



June 26, 2025

Recommendation

Receive and file a report on the Sewer System Management Plan (SSMP) Self-Audit (2021-2024).

Executive Summary

To provide a consistent, statewide regulatory approach to addressing sanitary sewer spills, the State Water Resources Control Board (SWRCB) adopts Statewide General Waste Discharge Requirements for Sanitary Sewer Systems, and updates these requirements as needed. The current set of requirements, Water Quality Order No. 2022-0103-DWQ (Sanitary Sewer Systems General Order) was approved on December 6, 2022, and became effective June 5, 2023.

This Sanitary Sewer Systems General Order applies to all sewer collection system operators and requires operators to develop and implement Sewer System Management Plans (SSMP), which include reporting requirements for all sanitary sewer spills to the State Water Board's online California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database. The SSMP must also include measures to control and mitigate sewer spills, and implementation of a self-audit every three years. The SWRCB, as the regulatory body, may conduct a formal audit of sewer collection systems at any time.

The Long Beach Public Utilities Department (LBPUD) complies with all SWRCB requirements. LBPUD's SSMP is updated every six years, and a self-audit is conducted every three years. Through the self-audit process, the department evaluates sewer system operations and maintenance for:

- Effectiveness of spill prevention;
- Compliance with SWRCB reporting requirements after each sewage spill;
- Deficiencies with addressing ongoing spills and discharges to the waters of the State; and
- Opportunities and recommendations for improvements.

This report shares insights from the 2021-2024 SSMP self-audit. The LBPUD self-audit finds sewer system operations and maintenance in Long Beach benefits from the efforts made to provide:

- Real-time access to digital maps to field staff;

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- Performance tracking metrics demonstration miles of sewer pipeline cleaned and inspected by the LBPUD Sewer Operations Division; and
- The Fats Oils and Grease (F.O.G.) Control Program partnership through a Memorandum of Understanding (MOU) with City of Long Beach, Health and Human Services Department.

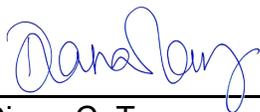
Based on the LBPUD's self-audit, the department has identified specific recommendations for sewer system improvements. These improvements will be made throughout the next self-audit period, which spans 2024-2027 and includes:

- Implementation of a Computerized Maintenance Management System to enhance data tracking and scheduling;
- Improvements to sewer force main and inflow and infiltration management to ensure sewage continues to flow unimpeded, and with little impact from stormwater intrusion;
- Continued improvements to employee training with updates to training protocols for the purposes of aligning with the current State Water Resources Control Board Order Water Quality No. 2022-0103-DWQ (Sanitary Sewer Systems General Order);
- Addressing delays with equipment repairs through new standing meetings with internal Fleet Maintenance staff; and
- Improvements to public outreach by collaborating with internal Public Affairs staff to conduct more relevant community engagement.

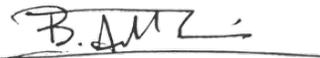
Through compliance with SWRCB regulations and systematic self-audits, the LBPUD demonstrates dedication to excellence in sewer system management and a strong commitment to continuous operational improvements.

Fiscal Impact

No fiscal impact to receive and file a report on the SSMP Self-Audit (2021-2024).



Diana C. Tang
Assistant General Manager



B. Anatole Falagán
General Manager

Attachment

Sewer System Management Plan (SSMP)

2022-2024 Internal Audit

Introduction

The Long Beach Utilities (LBU) Sewer System is subject to permitting requirements under the Statewide General Waste Discharge Requirement for Sanitary Sewer Systems (WDR SSS). The State Water Resources Control Board (SWRCB) issued a revised Order No. WQ 2022-0103-DWQ to mitigate the potential impact of sanitary sewer spills on public health and the environment. The WRD SSS applies to all public collection system agencies in California that own and operate sewer collection systems. Under the provisions of the WRD SSS, LBU is required to prepare a Sewer System Management Plan (SSMP) and any subsequent updates every six (6) years. Its principal elements include how the municipality operates and maintains the collection system, and procedures for reporting all sanitary sewer spills to the California Integrated Water Quality System (CIWQS) online database, with the ultimate goal of minimizing spills.

Background

The LBU sanitary sewer system is comprised of 705 miles of gravity sewer mains and 7.9 miles of force mains ranging in size from 2 to 48 inches in diameter, 29 pump stations, 90,108 lateral connections, and 16,031 sewer manholes. The table below summarizes LBU’s collection system.

Collections System Overview	
Gravity Sewer Mains	705 miles
Force Mains	7.9 miles
Sewer Lateral Connections	90,108
Sewer Pump Lift Stations	29

SSMP Internal Audit Overview

Due to the transitional period between Order No. WQ 2013-0058-EXEC and revised Order WQ 2022-0103-DWQ, this audit was conducted using the most relevant data available to assess compliance with both orders in a balanced manner, given the recent regulatory updates.

Section 5.4 of the WRD SSS requires enrollees to conduct internal audits every three (3) years. The internal audit shall be appropriately scaled to the size of the system(s) and the number of spills. In order to be compliant, enrollees must actively participate in the audit process. The audit should: a.) Assess the implementation and efficacy of the SSMP in averting spills; b.) evaluate the Enrollee's adherence to the General Order; c.) identify shortcomings in the SSMP that may contribute to ongoing spills and discharges into state waters; and d.) determine necessary adjustments to the SSMP to rectify identified deficiencies.

It is also important to note that the current version of the SSMP is nearing the end of its 5-year life span. In 2025, a new 6-year SSMP will be completed for 2025 -2031. Therefore, some of the discussions may provide recommendations on how the new SSMP could be improved to reflect different aspects of LBU's program.

The 2022-2024 internal audit addresses the compliance status, effectiveness, and deficiencies and recommendations for the following sections of the current SSMP:

- I. LBU SSMP Goals (page 3)
- II. LBU Organization Structure (page 3)
- III. LBU Legal Authority (page 4)
- IV. LBU Summary of Operation and Maintenance Activities (page 5)
- V. LBU Design and Performance Provisions (page 9)
- VI. LBU Spill Emergency Response Plan (page 10)
- VII. Fats, Oils, and Grease (FOG) Control Program (page 12)
- VIII. LBU System Evaluation & Capacity Analysis Plan (SECAP) (page 14)
- IX. LBU Monitoring, Measurement, and Program Modifications (page 15)
- X. LBU SSMP Program Audits (page 16)
- XI. LBU Communication Program (page 16)

Audit of Section I. Goals

LBU has defined the following five goals in the SSMP:

- 1. To properly manage, operate and maintain all portions of the LBU wastewater collection system.*
- 2. To provide adequate capacity to convey peak flows.*
- 3. To minimize the frequency of Spills.*
- 4. To mitigate the impact of Spills.*
- 5. To meet all applicable regulatory notification and reporting requirements.*

Compliance Status

LBU is compliant with this element of the SSMP.

Effectiveness

The stated goals are meant to concentrate efforts on minimizing occurrences of spill events, as well as mitigating their impact on public health and the environment.

Deficiencies and Recommendations

No deficiencies have been identified with this element of the SSMP.

Audit of Section II. Organization

This section describes the governance and organizational structure of LBU. It also designates who is responsible for reporting spills. Organizational charts are provided for Executive Management, as well as for Sewer Operations, Water Treatment, and Engineering.

Compliance Status

LBU is compliant with this element of the SSMP.

Effectiveness

The organizational structure clearly identifies lines of authority as well as the key positions responsible for implementing specific measures in the SSMP. The chain of communication for reporting spills is also provided.

LBU has gone through a significant structural reorganization, in addition to the normal turnover of personnel that would be expected during a 5-year period. The Long Beach Utilities Department was formerly known as the Long Beach Water Department. Long Beach Utilities is now comprised of three utilities: Water, Gas and Sewer. Thus, the current organization is quite different from what it was when the 2019-2024 SSMP was written. The last audit recommended that a procedure be put in place to easily update any organizational changes that may occur during the SSMP's 5-year life cycle. LBU'S organizational charts are frequently revised. These updates have been incorporated into an online database, Air Table, which is

available for interdepartmental use. Updates to the organization chart are live and available for staff to view.

Deficiencies and Recommendations

It is recommended that a digital file be created to regularly update organizational records in the SSMP. This digital record should be appended to the current SSMP, titled “Section II - Organizational Updates.”

Audit of Section III. Legal Authority

This section requires LBU to demonstrate that it has the legal authority to: a) Prevent illicit discharges b) Require proper design and construction of sewers and connections c) Ensure access for maintenance, inspection, and repair of lateral sections owned by the Public Agency d) Limit discharge of fats, oils, and grease, and e) Take enforcement action on any ordinance violations.

Compliance Status

LBU is compliant with the requirements of this section.

Effectiveness

LBU’s legal authority is derived through multiple channels, including the Board of Utilities Commissioners and the Long Beach City Council. The rules and regulations that govern the Sewer Collections System can be found within several documents, depending on what aspect of the system is being evaluated. These include the Long Beach Municipal Code, LBU’s “Rules, Regulations and Charges Governing Potable Water, Reclaimed Water, Sewer Service, and the Water Conservation and Water Supply Shortage Plan”, and the Standard Specifications for Public Works Construction (“Green Book”).

Deficiencies and Recommendations

This section of the SSMP has no significant deficiencies and is generally satisfactory. There is a FOG ordinance in the Long Beach Municipal Code (Chapter 8.46), but LBU had limited enforcement authority. In 2016, LBU entered into a Memorandum of Understanding (MOU) with the Long Beach Department of Health and Human Services to address enforcement of the FOG ordinance. The MOU mandated that the Environmental Services Bureau assign staff to perform FOG inspections in City of Long Beach food service establishments. Given Health Inspectors’ established authority to enforce public health ordinances, FOG enforcement was immediately strengthened. The FOG program is discussed in more depth in section VII. of this report. Development Services Plan Checkers and Plumbing Inspectors continue to play an integral role in the FOG program. LBU also has a team of Construction Inspectors which has greatly improved compliance on sewer construction projects for both outside contractors and in-house crews.

Audit of Section IV. Operation and Maintenance

This section of the SSMP specifies 5 elements that must be addressed in order to meet the compliance requirements under Operations and Maintenance (O&M). The same audit questions asked throughout this report (i.e., compliance, effectiveness, deficiencies and recommendations) will be answered for each of these 5 elements.

1. Maintain an up-to-date map of the sanitary sewer system with applicable attributes.

Compliance Status

LBU is compliant with this element of the O&M section.

Effectiveness

LBU uses a Geographic Information System (GIS) to manage its database of extensive information about the sanitary sewer network. This includes attribute data for mains, laterals, manholes, and pump stations. Maps of non-sanitary sewer elements include water, storm drain, street, county trunk sewer, and other underground utility data. Maps are routinely updated with new information. LBU has implemented the use of InfraMap software as an online database to store data regarding services rendered which links to GIS. The data from InfraMap is available in real-time to field staff, via department-issued mobile devices. The use of ArcGIS Explorer also provides field staff with accurate, real-time GIS data of city-wide infrastructure.

Deficiencies and Recommendations

In response to the issues brought up in the previous internal audit, a protocol has been implemented to minimize discrepancies between the information contained in GIS and field observations. Whenever field personnel observe inaccuracies on the InfraMap map versus actual sewer infrastructure, they are expected to make a notation on the digital map, using a “red line” tool. They also include a written explanation for the addition. They then give this to the section’s Water Utility Supervisor I (WUS I), who will review and submit the revision to the appropriate GIS technician. If construction activity alters the position or nature of a sewer structure, a new “as-built” drawing is submitted, and maps are revised accordingly.

2. Describe routine preventative maintenance activities, including how to address known problem areas. The system used to document and track these activities should also be included.

Compliance Status

LBU is compliant with this element of the O&M section.

Effectiveness

Key performance measures include miles of sewer pipe cleaned, miles inspected, number of repairs, stoppages cleared, and number of spills. Metrics are currently being tracked by using a work order system and Excel spreadsheets. Areas prone to blockages are placed on repeat cleaning schedules. Additional preventative maintenance measures include the strategic application of approved chemicals to address specific problems – i.e., root intrusion, grease buildup, and odor issues. In conjunction with routine maintenance activities, Smart Covers® are installed at key locations to provide advance warning of potential spills. A Smart Cover® is a monitoring system installed at the manhole cover to remotely communicate when the manhole reaches a preset alarm point.

To minimize disruptions to public infrastructure and residents, LBU has implemented a new, less invasive method for lateral repairs that eliminates the need for extensive excavation. This trenchless repair technique involves applying specialized patch material to the damaged area without extensive excavation. This method, known as “Pipe-Patch,” is efficient, cost-effective, and minimizes disruption to surrounding areas.

After a sewer spill, an investigation takes place using Closed Circuit Television (CCTV) equipment. The findings from the investigation provide LBU with details on how to resolve future similar issues. During routine cleaning, staff utilizes a “proofer” to ensure that the sewer pipe is open to its full diameter. If the “proofer” is unable to get through, a CCTV investigation will take place.

LBU began to meet Cleaning and CCTV mileage goals in the year 2017 and continued to reach goal during most of the following years. The data below demonstrates the % of Goal that was met during the most recent audit period:

	Cleaning*			CCTV		
	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Goal (miles)	327.99	342.37	342.37	142.4	142.4	142.4
Actual (miles)	342.67	295.39	346.82	142.84	120.95	145.35
% of Goal	104.5%	86.28%	101.3%	100.3%	84.94%	102.07%

*Does not include miles from repeat cleaning

Deficiencies and Recommendations

LBU faces challenges in coordinating easement cleaning appointments and transitioning away from outdated MS Access databases. Implementation of a Computerized Maintenance Management System (CMMS) would streamline work order management, improve data tracking, and facilitate better resident coordination.

Additionally, a CMMS would support targeted cleaning efforts for trouble areas and optimize cleaning frequencies. The current CCTV inspection database, Pipelogix, lacks comprehensive asset and work order management features. It is recommended that LBU explore a more robust software solution to address these limitations.

To address infiltration and inflow (I&I), Sewer Operations is planning to contract smoke testing services. Additionally, composite manhole lids will be installed to prevent inflow from stormwater in flood-prone areas. In 2024, some installation has already begun.

3. Rehabilitation and replacement plan to identify and prioritize system deficiencies.

Compliance Status

LBU is compliant with this element of the O&M section.

Effectiveness

The Sewer Capital Improvement Plan (CIP) targets segments of sewer system infrastructure that are at the highest risk of failure. CCTV data is routinely used to assess and rank pipeline conditions.

Deficiencies and Recommendations

In 2021, LBU Engineering assessed twenty lift stations, followed by an additional two in 2023. Ongoing repairs are addressing identified issues.

A key concern raised in a previous internal audit was the lack of a comprehensive maintenance and rehabilitation plan for force mains. LBU's extensive sewer system, including over seven miles of force mains, poses a significant risk due to potential failures. Force main breaks can release substantially larger volumes of sewage than gravity line failures.

To address these challenges, we recommend a thorough inspection of discharge lines to assess their condition and identify potential issues. It is recommended that a detailed inspection plan, including specific methods and frequency, be developed. LBU's Engineering bureau is actively inspecting these systems and developing CIP plans to prevent future spills and mitigate environmental risks.

4. Regular training for all operations and maintenance staff and contractors.

Compliance Status

LBU is compliant with this element of the O&M section.

Effectiveness

LBU prioritizes employee safety and professional development. Our comprehensive training program includes safety courses (confined space, trenching, hydrogen sulfide, PPE, CPR/First Aid), pipeline assessment certification (NASSCO), and professional certifications (CWEA, SWRCB).

A dedicated Training Supervisor oversees field training, ensuring consistent practices and methods within Sewer Operations. To comply with the revised General Order for Water Utility Mechanics and Supervisors, we've implemented specialized training sessions.

Weekly safety "tailgate" meetings reinforce safety protocols. The Safety Division schedules and delivers additional required training programs. To enhance emergency response, the Sewer Division has implemented training on the new Spill Emergency Response Form.

By partnering with external providers, we offer specialized training, such as CWEA certification courses, to further elevate our employees' skills and knowledge.

Deficiencies and Recommendations

While these improvements represent a positive step forward, the division is committed to ongoing evaluation and optimization of its training programs. Future efforts will focus on identifying and addressing any inefficiencies or gaps in current practices to further enhance operational efficiency and employee safety. It is recommended that the 2025-2031 SSMP reflect these ongoing improvements and future initiatives.

5. Maintains an inventory of critical equipment and replacement parts.

Compliance Status

LBU is compliant with this element of the O&M section.

Effectiveness

Each WUS I is responsible for monitoring, ordering, and replenishing items needed for their specific sections, such as Construction, CCTV, and Cleaning. Supervisors, with Manager approval, can make necessary purchases in a timely manner.

To optimize operations and minimize downtime, the division leverages ongoing contracts for tools, equipment, and maintenance services. A current heavy equipment rental contract

ensures timely access to necessary equipment. Additionally, a well-stocked warehouse inventory provides immediate access to essential materials for Sewer Operations. To further enhance preparedness, LBU has proactively ordered additional units of less common components to reduce response times and improve operational efficiency.

Deficiencies and Recommendations

A current deficiency in this area pertains to delays that are sometimes experienced when sending vehicles and equipment out for repairs. LBU is currently testing a repair tracking system within MS Teams to monitor the status and location of vehicles/equipment undergoing repairs. Sewer Operations also plans to work with the Support Services division to address repair delays.

Audit of Section V. Design and Performance Provisions

This section of the SSMP must demonstrate that LBU has the following in place: a) Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems; and b) Procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

Compliance Status

LBU is compliant with both a) and b) requirements of this section.

Effectiveness

- a) Construction and design requirements are fully covered in both the plans and specifications for each CIP project. LBU has design guidelines for sanitary sewer posted on its website. Primary references are the Standard Specifications for Public Works Construction (Green Book) and LBU Standard Drawings and Specifications. For standards that are not fully covered with these 2 references, the following may be used: Los Angeles County Sanitation Districts Standard Drawings of Construction, City of Los Angeles Department of Public Works Bureau of Engineering Part F-Sewer Design, and Los Angeles County Department of Public Works Private Contract Sanitary Sewer Procedural Manual.
- b) All design and construction work are subject to inspection and LBU has its own team of in-house inspectors. The City's Public Works Department issues permits for new Sewer connections and repairs. Sewer CIP projects are also inspected using CCTV equipment operated by LBU employees from the Sewer Operations division. CCTV inspections are conducted before and after project completion.

Deficiencies and Recommendations

- a) No deficiencies were noted for this portion of the SSMP requirement. LBU's Standard Drawings and Specifications have been updated. This project was completed by LBU's

Engineering Bureau with the collaboration of the Operations Bureau.

- b) The previous audit recommended more rigorous inspection and testing of in-house spot repairs. Protocols have been implemented to achieve this. For example, LBU has expanded its team of inspectors such that an inspector is present at each in-house construction job. Additionally, each in-house main repair is inspected via CCTV post construction. Another tool to track the progress of construction work being used regularly is LBU's construction application for mobile devices. It allows LBU personnel to track a project's progress from start to finish for all internal construction work.
- c) To streamline CIP work, the LBU Sewer division is coordinating with Development Services. This collaboration will ensure both divisions are aligned in project planning and execution.

Audit of Section VI. Overflow (Spill) Emergency Response Plan

LBU is required to implement a spill emergency response plan that includes a) timely notification of spills to primary responders, b) appropriate response measures for all spills, c) procedures for notifying appropriate regulatory agencies and other affected parties, d) staff training on all elements of the spill emergency response plan, e) procedures to address other response activities such as traffic and crowd control, and f) reasonable steps to contain and prevent the discharge of untreated wastewater to bodies of water and to minimize any adverse impact on the environment.

Compliance Status

LBU is compliant with this section of the SSMP.

Effectiveness

The 2019-2024 SSMP contains a thorough step-by-step outline of the actions that should be taken when responding to any spill. It addresses each subsection as required by the SWRCB. However, some adjustments have been implemented since 2019. The Spill Emergency Response Plan was last updated in 2024 and is included as an attachment.

Each subsection is addressed below:

- a) LBU has a 24-hour dispatch line to receive calls regarding any Water, Gas, or Sewer emergencies. The dispatcher notifies appropriate personnel to respond to the emergency. Any report of a possible sewer spill is considered an emergency, and the on-call sewer lead is notified immediately. After business hours, there is a sewer lead, sewer mechanic, sewer supervisor, and sewer manager on call. The sewer lead and mechanic are the first responders to a spill and are required to be physically at the location within half an hour of receiving the dispatch call.
- b) The steps taken when arriving at the scene of a spill are detailed in Sewer Operations' standard operating procedures for spills. These include setting up a barrier to prevent spreading of the spill, protecting storm drains and catch basins, locating the blockage, and

clearing the blockage.

- c) After the blockage causing the spill has been relieved, the responding crew lead will then notify the appropriate regulatory agencies. The Spill Response Form is carried on all cleaning trucks and is used at the scene of every spill. It guides the responder to complete all pertinent information needed for reporting purposes. It also has contact phone numbers for the regulatory agencies that need to be notified. The sewer supervisor is responsible for executing the internal notification protocol. This protocol consists of a preliminary notification that is sent upon first learning of a potential spill, and a second (final) notification sent with more detailed information regarding the spill. The notification list consists of various stakeholders from different City Departments (e.g., Health, Public Works, etc.) This list is updated on an ongoing and as-needed basis. The Sewer Operations Manager, or the Sewer Supervisor II, is responsible for ensuring that each spill is reported to the state database (CIWQS) within the mandated time frame.
- d) Staff training on spills is offered through multiple means, including the weekly tailgate meetings, instruction from the Training Supervisor, and individual coaching from leads and supervisors.
- e) All Sewer field personnel are required to complete an initial safety course on traffic control before working in the public right of way. Annual refresher courses are also required. Field personnel are always expected to follow proper safety procedures and traffic control methods.
- f) In addition to the standard operating procedures already described to mitigate the consequences of a spill event, LBU has also taken proactive measures to prevent their frequency. Since 2008, LBU has selectively installed Smart Cover[®] technology to provide advanced warning of rising manhole levels. This technology uses a sensor to detect when the water in a manhole rises above a certain set point. An alarm notice is then sent via text and email to Sewer personnel who can immediately dispatch a crew to the alarm location. The crew can then clear the blockage before it becomes a spill.

The online database for reporting spills, CIWQS, also provides useful tools for measuring how a collection system compares with others in the same region and throughout the State. The Spill Rate Index is the number of Spills per 100 miles of Sewer per year. The following tables show Spill Rate Indices for the 3 Spill Categories. Data is shown below for LBU, the Los Angeles Region, and the state of California for the past three fiscal years. Category 4 spills are not included in the data below, as the audit period spans two General Orders, one of which does not mandate the reporting of Category 4 spills:

2021-2024*	Spill Rate Index (spills/100mi/yr)		
	Category 1 Spill	Category 2 Spill	Category 3 Spill
Long Beach Utilities Dept.	0.09	0.28	2.38
State Municipal (Public) Average	1.97	1.46	2.85
Region Municipal Average	1.11	0.48	1.19

* May 2, 2021 – May 2, 2024 (Category 4 Spills not included due to date range)

Deficiencies and Recommendations

Minor deficiencies in staff training that were noted in the previous SSMP audit have been corrected with the implementation of several training initiatives. As described in this report’s audit of section IV., part 4, the addition of a Training Supervisor, and more thorough, targeted training in weekly tailgate meetings, have all contributed to better learning outcomes for Sewer personnel. As recommended, regular and frequent training of field personnel incorporates spill-related topics such as how to estimate spill volume, proper notification procedures, and how to correctly complete the Spill Response Form.

With the implementation of a more robust spill training program, no new deficiencies in this area have been noted. It is recommended that the 2025-2031 SSMP include any revisions made to the SERP (Spill Emergency Response Plan, formerly known as Overflow Emergency Response Plan).

Audit of Section VII. Fats, Oils and Grease (FOG) Control Program

The FOG control program should address the following elements, as appropriate: a) Public outreach to promote the proper disposal of FOG. b) A plan for the disposal of FOG generated within the sanitary sewer service area. c) The legal authority to prohibit discharges to the system and prevent blockages and spills. d) Requirements and standards pertaining to grease removal devices. This may include installation, design, maintenance, best management practices, record keeping, and reporting requirements. e) Authority to inspect and enforce FOG ordinances. f) Identification of areas in the sanitary sewer system subject to FOG blockages and a maintenance cleaning schedule. g) Source control measures for areas identified as subject to FOG blockages.

Compliance Status

LBU is compliant with requirements a) through g) of this section of the SSMP. The next SSMP audit will reflect the new General Order’s renaming of this section as "Sewer Pipe Blockage Control Program." This current audit retains the previous name due to its coverage of two

different General Orders.

Effectiveness

- a) LBU is still responsible for executing a public outreach strategy for residential customers. LBU has launched its “Healthy Sewers” campaign to educate the public on what not to flush or pour down the drain. Outreach methods include social media, LBU’s website, bill inserts, and other marketing platforms. The 2019-2024 SSMP includes a sample letter that could be sent to residential customers in the immediate vicinity of a FOG-related spill.
- b) A listing of local grease collection companies, or grease “haulers,” is available in the information packets distributed to restaurants by inspectors. Also included is a listing of local grease interceptor suppliers. No recommendation is made about which company to use, as selection is entirely the decision of the food service establishment, as long as the chosen equipment meets all applicable requirements set by LBU, including those for size, capacity, and proper installation.
- c) The City of Long Beach Municipal Code, Chapter 15.01, asserts that LBU’s General Manager is authorized by the Board of Water Commissioners to administer the rules, regulations, and charges governing water and sewer service. Furthermore, in 2005, the Long Beach City Council amended the City’s Municipal Code by adding Chapter 8.46 on the disposal of FOG (ordinance no. ORD-05-0003.)
- d) Chapter 8.46, the City’s ordinance on the disposal of FOG details the requirements for grease removal devices, including grease traps and grease interceptors.
- e) Since implementation of the 2016 FOG MOU between the City’s Health Department and LBU, inspection activities have been done by the City’s Health inspectors. Enforcement of the FOG ordinance falls jointly on the City Health Officer, or designee, and the General Manager of the LBU, or designee (Chapter 8.46.060.)
- f) Records of sewer blockages and spills are kept as these events occur. The data recorded includes the location, date, time, cause, volume spilled, and corrective action(s) taken. Additional information includes ambient temperature, date last cleaned, and GPS coordinates. A GIS mapping of these events is routinely done to identify areas of concern. A spill “heat” map has been developed for the analysis of areas in the system that are impacted by FOG, which will help target and prioritize the affected areas for focused intervention and proactive measures.
- g) Source control measures for areas of concern include increased cleaning frequency, installation of Smart Cover® warning devices in manholes, and administration of chemical degreasers. This is in addition to the FOG control activities already noted above.

Deficiencies and Recommendations

- a) A deficiency noted in the previous audit was the minimal amount of public outreach done to target residential customers. This has begun to be addressed with the launch of LBU’s “Healthy Sewers” campaign. As a part of this campaign, two mascots have been created for LBU: Rodder the Otter and Maintenance Maya. These mascots are helping to promote the “Healthy Sewers” campaign. Since this program is relatively new, it is recommended that evaluation of this and other public outreach efforts be regularly conducted to

measure their impact and effectiveness.

- b) Since FOG outreach for food service establishments is no longer handled by in-house staff at LBU, it is important to work closely with Health Department staff to ensure their field inspectors always have an adequate supply of literature and outreach materials on hand.
- c) No deficiencies have been identified with this element of the FOG control program.
- d) No deficiencies have been identified with this element of the FOG control program.
- e) The recommendations in the previous audit suggested further discussions on FOG inspection activities being handled by the City's Health Department. The results of these discussions were described earlier in this report. It is important that the details of the MOU are included in the upcoming 2025-2031 SSMP. It is also recommended that LBU schedule regular, quarterly, meetings with the Health Department to review program status.
- f) No deficiencies have been identified with this element of the FOG control program.
- g) No deficiencies have been identified with this element of the FOG control program.

The next SSMP audit (2025-2028) will reflect the 2025-2031 SSMP, and its new subheadings.

Audit of Section VIII. System Evaluation & Capacity Analysis Plan (SECAP)

LBU must prepare and implement a CIP plan that will provide hydraulic capacity data on key sanitary sewer system elements for dry weather peak flow conditions, as well as the appropriate design for storm or wet weather events. At minimum, the plan must include a) Evaluation, b) Design Criteria, c) Capacity Enhancement Measures, and d) Schedule.

Compliance Status

LBU is compliant with this section of the SSMP.

Effectiveness

LBU's Sewer Master Plan evaluates the sewer service area and sewer system facilities to determine current deficiencies, as well as potential deficiencies during future growth. It provides details of the proposed CIP for the sewer system, including prioritization of projects. LBU's Sewer Master Plan was last updated in 2023. In 2023, Engineering updated their hydraulic modeling to include 10" pipe and below. The initial hydraulic model only included sewer mains greater than 10" in diameter. This allowed for a more thorough investigation into sewer flow characteristics.

A Sewer Focus Study began in 2018 to address increased development activity and population growth in the City's downtown area. This study has been completed as of 2019. The Downtown Area Sewer Focus study includes flow monitoring, updating LBU's existing sewer model for the downtown area, and identifying potential capacity deficient areas.

Deficiencies and Recommendations

Based on the 2023 Sewer Master Plan Update and 2019-2024 SSMP, LBU has identified some potential capacity issues under existing conditions, using an updated hydraulic model. These deficiencies will be confirmed via flow monitoring to be scheduled as part of CIP. Since 2014, LBU's CIP have been focused on addressing structural deficiencies of existing sewer mains based on a pipe's physical condition rating through CCTV surveys.

Audit of Section IX. Monitoring, Measurement, and Program Modifications

Compliance with this element of the SSMP requires LBU to a) Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities. b) Monitor the implementation and measure the effectiveness of each element of the SSMP. c) Assess the success of the preventative maintenance program. d) Update program elements, as appropriate, based on monitoring or performance evaluations. e) Identify and illustrate spill trends, including frequency, location, and volume.

Compliance Status

LBU is compliant with subsections a) through e) of this SSMP element.

Effectiveness

LBU utilizes various metrics to assess the effectiveness of its SSMP components. For instance, cleaning and CCTV activities are measured against footage/mileage goals. Data is collected daily and analyzed at different time intervals to evaluate individual and crew performance. Spill data is used to inform resource allocation decisions, such as the strategic placement of Smart Cover® manhole lids in high-risk areas. Additionally, data analysis helps in recalibrating cleaning frequencies for problem areas. LBU regularly reviews its sewer system management practices to identify areas for improvement. Protocols are updated as needed to optimize performance and achieve better outcomes.

Deficiencies and Recommendations

The previous SSMP audit identified a deficiency in the 2019-2024 SSMP, which has been addressed in both the previous and current audits. While these audits summarize current practices, better tools are needed to monitor, measure, and modify program elements. A customized CMMS is recommended to automate data collection and analysis. LBU is currently using InfraMap software to analyze monitoring and measurement data. The implementation of InfraMap software aims to address deficiencies and transition away from outdated processes.

Audit of Section X. SSMP Program Audits

LBU should be conducting periodic internal audits to evaluate the effectiveness of the SSMP and compliance with the SSMP requirements. Identification of any deficiencies and steps to correct them should be included. At a minimum, these audits should occur every two years and a report should be kept on file.

Compliance Status

LBU is compliant with the requirements set forth in this section.

Effectiveness

The current internal audit report will fulfill the new General Order's 3-year frequency requirement. Previous 2-year internal audit reports are kept on file and available for review if requested by the SWRCB.

Deficiencies and Recommendations

The recommendations set forth in previous audits have been addressed. It was determined that the 2025-2031 SSMP will be completed with the assistance of a professional consultant with expertise in this area. Future SSMP audits, however, will be completed by internal LBU personnel. The current report satisfies the new audit requirement. It is recommended that future audits keep the interval of 36 months to ensure consistency and timeliness of reports.

Audit of Section XI. Communication Program

This section requires LBU to communicate on a regular basis with the public on the development, implementation, and performance of its SSMP. The public should have the opportunity to provide input as the program is being developed and implemented. There should also be a plan of communication with tributary and/or satellite systems.

Compliance Status

LBU is compliant with this section of the SSMP.

Effectiveness

The 2019-2024 SSMP is available on LBU's public website. It was presented to the Board of Utilities Commissioners in 2019, with the opportunity for public comment.

Sewer Operations is committed to community outreach and education. LBU is partnering with local schools to inspire future generations of utility workers and to promote sewer safety. LBU also has a department-wide Community Engagement Team (CET). During CET events, LBU staff

engage with the public, providing information on Sewer, Water, and Gas safety. They also offer tips on maintaining clean sewer systems, emphasizing the importance of proper waste disposal and avoiding flushing of non-flushable items.

Deficiencies and Recommendations

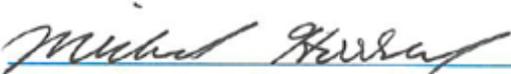
LBU is committed to continuing to deliver targeted public outreach messages to promote "healthy sewers." By regularly assessing the effectiveness of its multiple communications strategies, department leadership may allocate resources to achieve improved results.

Proposed Schedule

LBU proposes implementing a comprehensive corrective action plan to address all deficiencies discussed in the current audit and meet all recommendations by the end of the next audit period, covering 2025 through 2028.

Certification of Self-Audit

I certify that the information contained in this self-audit report is correct to the best of my knowledge, and that the input of sewer system operators and supervisors on the audit findings has been considered:


Michael Herrbach, Manager of Sewer Operations

10.31.24
Date


Jennifer Rojas, Senior Director of Customer Service

10-31-2024
Date