydraulic modeling, initial recommendations for these plan components are included in Table 8-1. As of August of 2013 the CIP has been completed. The Capacity Assurance Plan and full CIP implementation will follow per the schedule below.

Show the status of any necessary capacity assurance projects. Projects fall into three main categories:

- Completed projects
- Projects that are currently in planning, design or construction (up to 5 years)
- Future projects (6- to 20-year time frame)

The project and dates identified above for future projects have been established for capital funding projections, and may not represent the actual project or construction date of the project.

TABLE 8-1
Capital Improvement Program Schedule for Capacity Assurance

Activity	Milestone Date
Initiate identification of problem areas	June 2009
Prioritize system deficiencies	August 2012
Short-term (0-5 year) rehabilitation implementation plan	August 2012
Short-term funding plan	October 2012
Long-term (6-20 year) rehabilitation implementation plan (CIP)	December 2013
Time schedule for implementation of CIP	March 2014
Long-term funding plan	September 2014

Supporting Documentation

- Flow monitoring data
- Flow monitoring map
- System analysis technical memo
- Criteria for hydraulic analysis technical memo

SECTION 9

9 Monitoring, Measurement, and Program Modifications

This element of the SSMP implements techniques that are critical to effective sewer system management. Managing data, establishing annual performance goals (e.g., sewer system inspection, cleaning, maintenance, and rehabilitation), and tracking trends are all important aspects of this section. OPUD is moving toward establishing a program to monitor implementation of the SSMP and will measure the effectiveness of the SSMP through improved performance. By monitoring and reviewing the SSMP, OPUD would expect to see benefits such as:

- Reduced incidence of unauthorized discharges caused by wet weather events
- Enhanced customer service response and relations
- Optimization of existing resources to meet growing demands and expectations
- Financial stability through better anticipation of capital and O&M requirements

OPUD will conduct the SSMP program audit as required bi-annually and identify areas that may require improvement or updating. Data will be reviewed during the audit process and a progress report will be presented to the OPUD Board of Directors. The progress report will document effectiveness of the SSMP, potential modifications that should be made for program improvement, and/or a summary of program activities.

9.1 Relevant Recordkeeping

9.1.1 WDR Language

Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities.

9.1.2 Recordkeeping Systems

OPUD has recently implemented a computerized management program (Maintenance Connection) that is used to collect and store collection system information electronically. In conjunction with the CMMS, OPUD has implemented a dynamic mapping system that will be used to identify areas within the system requiring service or improvement. Implementation of these programs has been initiated, and it is anticipated that full and effective implementation will take several months. The CMMS program is key to maintaining system information.

Supporting Documentation

- CMMS data sets
- Mapping

9.2 Monitoring and Measurement Program Effectiveness

9.2.1 WDR Language

Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP.

9.2.2 Performance Indicators

Assessing the success of the SSMP program will require a review of information. Some examples of performance indicators include:

- Number of SSOs over the past 12 months, distinguishing between dry weather overflows and wet weather overflows
- Number of SSOs in gravity system versus number of SSOs in pressure system
- Volume distribution of SSOs
- Volume of SSOs contained and returned to WWTP, reaching state waters, and contained but not returned to WWTP
- SSOs by cause
- Average response time
- Average lift station down time
- Number of after-hours call-outs
- Capacity-related SSOs compared to storm event return frequency
- Miles of sewer line inspected (CCTV)
- Number of manholes inspected
- Ratio of planned line cleaning to unplanned line cleaning
- Backlog of maintenance projects
- Average number of spills per 100 miles of pipeline
- Capital improvement projects completed

OPUD staff will initially conduct annual reviews to begin to establish benchmarks for performance as it relates to the SSMP. OPUD will maintain and track information on system operation by keeping the CMMS up to date. OPUD will review several factors, including the number of SSOs, locations of SSOs, cause of SSOs, frequency of customer complaints, and many other factors. Information will be compared to prior data sets to assess performance and identify system priorities and measures that can be implemented or modified to improve and achieve goals.

The process is consistent with a continual cycle of planning in an environmental management type system. The "Plan, Do, Check, Act" model leads to continual improvement based on:

- Planning, including identifying environmental (compliance) aspects and establishing goals (plan)
- Implementing, including training and operational controls (do)
- Checking, including monitoring, inspection, and corrective action (check)
- Reviewing, including progress reviews (audits) and acting to make needed changes to the measures identified to correct and improve (act)

Supporting Documentation

- Annual reports
- Bi-annual audit
- Work orders completed

9.3 Preventive Maintenance Performance

9.3.1 WDR Language

Assess the success of the preventative maintenance program.

9.3.2 Preventative Maintenance Program

The preventative maintenance program is in effect and being revised and updated to meet updated requirements per the need of the District. The program includes various aspects, including inspection and regularly scheduled maintenance as described in the Operations and Maintenance section.

Standard operating procedures and performance measure targets are evaluated during the annual audit. The audits demonstrate whether an activity is achieving the established goal or requires improvement. An audit report is completed once-a-year to ensure that upkeep and proper procedure occur per requirements of the preventative maintenance program.

Supporting Documentation

- Statistical comparisons
- CMMS records
- Customer feedback

9.4 Updates

9.4.1 WDR Language

Update program elements, as appropriate, based on monitoring or performance evaluations.

9.4.2 Internal Audits

As a part of the SSMP, the enrollee is required to conduct internal audits at least every 2 years. The audit will evaluate how well the program accomplished the program goals established and whether the program, as implemented, is effective overall. Updates to program elements, as appropriate, will be made during this bi-annual auditing process.

9.5 Trends

9.5.1 WDR Language

Identify and illustrate SSO trends, including; frequency, location, and volume.

9.5.2 SSO Trends

OPUD will identify and illustrate SSO trends during the bi-annual audit process. The CMMS program will be utilized to review information and generate collection system statistics. Information input into the CIWQS may also be utilized to analyze system SSO status.

Supporting Documentation

- Bi-annual audit
- CIWQS database/spill reports
- CMMS records

SECTION 10

10 SSMP Program Audits

As a part of the SSMP, the enrollee is required to conduct internal audits at least every 2 years. The audit will evaluate how well the program accomplished the program goals established, and whether the program, as implemented, is effective overall. Proper management, operation, and maintenance program implementation requires the utility to assess performance on a regular basis. The purpose of the evaluation is to determine whether the programs are achieving established goals and whether the program is being implemented efficiently and cost effectively.

The audit will evaluate the effectiveness of the SSMP and compliance with the requirements. Identification of deficiencies and corrective actions must be included in the audit. Demonstrated items should include achievements (e.g., meeting or exceeding performance goals) and budget allocations, either from the SSMP implementation date or the most recent audit. Corrective actions listed should include any ongoing corrective actions. If a corrective action was implemented, it should be noted in the audit. If deficiencies or modifications are identified as a part of the audit, the SSMP will be updated accordingly or Project Data Sheets will be created to document and track progress on recommended program improvements.

Audit requirements include:

- Conduct a periodic internal audit at least every 2 years
- Evaluate each SSMP element
- Demonstrate effectiveness of the SSMP and compliance with the General WDR
- Prepare an audit report and keep on file

10.1 SSMP Program Audits

10.1.1 WDR Language

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

10.1.2 Audit Schedule and Implementation

Audits will be conducted bi-annually. The first audit will be completed by August 2, 2011, to achieve compliance with the General WDRs. An annual audit report will be prepared to evaluate the effectiveness of the SSMP and compliance with the General Order. The report will include identification of any corrective actions.

10.1.3 Audit Procedure

Audits will be conducted by designated staff at the frequency described above. The audit process will include the following aspects:

- Management interview
- Field evaluation
- Record review (mandatory)
- Examination of programs relative to performance (audit checklist)
- Definition of deficiencies (audit checklist)
- Identification of program improvements needed to enhance performance (audit report)
- Development of a schedule for implementing improvements (or adjusting existing schedules)

The designated auditor will complete an audit checklist. The checklist will include each element of the SSMP. Questions answered with a "yes" will demonstrate how the goal has been implemented or achieved in order to document implementation effectiveness. Questions answered with "no" will explain why the goal has not been achieved and a corrective action and time schedule for implementation. If it becomes apparent that a goal is unreasonable or not achievable, the goal will be modified to identify practical goals that meet the General WDRs. An SSMP Audit Report form will be completed.

10.1.4 Recordkeeping

The audit report will be signed by the auditor and any designated regulatory compliance staff. A copy will be kept on file in the District Administrative Office.

SECTION 11

Communication Program

OPUD is committed to openly communicating on a regular basis with the public and allowing input from interested parties on the development, implementation, and performance of its SSMP.

11.1 Public Communication and Outreach

11.1.1 WDR Language

The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

OPUD is committed to communicating on a regular basis with interested parties on the implementation and performance of the SSMP. The communication program allows interested parties to provide input as the program is developed and implemented. OPUD has complied with this requirement by providing information on its website and at its administrative office. Monthly Board of Director meetings are open to the public. OPUD directors and staff meet regularly at the sub-committee level to discuss the wastewater treatment and collection system. These meetings are also open to the public and agendas are posted online and in a location accessible to the public. OPUD staff contact information is available to the public and staff may be contacted conveniently by phone or via email. Current SSMP information will be available to the public on an ongoing basis as the program is developed and implemented.

Supporting Documentation

- Website http://www.opud.org/wastewater.htm
- Public service announcements, press releases, and/or newsletters
- Billing messages pertinent to the SSMP
- Meeting agendas

11.2 Tributary Wastewater Conveyance Systems

11.2.1 WDR Language

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

At this time, OPUD has no tributary or satellite connections to the wastewater collection system. A plan of communication will be developed and implemented should such connections occur in the future.

Sewer System Management Plan Bi-Annual Audit Report

Olivehurst Wastewater Collection System

Name of Agency	
Audit Date	
Name of Auditor(s)	

System Overview	
Miles of gravity sewer mains	
Miles of force mains	
Total miles of all sewer lines	
# of pump stations	
Miles of private sewer mains, not including laterals (include satellite systems)	
Miles of private sewer laterals	
Population served	
# of Equivalent Dwelling Units (SFD connection equivalent)	
Current average monthly SFD sewer rate	$

I. Goals

The audit will assess whether the goals stated in the SSMP are still appropriate and accurate. Several goals are listed in the SSMP as follows.

Goal 1. Maintain or improve the condition of the collection system infrastructure in order to provide reliable service now and into the future.

1. Has the condition of the collection system been improved in a manner that has provided reliable service? ☐ Yes ☐ No

   a. Is this goal current? ☐ Yes ☐ No

   Demonstrate: Briefly describe how conditions have been improved to provide system reliability and how this has impacted service or refer to appropriate SSMP sections that address this goal. If you answered NO to question 1, describe content and schedule for necessary changes. If the goal is no longer current, describe any modifications.

   _____
   _____
   _____
   _____
   _____
   _____

Goal 2. Cost-effectively minimize infiltration/inflow (I/I) and provide adequate sewer capacity to accommodate design storm flows.

2. Have actions been undertaken to minimize I/I to improve capacity and accommodate design storm flows? ☐ Yes ☐ No

   a. Is this goal current? ☐ Yes ☐ No

   Demonstrate: Briefly describe progress toward reducing I/I or refer to the appropriate SSMP section(s) that address this goal. If you answered NO to question 2, describe content and schedule for necessary changes.

   _____
   _____
   _____
   _____

Goal 3. Minimize the number and impact of sanitary sewer overflows (SSOs) that occur.

3. Have the number of SSOs reduced over time? ☐ Yes ☐ No
4. Has the impact of SSOs reduced over time? ☐ Yes ☐ No

Demonstrate: Briefly describe progress toward reducing SSOs and impacts or refer to the appropriate SSMP section(s) that address this goal. If you answered NO to questions 3 and/or 4 of Goal 3, describe the content and schedule for necessary changes.

_____
_____
_____
_____

Goal Summary:

Overall, are the goals still accurate? ☐ Yes ☐ No

Are the goals still effective? ☐ Yes ☐ No

Will the agency update the goals? ☐ Yes ☐ No

Comments:

_____
_____
_____

II. Organization

5. Is the SSMP up-to-date with agency organization and staffing contact information?

☐ Yes ☐ No

Demonstrate: Acknowledge that contact information is current in all sections of the SSMP and identify the specific sections. Acknowledge that the lines of authority are still current (SSMP Section 2) and the chain of communication for reporting SSOs is current (Sections 2 and 6). If the contact lists are not current, describe content and schedule for updates.

_____
_____
_____

Name of authorized representative:_____

III. Legal Authority

Proofs
Check all that apply:

☐ Sewer use ordinances
☐ Special service agreements
☐ District enforcement actions
☐ Notice to Comply
☐ Notice of Violation
☐ Cease and Desist Order
☐ Other: _____
☐ Other legally binding procedure: _____

6. Does the SSMP contain up-to-date information about your agency's legal authority?

☐ Yes ☐ No

7. Does your agency have sufficient legal authority to control sewer use including illicit discharges, maintenance, and new construction activities?

☐ Yes ☐ No

Demonstrate: Identify legal authority mechanism(s), and if it continues to adequately address current regulatory requirements (e.g., Sewer Use Ordinance, adopted date). Identify how your agency has sufficient legal authority to control sewer use and maintenance (e.g., right-of-entry, inspections, Notice to Comply, authority to disconnect, etc.). If you answered NO to questions 6 or 7, describe content and schedule for necessary changes.

Legal Authority Adoption Date: _____

_____
_____
_____
_____

IV. Operation and Maintenance Program

a. Collection System Maps

Proofs

☐ Mapping system

Check all that apply:

☐ As-builts ☐ electronic database ☐ System schematics ☐ O & M manuals

☐ Other: _____

8. Does the SSMP contain up-to-date information about your agency's maps?

☐ Yes ☐ No

9. Are your agency's collection system maps complete, up to date, and adequately detailed? ☐ Yes ☐ No

Demonstrate: Describe how the agency has kept maps up to date by reviewing Section 4 of the SSMP for accuracy and note below that it is still current. If you answered NO to questions 8 or 9, describe content and schedule for necessary changes.

_____

_____

_____

_____

b. Prioritized Preventive Maintenance

Proofs

Check all that apply:

☐ Cleaning schedules
☐ Standard operating procedures
☐ List or map of hot spots
☐ Work order system
☐ Service call data records
☐ Customer feedback records
☐ Maintenance tracking system
  ☐ manual ☐ computerized
☐ Maintenance history records
  ☐ manual ☐ computerized
☐ Follow manufacturer's equipment maintenance recommendations
  ☐ Equipment maintenance records
    ☐ manual (e.g., logbooks) ☐ computerized

10. Does the SSMP contain current information about your agency's preventive maintenance activities? ☐ Yes ☐ No

11. Are your agency's preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages?

☐ Yes ☐ No

Demonstrate: Describe the proofs above used to qualify a YES answer. Review collected data and statistics (Table 1 and 2 below may provide useful information) to assess the conditions and verify whether preventive maintenance activities are sufficient and effective. If you answered NO to questions 10 and/or 11, describe content and schedule for necessary improvements. If more data are required to make the assessment, comment in the space provided below.

_____
_____
_____
_____
_____

c. Scheduled Inspections and Condition Assessment for Rehabilitation and Replacement

Proofs

☐ Inspection reports
☐ Manhole ☐ Smoke Testing ☐ CCTV ☐ Pump Station ☐ Other:_____

☐ Infiltration and Inflow (I/I) monitoring activities or documents
☐ Inspections ☐ Field studies (e.g., flow monitoring) ☐ Reports
☐ Review and analyze self-monitoring reports

12. Does the SSMP contain current information about your agency's inspection and condition assessment process? ☐ Yes ☐ No

13. Are your agency's scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies? ☐ Yes ☐ No

Demonstrate: Check current inspection forms utilized from the list above for conditions assessment and version date to confirm that forms are up to date. Describe how the condition inspection process is implemented to identify problems and how this information is incorporated into a corrective action process. If you answered NO to questions 12 and/or 13, describe content and schedule for necessary changes.

_____
_____
_____
_____
_____

d. Resources and Budget for Rehabilitation and Replacement

Proofs

☐ Current Capital Improvement Plan (CIP)
☐ Current Fiscal Year Budget(s)

14. Does the SSMP contain current information about your agency's resources and budget? ☐ Yes ☐ No

15. Are your agency's resources and budget sufficient to support effective sewer system management including preventive maintenance? ☐ Yes ☐ No

16. Do your agency's planning efforts support:

    a. short-term goals? ☐ Yes ☐ No

    b. long-term goals? ☐ Yes ☐ No

17. Are rehabilitation and replacement projects prioritized? ☐ Yes ☐ No

Demonstrate: Describe SSMP material such as the CIP and where budget information for these activities is located (e.g., annual operating budgets). If you answered NO to questions 14, 15, 16, and/or 17, describe content and schedule for necessary changes.

_____
_____
_____
_____

e. Contingency Equipment and Replacement Inventories

Proofs

☐ Equipment and materials expenditures
☐ Equipment and parts inventory

Check all that apply:

Types of Inventory Management Utilized:
☐ Computerized maintenance management system (CMMS)
☐ Manual recordkeeping
☐ Fixed assets inventory lists
☐ Other: _____

18. Does the SSMP contain current information about equipment and replacement parts inventories? ☐ Yes ☐ No

19. Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance? ☐ Yes ☐ No

Demonstrate: Confirm YES answers by reviewing budget expenditures and describe how equipment and parts inventories are sufficient and meet the standards described in the SSMP. If you answered NO to questions 18 and/or 19, describe content and schedule for necessary arrangements.

_____
_____
_____
_____
_____

f. Training

Proofs

☐ Staff Training
- ☐ Employee training records ☐ Training videos ☐ web based learning
- ☐ Vendor training records ☐ Continuing education credits

☐ Staff Training effectiveness
- ☐ Staff feedback ☐ Surveys

☐ Contractor Training
- ☐ Contract specifications ☐ Required safety plans

20. Does the SSMP contain current information about your agency's training expectations and programs? ☐ Yes ☐ No
21. Do supervisors believe that their staff is sufficiently trained? ☐ Yes ☐ No
22. Are staff satisfied with the training opportunities and support offered to them? ☐ Yes ☐ No

Demonstrate: Describe the processes that the agency uses to train staff and how this is consistent with the SSMP. Describe the methods used to assess supervisor and staff satisfaction with training opportunities. If you answered NO to questions 20, 21, and/or 22, describe content and schedule for necessary improvements.

V. Design and Construction Standards

Proofs

Check all that apply:

☐ Design and construction standards
- ☐ New sewer system component construction ☐ Rehabilitation and repair

☐ Ordinances applicable to construction, rehabilitation and repair

☐ Inspections
- ☐ Standard inspection procedures

23. Does the SSMP contain current information about your agency's design and constructions standards? ☐ Yes ☐ No

24. Are design and construction standards comprehensive and current? ☐ Yes ☐ No

25. Are inspection and testing of new and rehabilitate facilities adequate and current? ☐ Yes ☐ No

Demonstrate: Describe the version of design and construction standards (date) used. Describe how inspection and testing methods used are the current best practices and/or industry standard. If you answered NO to questions 23, 24, and 25, describe content and schedule for necessary revisions.

_____
_____
_____
_____

VI. Overflow Emergency Response Plan

Proofs

Check all that apply:

☐ Overflow Emergency Response Plan (required)
- ☐ Current notification procedures
- ☐ Current notification list
- ☐ SSO response procedures
- ☐ Staff training
- ☐ Public safety
- ☐ Spill containment measures

☐ CIWQS online database reporting (required)
☐ Service call data
☐ Spill report forms

26. Does the SSMP contain a current version of your agency's Overflow Emergency Response Plan?

27. Considering the information in Table 1 Annual SSO Statistics (located below), is the Overflow Emergency Response Plan effective in handling SSOs?

Demonstrate: Describe how the SSMP complies with current regulations and takes any updates to regulations (if any) into consideration. Describe how updates have been added to the Plan (e.g., by addendum or memorandum). If you answered NO to questions 26 or 27, describe content and schedule for necessary revisions and implementation.

_____
_____
_____
_____

TABLE 1
Annual SSO Statistics

Indicator	2009	2010	2011	2012
Total SSOs				
Wet season SSOs*				
Dry season SSOs*				
Number of SSOs (by volume/gallons)				
<10				
10-99				
100-999				
1000-9999				
≥10,000				
Total Annual SSO Volume				
Gallons reaching waters of the State				
Volume recovered				
Net volume (total minus recovered)				
Total influent at the WWTP				
Number of SSOs by cause				
Roots				
Grease				
Debris from laterals				
Multiple causes				
Other: (describe)				
Infrastructure failure				
Inflow and infiltration (surcharging)				
Power failure				
Hydraulic deficiency (capacity limitations)				
Natural disaster				
Cause unknown				
Other: (describe)				
Average response time (minutes)				
During business hours				
Non-business hours				

*Wet season is November through April; dry season is May through October.

VII. Fats, Oils, and Grease Control Plan

Proofs

Check all that apply:

☐ Potential commercial FOG sources in the service area
  ☐ list ☐ map ☐ manual ☐ electronic

☐ Location of all (commercial and residential) hot spots
  ☐ list ☐ map ☐ manual ☐ electronic

☐ Collection system cleaning schedules

☐ Restaurant inspection reports or summaries

☐ Other: _____

☐ Spill reports including online CIWQS

☐ Service call data

TABLE 2
FOG Annual Information

	2009	2010	2011	2012
Number of SSOs caused by FOG				
Planned cleaning (lf)				
Unplanned cleaning (lf)				
Citations issued				
FOG inspections				

28. Does the SSMP contain current information about your agency's FOG control program? ☐ Yes ☐ No

29. Considering the information in Table 2, is the current FOG program effective in documenting and controlling FOG sources? ☐ Yes ☐ No

30. Is the agency on track to meet implementation schedule for public education and outreach? ☐ Yes ☐ No

Demonstrate: Check the applicable methods that your agency utilizes to evaluate the FOG conditions in the collection system. Describe any measured successes of the FOG program. If you answered NO to questions 28, 29, and/or 30, describe content and schedule for necessary changes.

_____
_____
_____
_____
_____

VIII. Capacity Assurance Management

Proofs

Check all that apply:

☐ Capacity assessment reports
- ☐ Hydraulic Analysis ☐ Collection System Master Plan
- ☐ Other: _____

☐ Capital Improvement Program
- ☐ short-term (0 – 5 years) ☐ long-term (6-20 years)

☐ Funding needs and resources
- ☐ public financing ☐ private financing
- ☐ adequate connection fees ☐ current rate analysis
- ☐ Other: _____

☐ SSO data

31. Does the SSMP contain current information about your agency's capacity assessment? ☐ Yes ☐ No
32. Has your agency completed a capacity assessment and identified and addressed hydraulic deficiencies in the system on planned schedules? ☐ Yes ☐ No
33. Are identified projects remaining on schedule with the implementation plan? ☐ Yes ☐ No
34. Has your agency identified current sources of funding? ☐ Yes ☐ No

Demonstrate: Check the applicable reports in the proofs above confirming that there are reports or documents that evaluate system capacity assessment. Describe how the assessment(s) address potential hydraulic deficiencies and the status of project implementation. Explain which projects have been implemented on planned schedule. If you answered NO to questions 31, 32, 33, and/or 34, describe content and schedule for necessary activities.

_____
_____
_____
_____
_____

IX. Monitoring, Measurement, and Program Modifications

Proofs

☐ Computerized Maintenance and Management System
☐ Mapping technologies
☐ Work order system
☐ System(s) implemented for consistent recordkeeping

35. Does the SSMP contain current information about your agency's data collection and organizational systems? ☐ Yes ☐ No

36. Is your agency's data collection and organization sufficient to evaluate the effectiveness of your SSMP?

Demonstrate: Check the applicable proofs implemented for data collection and organization. Verify that the methods are current in the SSMP. If you answered NO to questions 32 and 33, describe and schedule for necessary improvements.

_____
_____
_____
_____

X. SSMP Audits

Proofs

☐ Prior SSMP audits

37. Does the SSMP contain current information about your agency's audits and frequencies? ☐ Yes ☐ No

38. Has your agency met all of the schedules for necessary improvements identified in the prior audit? ☐ Yes ☐ No

Demonstrate: Verify audit frequency. Describe improvements completed that were previously identified. If you answered NO to questions 34 and 35, describe improvements that remain to be addressed and update previous schedules for necessary improvements.

_____
_____
_____
_____

XI. Communication Program

Proofs

☐ Mailings
☐ Website
☐ Public service announcements (via media)
☐ Customer feedback

39. Does the SSMP contain current information about your agency's public outreach methods? ☐ Yes ☐ No

40. Has your agency effectively communicated with the public and other agencies about the SSMP and addressed feedback? ☐ Yes ☐ No

41. If your agency has satellite or tributary agencies connected to the collection system, does the SSMP contain current information about your agency's communications with them?

☐ Yes ☐ No ☐ N/A

Demonstrate: Check all proofs that apply to your communication and outreach methods. If you answered NO to questions 36, 37, and/or 38, describe content and schedule for necessary improvements.

_____
_____
_____
_____
_____

Sewer System Management Plan Bi-Annual Audit Report
Olivehurst Wastewater Collection System

Name of Agency	Olivehurst Public Utility District
Audit Date	March 2023
Name of Auditor(s)	Swarnjit Boyal

System Overview	
Miles of gravity sewer mains	40
Miles of force mains	8
Total miles of all sewer lines	55
# of pump stations	19
Miles of private sewer mains, not including laterals (include satellite systems)	0
Miles of private sewer laterals	0
Population served	24,721
# of Equivalent Dwelling Units (SFD connection equivalent)	7,241
Current average monthly SFD sewer rate	$42

I. Goals

The audit will assess whether the goals stated in the SSMP are still appropriate and accurate. Several goals are listed in the SSMP as follows.

Goal 1. Maintain or improve the condition of the collection system infrastructure in order to provide reliable service now and into the future.

1. Has the condition of the collection system been improved in a manner that has provided reliable service? ☒Yes ☐ No

   a. Is this goal current? ☒Yes ☐ No

   Demonstrate: Briefly describe how conditions have been improved to provide system reliability and how this has impacted service or refer to appropriate SSMP sections that address this goal. If you answered NO to question 1, describe content and schedule for necessary changes. If the goal is no longer current, describe any modifications.

   Continued proactive maintenance and cleanings to reduce blockages and SSOs. Numerous pump station rebuilds and replacements throughout system. For future purposes, OPUD has implemented highest of standards regarding integrated inspections prior to acceptance of collection systems along with newest standards set for manholes and pipe materials which will last longer, reduce future leaks, etc….

_____

_____

_____

Goal 2. Cost-effectively minimize infiltration/inflow (I/I) and provide adequate sewer capacity to accommodate design storm flows.

2. Have actions been undertaken to minimize I/I to improve capacity and accommodate design storm flows? ☒ Yes ☐ No

   a. Is this goal current? ☒ Yes ☐ No

   Demonstrate: Briefly describe progress toward reducing I/I or refer to the appropriate SSMP section(s) that address this goal. If you answered NO to question 2, describe content and schedule for necessary changes.

   Required developers to fix unused infrastructure to reduce I/I. Employed new eco-friendly techniques to repair manholes and broken pipes. Any manholes that need repairs go through lining via Armor Rock which guarantees 50 year erosion corrosivity.

Goal 3. Minimize the number and impact of sanitary sewer overflows (SSOs) that occur.

3. Have the number of SSOs reduced over time? ☒ Yes ☐ No

4. Has the impact of SSOs reduced over time? ☒ Yes ☐ No

Demonstrate: Briefly describe progress toward reducing SSOs and impacts or refer to the appropriate SSMP section(s) that address this goal. If you answered NO to questions 3 and/or 4 of Goal 3, describe the content and schedule for necessary changes.

Continued proactive and preventative maintenance to avoid SSOs.

Goal Summary:

Overall, are the goals still accurate? ☒ Yes ☐ No

Are the goals still effective? ☒ Yes ☐ No

Will the agency update the goals? ☒ Yes ☐ No

Comments:

II. Organization

5. Is the SSMP up-to-date with agency organization and staffing contact information?

☒ Yes ☐ No

Demonstrate: Acknowledge that contact information is current in all sections of the SSMP and identify the specific sections. Acknowledge that the lines of authority are still current (SSMP Section 2) and the chain of communication for reporting SSOs is current (Sections 2 and 6). If the contact lists are not current, describe content and schedule for updates.

Item updated to reflect current OPUD organization structure and staffing.

Name of authorized representative: Greg Axline

III. Legal Authority

Proofs
Check all that apply:

☒ Sewer use ordinances
☒ Special service agreements
☐ District enforcement actions
☒ Notice to Comply
☐ Notice of Violation
☐ Cease and Desist Order
☐ Other: _____
☒ Other legally binding procedure: Shut off service.

6. Does the SSMP contain up-to-date information about your agency's legal authority?

☒ Yes ☐ No

7. Does your agency have sufficient legal authority to control sewer use including illicit discharges, maintenance, and new construction activities?

☒ Yes ☐ No

Demonstrate: Identify legal authority mechanism(s), and if it continues to adequately address current regulatory requirements (e.g., Sewer Use Ordinance, adopted date). Identify how your agency has sufficient legal authority to control sewer use and maintenance (e.g., right-of-entry, inspections, Notice to Comply, authority to disconnect, etc.). If you answered NO to questions 6 or 7, describe content and schedule for necessary changes.

Legal Authority Adoption Date: February 19, 2009

Sewer use ordinance #209 adopted on February 19, 2009 and it became effective May 1, 2009.

IV. Operation and Maintenance Program

a. Collection System Maps

Proofs
☒ Mapping system

Check all that apply:
☒ As-builts ☒ electronic database ☒ System schematics ☒ O & M manuals
☒ Other: GIS Database

8. Does the SSMP contain up-to-date information about your agency's maps?

☒ Yes ☐ No

9. Are your agency's collection system maps complete, up to date, and adequately detailed? ☒ Yes ☐ No

Demonstrate: Describe how the agency has kept maps up to date by reviewing Section 4 of the SSMP for accuracy and note below that it is still current. If you answered NO to questions 8 or 9, describe content and schedule for necessary changes.

New developments within the District are required to provide as-builts in a CAD format. We also have a service contract with our GIS provider to spend time each month updating our GIS database.

b. Prioritized Preventive Maintenance

Proofs

Check all that apply:
☒ Cleaning schedules
☒ Standard operating procedures
☒ List or map of hot spots
☒ Work order system
☒ Service call data records
☒ Customer feedback records
☒ Maintenance tracking system
☐ manual ☒ computerized
☒ Maintenance history records
☐ manual ☒ computerized
☒ Follow manufacturer's equipment maintenance recommendations
☒ Equipment maintenance records
☒ manual (e.g., logbooks) ☒ computerized

10. Does the SSMP contain current information about your agency's preventive maintenance activities? ☒ Yes ☐ No

11. Are your agency's preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages?

☒ Yes ☐ No

Demonstrate: Describe the proofs above used to qualify a YES answer. Review collected data and statistics (Table 1 and 2 below may provide useful information) to assess the conditions and verify whether preventive maintenance activities are sufficient and effective. If you answered NO to questions 10 and/or 11, describe content and schedule for necessary improvements. If more data are required to make the assessment, comment in the space provided below.

The number of SSO's from 2016 to present have been reduced to 0 by staff due to preventative maintenance and cleaning of collections system. OPUD had a case where private owner had an overflow of which OPUD was called and notified County Environmental Health and took actions to support clean-up and document situation with a letter to owner regarding repairs required to private system. OPUD has had back up of manholes due to developer construction debris entering manholes and plugs, of which OPUD required clean-up efforts and documentation was recorded along with staff inspection of proper clean up matters in order to resolve matter to ensure no SSO occurs. OPUD operates under the belief the CMMS needs to continue to be used. OPUD also has a Commercial Site Inspection Report which allows OPUD to observe large commercial sites and inspect facilities in order to ensure wastewater being sent to the system meet required level of waste and doesn't dump into the system that could clog the Sanitary system or cause a disturbance at the wastewater treatment plant.

c. Scheduled Inspections and Condition Assessment for Rehabilitation and Replacement

Proofs

☒ Inspection reports
☒ Manhole ☒ Smoke Testing ☒ CCTV ☒ Pump Station ☐ Other:_____

☒Infiltration and Inflow (I/I) monitoring activities or documents
☒ Inspections ☒ Field studies (e.g., flow monitoring) ☒ Reports
☒ Review and analyze self-monitoring reports

12. Does the SSMP contain current information about your agency's inspection and condition assessment process? ☒ Yes ☐ No

13. Are your agency's scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies? ☒ Yes ☐ No

Demonstrate: Check current inspection forms utilized from the list above for conditions assessment and version date to confirm that forms are up to date. Describe how the condition inspection process is implemented to identify problems and how this information is incorporated into a corrective action process. If you answered NO to questions 12 and/or 13, describe content and schedule for necessary changes.

Through inspections, we are able to identify trouble spots through visual sightings of grease buildup or other types of deposits, helping us with our cleaning program. Additionally, we utilize the CMMS as well as our pipe cleaning software and GIS

database to log and categorize defects. All lift stations are inspected visually on site weekly by staff and monitored on a daily basis via Missions integrated system which allows remote access and updates within ones phone or computer. Flow analysis and data help allow to indicate operation efficiencies or any discrepancies within a system.

d. Resources and Budget for Rehabilitation and Replacement

Proofs

☒ Current Capital Improvement Plan (CIP)
☒ Current Fiscal Year Budget(s)

14. Does the SSMP contain current information about your agency's resources and budget? ☒ Yes ☐ No

15. Are your agency's resources and budget sufficient to support effective sewer system management including preventive maintenance? ☒ Yes ☐ No

16. Do your agency's planning efforts support:

    a. short-term goals? ☒ Yes ☐ No

    b. long-term goals? ☒ Yes ☐ No

17. Are rehabilitation and replacement projects prioritized? ☒ Yes ☐ No

Demonstrate: Describe SSMP material such as the CIP and where budget information for these activities is located (e.g., annual operating budgets). If you answered NO to questions 14, 15, 16, and/or 17, describe content and schedule for necessary changes.

OPUD is in the current works of updating there CIP but the current one is still in effect. OPUD is working with Burdict and Co to develop the revised CIP and is in the final stages. OPUD has prioritized updates that need to be made to collection systems. The CIP will includes OPUDs short and long term goals, as well as prioritization of rehabilitation and replacement projects. OPUD is also in the final stages to complete PROP 218 and is going to the board for approval in order to raise rates due to inflation and increase in cost of operations.

e. Contingency Equipment and Replacement Inventories

Proofs

☒ Equipment and materials expenditures
☒ Equipment and parts inventory

Check all that apply:

Types of Inventory Management Utilized:
☒ Computerized maintenance management system (CMMS)
☒ Manual recordkeeping
☒ Fixed assets inventory lists
☐ Other: _____

18. Does the SSMP contain current information about equipment and replacement parts inventories? ☒ Yes ☐ No

19. Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance? ☒ Yes ☐ No

Demonstrate: Confirm YES answers by reviewing budget expenditures and describe how equipment and parts inventories are sufficient and meet the standards described in the SSMP. If you answered NO to questions 18 and/or 19, describe content and schedule for necessary arrangements.

Contingencies are evaluated either by manufacturer recommendations or empirically. Once a suggested inventory for spares is identified, we establish a budget line item to fund the spares.

f. Training

Proofs

☒ Staff Training
- ☒ Employee training records ☒ Training videos ☒ web based learning
- ☒ Vendor training records ☒ Continuing education credits

☒ Staff Training effectiveness
- ☒ Staff feedback ☐ Surveys

☒ Contractor Training
- ☒ Contract specifications ☒ Required safety plans

20. Does the SSMP contain current information about your agency's training expectations and programs? ☒ Yes ☐ No
21. Do supervisors believe that their staff is sufficiently trained? ☒ Yes ☐ No
22. Are staff satisfied with the training opportunities and support offered to them? ☒ Yes ☐ No

Demonstrate: Describe the processes that the agency uses to train staff and how this is consistent with the SSMP. Describe the methods used to assess supervisor and staff satisfaction with training opportunities. If you answered NO to questions 20, 21, and/or 22, describe content and schedule for necessary improvements.

OPUD uses many methods for training that include employee discussion logs, safety meetings, targeted technical training, web-based training through CSDA Target Safety, video, seminars and training sponsored by water/wastewater organizations for CEU's. Sewer Department also has safety meetings of which covers items such as heat stress, pinch points, hazardous materials, confined spaces, etc every Thursday led by OPUD Safety Officer.

V. Design and Construction Standards

Proofs

Check all that apply:

☒ Design and construction standards
☒ New sewer system component construction ☒ Rehabilitation and repair
☒ Ordinances applicable to construction, rehabilitation and repair
☒ Inspections
☒ Standard inspection procedures

23. Does the SSMP contain current information about your agency's design and constructions standards? ☒ Yes ☐ No

24. Are design and construction standards comprehensive and current? ☒ Yes ☐ No

25. Are inspection and testing of new and rehabilitate facilities adequate and current? ☒ Yes ☐ No

Demonstrate: Describe the version of design and construction standards (date) used. Describe how inspection and testing methods used are the current best practices and/or industry standard. If you answered NO to questions 23, 24, and 25, describe content and schedule for necessary revisions.

Current OPUD standards are dated May 2021. OPUD does updates as necessary, usually about every few years. Our inspection and testing, as well as material testing for materials we use conforms to AWWA, ASTM and CWEA standards and best management practices along with conducting its own research for most up to date materials and equipment that would best suite the district and apply it to the guidelines/standards.

VI. Overflow Emergency Response Plan

Proofs
Check all that apply:
☒ Overflow Emergency Response Plan (required)
☒ Current notification procedures ☒ Current notification list
☒ SSO response procedures ☒ Staff training
☒ Public safety ☒ Spill containment measures

☒ CIWQS online database reporting (required)
☒ Service call data
☒ Spill report forms

26. Does the SSMP contain a current version of your agency's Overflow Emergency Response Plan? Yes

27. Considering the information in Table 1 Annual SSO Statistics (located below), is the Overflow Emergency Response Plan effective in handling SSOs? Yes

Demonstrate: Describe how the SSMP complies with current regulations and takes any updates to regulations (if any) into consideration. Describe how updates have been added to

the Plan (e.g., by addendum or memorandum). If you answered NO to questions 26 or 27, describe content and schedule for necessary revisions and implementation.

Regulatory updates will be considered immediately upon receipt from the regulatory agency and disseminated to the OPUD staff via memorandum. At such time the SSMP is revised, the updates will be incorporated into the SSMP permanently.

TABLE 1
Annual SSO Statistics

Indicator	2019	2020	2021	2022
Total SSOs				
Wet season SSOs*	0	1	1	1
Dry season SSOs*	0	0	0	0
Number of SSOs (by volume/gallons)				
<10	0	0	0	0
10-99	0	75	25	0
100-999	0	0	0	150
1000-9999	0	0	0	0
≥10,000	0	0	0	0
Total Annual SSO Volume	0	0	0	0
Gallons reaching waters of the State	0	0	0	0
Volume recovered	0	0	0	0
Net volume (total minus recovered)	0	0	0	0
Total influent at the WWTP				
Number of SSOs by cause				
Roots				
Grease				
Debris from laterals		1	1	1
Multiple causes				
Other: (describe)				
Infrastructure failure				
Inflow and infiltration (surcharging)				
Power failure				
Hydraulic deficiency (capacity limitations)				
Natural disaster				
Cause unknown				

Other: (describe)				
Average response time (minutes)				
During business hours		10	10	10
Non-business hours	N/A	N/A	N/A	N/A

*Wet season is November through April; dry season is May through October.

VII. Fats, Oils, and Grease Control Plan

Proofs

Check all that apply:

☒ Potential commercial FOG sources in the service area
☒ list ☒ map ☒ manual ☒ electronic

☒ Location of all (commercial and residential) hot spots
☒ list ☐ map ☐ manual ☒ electronic

☒ Collection system cleaning schedules

☒ Restaurant inspection reports or summaries

☐ Other: _____

☐ Spill reports including online CIWQS

☒ Service call data

TABLE 2
FOG Annual Information

	2019	2020	2021	2022
Number of SSOs caused by FOG	0	0	0	0
Planned cleaning (lf)	0	0	0	0
Unplanned cleaning (lf)	0	0	0	0
Citations issued	0	0	0	0
FOG inspections	50	*6, numbers reduced due to COVID	Due to covid, only conducted during emergency situation - 4	0, Due to covid and short staffed in 2022. No emergency situations arised.

28. Does the SSMP contain current information about your agency's FOG control program? ☒ Yes ☐ No

29. Considering the information in Table 2, is the current FOG program effective in documenting and controlling FOG sources? ☒ Yes ☐ No

30. Is the agency on track to meet implementation schedule for public education and outreach? ☒ Yes ☐ No

Demonstrate: Check the applicable methods that your agency utilizes to evaluate the FOG conditions in the collection system. Describe any measured successes of the FOG program. If

you answered NO to questions 28, 29, and/or 30, describe content and schedule for necessary changes.

OPUD developed a FOG program District-wide. OPUD uses a permit system for all of the commercial connections that are likely to contribute to FOG. They are inspected annually (COVID has caused an exception, along with understaffing in 2021-2022). All new commercial services are reviewed in the design phase to insure compliance with OPUD's FOG program. Since the inception of the FOG program OPUD has had less blockages/spills due to FOG. Additionally, OPUD has reached out to residential customers with FOG informational flyers.

VIII. Capacity Assurance Management

Proofs
Check all that apply:

☒ Capacity assessment reports
- ☒ Hydraulic Analysis ☐ Collection System Master Plan
- ☐ Other: _____

☒ Capital Improvement Program
- ☒ short-term (0 – 5 years) ☒ long-term (6-20 years)

☒ Funding needs and resources
- ☐ public financing ☐ private financing
- ☒ adequate connection fees ☒ current rate analysis
- ☒ Other: Rates include maintenance and depreciation.

_____

☒ SSO data

31. Does the SSMP contain current information about your agency's capacity assessment? ☒ Yes ☐ No
32. Has your agency completed a capacity assessment and identified and addressed hydraulic deficiencies in the system on planned schedules? ☒ Yes ☐ No
33. Are identified projects remaining on schedule with the implementation plan? ☒ Yes ☐ No
34. Has your agency identified current sources of funding? ☒ Yes ☐ No

Demonstrate: Check the applicable reports in the proofs above confirming that there are reports or documents that evaluate system capacity assessment. Describe how the assessment(s) address potential hydraulic deficiencies and the status of project implementation. Explain which projects have been implemented on planned schedule. If you answered NO to questions 31, 32, 33, and/or 34, describe content and schedule for necessary activities.

Analysis has identified deficiencies within particular sewer sheds. These areas have been identified in the OPUD Capital Improvement Plan and will use it to go out for Grants in order to make improvements or updates to the system. OPUD completed a Proposition 218 process to allow rates to fund depreciation and collections maintenance pertinent to the SSMP.

IX. Monitoring, Measurement, and Program Modifications

Proofs
☒ Computerized Maintenance and Management System
☒ Mapping technologies
☒ Work order system
☒ System(s) implemented for consistent recordkeeping

35. Does the SSMP contain current information about your agency's data collection and organizational systems? ☒ Yes ☐ No

36. Is your agency's data collection and organization sufficient to evaluate the effectiveness of your SSMP? Yes

Demonstrate: Check the applicable proofs implemented for data collection and organization. Verify that the methods are current in the SSMP. If you answered NO to questions 32 and 33, describe and schedule for necessary improvements.

OPUD's GIS database aids in supporting data collection by adding a visual interface with the collections crews. The GIS database has been linked with our CMMS and TV camera software to provide a global solution for managing our collections system.

X. SSMP Audits

Proofs
☒ Prior SSMP audits

37. Does the SSMP contain current information about your agency's audits and frequencies? ☒ Yes ☐ No

38. Has your agency met all of the schedules for necessary improvements identified in the prior audit? ☒ Yes ☐ No

Demonstrate: Verify audit frequency. Describe improvements completed that were previously identified. If you answered NO to questions 34 and 35, describe improvements that remain to be addressed and update previous schedules for necessary improvements.

The CMMS is being used as intended and designed. GIS has been implemented. FOG program has been completed. CIP is being completed ahead of schedule.

XI. Communication Program

Proofs
☒ Mailings
☒ Website
☒ Public service announcements (via media)
☒ Customer feedback

39. Does the SSMP contain current information about your agency's public outreach methods? ☒ Yes ☐ No

40. Has your agency effectively communicated with the public and other agencies about the SSMP and addressed feedback? ☒ Yes ☐ No

41. If your agency has satellite or tributary agencies connected to the collection system, does the SSMP contain current information about your agency's communications with them?

☐ Yes ☐ No ☒ N/A

Demonstrate: Check all proofs that apply to your communication and outreach methods. If you answered NO to questions 36, 37, and/or 38, describe content and schedule for necessary improvements.

Olivehurst Public Utility District

Agenda Item Staff Report

Meeting Date: April 20, 2023

Item description/summary:

Consider certifying the 2022 SSMP Update, Audit, and Audit Report.
Every two years, OPUD is required to conduct an audit on the SSMP to ensure the goals and programs outlined in the SSMP are still being followed. The SSMP itself is also updated to ensure those goals are still accurate. SSMP was due in 2021 but due to turnover in staff, COVID, and reduction in staff, the SSMP was pushed back and includes the last three (3) years of data. Goal is to go back to two (2) year SSMP Audit Report and update.

Fiscal Analysis:

N/A

Employee Feedback

N/A

Sample Motion:

Move to certify the 2022 SSMP Update, 2022 SSMP Audit, and 2022 SSMP Audit Report.

Prepared by:

Swarnjit Boyal, Public Works Engineer

2022 SSMP AUDIT REPORT

OLIVEHURST PUBLIC UTILITY DISTRICT

PREPARED BY

Swarnjit Boyal, Public Works Engineer

Background

Olivehurst Public Utility District (OPUD) Board of Directors certified the District's SSMP on July 16, 2009. The State order requires an audit of the SSMP every two years at a minimum. The Sewer System Management Plan or SSMP is required by the State of California to provide a standard for maintenance and repairs of sewer collections systems thereby reducing the number and severity of sanitary sewer overflows or SSO's. Due to Covid, new Public Works Engineer coming in 2021, and turnover in staff, the SSMP was pushed back a year and includes the last three (3) years. OPUD will be back on track to a two (2) year schedule after this SSMP Audit.

Audit Report Format

The format for the report is as follows:

- State Order Section/Subsection
- Level of Compliance Ranking
    - Fully Complies
    - Substantial Compliance
    - Partial Compliance
    - Marginal Compliance
    - Not in Compliance
- Findings
- Reference Information
- Recommendations where appropriate

Audit of Goals, State Order D.13.i

Level of Compliance: Substantial Compliance

Findings:

OPUD has established 3 goals in the SSMP that comply with the goals of the State Order.

The OPUD goals are as follows:

1. *Maintain or improve the condition of the collection system infrastructure in order to provide reliable service now and into the future*. Proactive cleaning, pump upgrades and replacements, electrical upgrades, scheduled maintenance and implementation of the SSMP have all contributed to an improved system that had 3 SSOs since the last update in 2019. **Ongoing**
2. *Cost-effectively minimize infiltration and inflow (I&I) and provide adequate sewer capacity to accommodate design storm flows.* The storm drain agency for the OPUD service area is Yuba County. Historic Olivehurst has a very limited storm drain system mostly comprised of some main canals and road-side ditches to convey the storm water away from homes and roads. OPUD has met with the County and some improvements have been made to the storm drain system but for the most part the problem still exists. OPUD has taken a proactive approach to reducing I&I by system smoke testing and subsequent repairs. OPUD has employed the use of 2 new eco-friendly techniques to fix manhole and main leaks. Developers have been sent notices of broken, unaccepted infrastructure to be fixed. **Ongoing**
3. *Minimize the number and impact of sanitary sewer overflows (SSO's).* The number and impact of SSO's at OPUD has been reduced since the implementation of the SSMP. Since the last update, there have been no SSOs. Proactive cleaning, pump upgrades, electrical upgrades, scheduled maintenance and implementation of the SSMP have all contributed to an improved system with fewer SSO's. **Ongoing**

Reference: SSMP and support documentation

Recommendations: Continue to work with Yuba County to upgrade the storm drain system. Continue to clean and maintain the OPUD collection system with adherence to the SSMP. Continue diligence in pursuing developers with broken infrastructure and use of new repair techniques.

Audit of Organization, State Order D.13.ii

Level of Compliance: Complies

Findings:

Organizational structure shown in the SSMP reflects actual organizational structure at OPUD. All staffing information has been updated including the change in Public Works Engineer and General Manager positions.

Reference: SSMP, Section 2
SSMP, Figure 2-1
SSMP, Table 2-1
SSMP, Figure 2-2

Recommendations: Continue updates as needed.

Audit of Legal Authority, State Order D.13.iii

Level of Compliance: Complies

Findings:

OPUD adopted a Sewer Use Ordinance on February 19, 2009, that took effect on May 1, 2009. The ordinance meets the requirements of the General WDRs for sanitary sewer collection systems. The ordinance establishes a framework for OPUD to establish rules and regulations for appropriate sewer use and provides an enforcement mechanism for non-compliance with the ordinance. The Ordinance has been updated to strengthen OPUD's enforcement mechanisms.

Additionally, OPUD maintains files that document OPUD's right to access easements.

Reference: SSMP, Section 3-1
Sewer Use Ordinance No. 209
Easement Documents

Recommendations: None

Audit of Operation and Maintenance Program, State Order D.13.iv

Level of Compliance: Complies

Findings:

OPUD maintains up-to-date AutoCAD files and hard-copy maps of the sanitary sewer system showing all gravity line segments, manholes, pumping facilities, pressure pipes and valves and applicable storm water conveyance facilities. OPUD also utilizes the CMMS, CCTV software and GIS database to track collections system maintenance, identify needed repairs/maintenance, schedule repairs/maintenance, produce work orders and track progress of all the forgoing. OPUD provides training on a regular basis for its sanitary sewer system staff as well as requiring contractors working on the system to be trained. OPUD provides equipment and replacement part inventories including identification and inventory of critical replacement parts consistent with section 4.5 of our SSMP.

Reference: Section 4 OPUD SSMP and support documentation.

Recommendations: Continue to use the CMMS, CCTV software and GIS database to track collections system maintenance, identify needed repairs/maintenance, schedule repairs/maintenance, produce work orders and track progress of all the forgoing.

Audit of Design and Performance Provisions, State Order D.13.v

Level of Compliance: Complies

Findings:

The SSMP refers to the 2005 Standards and Specifications for Public Works Construction for new or upgrading facilities placing the element in compliance. Standards and Specifications are updated every few years, with the latest update in 2019. Developers and design consultants must reference or use current OPUD standards for design on new or rehabilitated sewer construction projects

In addition, reference is made to approved testing and inspections, to ensure that the infrastructure meets the design and performance provisions. Inspection and testing of sewer infrastructure construction projects is incorporated into the OPUD construction standards and specifications.

Reference: SSMP, Section 5
2005 Standards and Specifications
2019 Standards and Specifications
Project-based inspection forms.

Recommendations: None

Audit of Overflow Emergency Response Plan, State Order D.13.vi

Level of Compliance: Complies

Findings:

OPUD's Sanitary Sewer Overflow Emergency Response Plan addresses sections 6.1 through 6.6 of our SSMP

The Sanitary Sewer Overflow Emergency Response Plan (SSORP) provides information, response to SSOs, and post spill actions. A flow chart indicates the actions to take based upon the characteristics of the spill. The SSORP includes a spill reporting form for documentation. This plan details the resources to respond, contain, clean and mitigate the SSO.

Reference: SSORP, Sanitary Sewer Overflow Emergency Response Plan
SSMP, Section 6

Recommendations: None

Audit of FOG (Fats Oils and Grease) Control Plan, State Order D.13.vii

Level of Compliance: Complies

Findings:

OPUD has followed the FOG Control Program Assessment Plan and Schedule. The Public Education and Outreach program follows the SSMP. OPUD has developed and distributed pamphlets and flyers regarding the FOG Program, Interceptor Sizing, Best Management Practices and Grease Waste Service Providers. The FOG information is also included on the District Web Site. New commercial construction is reviewed at plan level to ensure FOG program compliance.

The Districts Sewer Use Ordinance prohibits discharge of FOG into the Wastewater Collections System. The ordinance also establishes OPUD enforcement authority.

Reference: SSMP, Section 7
Sewer Use Ordinance
FOG Handouts
District Website www.opud.org

Recommendations: None

Audit of the System Evaluation and Capacity Assurance Plan, State Order D.13.viii

Level of Compliance: Substantial Compliance

Findings:

OPUD contracted with CH2MHill to complete a Sewer System Capacity Evaluation Report in August of 2009. The report details OPUD's design criterion for OPUD's capacity and hydraulic evaluations. OPUD has not completed its Capacity Enhancement Measures but has completed its Capital Improvement Plan.

Reference: Section 8 of OPUD's SSMP and supporting documents

Recommendations: OPUD needs to continue to meet scheduled milestones per tables 4.2 and 8.1 of our SSMP to complete the Capacity Enhancement Measures per the CIP. We completed the CIP in 2013, ahead of schedule. Continued analysis of rate schedule to ensure adequate funding for additional maintenance and CIP Capacity Enhancement Measures.

Audit of the Monitoring, Measurement, and Program Modification, State Order D.13.ix

Level of Compliance: Complies

Findings:

OPUD conducted Monitoring, Measurement and Modifications to the program as needed using data from sources such as the CMMS to provide continual feedback to the collections crew as to the effectiveness of the SSMP.

Reference: SSMP section 9, OPUD 2011 SSMP Audit Report

Recommendations: Continue ongoing efforts.

Audit of SSMP Program Audits, State Order D.13.x

Level of Compliance: Complies

Findings:

OPUD has embarked on this audit of its SSMP with timeliness to allow the auditor adequate time to investigate, gather evidence, analyze and then report sufficiency and findings, and finally to make recommendations when appropriate.

Reference: SSMP, Section 10
This is the fourth audit of the OPUD SSMP.
This audit will become a reference for the August 2019 audit.

Recommendations: None

Audit of Communication Program, State Order D.13.xi

Level of Compliance: Complies

Findings:

OPUD communicates on a regular basis with the public and allowing input for interested parties on the development, implementation and performance of its SSMP. After the adoption, the SSMP was uploaded to the OPUD website for general public review.

With the completion of each audit, OPUD staff will share the audit findings and make the report available to the general public by posting on the OPUD website.

The general public will have an opportunity to provide input with the completion of each audit.

OPUD Directors and staff meet regularly at monthly Board of Directors meetings and sub-committee meetings to discuss the wastewater treatment and collection system. These meetings are open to the public and agendas are posted online and in an area accessible to the public.

Reference: SSMP, Section 11
OPUD Website
Meeting Agendas
Billing messages

Recommendations: It is recommended after each audit that OPUD staff develop an implementation plan to address any deficiencies identified during the audit.

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Introduction

On May 2, 2006, the State Water Resources Control Board (SWRCB) adopted the Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems, Water Quality Order No. 2006-0003 (Order). The Order requires all public agencies that own or operate sanitary sewer systems to develop and implement Sewer System Management Plans (SSMPs) and to report all Sanitary Sewer Overflows (SSOs) to the State Water Board's online database.

An SSMP comprises the 11 tasks listed below:

1. Goals and Organization Structure
2. Legal Authority
3. Operations and Maintenance Program
4. Overflow Emergency Response Program
5. Fats, Oils, and Grease Control Program
6. Design and Performance Provisions
7. System Evaluation and Capacity Assurance Plan
8. Monitoring and Program Modifications
9. Program Audits
10. Communication Program
11. Final SSMP Implementation

SSMP Development Plan and Schedule

One of the first steps in an SSMP is the creation of a Development Plan and Schedule. The SSMP Development Plan and Schedule that follows lists each of the 11 tasks required in an SSMP, the dates those tasks are due, and the person responsible for implementation of each task (Table I-1).

TABLE I-1
SSMP Development Plan and Schedule
Olivehurst Public Utility District SSMP

Task	Due Date	Responsible Party
SSMP Development Plan and Schedule	November 2, 2007	John Tillotson, Director of Public Works
Goals and Organization Structure	November 2, 2007	Tim Shaw, General Manager
Legal Authority	May 2, 2009	John Tillotson
Operations and Maintenance Program	May 2, 2009	Greg Axline, WWTF Chief Plant Operator
Overflow Emergency Response Program	May 2, 2009	Greg Axline
Fats, Oils, and Grease Control Program	May 2, 2009	Greg Axline
Design and Performance Provisions	August 9, 2009	John Tillotson
System Evaluation and Capacity Assurance Plan	August 9, 2009	John Tillotson
Monitoring and Program Modifications	August 9, 2009	Greg Axline
Program Audits	August 9, 2009	Tim Shaw
Communication Program	August 9, 2009	Tim Shaw
Final SSMP Implementation	August 9, 2009	Greg Axline

SECTION 1

SSMP Goals

The SWRCB's WDRs require the collection system agency to develop the goals of the SSMP. The goals of OPUD's SSMP are as follows:

1. Maintain or improve the condition of the collection system infrastructure to provide reliable service now and into the future.
2. Cost-effectively minimize infiltration/inflow (I/I) and provide adequate sewer capacity to accommodate design storm flows.
3. Minimize the number and impact of sanitary sewer overflows (SSOs) that occur.

SECTION 2

Organization

This section provides an overview of OPUD's organizational structure for implementing the SSMP, the chain of communication for reporting and responding to SSOs, and designation of the Authorized Representative for OPUD.

2.1 Authorized Representative

Greg Axline, OPUD's Chief Plant Operator, is the person appointed by the Board of Directors of OPUD as the Authorized Representative. As the Authorized Representative, Mr. Axline is responsible for certifying that all electronic SSO reports are accurate and are submitted to the SWRCB or Regional Water Quality Control Board (RWQCB) as required by the WDRs.

2.2 Personnel Responsible for SSMP Task Implementation

OPUD is a relatively small organization consisting of 28 employees and is responsible for wastewater service, water service, fire protection, street lighting, and parks. Figure 2-1 shows OPUD's organizational structure relative to wastewater service. Table 2-1 lists the individuals (along with their contact information) responsible for the implementation of the 11 components of the SSMP.

2.3 Chain of Communication for Reporting SSOs

The chain of communication for reporting SSOs is shown in Figure 2-2. The general response procedure begins when OPUD receives notification of an SSO. That notification goes to wastewater staff who will send out a field crew or to an emergency after-hours call center that will notify an on-call field crew. Once the crew is on site, it will contain the spill, fix the problem, and clean up the spill. The field crew will then coordinate with the responsible official to complete the reporting process. It should be noted that the Office of Emergency Services (OES) needs to be notified only for SSOs greater than 1,000 gallons (including spills to land) and/or all discharges of sewage into or on any waters of the state. OES must also be notified of discharges that may threaten or impact water quality.

FIGURE 2-1
OPUD Wastewater Organizational Structure
Olivehurst Public Utility District SSMP

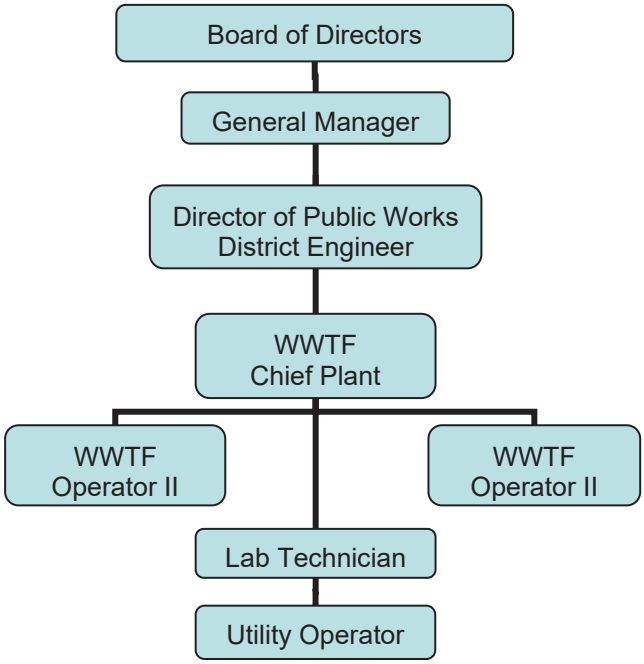
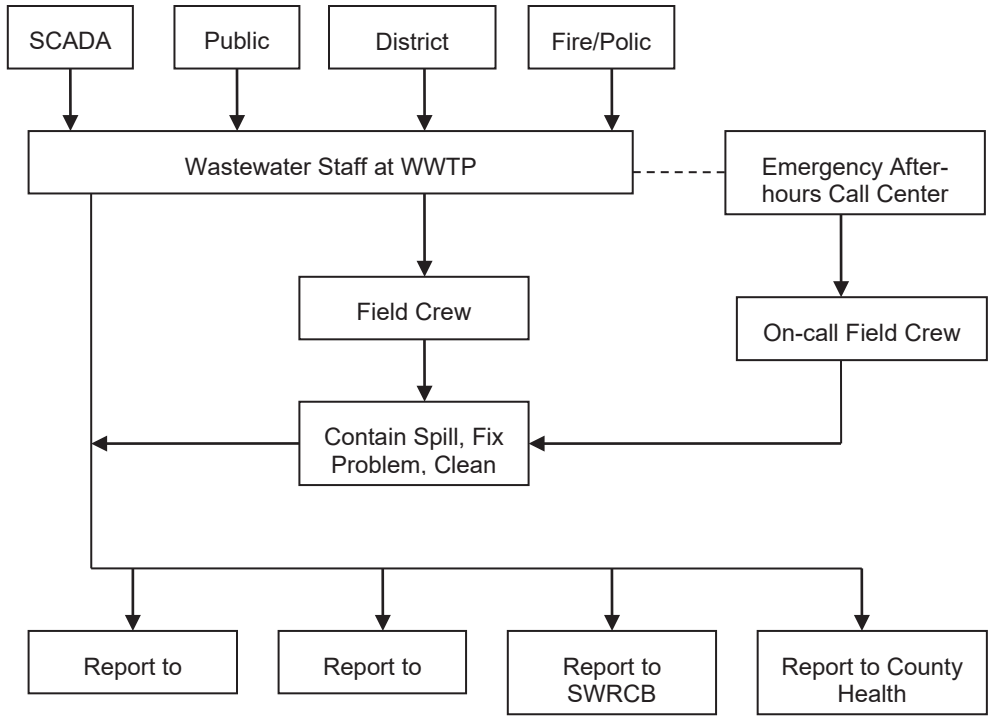


TABLE 2-1
SSMP Responsible Personnel
Olivehurst Public Utility District SSMP

Position	Name	Phone Number	Responsibilities
General Manager	John Tillotson	(530) 743-0317	• Goals and Organization Structure • Program Audits • Communication Program
Public Works Engineer	Swarnjit Boyal	(530) 743-8132	• SSMP Development Plan and Schedule • Legal Authority • Design and Performance Provisions • System Evaluation and Capacity Assurance Plan
WWTF Chief Operator	Greg Axline	(530) 743-0843	• Operations and Maintenance Program • Overflow Emergency Response Program • Fats, Oils, and Grease Control Program • Monitoring and Program Modifications • Final SSMP Implementation

FIGURE 2-2

Chain of Command for Reporting SSOs
Olivehurst Public Utility District SSMP



SCADA=

Supervisory Control and Data Acquisition
WWTP = Wastewater Treatment Plant

SECTION 3

Legal Authority

OPUD adopted a Sewer Use Ordinance on February 19, 2009, that will take effect on May 1, 2009. The ordinance meets the requirements of the General WDRs for sanitary sewer collection systems. The ordinance establishes a framework for OPUD to establish rules and regulations for appropriate sewer use and provides an enforcement mechanism for non-compliance with the ordinance.

3.1 Methods to Prevent Illicit Discharges

3.1.1 WDR Language

Prevent illicit discharges into the sanitary sewer system (examples may include infiltration/inflow [I/I], stormwater, chemical dumping, unauthorized debris and cut roots, etc.)

3.1.2 Ordinance Prohibiting Discharges

Ordinance No. 209, "Olivehurst Public Utility District Sewer Use Ordinance," prohibits illicit discharges into the sanitary sewer system in Article VI. Use of Public Sewers. Some of the sections applicable to prevention of illicit discharges include:

- Section 601. Drainage into Sanitary Sewers Prohibited. The ordinance prohibits surface drain connection and/or discharge to the sewer.
- Section 602. Types of Wastes Prohibited. The ordinance lists wastes that shall not be discharged to OPUD's sewer system, including stormwater and other waters.
- Section 603. Regulated Discharges. Provides OPUD the authority to use discretion and disallow discharges that are considered harmful or have an adverse effect on the sewer collection system.
- Section 604. Medical Wastes. This section addresses allowed and disallowed discharges from hospitals, clinics, offices of medical doctors, and convalescent homes.

Supporting Documentation

- Sewer Use Ordinance, Article VI. Use of Public Sewers

3.2 Methods to Ensure Proper Design and Construction

3.2.1 WDR Language

Require that sewers and connections be properly designed and constructed.

3.2.2 Design and Construction Standards

OPUD ensures that the sewer connections are properly designed and constructed by using various quality control mechanisms. OPUD's notice-to-proceed letter includes a statement

requiring compliance with its design standards. During and after construction, the work is inspected. If construction is not to standard, it is not accepted. OPUD Sewer Use Ordinance, Article IV. Building Sewers, Lateral Sewers and Connections and Article V. Public Utility District Sewer, address design and construction of sewers and connections. Approval of plans and specifications is required prior to connection to the sewer collection system as specified within the following sections of the municipal code:

- Section 401. Permit Required. A permit is required for side sewers or laterals, including for construction, repair, alteration, or connection to the sewer.
- Section 402. Construction Requirements. Public sewers and building sewers shall be subject to requirements of OPUD Standard Specifications.
- Section 406. Connection to Public Sewer. Specifies how building sewer connections shall be made to the public sewer.
- Section 501. Permit Required. A permit is required for construction, extension, or connection to the public sewer.
- Section 502. Plans Profiles and Specifications Required. Complete plans, profiles, and specifications are required to be submitted with the permit application. The District Engineer reviews and approves plans.
- Section 504. Persons Authorized to Perform Work. Requires a properly licensed contractor to perform sewer construction work.
- Section 507. Design and Construction Standards. Establishes minimum standards for design and construction in accordance with OPUD design standards.
- Section 508. Completion of Sewer Required. Requires testing and acceptance by the District Engineer.

Supporting Documentation

- Standard Design Criteria
- Standard Specifications and Construction Details for new construction, rehabilitation, and repair
- As-built drawings
- Sewer Use Ordinance, Article IV. Use of Public Sewers
- Sewer Use Ordinance, Article V. Public Utility District Sewer Construction

3.3 Access for Maintenance, Inspections, and Repairs

3.3.1 WDR Language

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

3.3.2 Access Authority

Portions of the sewer owned or maintained by OPUD require an easement or right-of-way for extension of the public sewer as described in Article V. Public Utility District Sewer Connection. Inspection of the sewer is described in Article IX. Miscellaneous Provisions.

- Section 503. Easements or Rights-of-Way. If an easement is required, a proper easement or right-of-way is to be designated to allow unrestricted access for maintenance of the sewer system extension or connection.
- Section 902. Powers and Authorities of Inspectors. Authorized employees shall be permitted to enter in and upon buildings, facilities, and properties for purposes of inspection, observation, measurement, sampling, testing, etc.

Supporting Documentation

- Sewer Use Ordinance, Article V. Section 503. Easements or Rights-of-way
- Sewer Use Ordinance, Article IX. Section 902. Powers and Authorities of Inspectors

3.4 Methods to Limit the Discharge of FOG and other Debris into the Sewer System

3.4.1 WDR Language

Limit the discharge of fats, oils, and grease and other debris that may cause blockages.

3.4.2 FOG-related Ordinance

The OPUD Sewer Use Ordinance, Article VI. Use of Public Sewers, regulates and limits the discharge of FOG and other debris into the sewer system.

- Sections 602 (J), (M), (N), and (V) include prohibition of FOG discharge to the sewer system.
- Section 605. Interceptors Required. Grease, oil, and sand interceptors are required as deemed necessary by OPUD. Interceptors must be properly sized and accessible for cleaning and inspection.
- Section 606. Maintenance of Interceptors. Grease, oil, and sand interceptors must be maintained by the owner, at owner's expense as necessary for efficient operation at all times.

Supporting Documentation

- Sewer Use Ordinance, Article VI. Use of Public Sewers

3.5 Methods to Enforce Violation of Sewer Ordinances

3.5.1 WDR Language

Enforce any violation of its sewer ordinances.

3.5.2 Enforcement Ordinance

The OPUD Sewer Use Ordinance authorizes enforcement actions against users of the system as described in Article VIII. Enforcement. Enforcement action includes:

- Section 801. Violation. Any person found in violation of the sewer use ordinance shall cease such violation and take corrective action.
- Section 802. Disconnection. The OPUD General Manager has the authority to disconnect the user of subdivision sewer system from sewer mains as an enforcement method.

Supporting Documentation

- Sewer Use Ordinance, Article VIII, Enforcement

SECTION 4

Operations and Maintenance Program

OPUD serves approximately 16,000 people and is located in the northern Sacramento Valley, 40 miles north of Sacramento. In addition to water, parks, and fire support for the community, OPUD provides services for and operates the wastewater collection system and wastewater treatment plant.

Until recently, OPUD's wastewater collection system served the historic Olivehurst area. As a result of significant home building commencing in 2003 and 2004, the collection system has been expanded to provide service to the newer areas. The Operations and Maintenance activities described in this section of the SSMP assume that, with the exception of mapping and the introduction of a computerized maintenance management system (CMMS) (both of which will be completed for the entire collection system), the work efforts associated with collection system preventive maintenance activities will first focus on the older conveyance system of historic Olivehurst. Work in the newer sections of the service area will be postponed until at least one full cycle of inspections has been completed on the older portions of the system.

4.1 Update Maps

4.1.1 WDR Language

Maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves, and applicable stormwater conveyance facilities.

4.1.2 Collection System Maps

OPUD maintains an AutoCAD file for the historic Olivehurst collection system and other AutoCAD files for new construction developments. Modifications or additions to the collection system will be made to base maps on an ongoing basis. New additions to the collection system will require the project applicant (e.g., developer) to submit mapping information in a compatible format that can be added to existing electronic mapping information. Additionally, OPUD has a GIS database. OPUD has contracted with the GIS supplier. The supplier provides 2 hours per month of support dedicated to GIS database corrections and updates.

Historic Olivehurst contains the majority of sewer collection pipe, or approximately 32 miles of the overall system (the entire system totals 40 miles of gravity and pressure pipe). The conveyance system includes 18 pump stations, 10 of these are within historic Olivehurst.

The OPUD collection system includes the following areas:

- Historic Olivehurst
- River Glen

- Mapleton
- Heartlands
- North Plumas Lake
- South Plumas Lake
- Summerfield
- Wheeler Ranch

The OPUD pumping facilities include 18 pump stations ranging from 75 gpm to 6,600 gpm. Ten pump stations are located in historic Olivehurst.

Maps and Schematics

OPUD is working with a consultant to consolidate mapping into electronic format to enhance its mapping records. OPUD has the following resources that show the location of the collection system and associated conveyance facilities (e.g. pump stations, pipelines, and manholes):

1. ESRI GIS personal geodatabase and Computer Aided Design (CAD)—OPUD has database information showing conveyance system feature locations and attributes including sewer pipelines, pumping facilities, manholes, and sewer fittings.
2. As-built documents
3. System schematics
4. Electronic information

New developments are required to provide as-built data in electronic format that is compatible with OPUD's electronic mapping system. The developer is also required to provide Mylar as-builts that are stored at the administration office with all other facility drawings.

Stormwater Systems

Stormwater conveyance systems in Olivehurst are owned and operated by the County of Yuba (County). The County Code includes a Stormwater Quality Ordinance (Chapter 7.50) intended to protect public health and safety and water quality by controlling non-storm water discharges to the storm drain system. The ordinance prohibits any illicit discharge into the storm drain system including sanitary sewer overflows. The ordinance requires that reasonable actions be taken to contain illicit discharges. OPUD is required to take measures to prevent SSOs entering storm water drainage systems consistent with County stormwater regulations.

The County Storm Water Management Plan (SWMP) is under way and will meet requirements of the National Pollutant Discharge Elimination System (NPDES) Phase II program for Small Municipal Separate Storm Sewer Systems (Small MS4s). The County SWMP provides a plan for the affected agencies within the County to follow Best Management Practices (BMPs), measurable goals, and timetables for the implementation of the Six Minimum Control Measures required by the U.S. Environmental Protection Agency, and the State Water Resources Control Board.

Supporting Documentation

- Electronic maps and data
- Yuba County GIS
- As-built maps
- Map showing sewer sub-basins

4.2 Routine Operation and Maintenance Activities

4.2.1 WDR Language

Describe routine preventive operation and 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 Preventative Maintenance program should have a system to document scheduled and conducted activities, such as work orders.

4.2.2 Routine Operation and Maintenance Program

Routine Preventive Operation and Maintenance Activities

Sewer assessment on an ongoing basis has a major impact on SSOs and unauthorized discharges. The assessment program can identify potential sources of excessive I/I requiring remediation, areas of structural distress that require rehabilitation to avoid a collapse, or areas with significant blockage that require preventive maintenance to avoid a future obstruction-related discharge.

The goal for the routine preventive operation and maintenance program is to optimize planned maintenance and minimize unscheduled maintenance. Inspection data and asset information will be analyzed on an ongoing basis to develop and enhance the maintenance program. Areas with historical complaints or chronic problems resulting from system age, design, breakdowns, blockages, seasonal impacts of I/I, or capacity problems will be identified and documented on an ongoing basis, and additional efforts will be made to address or prevent those problems from escalating into permit violations.

The preventive maintenance program forecasts and schedules infrastructure maintenance, repair or replacement, of system components based on the useful life of equipment (depreciation), historical data, manufacturer's recommendations, or known maintenance needs. This program tracks and identifies trends within the system and encompasses all assets within the collection system. Emphasis is toward components deemed critical to the successful and continued availability within each system including:

- Pump stations
  - Mechanical, including pumps, valves, actuators, level controls
  - Electrical, including emergency generators
  - Data acquisition equipment
- Lines and force mains, including integrity (corrosion control), grease, roots, and debris
- Manholes, including integrity, lid seal, grease, and debris
- Service and safety equipment, including rolling stock and personal safety equipment.

OPUD has initiated a preventive maintenance program to minimize sewer overflows and to keep the wastewater flowing to the treatment plant by hiring new staff and has purchased a new vactor truck that is used for sewer line cleaning operations. OPUD also recently purchased CCTV (closed circuit TV) gear that will be used to inspect pipes for condition assessment.

OPUD will implement the preventive maintenance program by enhancing scheduling capabilities with the recently acquired CMMS Maintenance Connection. The system for scheduling regular maintenance and cleaning of the sanitary sewer system includes computerized software that allows for data entry to document scheduled and conducted activities to develop a practical and effective preventative maintenance schedule. The program schedules regular maintenance and cleaning activities in the collection system. The system will produce work orders and when the work is completed, work order data will be entered into the system. When fully implemented, the CMMS system will be able to recognize and track private assets outside of the system that have the potential to impact OPUD assets. Tasks may be altered by modifying the task work content, adjusting task intervals, and/or adjusting task dates to compensate for any adverse conditions found that warrant a modification in scheduling. Work order closeout procedures are in place to ensure that all work history is documented.

Pump/Lift Station Preventive Maintenance

The purpose of OPUD's pump station preventive maintenance program is to maintain pump stations in proper working order and maximize continuous operational efficiency. The goal is to minimize discharges and back-ups at pump stations. The operation of force main pump station portions of the collection system is automated and does not require continuous onsite operator presence. Wet wells, pumps, connections, valve condition and operation, odor control equipment, screens, covers and seals, emergency power equipment, and site security are inspected. Pump stations are drive-by checked on a daily basis. Operations and maintenance manuals for some of the older lift stations are not available for all equipment.

Activities for routine pump station preventive maintenance include verifying that pumps are operational, valves are inspected and exercised, wet wells are visually inspected, and pump run times observed at least twice per week. Pump run times are obtained from hour meters. The stations do not have flow meters, data loggers, or chart recorders. Pump run times are documented on a log sheet and kept in three-ring binders located at the wastewater treatment plant. If the operator notices a condition that requires attention, it is noted on the lift station checklist and the operations supervisor is notified. Lift stations in the historic Olivehurst area mostly have bubblers and the newer sections of the sewer system have float balls for level control. Pumps are serviced by a contractor and service requirements are based on the professional judgment of staff generally with a reactive approach.

Several of the pump stations had pump rehabilitation and replacement from 2019 to 2021. OPUD does not have back-up pumps for the lift stations.

Lift Station 1:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Design plans in to replace LS 1 and abandon current one

Lift Station 2:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 3:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 5:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 6:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 7:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Grant plans to upgrade well and controls

Lift Station 8:

- Grant plans to upgrade well and controls
- South side rebuilt, new pump, pipping, checks valves, and gate valves

Lift Station 9:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- Look at possibly deleting LS 9 when New LS1 is built and put on line.
- Pulled pump, de-ragged, made new repaired pump stand, and reinstalled pump.
- Got a replacement pump on the self.

Lift Station 10:

- Completely rebuilt LS 10 above ground controls do to being destroyed in a residential fire.

Lift Station 11:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually

Lift Station 13:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually

Lift Station 14:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Replaced cooling fans for control cabinets
- Injecting macrobiotics into the system to try to lower H2S gas

Lift Station 15:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually

Lift Station 16:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually
- Injecting macrobiotics into the system to try to lower H2S gas
- Repaired emergency floats and controller for the wet well

Lift Station 17:

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.
- Grease cookie removed from wet well annually
- Injecting macrobiotics into the system to try to lower H2S gas
- Repaired emergency floats and controller for the wet well

LS 18

- Upgrade to 5g Mission monitor system with an alternate cell provider if primary cell signal is lost.
- New belts and filters on generator.

- Grease cookie removed from wet well annually
- Injecting site for macrobiotics into the system to try to lower H2S gas

LS 19

- Riverside Meadows Lift Station accepted by OPUD end of 2022
- Includes 5g Mission

LS 20

- River Oaks North V1 Lift Station accepted by OPUD in February 2023
- Includes 5g Mission

All new sanitary, manholes, and wet well to be made out on nonreactive material. AKA SDR2600/C900 Green and polymer concrete.

Back-up power sources are stationary at lift stations 11 through 18 and portable for stations 2, 3, and 5. OPUD has two portable generators that are shared between the lift stations requiring back-up power. There is no standard procedure for operations during power outages. Stationary generators are operated once per week and serviced annually by a vendor. The portable generators were purchased in 2008 and are not checked on a schedule; operation is checked randomly, e.g. prior to the onset of the storm season.

Lift station 14 is presently the only lift station that needs odor control. The current system is a mister system (Fogmaster) that will be replaced with a more effective system in the near future. Currently is on an extensive bi-weekly cleaning schedule.

Force Main Preventive Maintenance

The purpose of OPUD's force main preventive maintenance is to maintain force mains in proper working order and maximize efficiency and capacity. The goal of force main preventive maintenance is to maintain integrity of the lines and valves to keep discharge occurrences to a minimum. Routine inspections are not currently conducted. Once the new CMMS program is implemented, force main inspections will be scheduled and conducted to ensure normal functioning and to identify potential problems. Inspection may include checking the integrity of the force main surface and pipeline connections, unusual noise, vibration, pipe and pipe joint leakage and displacement, valve arrangement and leakage, pump station operation and performance, discharge pump rates and pump speed, and pump suction and discharge pressures.

Force main cleaning has not occurred and would be conducted only on an as-needed basis depending on factors that indicate that it is warranted. The need for pipeline cleaning depends on the overall performance of the pump station force main system, the extent of grease build-up, and other factors. Force main cleaning presents risks that could lead to SSOs and is carefully planned and coordinated. Appropriate indications that cleaning may be warranted include a notable decline in pump station efficiency or an increase in backups. Corrosion is rarely a problem in properly designed force mains (e.g., pipeline slopes designed to eliminate any high spots where head-space gasses can accumulate).

Gravity Line Preventive Maintenance

The purpose of OPUD's gravity line preventive maintenance program is to maintain the integrity of the conveyance infrastructure, prevent line constrictions that can lead to SSOs, and maintain design capacity of the system. Gravity line preventive maintenance plays a role in maintaining system capacity, clearing obstructions, and identifying potential condition problems requiring rehabilitation or replacement.

Activities identified under this program include:

1. Routine hydraulic cleaning
2. Routine mechanical cleaning
3. Root control program
4. Manhole maintenance

In 2008, OPUD purchased a vactor truck for sewer pipeline cleaning (hydraulic and mechanical) and CCTV for inspections. The cleaning is directed at hot spot locations as a priority for routine/frequent cleaning (e.g., annually prior to the rainy season). The locations with chronic blockages (hot spots) are located in the historic Olivehurst area of the collection system. Most problems are caused by roots.

The vactor truck is used to conduct routine line cleaning throughout the entire gravity collection system (California Water Environment Association [CWEA] recommends that the entire system be cleaned every 5 to 10 years). Cleaning of the gravity sewer system on a routine basis has started in the older sections of the system. After lines have been cleaned, they may be inspected with CCTV, and areas requiring further maintenance are scheduled for service. CCTV inspections are used to identify blockages, cracks, offsets, or other problems in the lines. Inspection information will be entered into the CMMS database and information used to prioritize, budget, and schedule necessary repairs to sewer lines.

OPUD's generally reactive work order system will be replaced with an enhanced computerized system to compile better information for tracking hot spots and to acquire accurate information (e.g., how many feet of pipe are cleaned and inspected annually). The phased-out work order system initiated a variety of work but did not provide a comprehensive record of work completed for operations and maintenance tracking.

Ideally, once the new CMMS program is implemented, OPUD will be able to schedule, generate, and track preventive, reactive, and corrective maintenance. Maintenance tasks for facilities and equipment are described in job plans with most work being preventive maintenance scheduled on a recurring basis.

Manholes

In a preventive maintenance program, manholes are inspected for access, cover and seal integrity, debris, blockage, and flow characteristics. OPUD does not presently inspect manholes on a regular basis. OPUD typically looks at problem areas, and inspections are mainly flow related. OPUD has recently implemented manhole numbering as a component of the mapping enhancement efforts in 2009. Each manhole has a unique number assigned within the mapping system. OPUD will be able to implement scheduled manhole inspections as a part of the CMMS program implementation. Inspections identify whether the manhole needs repair, cleaning, or has inflow and infiltration (during winter

inspections). Condition will be ranked by a numbering system, and repairs will be scheduled according to the highest priority and budget considerations. Manholes that are identified as needing repairs will be documented and prioritized based on the condition assessment. Primary repair mechanisms for manholes include chimney seals, full lining, grouting, and mechanical or chemical treatment. These repair costs can be included in the annual budget.

Inspection Procedures

The following inspection procedures are used when inspecting the assets identified for the OPUD wastewater collection, treatment, and disposal systems.

Routine Inspections. The Utility Area Supervisor coordinates staff to perform routine inspections. The various inspections are scheduled as part of the normal weekly staff activities so as to not to develop a backlog or interfere with day-to-day operations or staffing needs. On a monthly basis, the Utility Area Supervisor reviews the inspections conducted by staff to ensure the necessary follow-up and maintenance activities were performed. During this review, the maintenance schedules are reviewed and adjusted to meet inspection frequency goals and priorities discovered through previous inspection discoveries or seasonal needs.

As the CMMS database develops, the inspections will be entered electronically by utility area staff, including all noted maintenance, repairs, or follow-up mitigation resulting from the inspections. As the database develops further, the utility area staff will be able to electronically access maintenance history and develop a more complete understanding of the overall status of the collection system. This information will be used to prioritize and modify the Capital Improvement Program (CIP) on a continuing basis.

Revisions made to the inspection program, including procedures for conducting and documenting inspections and the CMMS database, will be incorporated into each utility area's standard operating procedures (SOPs) as they are implemented.

Breakdowns, Complaints, and Call-outs. As the CMMS database develops, all inspections conducted as a result of breakdowns, complaints, and call-outs are entered electronically by utility area staff, including all spill report information, maintenance, repairs, or follow-up mitigation resulting from the event.

Once fully implemented, it is anticipated that this system will be able to replace the need for manually filling out and completing service order or complaint forms as currently faxed to/from OPUD offices. This will be phased in over time as the capabilities of the system and staff develop. There will still be the opportunity for the public to call in complaints and that process will remain in place.

Inspection Frequency. The inspection frequencies for all of components within the system are targeted goals. Initially, each Utility Area Supervisor will establish a schedule to have each asset inspected. At a minimum, inspections will be performed as shown on Table 4-1 (consistent with CWEA recommendations).

TABLE 4-1
Collection System Components Inspection Frequency

Component	Activity	Schedule Cycle
Gravity Lines	Root control	3 year
Gravity Lines	Routine line cleaning	Entire system over 3 to 7 years
Gravity Lines	CCTV	Entire system over 7 to 7 years
Gravity Lines	Hot spot line cleaning	Annually
Force Main Lines	Cleaning	As determined necessary based on system performance indicators
Force Main Lines	Routine inspection	Annually
Pump Stations	Routine inspection	Daily
Manholes	Inspect/clean	All manholes over 5 to 10 years

Changes to the established schedule will be made as needed based on the equipment manufacturer's recommendations, experience, and awareness of the Utility Area Supervisor and staff, age and condition of assets, operational history of components, I/I, and service area growth.

Inspection Forms. The inspection forms that will be used to document routine inspections in the field will be developed for the different components of the system with the Utility Area Supervisor and staff, and be compatible for use in all utility areas. The goal is to develop and have direct access to the forms at each field office through the CMMS for field use, and incorporate updated features using the same screen layout for uploading inspection data to the system by field office staff when the inspection is complete. The inspection form(s) should be maintained at the respective utility area offices.

Condition Assessment. On most inspections, OPUD will use a simple grading system to establish the condition level for all the components of the collection systems, such as the example below.

Grade	Condition	Description
0	Abandoned	No longer in service
1	Very Good	Operable and well maintained
2	Good	Superficial wear and tear
3	Fair	Significant wear and tear; minor deficiencies
4	Poor	Major deficiencies
5	Very Poor	Obsolete, not serviceable

Assets found in poor condition, or with severe defects, will be addressed as soon as possible upon discovery. Less severe defects or condition issues shall be prioritized for cleaning, repair, rehabilitation, or replacement. The CMMS software will assist in the tracking and completion of scheduled maintenance activities.

Supporting Documentation

- CMMS software

- Maintenance histories (manual and electronic)
- As-builts for pump stations and force mains
- Procedures
- O&M manuals
- Inspection records
- Flow monitoring reports and records

4.3 Rehabilitation and Replacement Plan

4.3.1 WDR Language

Develop a rehabilitation and replacement (R&R) plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes and scheduling rehabilitation. R&R should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the R&R plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan.

4.3.2 Rehabilitation and Replacement Process

Predictive maintenance, which is also proactive, is a method of establishing baseline performance data, monitoring performance criteria over a period of time, and observing changes in performance so that failure can be predicted and maintenance can be performed on a planned, scheduled basis. System performance will be reviewed as an indicator of how the system is operated and maintained. The condition assessment process that leads to a rehabilitation and replacement plan will consider a potential to fail evaluation (failure impact evaluation) and prioritize projects with consideration given to risk management.

OPUD will implement CCTV, smoke testing, and other technologies for:

- Identifying the location of sewer line blockage
- Finding areas that need to be cleaned to prevent backups
- Identifying pipes that need replacement or repairs
- Inspecting new pipe for proper installation
- Finding illegal or improper sewer connections

Gathering and assessing the information from the inspections will help to identify and prioritize structural deficiencies for short-term and long-term rehabilitation project planning.

Asset Management

The basic elements for an asset management strategy are asset inventory, asset condition assessment, renewal or replacement, analysis programs, evaluation of matrix alternatives, and risk evaluation. OPUD considers a structured approach to prioritizing asset management including SSO data collection and analysis.

OPUD's asset management approach prioritizes deficiencies based on several inputs including:

- CMMS information
- Customer complaints
- CCTV inspections
- Manhole inspections
- Hydraulic model
- Risk assessment to prioritize projects

Time Schedules for CIPs

OPUD's rehabilitation and replacement strategy includes short- and long-term CIP development. Areas identified as requiring upgrades for hydraulic deficiencies are also a part of the CIP and discussed in Section 8 of this report. The short-term component is designed to preserve functional requirements of the existing collection system including a variety of techniques including point and replacement repairs, joint testing and grouting or sewer lining. The long-term R&R strategy incorporates lifecycle costs and condition assessments. The short and long term components create the framework for optimizing maintenance strategies that will ensure long term operability of pipelines and facilities.

The OPUD Board of Directors has a subcommittee for the wastewater facilities (Water/Wastewater subcommittee). This committee meets regularly to discuss the wastewater collection system and needs. The committee reviews information provided by staff, has the ability to make recommendations to the entire Board for necessary projects, and reviews project alternatives.

CIPs have generally been determined by OPUD on an annual basis and are addressed in the budget. CIPs can be developed and reviewed to align with anticipated funding sources. The projects that do not have adequate funding should still be included on the list for planning purposes.

Short-term Rehabilitation Implementation Plan

Short-term rehabilitation projects are commonly prioritized for areas affected by structural deficiencies, notably in the older sections of the collection system. Condition assessment is a critical activity for a sustainable asset management program. Condition levels are tied to levels of service targets, and assessments focus on high-risk and projected near-term needs. The condition levels primarily drive short-term (5-year) decision making. Short-term corrective actions will utilize maintenance histories, inspections, and predictive modeling.

OPUD has no formal short-term CIP list developed. However, annual budgets include maintenance and projects identified prior to budgeting. A schedule to implement the short-term CIP is presented in Table 4-2.

TABLE 4-2
Capital Improvement Program for O&M Rehabilitation

Activity	Milestone Date
Initiate identification of problem areas	March 2009

TABLE 4-2
Capital Improvement Program for O&M Rehabilitation

Activity	Milestone Date
Prioritize system deficiencies	May 2012
Short-term (0-5 years) rehabilitation implementation Plan	May 2012
Short-term funding plan	October 2012
Long-term (6-20 years) rehabilitation implementation plan (CIP)	December 2013
Time schedule for implementation of CIP	March 2014
Long-term funding plan	September 2014

Long-term Rehabilitation Implementation Plan

OPUD realizes the importance of seeking and correcting structural deficiencies prior to system failure. OPUD will begin to perform periodic condition assessments on each sewer facility (e.g., manholes, main lines, and service laterals) to determine the location and extent of problem areas according to the schedule in Table 4-1.

OPUD selects capital improvement projects based on cost effectiveness to fit the capital expenditure budget. The CIP is based on fiscal conditions as well as financial planning, including tapping into revenue sources such as grants, loans, bonds, and user fees. Long-term projects are those that are considered for implementation in 6 to 20 years.

Project Financing

Project financing options will vary depending on the cost of the project. Funding availability will affect project planning and scheduling. Funding sources may include:

- OPUD wastewater operations budget
- OPUD special budgets (for specific maintenance efforts or projects)
- Local development contributions
- Federal/state/regional grants
- Federal/state/regional loans
- Municipal bonds

Current and future funding opportunities identified by the State Water Resources Control Board are listed in Table 4-3.

TABLE 4-3
Current and Future Funding Opportunities

Organization	Funding Program	Contact
California Infrastructure and Economic Development Bank (I-Bank) www.ibank.ca.gov	Infrastructure State Revolving Fund Program	Diane Cummings dcummings@ibank.ca.gov
Department of Housing and Community Development (HCD) www.hcd.ca.gov	Community Development Block Grant	Patrick Talbott ptalbott@hcd.ca.gov

TABLE 4-3
Current and Future Funding Opportunities

Organization	Funding Program	Contact
State Water Resources Control Board www.waterboards.ca.gov/funding/srf.html	Clean Water State Revolving Fund Loan Program	David Kirn dkirn@waterboards.ca.gov Sudhakar Talanki stalanki@waterboards.ca.gov
United States Environmental Protection Agency www.epa.gov/owm/cwfinance/cwsrf/index.html	Clean Water State Revolving Fund	Juanita Licata licata.juanita@epa.gov
United States Department of Agriculture Rural Development www.rurdev.usda.gov/ca	Water/Wastewater	Dave Hartwell dave.hartwell@ca.usda.gov
Other financing identified includes:		
Municipal Services Group, Inc. http://munibank.com/	Municipalities	Clint Spivey clints@munibank.com

The R&R plan must include a time schedule for implementing the short-term and long-term plans. In addition, a schedule for CIP funding development is required. The schedule is provided in Table 4-2.

The required SSMP audit will begin to track and trend system performance and indicate corrective actions. The initial biannual audit must be completed by August 2, 2011. Audit report information may be utilized to develop CIPs and the schedule reflects consideration of the first audit, which will help to identify and prioritize system deficiencies.

Supporting Documentation

- Historical maintenance and condition data tracked in the recently implemented CMMS
- Condition assessment data collection and review
- CIP and budget

4.4 Training

4.4.1 WDR Language

Provide training on a regular basis for staff in sanitary sewer system O&M, and require contractors to be appropriately trained.

4.4.2 OPUD Training Program

OPUD places a high level of importance on safety. Written safety procedures are provided to employees. Employees are required to follow the safety procedures, and disciplinary action may be used to enforce the safety procedures. The administration communicates safety procedures to field personnel mostly through job site training and memorandums. There are also bulletin board postings, posters, hands-on training, intranet, and some direct

communications. Current training requirements vary depending on the skill requirements of each position, and the individual's need to upgrade those skills.

OPUD O&M staff is trained to monitor, maintain, and operate the OPUD wastewater collection system during normal flow events and during large-scale flow events in order to manage flows and avoid SSOs. The current OPUD training program consists of both formal and informal elements, as described in the following sections.

On-the-Job Training and Craft Skills

OPUD O&M staff consists of Public Works Engineer, Engineering Technician, Plant Operators and Utility Operators. Most craft- or skill-related training occurs when new employees work closely with more experienced staff to become familiar with OPUD facilities and their mechanical, electrical, and control systems. OPUD typically uses a 6-month probationary period to evaluate employee development.

The training program is an ongoing process that includes technical and safety training. Funds are budgeted to provide training. Training may be obtained in several ways including in a classroom setting, seminars, correspondence, onsite, and self-paced courses. There are several organizations that provide training specific to wastewater operations.

Operational Training

The O&M supervisors direct O&M activities during normal and high-flow events. Current operational training for supervisors occurs through one-on-one mentoring at the supervisory level.

Safety Training

The purpose of OPUD's safety program is to protect the employees and the general public, as well as comply with applicable regulations. The goal of the program is to have no safety incidents. The program has the full support and backing of management. Weekly "tailgate" meetings are held to discuss safety.

Safety training that meets OSHA personnel safety and awareness requirements is provided to O&M staff. O&M staff receives training provided by equipment suppliers and vendors when new facilities are constructed. Employees are encouraged to attend skills training pertinent to their job duties. The local fire chief is designated as the safety officer.

Training for Contractors

Contractor operations are overseen by staff or consulting inspector to assure proper construction techniques are used and sanitary sewer overflow risks are avoided. Contractors construct to specifications and regulatory requirements established within contract and bid documents. Contractors are required to carry proper liability insurance coverage based on the scope of work. Emergency work is conducted by an approved list of contractors.

Supporting Documentation

- System schematics
- O&M manuals
- O&M support training videos

4.5 Equipment and Replacement Part Inventory

4.5.1 WDR Language

Provide equipment and replacement part inventories, including identification of critical replacement parts.

4.5.2 Inventory

Equipment and manufacturer's manuals are used to determine which spare parts to keep in stock. OPUD considers the frequency of usage of the part, how critical the part is, and how difficult the part is to obtain when deciding how many spare parts to keep in stock. Critical parts essential to the operation of the collection system are stored in a central location; parts not in OPUD inventory are generally readily available through local suppliers.

OPUD equipment that is critical for operations and maintenance includes:

- Vactor truck
- Power rodder
- Utility trucks
- Dump truck
- Backhoe
- High volume pumps (two 4" portable pumps and a newly rebuilt 8" pump)

Replacement parts for equipment are readily available and can be obtained quickly through identified suppliers. Equipment may also be rented from private businesses.

Critical Replacement Parts

Adequate supplies are kept in inventory to allow for at least two point repairs in the collection system. These supplies include items such as sewer pipe, pipe clamps, and mechanical joints.

Supporting Documentation

- Maintenance budget
- Parts inventory process

SECTION 5

Design and Performance Provisions

OPUD's design standards were last updated in 2005. In some cases the agency refers to Sacramento County Standards.

5.1 Design and Construction Standards

5.1.1 WDR Language

Design and Performance Provisions: Design and construction standards and specifications for the installation of new sewer systems, pump stations, and other appurtenances; and for the rehabilitation and repair of existing sewer systems.

5.1.2 Construction Standards and Specifications

OPUD has design and construction standards and specifications for sewer system construction activities. Developers and design consultants must reference or use OPUD standards for the design of new and rehabilitated sewer construction projects. Performance and payment bonds are required for appropriate projects to address substandard or incomplete work by contractors.

Supporting Documentation

- 2005 Standards and Specifications

5.2 Inspection and Testing

5.2.1 WDR Language

Design and Performance Provisions: Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.2.2 Inspection and Testing

OPUD requires inspection and testing **o**f new work before it will be accepted.

Inspection of sewer infrastructure construction projects is incorporated into the OPUD construction standards and specifications. Inspection and testing requirements for work that is put out to bid are included in the specific project contract documents. Inspection fees are collected to cover the cost of inspection services. An agency representative inspects the work before it is accepted, and OPUD has adequate inspection resources allocated to ensure that construction complies with standards and construction requirements.

Supporting Documentation

- Individual project contract documents

- 2005 Standards and Specifications
- Project-based inspection forms
- Test reports
- Contractor certifications/licenses

SECTION 6

Overflow Emergency Response Plan

6.1 Notification Procedures to Primary Responders and Verbal Notification to Regulatory Agencies

6.1.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan (plan) that identifies measures to protect public health and the environment, and includes proper notification procedures so that the primary responders and regulatory agencies are informed of all sanitary sewer overflows (SSOs) in a timely manner.

6.1.2 Overflow Emergency Response Plan

The Olivehurst Public Utility District has an overflow response plan, titled *Sanitary Sewer Overflow Emergency Response Plan* (SSORP) that provides basic information, response to SSOs, and post spill actions. A flow chart indicates the actions to take based upon the characteristics of the spill. The SSORP includes a spill reporting form for documentation.

Primary Responder (Internal) Notification Procedures

OPUD typically receives notification of an SSO from an external agency, the general public, representatives of the contributing agencies, or from OPUD staff. The priority is to stop the flow or ongoing spill. The SSORP describes OPUD notification procedures from the responding personnel to the Area Supervisor utilizing various available communication tools including radio dispatch, telephone, pager, or cell phone.

Notification of Regulatory Agencies

The SSORP includes a notification list including regulatory agencies. SSOs are identified by Category 1 or Category 2 spills and associated reporting requirements. There is also a notification checklist on OPUD's internal spill report form.

Once it has been determined that an SSO has reached storm drains, drainage channels, and or surface waters, the OPUD Area Supervisor or responding personnel will notify the following agencies within 2 hours consistent with the General WDR regulation:

1. Office of Emergency Services (OES)
2. Central Valley Regional Water Quality Control Board (RWQCB)
3. Yuba County Environmental Health Department
4. Public Works Storm Water Pollution (if the discharge enters the storm water system)

Supporting Documentation

- SSORP
- SSO Reporting Follow-up Measures, Section 5

- SSO Reporting Requirements Flow Chart
- Reporting to Other Regulatory Agencies
- SSO 2-hour Reporting Procedures
- SSO Reporting Timeline

6.2 SSO Response Program

6.2.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment, and includes a program to ensure an appropriate response to all overflows.

6.2.2 Overflow Response

OPUD's existing SSO procedure provides basic guidance for the first response and follow-up measures once an SSO has occurred.

First response and subsequent actions are identified. The current OPUD procedure indicates that the first concern is to stop the flow or ongoing spill. Follow-up measures are identified subsequent to reporting and notification. This includes clean up, sampling, and posting of warning signs.

The summary of primary roles and responsibilities for SSO response teams are as follows:

Field Crews

Responding staff's first priorities are to ensure public safety, contain the overflow, and make every effort to keep it from reaching a waterway. Once the SSO is contained, field crew will be responsible for mitigating the SSO, perform initial cleanup activities, coordinate additional resources for response activities, and complete follow-up remediation activities. OPUD calls in additional resources if necessary.

Area Supervisor

The Supervisor assures that the OPUD spill report form is complete and that the report has been made electronically on the California Integrated Water Quality System (CIWQS) consistent with regulation. The Supervisor follows regulatory reporting procedures, notifies affected agencies, determines receiving water contamination, collects samples for follow-up analysis, assesses the need for posting warning signs, and prepares all written reports.

Supporting Documentation

- SSORP, Section 4
- Overflow Response Procedures Flow Charts
- OPUD Intranet—SSO online reporting (CIWQS)
- SSO Sampling Procedures

6.3 Notification Procedures to Affected Entities and Reporting Program

6.3.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that identifies measures to protect public health and the environment, and includes a program to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities of all SSOs that potentially affect public health or reach waters of the state.

6.3.2 Notification Procedures

OPUD's SSORP identifies the agencies that require notification and, when applicable, provides the name of an individual at the agency. OPUD's internal wastewater spill report form includes a checklist of agencies notified.

Supporting Documentation

- SSORP, Section 3
- SSORP Interagency Notification Procedures - Contact List
- SSORP Notification Responsibilities Flow Chart
- SSORP Reporting Procedures
- SSO Spill Report Forms
- SSO Reporting Timeline
- Yuba Stormwater Program Notification
- Sewage Spill Sample Collection Guidelines

6.4 SSORP Training and Awareness Program

6.4.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that includes procedures to ensure that appropriate staff and contractor personnel are aware of and follow the SSORP and are appropriately trained.

6.4.2 Spill Response Training

OPUD holds weekly safety meetings and SSO response is addressed on an as-needed basis at these meetings. Spill response is reviewed by supervising staff on an ongoing basis, and adjustments are identified and applied based on the adequacy of staff spill response. Staff training is intensified during periods when spills are a greater risk, such as prior to significant storm events.

Supporting Documentation

- Training records

6.5 Public Safety during SSO Response Activities

6.5.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that includes procedures to address emergency operations such as traffic and crowd control, and other necessary activities.

6.5.2 Public Safety Measures

The emergency response plan includes procedures to address emergency operations such as traffic control and safety procedures are identified in the spill response plan. The plan also addresses site clean-up and posting of warning signs, and identifies local entities that can be called for emergency response mutual aid.

Supporting Documentation

- SSORP, Section 5.2.1
- SSO Public Advisories

6.6 SSO Prevention and Containment Measures

6.6.1 WDR Language

Each enrollee shall develop and implement an overflow emergency response plan that includes a program to ensure that all reasonable steps are taken to contain and prevent the discharge of untreated or partially treated wastewater to waters of the U.S. and to minimize or correct any adverse impact on to the environment resulting from the SSOs.

6.6.2 Spill Containment

Section 4.2.3 of the SSORP addresses containment and prevention of SSO discharges to waters of the United States. Steps to minimize the effects are included.

Supporting Documentation

- SSORP, Section 4
- SSO assessment and response procedures
- SSO Interagency Notification Procedures - Contact List

SECTION 7

Fats, Oils, and Grease Control Program

OPUD has successfully implemented its Fats Oils and Grease or FOG program. OPUD contacted and inspected each and every commercial customer that had the possibility to create a FOG problem. OPUD then implemented an annual permit system for the customers who were found to have had the ability to create a FOG problem. Additionally, OPUD has required all new FOG permitted commercial to install a District approved interceptor device. OPUD has included FOG information on its website at www.opud.org and in pamphlets to residential and commercial customers. OPUD performs annual inspections of all the FOG permitted customers in the District. Our sewer use ordinance gives us the authority to collect and inspection fee, inspect and regulate the FOG permitted connections in the District.

7.1 Applicability of a FOG Program

7.1.1 WDR Language

An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG.

7.1.2 Public Education and Outreach Program

OPUD plans to initiate a public education and outreach program in conjunction with the Communication Program (Section 11) by August 2009.

Public education and outreach efforts will include:

- Develop billing messages
- Develop/obtain pamphlets to distribute to hot spot areas
- Website development
- Make Best Management Practices available

Supporting Documentation

- Sewer Use Ordinance
- Website
- Billing messages
- Pamphlets
- Grease interceptor and grease trap information

7.2 FOG Disposal

7.2.1 WDR Language

A plan and schedule for the disposal of FOG 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 FOG generated within a sanitary sewer system service area.

7.2.2 Regional Grease Waste Service Providers

A regional service provider list has been established to provide local businesses with disposal information (Table 7-2). Much of this information is available to the public online. The list of facilities that can adequately dispose of FOG may include:

- Rendering Services (brown grease)
- Clean Grease (yellow grease/fryer grease disposal)
  - Biofuel
  - Grease bins
- Maintenance vendors
  - Darling International
  - Local septic tank firms
- Resources:
  - http://www.calfog.org/

– http://www.calfog.org/biodiesel.html

TABLE 7-2
Grease Hauling and Rendering Companies Serving Yuba County

Company	Contact Number
Darling International	(800) 473-4890 1-800-4-GREASE
Liquid Environmental Solutions	(866)-694-7327
Portosan Santa Rosa	(707) 566-2000
Rescue Rooter	(800) 869-6917
Roto Rooter	(800) 269-3747
Ameriguard Maintenance Services	(800) 347-7876 xt14
One More Time	(800) 624-5504
Sacramento Rendering Company	(800) 339-6493

Note:
Source: http: //www.calfog.org/Hauler.html#Yuba

7.3 Legal Authority

7.3.1 WDR Language

Establish the legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG.

7.3.2 Sewer Use Ordinance Prohibitions

OPUD's Sewer Use Ordinance prohibits discharge of FOG into the wastewater collection system. The ordinance also establishes OPUD enforcement authority.

Supporting Documentation

- Sewer Use Ordinance
- Enforcement Actions

7.4 Commercial Facility FOG Prevention Program

7.4.1 WDR Language

If FOG is found to be a problem, the Enrollee must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include as appropriate, requirements to install grease removal devices (such as traps or interceptors) design standards for the removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements; and

Establish the authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance.

7.4.2 Requirements for Commercial Facilities

Installation of grease removal devices is required by the Sewer Use Ordinance for all commercial establishments engaged in the preparation of foodstuffs for the general public. OPUD has adopted the Uniform Plumbing Code (Article III, Section 301 Sewer Use Ordinance) that requires grease removal devices. A commercial facility FOG prevention program will be designed and established to address the level of need identified during the assessment process. Condition assessment will include video inspection, identification of areas or line segments in commercial areas that have facilities that generate FOG, and the number of SSOs caused by FOG. The evaluation will indicate the needed source control measures and facility inspection needs. The assessment will indicate the appropriate level of FOG prevention to be implemented and will serve as the foundation for further developing the FOG program.

Supporting Documentation

- Sewer Use Ordinance
- Grease interceptor/trap handouts
- Universal Plumbing Code

7.5 Cleaning, Maintenance, and Source Control

7.5.1 WDR Language

An identification of sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section; and

Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each hot spot section identified.

7.5.2 Maintenance and Source Control

Food service establishments can be a significant source of FOG because of the amount of oils used in and grease generated from cooking. By implementing Best Management Practices (BMPs), these establishments should be able to significantly reduce the amount of FOG that goes down the drain and enters the collection system. BMP information will be compiled and made readily available to food service establishments.

Characterization of the FOG problem locations in the sewer system will be conducted according to the schedule shown in Table 7-1. Development and implementation of source control measures will depend on the extent of FOG problems determined during the assessment. OPUD will initially mitigate FOG in the collection system through preventative maintenance (line cleaning). If FOG is determined to cause SSOs that cannot be mitigated by preventive maintenance, then a comprehensive FOG source control program will be implemented.

Supporting Documentation

- CMMS data
- Cleaning schedules

SECTION 8

System Evaluation and Capacity Assurance Plan

This section describes how the Olivehurst Public Utility District (OPUD) evaluates its sanitary sewer system and provides for capacity to convey dry and wet weather flows to the wastewater treatment plant.

8.1 Evaluation

8.1.1 WDR Language

Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows (including flows from SSOs that escape from the system) associated with conditions similar to those causing overflow events, estimates of the capacity of key system components, hydraulic deficiencies (including components of the system with limiting capacity), and the major sources that contribute to the peak flows associated with overflow events.

8.1.2 System and Capacity Evaluation

Sewer collection system evaluation and capacity assurance involves assessment to determine the capacity of its major trunk (larger) sewer pipes and the volume and rate of infiltration and inflow (I/I) it receives. The hydraulic analysis evaluates the impact of existing and future flows from the historic Olivehurst service area and determines capacity problems. System flow monitoring was conducted in the trunk lines serving the historic Olivehurst area from January 15, 2009, to March 3, 2009. The sewer systems in areas beyond historic Olivehurst are not being evaluated because they are single-family residential developments constructed within the past 10 years to OPUD current standards.

The emphasis of the hydraulic assessment is to develop a comprehensive planning approach that can be utilized by OPUD staff to identify and implement required improvements to the existing sewer system, as well as expansion of wastewater infrastructure to serve new developments consistent with the recent Yuba County General Plan Update.

The sewer system should be evaluated to determine the capacity of its major trunk (larger) sewer pipes and the volume and rate of rainfall dependant infiltration and inflow (I/I) it receives. The following steps are involved in the capacity evaluation of OPUD's sewer system.

8.1.2.1 Monitor Flow

Flow monitoring is one of the important steps to quantify the wastewater flows in OPUD's collection system. OPUD currently has one permanent flow monitor (meter) on the influent

pipe of the wastewater treatment plant (WWTP), but this flow monitor records flows beyond the historic Olivehurst area.

Seasonal flow monitoring was conducted by installing temporary flow monitors in the trunk lines in OPUD's wastewater collection system for historic Olivehurst. A total of six flow monitors, one event recorder, and three rain gauges were installed in OPUD's sewer system from January 2009 through March 2009. Additional flow monitoring details are presented in a separate report.

Drought conditions in the OPUD area resulted in scant rainfall, and an extended period of flow monitoring was required to capture meaningful rainfall events. Ultimately, the flow monitoring resulted in data for dry weather flows and wet weather flows. During dry weather flow conditions, the flow monitors identify the wastewater flows in each established collection system basin. The flow characteristics of each land use category were determined by performing the dry weather calibration using the dry weather flow monitoring data. The wet weather flow monitoring provided the data that indicate the sewer system response to rainfall.

The flow monitoring provided the data for dry weather calibration and wet weather calibration. The data from January 27, 2009, through February 4, 2009, was used for dry weather calibration. The data from March 1, 2009, and March 3, 2009, was used for the wet weather calibration. The flow monitoring data and the land use data were used to determine the dry weather flows and the wet weather flows for OPUD.

8.1.2.2 Determine Land Use

The 2008 Yuba County secured tax roll obtained from the Assessor's office provided information about the occupied and vacant parcels. The hydraulic analysis assumes that all the vacant parcels within the district will eventually be developed as single-family residential units.

Once the sewer system model is developed, the land use information will be included in the model. The main land use categories within the OPUD's sewer system are:

- Residential
- Commercial
- Industrial
- Schools
- Parks

8.1.2.3 Develop and Calibrate Sewer System Model

The hydraulic model will be utilized to assess the performance of the collection system and identify hydraulic deficiencies. This will lead to the development of strategies to improve hydraulic performance. In general, pipe sizes 8 inches and larger were modeled.

The model represents the actual features in the sewer system, including pipelines, manholes, valves, pump stations, and wet wells. Pump curves for the all major pump stations will be used to convey flows to the wastewater treatment plant.

8.1.2.4 Develop Wastewater Flows

The following flows were established from the flow monitoring:

Dry Weather Flows

Dry weather for the system is based on the dry weather flow monitoring data from January 27, 2009, through February 4, 2009. The dry weather flow pattern for this period is indicated on Figure 8-1. Note: Site TP is the flow monitor located upstream of the wastewater treatment plant which measured flows from the entire historic Olivehurst area and further information is provided in a separate document.

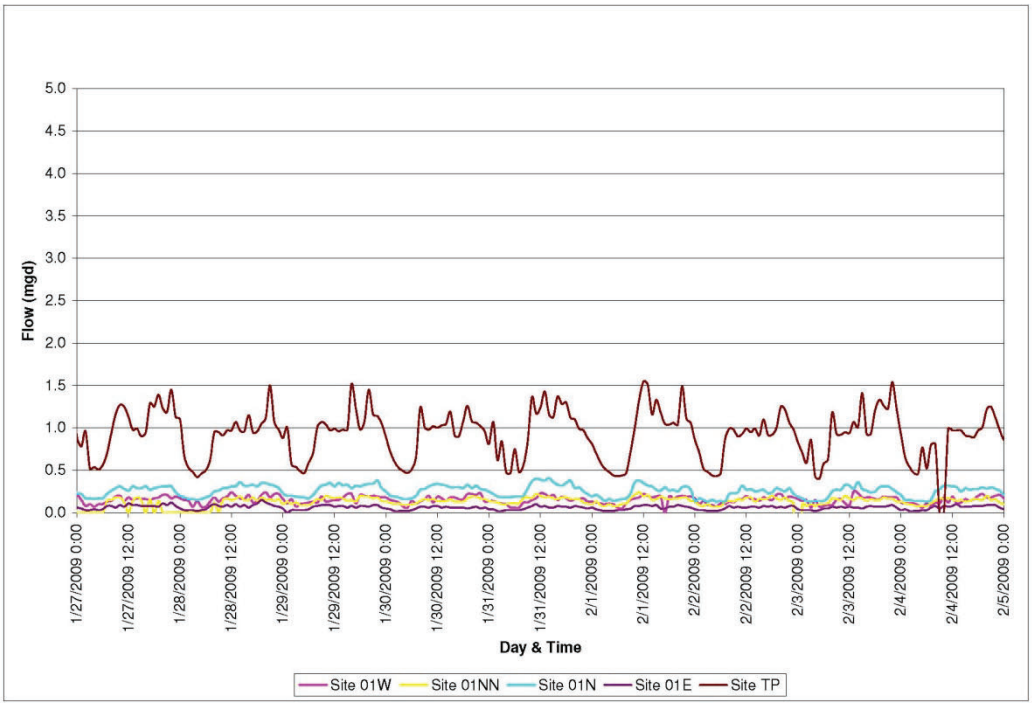


FIGURE 8-1
Dry Weather Calibration Data

The calibration will be performed by using the occupied parcels and initially applying a flow factor of 300 gallons per day per single-family unit. This factor will be adjusted based on the actual dry weather flow monitoring data.

Wet Weather Flows

The wet weather flows were established by performing the wet weather calibration of the system. The data used for the wet weather calibration are from March 1, 2009, and March 3, 2009, providing a cumulative effect rainfall-dependent I/I. The wet weather flow monitoring data used for wet weather calibration are indicated on Figure 8-2.

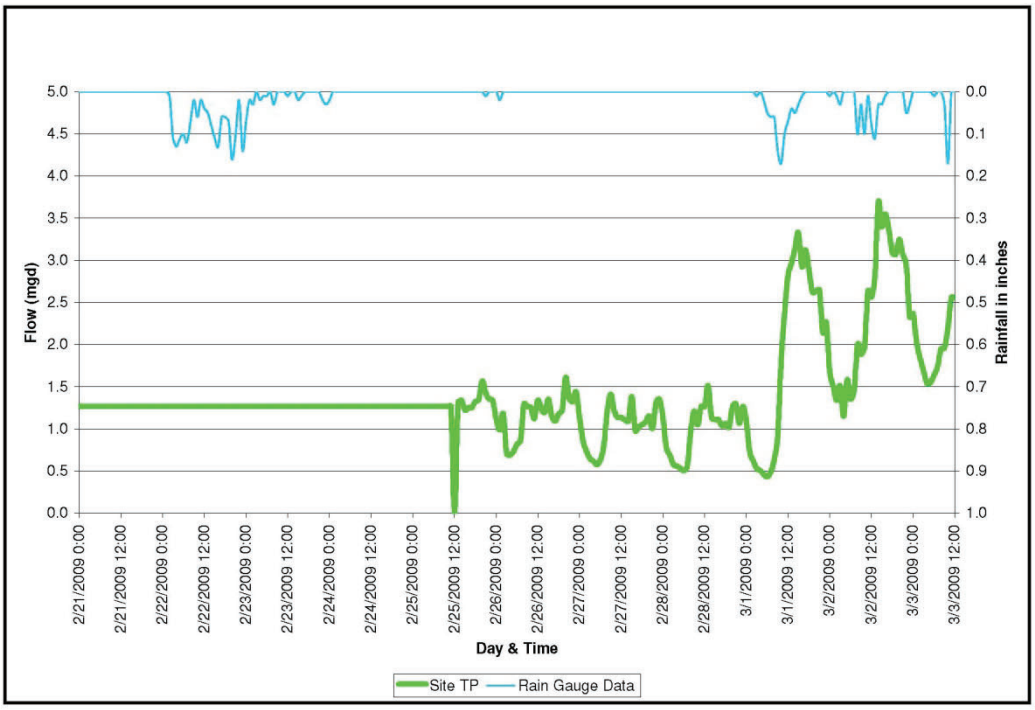
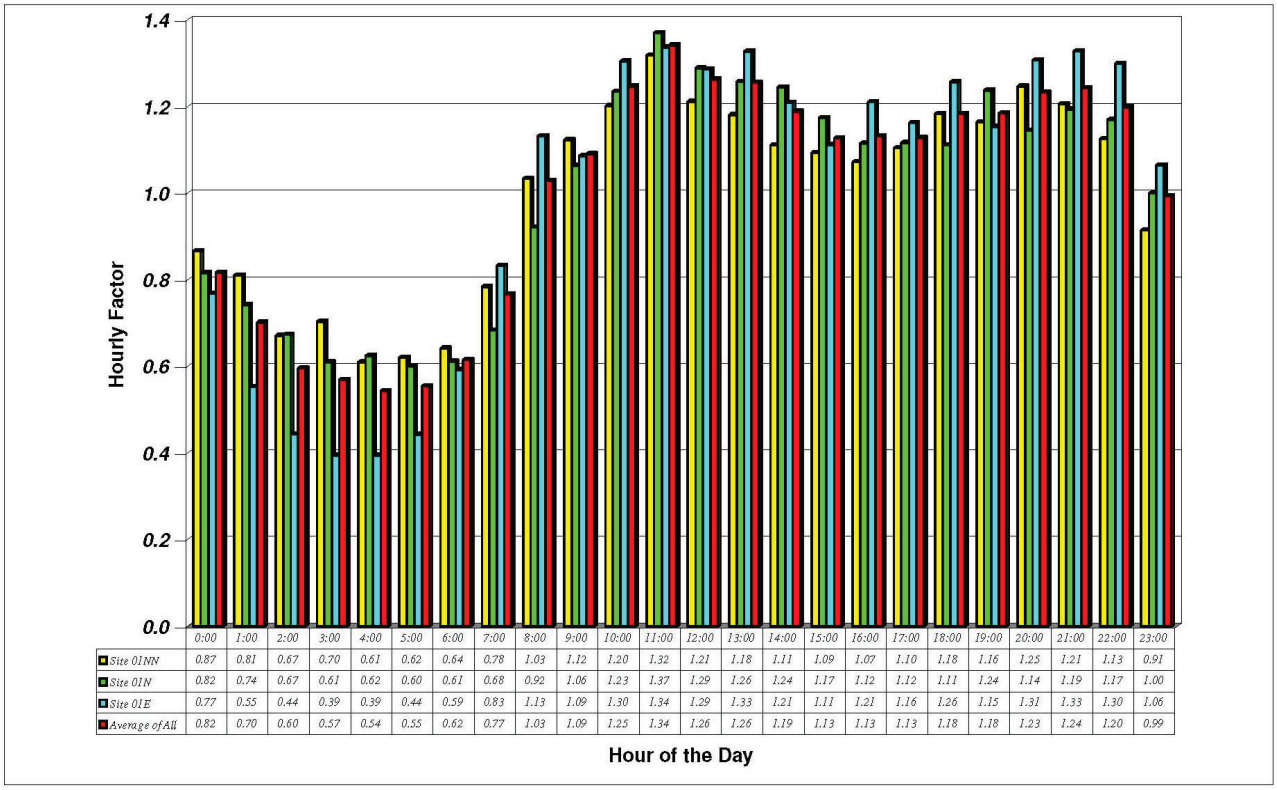


FIGURE 8-2
Wet Weather Calibration Data

The results of dry weather calibration and wet weather calibration are used to establish the wastewater flows for future developments. As the system conditions change with the significant addition of new customers, the flow calibration should be updated to determine the changing flow conditions. This information will serve as the basis for identified wastewater conveyance facilities needed to serve the OPUD for the next 20 years and the associated capital improvement plans (CIPs).

For the hydraulic analysis of the OPUD sewer system, a daily flow pattern is required. The daily flow pattern was determined based on the dry weather flow monitoring data. This flow pattern was used for the dynamic system analysis on an hourly basis to determine the flows into the OPUD sewer system and into the WWTP during various flow conditions.

The dry weather flow pattern for the historic Olivehurst area is indicated on Figure 8-3.



	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
Site 01NN	0.87	0.81	0.67	0.70	0.61	0.62	0.64	0.78	1.03	1.12	1.20	1.32	1.21	1.18	1.11	1.09	1.07	1.10	1.18	1.16	1.25	1.21	1.13	0.91
Site 01N	0.82	0.74	0.67	0.61	0.62	0.60	0.61	0.68	0.92	1.06	1.23	1.37	1.29	1.26	1.24	1.17	1.12	1.12	1.11	1.24	1.14	1.19	1.17	1.00
Site 01E	0.77	0.55	0.44	0.39	0.39	0.44	0.59	0.83	1.13	1.09	1.30	1.34	1.29	1.33	1.21	1.11	1.21	1.16	1.26	1.15	1.31	1.33	1.30	1.06
Average of All	0.82	0.70	0.60	0.57	0.54	0.55	0.62	0.77	1.03	1.09	1.25	1.34	1.26	1.26	1.19	1.13	1.13	1.13	1.18	1.18	1.23	1.24	1.20	0.99

FIGURE 8-3
Hourly Dry Weather Flow Pattern

8.1.2.5 Perform Capacity Analysis

Capacity analysis is performed to determine the adequacy of the existing sewers for various flow conditions, these include:

- Existing dry weather flow conditions
- Existing peak wet weather flow conditions
- Future dry weather flow conditions
- Future peak wet weather flow conditions
- The hydraulic analysis will determine the bottlenecks within the sewer system at existing and future conditions for which improvements will be identified.

8.2 Design Criteria

8.1.1 WDR Language

Where planning and design criteria do not exist or are deficient, undertake the evaluation identified in Section 8.1 above to establish appropriate planning and design criteria.

8.1.2 Design Criteria for OPUD

A design criterion is based on growth projections and build-out requirements. Newer sections of the system go through planning processes including sewer impacts assessment as they are proposed. The sewer system planning will be based on the existing flow conditions and growth projections as per Yuba County's 2008 Secured Roll. The design criteria for OPUD's capacity evaluation and the hydraulic evaluations of the sewer system will be described in detail in a system analysis report that will be completed in 2009.

8.2 Capacity Enhancement Measures

8.2.1 WDR Language

The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.

8.2.2 Capacity Enhancement

If the system has insufficient capacity to accommodate the flows from the capacity analysis, improvements will be identified to adequately accommodate the sewer flows considering cost effectiveness and the best appropriate solution. The capacity modeling identifies potential problem areas that are prioritized and implemented based on capacity assessments or the need for rehabilitation and/or repair.

The hydraulic modeling is used to confirm that sewers are designed to handle all the flows including rainfall dependant infiltration and inflow. The hydraulic evaluation determines where capacity problems exist or will develop in the future to help develop a list of facilities that need to be constructed.

In addition to capacity enhancement improvements, the hydraulic analysis will identify any operational improvements that could be implemented within the sewer system. Operational improvements include updating OPUD's SCADA, adding new controls on existing facilities, and changing the pump station operations.

8.3 Capital Improvement Plan Schedule

8.3.1 WDR Language

The enrollee shall develop a schedule of completion dates for all portions of the CIP developed in Sections 8.1, 8.2, and 8.3. This schedule shall be reviewed and updated consistent with the SSMP review and update requirements.

8.3.2 Capacity Assurance and CIP Schedule

The requirement does not specify that a full Capacity Assurance Plan be completed by the state-required deadline (August 2, 2009). The full Capacity Assurance Plan and CIP may take years to complete, depending on needs and available resources. Based on the results of

hydraulic modeling, initial recommendations for these plan components are included in Table 8-1. As of August of 2013 the CIP has been completed. The Capacity Assurance Plan and full CIP implementation will follow per the schedule below.

Show the status of any necessary capacity assurance projects. Projects fall into three main categories:

- Completed projects
- Projects that are currently in planning, design or construction (up to 5 years)
- Future projects (6- to 20-year time frame)

The project and dates identified above for future projects have been established for capital funding projections, and may not represent the actual project or construction date of the project.

TABLE 8-1
Capital Improvement Program Schedule for Capacity Assurance

Activity	Milestone Date
Initiate identification of problem areas	June 2009
Prioritize system deficiencies	August 2012
Short-term (0-5 year) rehabilitation implementation plan	August 2012
Short-term funding plan	October 2012
Long-term (6-20 year) rehabilitation implementation plan (CIP)	December 2013
Time schedule for implementation of CIP	March 2014
Long-term funding plan	September 2014

Supporting Documentation

- Flow monitoring data
- Flow monitoring map
- System analysis technical memo
- Criteria for hydraulic analysis technical memo

SECTION 9

9 Monitoring, Measurement, and Program Modifications

This element of the SSMP implements techniques that are critical to effective sewer system management. Managing data, establishing annual performance goals (e.g., sewer system inspection, cleaning, maintenance, and rehabilitation), and tracking trends are all important aspects of this section. OPUD is moving toward establishing a program to monitor implementation of the SSMP and will measure the effectiveness of the SSMP through improved performance. By monitoring and reviewing the SSMP, OPUD would expect to see benefits such as:

- Reduced incidence of unauthorized discharges caused by wet weather events
- Enhanced customer service response and relations
- Optimization of existing resources to meet growing demands and expectations
- Financial stability through better anticipation of capital and O&M requirements

OPUD will conduct the SSMP program audit as required bi-annually and identify areas that may require improvement or updating. Data will be reviewed during the audit process and a progress report will be presented to the OPUD Board of Directors. The progress report will document effectiveness of the SSMP, potential modifications that should be made for program improvement, and/or a summary of program activities.

9.1 Relevant Recordkeeping

9.1.1 WDR Language

Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities.

9.1.2 Recordkeeping Systems

OPUD has recently implemented a computerized management program (Maintenance Connection) that is used to collect and store collection system information electronically. In conjunction with the CMMS, OPUD has implemented a dynamic mapping system that will be used to identify areas within the system requiring service or improvement. Implementation of these programs has been initiated, and it is anticipated that full and effective implementation will take several months. The CMMS program is key to maintaining system information.

Supporting Documentation

- CMMS data sets
- Mapping

9.2 Monitoring and Measurement Program Effectiveness

9.2.1 WDR Language

Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP.

9.2.2 Performance Indicators

Assessing the success of the SSMP program will require a review of information. Some examples of performance indicators include:

- Number of SSOs over the past 12 months, distinguishing between dry weather overflows and wet weather overflows
- Number of SSOs in gravity system versus number of SSOs in pressure system
- Volume distribution of SSOs
- Volume of SSOs contained and returned to WWTP, reaching state waters, and contained but not returned to WWTP
- SSOs by cause
- Average response time
- Average lift station down time
- Number of after-hours call-outs
- Capacity-related SSOs compared to storm event return frequency
- Miles of sewer line inspected (CCTV)
- Number of manholes inspected
- Ratio of planned line cleaning to unplanned line cleaning
- Backlog of maintenance projects
- Average number of spills per 100 miles of pipeline
- Capital improvement projects completed

OPUD staff will initially conduct annual reviews to begin to establish benchmarks for performance as it relates to the SSMP. OPUD will maintain and track information on system operation by keeping the CMMS up to date. OPUD will review several factors, including the number of SSOs, locations of SSOs, cause of SSOs, frequency of customer complaints, and many other factors. Information will be compared to prior data sets to assess performance and identify system priorities and measures that can be implemented or modified to improve and achieve goals.

The process is consistent with a continual cycle of planning in an environmental management type system. The "Plan, Do, Check, Act" model leads to continual improvement based on:

- Planning, including identifying environmental (compliance) aspects and establishing goals (plan)
- Implementing, including training and operational controls (do)
- Checking, including monitoring, inspection, and corrective action (check)
- Reviewing, including progress reviews (audits) and acting to make needed changes to the measures identified to correct and improve (act)

Supporting Documentation

- Annual reports
- Bi-annual audit
- Work orders completed

9.3 Preventive Maintenance Performance

9.3.1 WDR Language

Assess the success of the preventative maintenance program.

9.3.2 Preventative Maintenance Program

The preventative maintenance program is in effect and being revised and updated to meet updated requirements per the need of the District. The program includes various aspects, including inspection and regularly scheduled maintenance as described in the Operations and Maintenance section.

Standard operating procedures and performance measure targets are evaluated during the annual audit. The audits demonstrate whether an activity is achieving the established goal or requires improvement. An audit report is completed once-a-year to ensure that upkeep and proper procedure occur per requirements of the preventative maintenance program.

Supporting Documentation

- Statistical comparisons
- CMMS records
- Customer feedback

9.4 Updates

9.4.1 WDR Language

Update program elements, as appropriate, based on monitoring or performance evaluations.

9.4.2 Internal Audits

As a part of the SSMP, the enrollee is required to conduct internal audits at least every 2 years. The audit will evaluate how well the program accomplished the program goals established and whether the program, as implemented, is effective overall. Updates to program elements, as appropriate, will be made during this bi-annual auditing process.

9.5 Trends

9.5.1 WDR Language

Identify and illustrate SSO trends, including; frequency, location, and volume.

9.5.2 SSO Trends

OPUD will identify and illustrate SSO trends during the bi-annual audit process. The CMMS program will be utilized to review information and generate collection system statistics. Information input into the CIWQS may also be utilized to analyze system SSO status.

Supporting Documentation

- Bi-annual audit
- CIWQS database/spill reports
- CMMS records

SECTION 10

10 SSMP Program Audits

As a part of the SSMP, the enrollee is required to conduct internal audits at least every 2 years. The audit will evaluate how well the program accomplished the program goals established, and whether the program, as implemented, is effective overall. Proper management, operation, and maintenance program implementation requires the utility to assess performance on a regular basis. The purpose of the evaluation is to determine whether the programs are achieving established goals and whether the program is being implemented efficiently and cost effectively.

The audit will evaluate the effectiveness of the SSMP and compliance with the requirements. Identification of deficiencies and corrective actions must be included in the audit. Demonstrated items should include achievements (e.g., meeting or exceeding performance goals) and budget allocations, either from the SSMP implementation date or the most recent audit. Corrective actions listed should include any ongoing corrective actions. If a corrective action was implemented, it should be noted in the audit. If deficiencies or modifications are identified as a part of the audit, the SSMP will be updated accordingly or Project Data Sheets will be created to document and track progress on recommended program improvements.

Audit requirements include:

- Conduct a periodic internal audit at least every 2 years
- Evaluate each SSMP element
- Demonstrate effectiveness of the SSMP and compliance with the General WDR
- Prepare an audit report and keep on file

10.1 SSMP Program Audits

10.1.1 WDR Language

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

10.1.2 Audit Schedule and Implementation

Audits will be conducted bi-annually. The first audit will be completed by August 2, 2011, to achieve compliance with the General WDRs. An annual audit report will be prepared to evaluate the effectiveness of the SSMP and compliance with the General Order. The report will include identification of any corrective actions.

10.1.3 Audit Procedure

Audits will be conducted by designated staff at the frequency described above. The audit process will include the following aspects:

- Management interview
- Field evaluation
- Record review (mandatory)
- Examination of programs relative to performance (audit checklist)
- Definition of deficiencies (audit checklist)
- Identification of program improvements needed to enhance performance (audit report)
- Development of a schedule for implementing improvements (or adjusting existing schedules)

The designated auditor will complete an audit checklist. The checklist will include each element of the SSMP. Questions answered with a "yes" will demonstrate how the goal has been implemented or achieved in order to document implementation effectiveness. Questions answered with "no" will explain why the goal has not been achieved and a corrective action and time schedule for implementation. If it becomes apparent that a goal is unreasonable or not achievable, the goal will be modified to identify practical goals that meet the General WDRs. An SSMP Audit Report form will be completed.

10.1.4 Recordkeeping

The audit report will be signed by the auditor and any designated regulatory compliance staff. A copy will be kept on file in the District Administrative Office.

SECTION 11

Communication Program

OPUD is committed to openly communicating on a regular basis with the public and allowing input from interested parties on the development, implementation, and performance of its SSMP.

11.1 Public Communication and Outreach

11.1.1 WDR Language

The Enrollee shall communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The communication system shall provide the public the opportunity to provide input to the Enrollee as the program is developed and implemented.

OPUD is committed to communicating on a regular basis with interested parties on the implementation and performance of the SSMP. The communication program allows interested parties to provide input as the program is developed and implemented. OPUD has complied with this requirement by providing information on its website and at its administrative office. Monthly Board of Director meetings are open to the public. OPUD directors and staff meet regularly at the sub-committee level to discuss the wastewater treatment and collection system. These meetings are also open to the public and agendas are posted online and in a location accessible to the public. OPUD staff contact information is available to the public and staff may be contacted conveniently by phone or via email. Current SSMP information will be available to the public on an ongoing basis as the program is developed and implemented.

Supporting Documentation

- Website http://www.opud.org/wastewater.htm
- Public service announcements, press releases, and/or newsletters
- Billing messages pertinent to the SSMP
- Meeting agendas

11.2 Tributary Wastewater Conveyance Systems

11.2.1 WDR Language

The Enrollee shall also create a plan of communication with systems that are tributary and/or satellite to the Enrollee's sanitary sewer system.

At this time, OPUD has no tributary or satellite connections to the wastewater collection system. A plan of communication will be developed and implemented should such connections occur in the future.

Sewer System Management Plan Bi-Annual Audit Report

Olivehurst Wastewater Collection System

Name of Agency	
Audit Date	
Name of Auditor(s)	

System Overview	
Miles of gravity sewer mains	
Miles of force mains	
Total miles of all sewer lines	
# of pump stations	
Miles of private sewer mains, not including laterals (include satellite systems)	
Miles of private sewer laterals	
Population served	
# of Equivalent Dwelling Units (SFD connection equivalent)	
Current average monthly SFD sewer rate	$

I. Goals

The audit will assess whether the goals stated in the SSMP are still appropriate and accurate. Several goals are listed in the SSMP as follows.

Goal 1. Maintain or improve the condition of the collection system infrastructure in order to provide reliable service now and into the future.

1. Has the condition of the collection system been improved in a manner that has provided reliable service? ☐ Yes ☐ No

   a. Is this goal current? ☐ Yes ☐ No

   Demonstrate: Briefly describe how conditions have been improved to provide system reliability and how this has impacted service or refer to appropriate SSMP sections that address this goal. If you answered NO to question 1, describe content and schedule for necessary changes. If the goal is no longer current, describe any modifications.

Goal 2. Cost-effectively minimize infiltration/inflow (I/I) and provide adequate sewer capacity to accommodate design storm flows.

2. Have actions been undertaken to minimize I/I to improve capacity and accommodate design storm flows? ☐ Yes ☐ No

   a. Is this goal current? ☐ Yes ☐ No

   Demonstrate: Briefly describe progress toward reducing I/I or refer to the appropriate SSMP section(s) that address this goal. If you answered NO to question 2, describe content and schedule for necessary changes.

   _____
   _____
   _____
   _____

Goal 3. Minimize the number and impact of sanitary sewer overflows (SSOs) that occur.

3. Have the number of SSOs reduced over time? ☐ Yes ☐ No
4. Has the impact of SSOs reduced over time? ☐ Yes ☐ No

Demonstrate: Briefly describe progress toward reducing SSOs and impacts or refer to the appropriate SSMP section(s) that address this goal. If you answered NO to questions 3 and/or 4 of Goal 3, describe the content and schedule for necessary changes.

_____
_____
_____
_____

Goal Summary:

Overall, are the goals still accurate? ☐ Yes ☐ No

Are the goals still effective? ☐ Yes ☐ No

Will the agency update the goals? ☐ Yes ☐ No

Comments:

_____
_____
_____

II. Organization

5. Is the SSMP up-to-date with agency organization and staffing contact information?

☐ Yes ☐ No

Demonstrate: Acknowledge that contact information is current in all sections of the SSMP and identify the specific sections. Acknowledge that the lines of authority are still current (SSMP Section 2) and the chain of communication for reporting SSOs is current (Sections 2 and 6). If the contact lists are not current, describe content and schedule for updates.

_____

_____

_____

Name of authorized representative:_____

III. Legal Authority

Proofs

Check all that apply:

☐ Sewer use ordinances
☐ Special service agreements
☐ District enforcement actions
☐ Notice to Comply
☐ Notice of Violation
☐ Cease and Desist Order
☐ Other: _____
☐ Other legally binding procedure: _____

6. Does the SSMP contain up-to-date information about your agency's legal authority?

☐ Yes ☐ No

7. Does your agency have sufficient legal authority to control sewer use including illicit discharges, maintenance, and new construction activities?

☐ Yes ☐ No

Demonstrate: Identify legal authority mechanism(s), and if it continues to adequately address current regulatory requirements (e.g., Sewer Use Ordinance, adopted date). Identify how your agency has sufficient legal authority to control sewer use and maintenance (e.g., right-of-entry, inspections, Notice to Comply, authority to disconnect, etc.). If you answered NO to questions 6 or 7, describe content and schedule for necessary changes.

Legal Authority Adoption Date: _____

_____

_____

_____

_____

IV. Operation and Maintenance Program

a. Collection System Maps

Proofs

☐ Mapping system

Check all that apply:

☐ As-builts ☐ electronic database ☐ System schematics ☐ O & M manuals

☐ Other: _____

8. Does the SSMP contain up-to-date information about your agency's maps?

☐ Yes ☐ No

9. Are your agency's collection system maps complete, up to date, and adequately detailed? ☐ Yes ☐ No

Demonstrate: Describe how the agency has kept maps up to date by reviewing Section 4 of the SSMP for accuracy and note below that it is still current. If you answered NO to questions 8 or 9, describe content and schedule for necessary changes.

_____

_____

_____

_____

b. Prioritized Preventive Maintenance

Proofs

Check all that apply:

☐ Cleaning schedules
☐ Standard operating procedures
☐ List or map of hot spots
☐ Work order system
☐ Service call data records
☐ Customer feedback records
☐ Maintenance tracking system
  ☐ manual ☐ computerized
☐ Maintenance history records
  ☐ manual ☐ computerized
☐ Follow manufacturer's equipment maintenance recommendations
  ☐ Equipment maintenance records
    ☐ manual (e.g., logbooks) ☐ computerized

10. Does the SSMP contain current information about your agency's preventive maintenance activities? ☐ Yes ☐ No

11. Are your agency's preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages?

☐ Yes ☐ No

Demonstrate: Describe the proofs above used to qualify a YES answer. Review collected data and statistics (Table 1 and 2 below may provide useful information) to assess the conditions and verify whether preventive maintenance activities are sufficient and effective. If you answered NO to questions 10 and/or 11, describe content and schedule for necessary improvements. If more data are required to make the assessment, comment in the space provided below.

_____
_____
_____
_____
_____

c. Scheduled Inspections and Condition Assessment for Rehabilitation and Replacement

Proofs

☐ Inspection reports
☐ Manhole ☐ Smoke Testing ☐ CCTV ☐ Pump Station ☐ Other:_____

☐ Infiltration and Inflow (I/I) monitoring activities or documents
☐ Inspections ☐ Field studies (e.g., flow monitoring) ☐ Reports
☐ Review and analyze self-monitoring reports

12. Does the SSMP contain current information about your agency's inspection and condition assessment process? ☐ Yes ☐ No

13. Are your agency's scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies? ☐ Yes ☐ No

Demonstrate: Check current inspection forms utilized from the list above for conditions assessment and version date to confirm that forms are up to date. Describe how the condition inspection process is implemented to identify problems and how this information is incorporated into a corrective action process. If you answered NO to questions 12 and/or 13, describe content and schedule for necessary changes.

_____
_____
_____
_____
_____

d. Resources and Budget for Rehabilitation and Replacement

Proofs

☐ Current Capital Improvement Plan (CIP)
☐ Current Fiscal Year Budget(s)

14. Does the SSMP contain current information about your agency's resources and budget? ☐ Yes ☐ No

15. Are your agency's resources and budget sufficient to support effective sewer system management including preventive maintenance? ☐ Yes ☐ No

16. Do your agency's planning efforts support:

    a. short-term goals? ☐ Yes ☐ No

    b. long-term goals? ☐ Yes ☐ No

17. Are rehabilitation and replacement projects prioritized? ☐ Yes ☐ No

Demonstrate: Describe SSMP material such as the CIP and where budget information for these activities is located (e.g., annual operating budgets). If you answered NO to questions 14, 15, 16, and/or 17, describe content and schedule for necessary changes.

_____
_____
_____
_____

e. Contingency Equipment and Replacement Inventories

Proofs

☐ Equipment and materials expenditures
☐ Equipment and parts inventory

Check all that apply:

Types of Inventory Management Utilized:
☐ Computerized maintenance management system (CMMS)
☐ Manual recordkeeping
☐ Fixed assets inventory lists
☐ Other: _____

18. Does the SSMP contain current information about equipment and replacement parts inventories? ☐ Yes ☐ No

19. Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance? ☐ Yes ☐ No

Demonstrate: Confirm YES answers by reviewing budget expenditures and describe how equipment and parts inventories are sufficient and meet the standards described in the SSMP. If you answered NO to questions 18 and/or 19, describe content and schedule for necessary arrangements.

_____
_____
_____
_____
_____

f. Training

Proofs

☐ Staff Training
- ☐ Employee training records ☐ Training videos ☐ web based learning
- ☐ Vendor training records ☐ Continuing education credits

☐ Staff Training effectiveness
- ☐ Staff feedback ☐ Surveys

☐ Contractor Training
- ☐ Contract specifications ☐ Required safety plans

20. Does the SSMP contain current information about your agency's training expectations and programs? ☐ Yes ☐ No
21. Do supervisors believe that their staff is sufficiently trained? ☐ Yes ☐ No
22. Are staff satisfied with the training opportunities and support offered to them? ☐ Yes ☐ No

Demonstrate: Describe the processes that the agency uses to train staff and how this is consistent with the SSMP. Describe the methods used to assess supervisor and staff satisfaction with training opportunities. If you answered NO to questions 20, 21, and/or 22, describe content and schedule for necessary improvements.

V. Design and Construction Standards

Proofs

Check all that apply:

☐ Design and construction standards
- ☐ New sewer system component construction ☐ Rehabilitation and repair

☐ Ordinances applicable to construction, rehabilitation and repair

☐ Inspections
- ☐ Standard inspection procedures

23. Does the SSMP contain current information about your agency's design and constructions standards? ☐ Yes ☐ No

24. Are design and construction standards comprehensive and current? ☐ Yes ☐ No

25. Are inspection and testing of new and rehabilitate facilities adequate and current? ☐ Yes ☐ No

Demonstrate: Describe the version of design and construction standards (date) used. Describe how inspection and testing methods used are the current best practices and/or industry standard. If you answered NO to questions 23, 24, and 25, describe content and schedule for necessary revisions.

_____
_____
_____
_____

VI. Overflow Emergency Response Plan

Proofs

Check all that apply:

☐ Overflow Emergency Response Plan (required)
- ☐ Current notification procedures
- ☐ Current notification list
- ☐ SSO response procedures
- ☐ Staff training
- ☐ Public safety
- ☐ Spill containment measures

☐ CIWQS online database reporting (required)
☐ Service call data
☐ Spill report forms

26. Does the SSMP contain a current version of your agency's Overflow Emergency Response Plan?

27. Considering the information in Table 1 Annual SSO Statistics (located below), is the Overflow Emergency Response Plan effective in handling SSOs?

Demonstrate: Describe how the SSMP complies with current regulations and takes any updates to regulations (if any) into consideration. Describe how updates have been added to the Plan (e.g., by addendum or memorandum). If you answered NO to questions 26 or 27, describe content and schedule for necessary revisions and implementation.

_____
_____
_____
_____

TABLE 1
Annual SSO Statistics

Indicator	2009	2010	2011	2012
Total SSOs				
Wet season SSOs*				
Dry season SSOs*				
Number of SSOs (by volume/gallons)				
<10				
10-99				
100-999				
1000-9999				
≥10,000				
Total Annual SSO Volume				
Gallons reaching waters of the State				
Volume recovered				
Net volume (total minus recovered)				
Total influent at the WWTP				
Number of SSOs by cause				
Roots				
Grease				
Debris from laterals				
Multiple causes				
Other: (describe)				
Infrastructure failure				
Inflow and infiltration (surcharging)				
Power failure				
Hydraulic deficiency (capacity limitations)				
Natural disaster				
Cause unknown				
Other: (describe)				
Average response time (minutes)				
During business hours				
Non-business hours				

*Wet season is November through April; dry season is May through October.

VII. Fats, Oils, and Grease Control Plan

Proofs

Check all that apply:

☐ Potential commercial FOG sources in the service area
☐ list ☐ map ☐ manual ☐ electronic

☐ Location of all (commercial and residential) hot spots
☐ list ☐ map ☐ manual ☐ electronic

☐ Collection system cleaning schedules

☐ Restaurant inspection reports or summaries

☐ Other: _____

☐ Spill reports including online CIWQS

☐ Service call data

TABLE 2
FOG Annual Information

	2009	2010	2011	2012
Number of SSOs caused by FOG				
Planned cleaning (lf)				
Unplanned cleaning (lf)				
Citations issued				
FOG inspections				

28. Does the SSMP contain current information about your agency's FOG control program? ☐ Yes ☐ No

29. Considering the information in Table 2, is the current FOG program effective in documenting and controlling FOG sources? ☐ Yes ☐ No

30. Is the agency on track to meet implementation schedule for public education and outreach? ☐ Yes ☐ No

Demonstrate: Check the applicable methods that your agency utilizes to evaluate the FOG conditions in the collection system. Describe any measured successes of the FOG program. If you answered NO to questions 28, 29, and/or 30, describe content and schedule for necessary changes.

_____
_____
_____
_____
_____

VIII. Capacity Assurance Management

Proofs
Check all that apply:

☐ Capacity assessment reports
- ☐ Hydraulic Analysis ☐ Collection System Master Plan
- ☐ Other: _____

☐ Capital Improvement Program
- ☐ short-term (0 – 5 years) ☐ long-term (6-20 years)

☐ Funding needs and resources
- ☐ public financing ☐ private financing
- ☐ adequate connection fees ☐ current rate analysis
- ☐ Other: _____

☐ SSO data

31. Does the SSMP contain current information about your agency's capacity assessment? ☐ Yes ☐ No
32. Has your agency completed a capacity assessment and identified and addressed hydraulic deficiencies in the system on planned schedules? ☐ Yes ☐ No
33. Are identified projects remaining on schedule with the implementation plan? ☐ Yes ☐ No
34. Has your agency identified current sources of funding? ☐ Yes ☐ No

Demonstrate: Check the applicable reports in the proofs above confirming that there are reports or documents that evaluate system capacity assessment. Describe how the assessment(s) address potential hydraulic deficiencies and the status of project implementation. Explain which projects have been implemented on planned schedule. If you answered NO to questions 31, 32, 33, and/or 34, describe content and schedule for necessary activities.

_____
_____
_____
_____
_____

IX. Monitoring, Measurement, and Program Modifications

Proofs

- ☐ Computerized Maintenance and Management System
- ☐ Mapping technologies
- ☐ Work order system
- ☐ System(s) implemented for consistent recordkeeping

35. Does the SSMP contain current information about your agency's data collection and organizational systems? ☐ Yes ☐ No

36. Is your agency's data collection and organization sufficient to evaluate the effectiveness of your SSMP?

Demonstrate: Check the applicable proofs implemented for data collection and organization. Verify that the methods are current in the SSMP. If you answered NO to questions 32 and 33, describe and schedule for necessary improvements.

_____
_____
_____
_____

X. SSMP Audits

Proofs

- ☐ Prior SSMP audits

37. Does the SSMP contain current information about your agency's audits and frequencies? ☐ Yes ☐ No

38. Has your agency met all of the schedules for necessary improvements identified in the prior audit? ☐ Yes ☐ No

Demonstrate: Verify audit frequency. Describe improvements completed that were previously identified. If you answered NO to questions 34 and 35, describe improvements that remain to be addressed and update previous schedules for necessary improvements.

_____
_____
_____
_____

XI. Communication Program

Proofs

☐ Mailings
☐ Website
☐ Public service announcements (via media)
☐ Customer feedback

39. Does the SSMP contain current information about your agency's public outreach methods? ☐ Yes ☐ No

40. Has your agency effectively communicated with the public and other agencies about the SSMP and addressed feedback? ☐ Yes ☐ No

41. If your agency has satellite or tributary agencies connected to the collection system, does the SSMP contain current information about your agency's communications with them?

☐ Yes ☐ No ☐ N/A

Demonstrate: Check all proofs that apply to your communication and outreach methods. If you answered NO to questions 36, 37, and/or 38, describe content and schedule for necessary improvements.

_____
_____
_____
_____
_____

Sewer System Management Plan Bi-Annual Audit Report
Olivehurst Wastewater Collection System

Name of Agency	Olivehurst Public Utility District
Audit Date	March 2023
Name of Auditor(s)	Swarnjit Boyal

System Overview	
Miles of gravity sewer mains	40
Miles of force mains	8
Total miles of all sewer lines	55
# of pump stations	19
Miles of private sewer mains, not including laterals (include satellite systems)	0
Miles of private sewer laterals	0
Population served	24,721
# of Equivalent Dwelling Units (SFD connection equivalent)	7,241
Current average monthly SFD sewer rate	$42

I. Goals

The audit will assess whether the goals stated in the SSMP are still appropriate and accurate. Several goals are listed in the SSMP as follows.

Goal 1. Maintain or improve the condition of the collection system infrastructure in order to provide reliable service now and into the future.

1. Has the condition of the collection system been improved in a manner that has provided reliable service? ☒ Yes ☐ No

   a. Is this goal current? ☒ Yes ☐ No

   Demonstrate: Briefly describe how conditions have been improved to provide system reliability and how this has impacted service or refer to appropriate SSMP sections that address this goal. If you answered NO to question 1, describe content and schedule for necessary changes. If the goal is no longer current, describe any modifications.

   Continued proactive maintenance and cleanings to reduce blockages and SSOs. Numerous pump station rebuilds and replacements throughout system. For future purposes, OPUD has implemented highest of standards regarding integrated inspections prior to acceptance of collection systems along with newest standards set for manholes and pipe materials which will last longer, reduce future leaks, etc….

Goal 2. Cost-effectively minimize infiltration/inflow (I/I) and provide adequate sewer capacity to accommodate design storm flows.

2. Have actions been undertaken to minimize I/I to improve capacity and accommodate design storm flows? ☒ Yes ☐ No

   a. Is this goal current? ☒ Yes ☐ No

   Demonstrate: Briefly describe progress toward reducing I/I or refer to the appropriate SSMP section(s) that address this goal. If you answered NO to question 2, describe content and schedule for necessary changes.

   Required developers to fix unused infrastructure to reduce I/I. Employed new eco-friendly techniques to repair manholes and broken pipes. Any manholes that need repairs go through lining via Armor Rock which guarantees 50 year erosion corrosivity.

Goal 3. Minimize the number and impact of sanitary sewer overflows (SSOs) that occur.

3. Have the number of SSOs reduced over time? ☒ Yes ☐ No
4. Has the impact of SSOs reduced over time? ☒ Yes ☐ No

Demonstrate: Briefly describe progress toward reducing SSOs and impacts or refer to the appropriate SSMP section(s) that address this goal. If you answered NO to questions 3 and/or 4 of Goal 3, describe the content and schedule for necessary changes.

Continued proactive and preventative maintenance to avoid SSOs.

Goal Summary:

Overall, are the goals still accurate? ☒ Yes ☐ No

Are the goals still effective? ☒ Yes ☐ No

Will the agency update the goals? ☒ Yes ☐ No

Comments:

II. Organization

5. Is the SSMP up-to-date with agency organization and staffing contact information?

☒ Yes ☐ No

Demonstrate: Acknowledge that contact information is current in all sections of the SSMP and identify the specific sections. Acknowledge that the lines of authority are still current (SSMP Section 2) and the chain of communication for reporting SSOs is current (Sections 2 and 6). If the contact lists are not current, describe content and schedule for updates.

Item updated to reflect current OPUD organization structure and staffing.

Name of authorized representative: Greg Axline

III. Legal Authority

Proofs
Check all that apply:

☒ Sewer use ordinances
☒ Special service agreements
☐ District enforcement actions
☒ Notice to Comply
☐ Notice of Violation
☐ Cease and Desist Order
☐ Other: _____
☒ Other legally binding procedure: Shut off service.

6. Does the SSMP contain up-to-date information about your agency's legal authority?

☒ Yes ☐ No

7. Does your agency have sufficient legal authority to control sewer use including illicit discharges, maintenance, and new construction activities?

☒ Yes ☐ No

Demonstrate: Identify legal authority mechanism(s), and if it continues to adequately address current regulatory requirements (e.g., Sewer Use Ordinance, adopted date). Identify how your agency has sufficient legal authority to control sewer use and maintenance (e.g., right-of-entry, inspections, Notice to Comply, authority to disconnect, etc.). If you answered NO to questions 6 or 7, describe content and schedule for necessary changes.

Legal Authority Adoption Date: February 19, 2009

Sewer use ordinance #209 adopted on February 19, 2009 and it became effective May 1, 2009.

IV. Operation and Maintenance Program

a. Collection System Maps

Proofs
☒ Mapping system

Check all that apply:
☒ As-builts ☒ electronic database ☒ System schematics ☒ O & M manuals
☒ Other: GIS Database

8. Does the SSMP contain up-to-date information about your agency's maps?

☒ Yes ☐ No

9. Are your agency's collection system maps complete, up to date, and adequately detailed? ☒ Yes ☐ No

Demonstrate: Describe how the agency has kept maps up to date by reviewing Section 4 of the SSMP for accuracy and note below that it is still current. If you answered NO to questions 8 or 9, describe content and schedule for necessary changes.

New developments within the District are required to provide as-builts in a CAD format. We also have a service contract with our GIS provider to spend time each month updating our GIS database.

b. Prioritized Preventive Maintenance

Proofs

Check all that apply:
☒ Cleaning schedules
☒ Standard operating procedures
☒ List or map of hot spots
☒ Work order system
☒ Service call data records
☒ Customer feedback records
☒ Maintenance tracking system
☐ manual ☒ computerized
☒ Maintenance history records
☐ manual ☒ computerized
☒ Follow manufacturer's equipment maintenance recommendations
☒ Equipment maintenance records
☒ manual (e.g., logbooks) ☒ computerized

10. Does the SSMP contain current information about your agency's preventive maintenance activities? ☒ Yes ☐ No

11. Are your agency's preventive maintenance activities sufficient and effective in reducing and preventing SSOs and blockages?

☒ Yes ☐ No

Demonstrate: Describe the proofs above used to qualify a YES answer. Review collected data and statistics (Table 1 and 2 below may provide useful information) to assess the conditions and verify whether preventive maintenance activities are sufficient and effective. If you answered NO to questions 10 and/or 11, describe content and schedule for necessary improvements. If more data are required to make the assessment, comment in the space provided below.

The number of SSO's from 2016 to present have been reduced to 0 by staff due to preventative maintenance and cleaning of collections system. OPUD had a case where private owner had an overflow of which OPUD was called and notified County Environmental Health and took actions to support clean-up and document situation with a letter to owner regarding repairs required to private system. OPUD has had back up of manholes due to developer construction debris entering manholes and plugs, of which OPUD required clean-up efforts and documentation was recorded along with staff inspection of proper clean up matters in order to resolve matter to ensure no SSO occurs. OPUD operates under the belief the CMMS needs to continue to be used. OPUD also has a Commercial Site Inspection Report which allows OPUD to observe large commercial sites and inspect facilities in order to ensure wastewater being sent to the system meet required level of waste and doesn't dump into the system that could clog the Sanitary system or cause a disturbance at the wastewater treatment plant.

c. Scheduled Inspections and Condition Assessment for Rehabilitation and Replacement

Proofs

☒ Inspection reports
☒ Manhole ☒ Smoke Testing ☒ CCTV ☒ Pump Station ☐ Other:_____

☒Infiltration and Inflow (I/I) monitoring activities or documents
☒ Inspections ☒ Field studies (e.g., flow monitoring) ☒ Reports
☒ Review and analyze self-monitoring reports

12. Does the SSMP contain current information about your agency's inspection and condition assessment process? ☒ Yes ☐ No

13. Are your agency's scheduled inspections and condition assessment system effective in locating, identifying, and addressing deficiencies? ☒ Yes ☐ No

Demonstrate: Check current inspection forms utilized from the list above for conditions assessment and version date to confirm that forms are up to date. Describe how the condition inspection process is implemented to identify problems and how this information is incorporated into a corrective action process. If you answered NO to questions 12 and/or 13, describe content and schedule for necessary changes.

Through inspections, we are able to identify trouble spots through visual sightings of grease buildup or other types of deposits, helping us with our cleaning program. Additionally, we utilize the CMMS as well as our pipe cleaning software and GIS

database to log and categorize defects. All lift stations are inspected visually on site weekly by staff and monitored on a daily basis via Missions integrated system which allows remote access and updates within ones phone or computer. Flow analysis and data help allow to indicate operation efficiencies or any discrepancies within a system.

d. Resources and Budget for Rehabilitation and Replacement

Proofs

☒ Current Capital Improvement Plan (CIP)
☒ Current Fiscal Year Budget(s)

14. Does the SSMP contain current information about your agency's resources and budget? ☒ Yes ☐ No

15. Are your agency's resources and budget sufficient to support effective sewer system management including preventive maintenance? ☒ Yes ☐ No

16. Do your agency's planning efforts support:

    a. short-term goals? ☒ Yes ☐ No

    b. long-term goals? ☒ Yes ☐ No

17. Are rehabilitation and replacement projects prioritized? ☒ Yes ☐ No

Demonstrate: Describe SSMP material such as the CIP and where budget information for these activities is located (e.g., annual operating budgets). If you answered NO to questions 14, 15, 16, and/or 17, describe content and schedule for necessary changes.

OPUD is in the current works of updating there CIP but the current one is still in effect. OPUD is working with Burdict and Co to develop the revised CIP and is in the final stages. OPUD has prioritized updates that need to be made to collection systems. The CIP will includes OPUDs short and long term goals, as well as prioritization of rehabilitation and replacement projects. OPUD is also in the final stages to complete PROP 218 and is going to the board for approval in order to raise rates due to inflation and increase in cost of operations.

e. Contingency Equipment and Replacement Inventories

Proofs

☒ Equipment and materials expenditures
☒ Equipment and parts inventory

Check all that apply:

Types of Inventory Management Utilized:
☒ Computerized maintenance management system (CMMS)
☒ Manual recordkeeping
☒ Fixed assets inventory lists
☐ Other: _____

18. Does the SSMP contain current information about equipment and replacement parts inventories? ☒ Yes ☐ No

19. Are contingency equipment and replacement parts sufficient to respond to emergencies and properly conduct regular maintenance? ☒ Yes ☐ No

Demonstrate: Confirm YES answers by reviewing budget expenditures and describe how equipment and parts inventories are sufficient and meet the standards described in the SSMP. If you answered NO to questions 18 and/or 19, describe content and schedule for necessary arrangements.

Contingencies are evaluated either by manufacturer recommendations or empirically. Once a suggested inventory for spares is identified, we establish a budget line item to fund the spares.

f. Training

Proofs

☒ Staff Training
- ☒ Employee training records ☒ Training videos ☒ web based learning
- ☒ Vendor training records ☒ Continuing education credits

☒ Staff Training effectiveness
- ☒ Staff feedback ☐ Surveys

☒ Contractor Training
- ☒ Contract specifications ☒ Required safety plans

20. Does the SSMP contain current information about your agency's training expectations and programs? ☒ Yes ☐ No
21. Do supervisors believe that their staff is sufficiently trained? ☒ Yes ☐ No
22. Are staff satisfied with the training opportunities and support offered to them? ☒ Yes ☐ No

Demonstrate: Describe the processes that the agency uses to train staff and how this is consistent with the SSMP. Describe the methods used to assess supervisor and staff satisfaction with training opportunities. If you answered NO to questions 20, 21, and/or 22, describe content and schedule for necessary improvements.

OPUD uses many methods for training that include employee discussion logs, safety meetings, targeted technical training, web-based training through CSDA Target Safety, video, seminars and training sponsored by water/wastewater organizations for CEU's. Sewer Department also has safety meetings of which covers items such as heat stress, pinch points, hazardous materials, confined spaces, etc every Thursday led by OPUD Safety Officer.

V. Design and Construction Standards

Proofs

Check all that apply:

☒ Design and construction standards
    ☒ New sewer system component construction ☒ Rehabilitation and repair
☒ Ordinances applicable to construction, rehabilitation and repair
☒ Inspections
    ☒ Standard inspection procedures

23. Does the SSMP contain current information about your agency's design and constructions standards? ☒ Yes ☐ No

24. Are design and construction standards comprehensive and current? ☒ Yes ☐ No

25. Are inspection and testing of new and rehabilitate facilities adequate and current? ☒ Yes ☐ No

Demonstrate: Describe the version of design and construction standards (date) used. Describe how inspection and testing methods used are the current best practices and/or industry standard. If you answered NO to questions 23, 24, and 25, describe content and schedule for necessary revisions.

Current OPUD standards are dated May 2021. OPUD does updates as necessary, usually about every few years. Our inspection and testing, as well as material testing for materials we use conforms to AWWA, ASTM and CWEA standards and best management practices along with conducting its own research for most up to date materials and equipment that would best suite the district and apply it to the guidelines/standards.

VI. Overflow Emergency Response Plan

Proofs

Check all that apply:

☒ Overflow Emergency Response Plan (required)
    ☒ Current notification procedures ☒ Current notification list
    ☒ SSO response procedures ☒ Staff training
    ☒ Public safety ☒ Spill containment measures

☒ CIWQS online database reporting (required)
☒ Service call data
☒ Spill report forms

26. Does the SSMP contain a current version of your agency's Overflow Emergency Response Plan? Yes

27. Considering the information in Table 1 Annual SSO Statistics (located below), is the Overflow Emergency Response Plan effective in handling SSOs? Yes

Demonstrate: Describe how the SSMP complies with current regulations and takes any updates to regulations (if any) into consideration. Describe how updates have been added to

the Plan (e.g., by addendum or memorandum). If you answered NO to questions 26 or 27, describe content and schedule for necessary revisions and implementation.

Regulatory updates will be considered immediately upon receipt from the regulatory agency and disseminated to the OPUD staff via memorandum. At such time the SSMP is revised, the updates will be incorporated into the SSMP permanently.

TABLE 1
Annual SSO Statistics

Indicator	2019	2020	2021	2022
Total SSOs				
Wet season SSOs*	0	1	1	1
Dry season SSOs*	0	0	0	0
Number of SSOs (by volume/gallons)				
<10	0	0	0	0
10-99	0	75	25	0
100-999	0	0	0	150
1000-9999	0	0	0	0
≥10,000	0	0	0	0
Total Annual SSO Volume	0	0	0	0
Gallons reaching waters of the State	0	0	0	0
Volume recovered	0	0	0	0
Net volume (total minus recovered)	0	0	0	0
Total influent at the WWTP				
Number of SSOs by cause				
Roots				
Grease				
Debris from laterals		1	1	1
Multiple causes				
Other: (describe)				
Infrastructure failure				
Inflow and infiltration (surcharging)				
Power failure				
Hydraulic deficiency (capacity limitations)				
Natural disaster				
Cause unknown				

Other: (describe)				
Average response time (minutes)				
During business hours		10	10	10
Non-business hours	N/A	N/A	N/A	N/A

*Wet season is November through April; dry season is May through October.

VII. Fats, Oils, and Grease Control Plan

Proofs

Check all that apply:

☒ Potential commercial FOG sources in the service area
☒ list ☒ map ☒ manual ☒ electronic

☒ Location of all (commercial and residential) hot spots
☒ list ☐ map ☐ manual ☒ electronic

☒ Collection system cleaning schedules

☒ Restaurant inspection reports or summaries

☐ Other: _____

☐ Spill reports including online CIWQS

☒ Service call data

TABLE 2
FOG Annual Information

	2019	2020	2021	2022
Number of SSOs caused by FOG	0	0	0	0
Planned cleaning (lf)	0	0	0	0
Unplanned cleaning (lf)	0	0	0	0
Citations issued	0	0	0	0
FOG inspections	50	*6, numbers reduced due to COVID	Due to covid, only conducted during emergency situation - 4	0, Due to covid and short staffed in 2022. No emergency situations arised.

28. Does the SSMP contain current information about your agency's FOG control program? ☒ Yes ☐ No

29. Considering the information in Table 2, is the current FOG program effective in documenting and controlling FOG sources? ☒ Yes ☐ No

30. Is the agency on track to meet implementation schedule for public education and outreach? ☒ Yes ☐ No

Demonstrate: Check the applicable methods that your agency utilizes to evaluate the FOG conditions in the collection system. Describe any measured successes of the FOG program. If

you answered NO to questions 28, 29, and/or 30, describe content and schedule for necessary changes.

OPUD developed a FOG program District-wide. OPUD uses a permit system for all of the commercial connections that are likely to contribute to FOG. They are inspected annually (COVID has caused an exception, along with understaffing in 2021-2022). All new commercial services are reviewed in the design phase to insure compliance with OPUD's FOG program. Since the inception of the FOG program OPUD has had less blockages/spills due to FOG. Additionally, OPUD has reached out to residential customers with FOG informational flyers.

VIII. Capacity Assurance Management

Proofs
Check all that apply:

☒ Capacity assessment reports
- ☒ Hydraulic Analysis ☐ Collection System Master Plan
- ☐ Other: _____

☒ Capital Improvement Program
- ☒ short-term (0 – 5 years) ☒ long-term (6-20 years)

☒ Funding needs and resources
- ☐ public financing ☐ private financing
- ☒ adequate connection fees ☒ current rate analysis
- ☒ Other: Rates include maintenance and depreciation.

_____

☒ SSO data

31. Does the SSMP contain current information about your agency's capacity assessment? ☒ Yes ☐ No
32. Has your agency completed a capacity assessment and identified and addressed hydraulic deficiencies in the system on planned schedules? ☒ Yes ☐ No
33. Are identified projects remaining on schedule with the implementation plan? ☒ Yes ☐ No
34. Has your agency identified current sources of funding? ☒ Yes ☐ No

Demonstrate: Check the applicable reports in the proofs above confirming that there are reports or documents that evaluate system capacity assessment. Describe how the assessment(s) address potential hydraulic deficiencies and the status of project implementation. Explain which projects have been implemented on planned schedule. If you answered NO to questions 31, 32, 33, and/or 34, describe content and schedule for necessary activities.

Analysis has identified deficiencies within particular sewer sheds. These areas have been identified in the OPUD Capital Improvement Plan and will use it to go out for Grants in order to make improvements or updates to the system. OPUD completed a Proposition 218 process to allow rates to fund depreciation and collections maintenance pertinent to the SSMP.

IX. Monitoring, Measurement, and Program Modifications

Proofs
☒ Computerized Maintenance and Management System
☒ Mapping technologies
☒ Work order system
☒ System(s) implemented for consistent recordkeeping

35. Does the SSMP contain current information about your agency's data collection and organizational systems? ☒ Yes ☐ No

36. Is your agency's data collection and organization sufficient to evaluate the effectiveness of your SSMP? Yes

Demonstrate: Check the applicable proofs implemented for data collection and organization. Verify that the methods are current in the SSMP. If you answered NO to questions 32 and 33, describe and schedule for necessary improvements.

OPUD's GIS database aids in supporting data collection by adding a visual interface with the collections crews. The GIS database has been linked with our CMMS and TV camera software to provide a global solution for managing our collections system.

X. SSMP Audits

Proofs
☒ Prior SSMP audits

37. Does the SSMP contain current information about your agency's audits and frequencies? ☒ Yes ☐ No

38. Has your agency met all of the schedules for necessary improvements identified in the prior audit? ☒ Yes ☐ No

Demonstrate: Verify audit frequency. Describe improvements completed that were previously identified. If you answered NO to questions 34 and 35, describe improvements that remain to be addressed and update previous schedules for necessary improvements.

The CMMS is being used as intended and designed. GIS has been implemented. FOG program has been completed. CIP is being completed ahead of schedule.

XI. Communication Program

Proofs
☒ Mailings
☒ Website
☒ Public service announcements (via media)
☒ Customer feedback

39. Does the SSMP contain current information about your agency's public outreach methods? ☒ Yes ☐ No

40. Has your agency effectively communicated with the public and other agencies about the SSMP and addressed feedback? ☒ Yes ☐ No

41. If your agency has satellite or tributary agencies connected to the collection system, does the SSMP contain current information about your agency's communications with them?

☐ Yes ☐ No ☒ N/A

Demonstrate: Check all proofs that apply to your communication and outreach methods. If you answered NO to questions 36, 37, and/or 38, describe content and schedule for necessary improvements.