LAKE OROVILLE AREA
PUBLIC UTILITY DISTRICT

Sewer System Management Plan

Adopted
July 14, 2009
UPDATED JULY 14, 2013

This Sewer System Management Plan
includes the elements required by:

State Water Resources Control Board
Order No. 2006-0003-DWQ
Statewide General WDR for Wastewater Collection Agencies

LAKE OROVILLE AREA PUBLIC UTILITY DISTRICT

SEWER SYSTEM MANAGEMENT PLAN

Lake Oroville Area PUD is implementing the elements of the State Water Resources Control Board Order No. 2006-0003-DWQ Statewide General WDR for Wastewater Collection Agencies.

SSMP ELEMENT	State Mandated Compliance	LOAPUD Status
Development Plan and Schedule	November 1, 2007	Adopted 09-11-07
Section I - Goal	November 1, 2007	Adopted 09-11-07
Section II - Organization	November 1, 2007	Adopted 09-11-07
Section III - Legal Authority	May 1, 2009	Policy # 3065
Section IV - O&M Plan	May 1, 2009	Completed April 2009
Section V - Design & Performance Stds.	August 1, 2009	LOAPUD Improvement Stds.
Section VI - Overflow Response Plan	May 1, 2009	Completed April 2009
Section VII - FOG Control Program	May 1, 2009	Completed April 2009
Section VIII - System Capacity Plan	August 1, 2009	Sewer System Master Plan, adopted July 2000, update in progress.
Section IX - Monitoring Measurement & Program Modifications	August 1, 2009	Adopted 07-14-09
Section X - SSMP Program Audits	August 1, 2009	Adopted 07-14-09
Section XI - Communication Program	August 1, 2009	Adopted 07-14-09
Complete SSMP Implementation	August 1, 2009	Adopted 07-14-09

SECTION I - GOAL

Sewer System Management Plan (SSMP)

Section I - Goal

(i) Goal: The Goal of the SSMP is to provide a plan and schedule to properly manage, operate, and maintain all parts of the sanitary sewer system. This will help reduce and prevent Sewer System Overflows (SSOs), as well as mitigate any SSOs that do occur.

This goal was adopted by LOAPUD at a Board meeting on September 11, 2007.

SECTION II - ORGANIZATION

LAKE OROVILLE AREA PUBLIC UTILITY DISTRICT
SEWER SYSTEM MANAGEMENT PLAN
SECTION II ORGANIZATION
DISTRICT DIRECTORY

Sewer System Owner:
Lake Oroville Area Public Utilities District
1960 Elgin Street
Oroville, CA 95966

www.loapud.com

Main Office:
tel. 530-533-2000
fax 530-533-1750

Contact Persons:

Dwayne Long
General Manager
Office:(530) 533-2000
Cell: (530) 520-2892
dlong@loapud.com

Cindy Quigley
Communication Officer
Office:(530) 533-2000
cquigley@loapud.com

Dan Sanders
Field Operations Supervisor
Office: (530) 533-2000
Cell: (530)520-7118
dsanders@loapud.com

REGULATORY AGENCIES:

California Emergency Management Agency (CalEMA)

(800) 852-7550

California Regional Water Quality Control Board

Central Valley RWQCB
415 Knollcrest Drive
Redding, CA 96002
tele: (530) 224-4845
fax: (530) 224-4857

Contact Person:
Greg Cash
Direct: (530) 224-3208

Online spill reporting system:
http://ciwqs.waterboards.ca.gov

Butte County Department Environmental Health

7 County Center Drive
Oroville, CA 95965
tele: (530) 538-7281

Contact Person:
Kristen McKillop

LAKE OROVILLE PUBLIC UTILITY DISTRICT
Phone Contact List

DISTRICT OFFICE 530-533-2000

Office Staff After- Hours Contact Numbers

NAME	PHONE	CELL
DWAYNE LONG	532-1573	520-2892
CINDY QUIGLEY	533-6281	990-1037
DARIN KAHALEKULU	534-3491	*******

Field Staff After-Hours Contact Numbers

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DAN SANDERS	645-2688	520-7118	dsanders@loapud.com
TYLER CHRISTENSEN	616-0390	520-8309	tylerc@loapud.com
DAN NUSS	534-6650	520-8993	dnuss@loapud.com
VINCE VICTORINO	990-0287	282-2844	vincentv@loapud.com
LUIS ALVAREZ	532-1469	712-7088	lalvarez@loapud.com

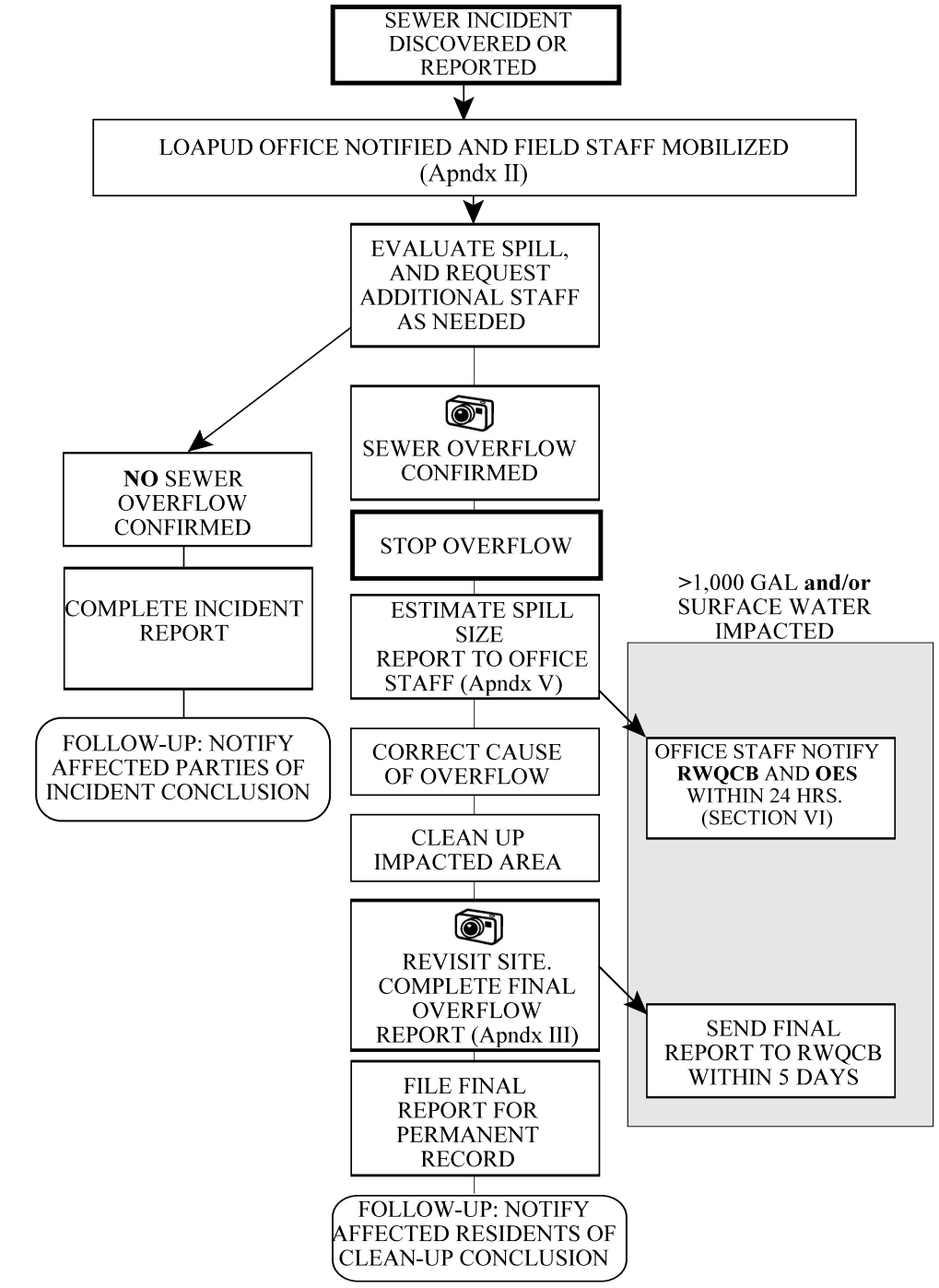
Regional Contacts

Agency	Phone
CalEMA	**(800) 852-7550**
Regional Water Quality Control Board	**(530) 224-3208 (Greg Cash)**
Butte County Dept. of Environmental Health	**538-7281**
SC-OR	534-0353
Thermalito Water and Sewer District	533-0740
Butte County Office of Emergency Services	538-7373
City of Oroville Public Works	538-2420
Butte County Dept. Of Public Works	538-7681
California Dept. Fish & Game	(916) 358-2900

Any Category 1 SSO must be reported to the Governor's Office of Emergency Services, the RWQCB and Butte County Dept. Env. Health as per Section VII. Other contacts shall be made as appropriate given the nature and extent of the SSO.

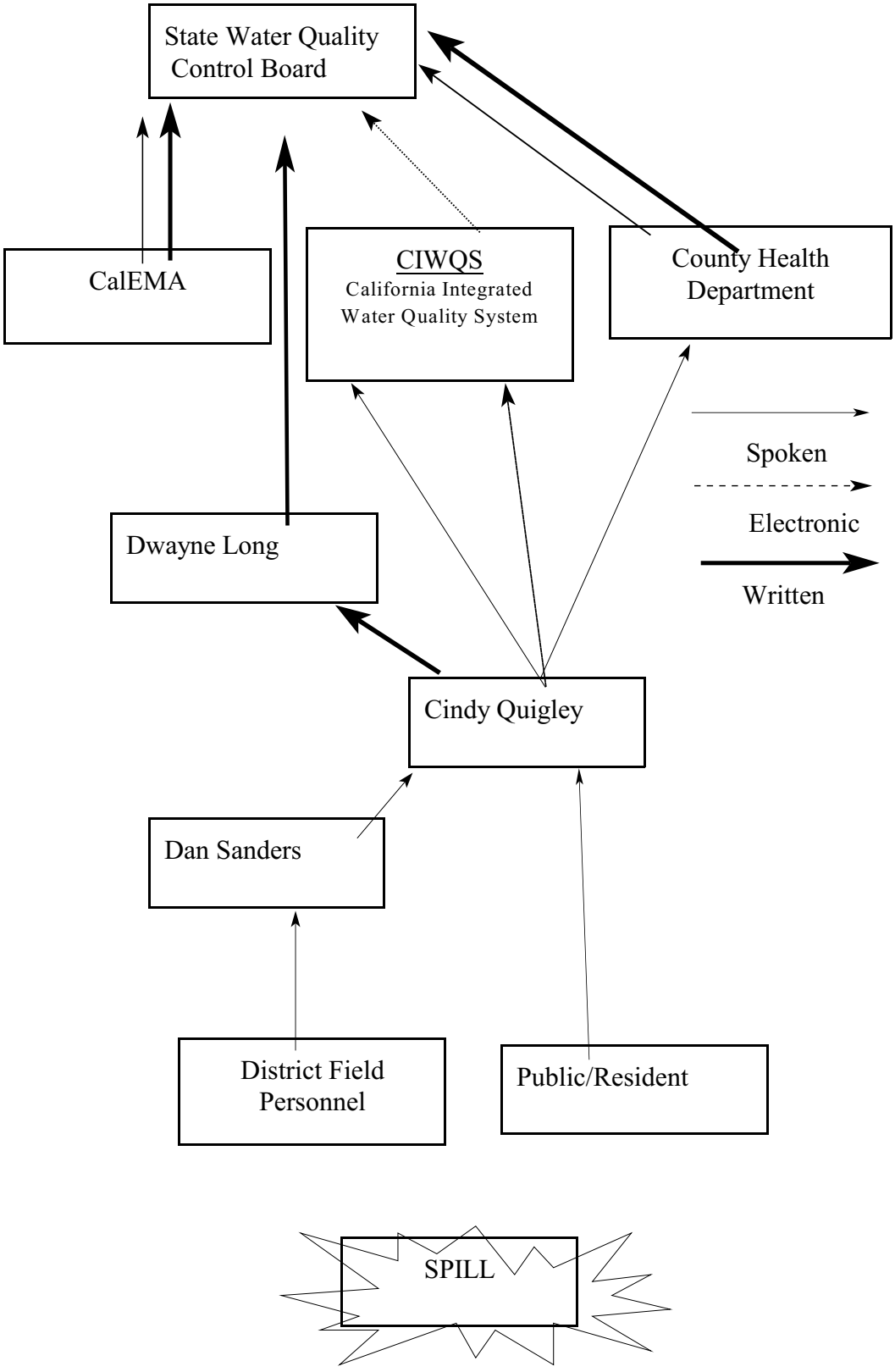
Revised July 2013

SPILL RESPONSE FLOW CHART



Photodocumentation Advised

SPILL REPORTING
CHAIN OF COMMUNICATION



SECTION III - LEGAL AUTHORITY

SECTION III
LEGAL AUTHORITY

Lake Oroville Area Public Utility District was formed and operates under the Public Utility District Act, Statutes of 1921 of the California Public Utility Code. A five member Board of Directors, elected at large by the District's voters, is responsible for setting policy and general administrative procedures for the District. The policies and procedures set by the Board are administered by the District General Manager.

The LOAPUD Board of Directors has adopted numerous policies and ordinances governing the operation of this utility. The LOAPUD Manual of Board Policies includes adopted Policy # 3065, SEWER USE REGULATIONS, (adopted January 11, 1989 and amended June 14, 2005) regarding the use of public sewers within Lake Oroville Area Public Utility District. This Policy specifically:

- Prohibits illicit discharges to the system (Section 5.1 - 5.8);
- Requires that the system is properly constructed (Section 4.1 - 4.8);
- Ensures access to system elements for inspection and maintenance (Section 4.4);
- Limits the discharge of fats, oils and grease (Section 5.2 - 5.4); and
- Enforces any violation of these elements (Section 7.1 - 7.5)

LOAPUD has adopted and may continue to adopt additional ordinances, policies, agreements, and procedures that further define their legal authority in these areas and provide more detailed guidelines and/or requirements specific to these issues.

SECTION IV - OPERATIONS AND MAINTENANCE PLAN

LAKE OROVILLE AREA PUBLIC UTILITIES DISTRICT

SEWER OPERATIONS AND MAINTENANCE PLAN

April 2009
Updated July 2011

Prepared by:

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440 Lower Rd.
Nevada City, CA 95959
(530)-265-8021

Lake Oroville Area Public Utility District
SEWER OPERATIONS AND MAINTENANCE PLAN

Table of Contents

I. INTRODUCTION AND AUTHORITY

Lake Oroville Area Public Utility District (LOAPUD or the District) owns and operates a sanitary sewer collection system serving over 8,000 acres of unincorporated area east and south of the City of Oroville in Butte County, California. This **Sewer Operations and Maintenance Plan** details the O&M practices for the collection system as required by the State of California and detailed in the State Water Resources Control Board Order # 2006-0003 DWQ Statewide General Discharge Requirements for Sanitary Sewer Systems. This plan describes the District's program for the organizational and physical management and maintenance of the collection system. It is one element in the District's comprehensive Sewer System Management Plan which also includes a Sewer Overflow Prevention and Response Plan, a Fats, Oils and Grease (FOG) Control Plan, and a Sewer System Master Plan.

II. GENERAL INFORMATION

LOAPUD's collection system includes over 74 miles of pipelines, 1,550 manholes, and nine lift stations. The system serves approximately 4,000 customers. These include single and multi family dwellings as well as commercial services, totaling an estimated 5996 equivalent dwelling units (edus).

The LOAPUD collection system discharges to the regional treatment facility's East Interceptor owned and operated by the Sewerage Commission Oroville Region (SC-OR) which is a joint-powers authority with LOAPUD as a member entity, along with the City of Oroville and Thermalito Water and Sewer District.

III. PLAN OBJECTIVES

The primary objective of this plan is to define the District's operations and maintenance practices for the proper stewardship of the collection system. In addition, this Sewer Operations and Maintenance Plan specifically addresses the requirements of the Statewide General Permit for an operation and maintenance program:

- Maintain up-to date mapping of the sewer collection system showing all gravity line segments and manholes, pumping facilities, pressure pipes and valves;
- 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. Include tracking documents such as work orders;
- Develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV

inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short- and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;

- Provide training on a regular basis for staff in sanitary sewer system operations and maintenance, and require contractors to be appropriately trained; and
- Provide equipment and replacement part inventories, including identification of critical replacement parts.

IV. ORGANIZATIONAL STRUCTURE AND PERSONNEL

A. District Organizational Structure

Lake Oroville Area PUD was formed and operates under the Public Utility District Act, Statutes of 1921 of the California Public Utility Code. A five member board, elected by the District's voters at large, is responsible for setting policy and general administrative procedures.

The policies and procedures are administered by the District General Manager. The General Manager oversees the District staff and consultants. He is also responsible for providing the Board members with information on the status of the District and its assets.

District staff includes office staff and field operations staff. Office staff functions include dispatch of field staff, maintenance and spill documentation, billing and accounting, public record requests and announcements, regulatory compliance, customer service and provision of information to the Board, via the General Manager. Field operations staff are responsible for the physical operations and maintenance of the District's infrastructure, including inspection, performing preventive maintenance, cleaning, and repairs.

Consultants working at the prerogative of the Board and under the direction of the General Manager include engineering consultants and legal consultants on an on-going basis. Other professional services may be contracted for in a similar manner on an as-needed basis. Outside contractors may also be retained at the discretion of the Board and under direction of the General Manager for large construction projects.

B. Internal Communication

LOAPUD's internal written communication includes but is not limited to:

- Work Orders, typically generated by the office staff and directed to the field crews detailing necessary maintenance activities;
- Job Reports, executed by the field staff and returned to the office staff for follow up and or record keeping;
- Memorandums between the General Manager, the office staff, and the field crews;
- Board Packages, prepared by the General Manager and his staff to provide information to the Board of Directors;
- Information, memorandums and reports generated by the District's consultants and delivered to the General Manager.

In addition to written communication, staff communicates "in-house" by way of 24 hour telephone answering service, cellular telephone, mobile radio, e-mail, staff meetings, and verbal communication.

C. Personnel Training

The District provides all new employees with an orientation program including completing an "Employee Safety Orientation Checklist." The utility is subject to all of the rules and regulations of Cal OSHA. The District requires that all employees receive OSHA required training that is related to their job description. In the case of pump and lift station maintenance, this training includes confined space entry, CPR, first aid and emergency response. All employees are encouraged to obtain additional job related training as it is available, and/or as required in the industry.

Worker and public safety is of utmost importance in the wastewater field. Safety and emergency equipment is accessible and in adequate supply for field employees, including:

- Rubber / disposable gloves;
- hard hats, safety glasses, rubber boots;
- protective clothing;
- anti-bacterial soap and first aid kit;
- tripods and non-entry rescue equipment;
- fire extinguishers;
- equipment to enter manholes;
- portable crane / hoist;
- atmospheric testing equipment and gas detectors;
- confined space ventilation equipment;
- H_2S monitors;
- full body harness;
- traffic / public access control equipment; and
- lower explosion limit (LEL) meters.

Employees are trained in the use and applicability of this equipment.

V. SEWER SYSTEM MAINTENANCE PROCEDURES

A. Preventive Maintenance Program

The District has established this program for the routine and response-related operations and maintenance activities. Routine activities include system inspection, cleaning and routine maintenance as detailed in Sections V.B.1, V.B.2, V.B 4, V.C and V.D. These activities, as well as wet weather preparation activities, are routine in nature and follow scheduling as noted.

Response-related activities include emergency sewer overflow response, response to system problems reported to the District by customers and/or the public, and repairs and/or rehabilitation in response to collection system problems noted in system inspections and investigations by field crews, as well as equipment repair or replacement as needed.

LOAPUD utilizes a system of Work Orders and Job Reports to schedule and track both routine and response-related work. A copy of a blank Work Order and a blank Job Report is included in the Appendix of this plan.

B. Maintenance Activities

1. Collection System Inspection - Collection system inspection includes the routine and response-related inspection, investigation and testing of the collection system components including gravity sewer pipes, manholes, and force mains. Inspection activities not only enable proactive maintenance, but are critical in infestation and analysis of infiltration and inflow (I&I).

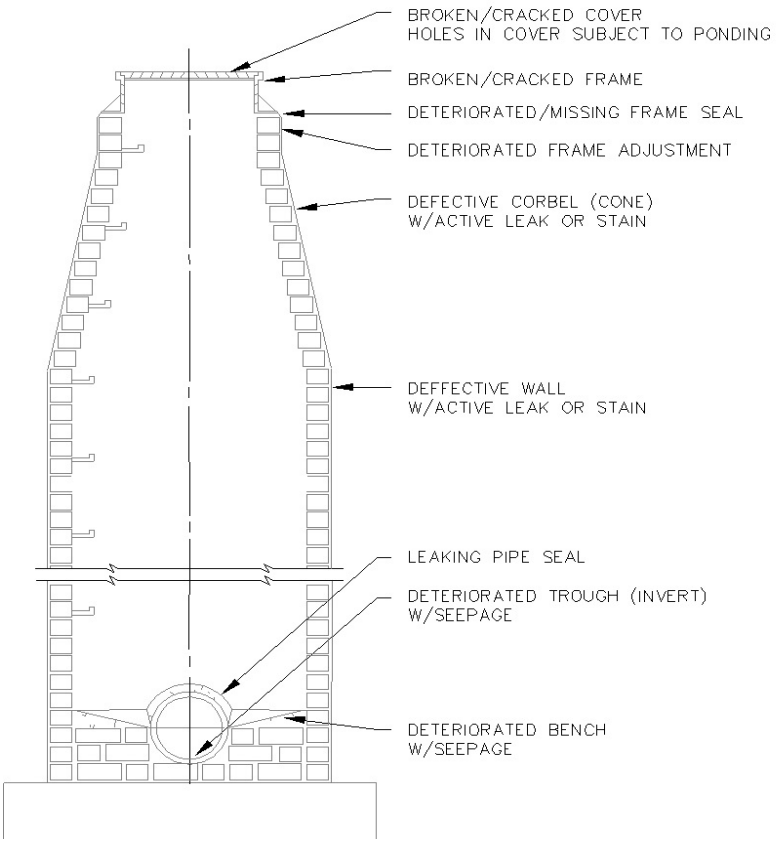
   Inspection techniques include visual inspection, cameras, and closed-circuit television (CCTV). CCTV inspections are the most comprehensive and cost efficient method to inspect the internal condition of sewer pipes 4" and larger. The CCTV camera is assembled to keep the lens as close as possible to the center of the pipe. In larger sewers, the camera and lights are attached to a raft, which is floated through the sewer from one manhole to the next. To see details of the sewer walls, the camera and lights swivel both vertically and horizontally. In smaller sewers, the cable and camera are attached to a sled, to which a drogue is attached and flows from one manhole to the next. Documentation of inspections is very critical to a successful operation and maintenance program. CCTV inspections produce a video record of the inspection that can be used for future reference to prioritize rehabilitation projects and to assess corrective actions.

   Visual inspections are important and can be noted in Job Reports and incorporated support other inspection techniques.

Infiltration and inflow (I&I) investigation of the collection system specifically targets pathways for surface water, groundwater and storm water to improperly enter the sanitary sewer system. It may include CCTV and visual inspections as described above, as well as the following specific techniques:

Manhole Inspections:

Manhole inspection includes an inspection of every component of each manhole structure. These components and possible causes of I/I intrusion are shown below. Proper safety procedures, following OSHA regulations for confined-space entry, must be followed. During the inspection, a quick check of the pipe conditions entering and exiting the manholes can be achieved by simply lamping these pipes. Supplemental photographs or video recordings can be included if there are particular defects or rehabilitation requirements that merit further analysis.



Note: brick manholes are no longer in use in system.

Smoke Testing:

Smoke testing is an effective and economical method of locating major sources of I/I such as storm drainage connections, curb inlets, and area drains. The smoke testing program includes:

Using high-capacity smoke blowers (>3,500 cfm);
Isolating individual sewer lines, when possible;
Informing and educating the affected customers;
Testing during periods of dry weather; and
Carefully documenting all identified defects (photographs or video recording).

Smoke testing not only identifies sources of I/I, but it is an effective technique for locating structural defects such as collapsed, broken or cracked pipe and offset, separated, or deteriorated pipe joints. The District has conducted ongoing annual smoke testing and should conduct a once-through smoke testing program every 2-5 years.

In addition to I/I sources in the District's infrastructure, smoke testing will also locate I/I problems in private service laterals. This includes possible ways that rainfall runoff and groundwater can enter into the District's sewer system from private property. Most such connections violate current local plumbing codes and must be remedied by the private party.

2. Collection System Cleaning

The District recognizes that to maintain proper function, a sewer collection system needs regular scheduled cleaning. Some common causes of sanitary sewer overflows include grease blockages, root blockages, and debris blockages. Frequent system cleaning is preventive maintenance.

The District personnel routinely clean every gravity line in the collection system. Areas with few problems are cleaned on the regular maintenance schedule, while areas with known sags, root intrusion problems, or a history of grease or other problems are cleaned on a more frequent basis. Also, some areas with known wet weather problems are cleaned and inspected at the beginning and during the wet season as preventive maintenance.

District equipment for cleaning includes multiple jet rodders with a variety of jetting and cutting heads that field crews are able to select from, depending upon pipe specifics. The tools and equipment allow personnel to properly clean lines of roots, greases, sediment, and accumulated solids and debris.

Equipment to allow for pipeline and manhole access, short term pipeline bypass, and traffic control as necessary are all available to the cleaning crews on an as-needed basis.

3. Repair and Rehabilitation

Where collection system elements are found to have structural problems, they are prioritized for repair, rehabilitation or replacement. Large rehabilitation and replacement projects are typically placed on the Capital Improvement Plan, and may be done with in-house resources or contracted out.

District field crews routinely repair, replace or rehabilitate smaller sections of pipe. This includes repairing or replacing stretches of pipeline that have structural defects, major root intrusion, misaligned or damaged joints, sags, or other problems. Crews also use their resources to respond to emergency line breaks, breaches or clogs with a combination of cleaning, repair, and/or replacement techniques.

In all cases where active sewer pipelines are involved, District field crews are trained and practice appropriate safety in traffic control, manhole access, sewer bypass, temporary power and pumping, trenching and trench safety, proper disposal of waste and wastewater, and proper construction and reconstruction processes.

C. Lift Station Maintenance Practices

The LOAPUD collection system include nine lift stations. The specific layout and equipment, including pumps, motors, valves, controls, alarms, ventilation, stand-by power varies at each station, and field personnel keep a binder for each station that includes manufacturer's maintenance manuals and warrantees specific to the equipment. In all cases, the manufacturer's specific recommendations shall override general maintenance guidelines provided in this operations and maintenance manual, so long as safety is the first priority.

This manual provides general lift station maintenance practices, most of which apply to all nine lift stations. Field personnel shall familiarize themselves with the specific manufacturer's recommended maintenance for equipment at each lift station, and shall use that information as appropriate. Maintaining equipment in accordance with manufacturer's recommendation may be required to maintain effective coverage for warrantees and guarantees for equipment performance, and logging and recording routine maintenance may be necessary.

Use equipment service cards/service record cards or lift station maintenance logs for record keeping of lift station maintenance practices. Following is a table of

general lift station maintenance. Some items may not be applicable to every stations.

- Building and Grounds Maintenance:

  Weekly check of heating and ventilation systems.
  Weekly light cleaning
  Quarterly complete cleaning
  Annual check of grounds, fencing, outdoor maintenance
  Annual check of building roof, doors, windows for leakage or repairs
  Annual check of electrical, plumbing and ventilation systems
  Annually check all safety equipment (fire extinguishers, first aid kits, etc.)
  Elimination of rodents, pests, as needed.

- Sumps, wet wells and overflow storage structures:

  Weekly, check for grease or solids buildup or debris.
  Annually drain and clean during low flow period, re-coat or patch as necessary.

- Pumps

  Prior to any direct maintenance, pumps and motors shall be disconnected from electrical supply, and field staff shall observe all safety and CalOSHA requirements.

  Daily, record run times for pumps.
  Daily, inspect for suction end blockages. Check suction and discharge operating pressures. A higher vacuum than normal may indicate a suction line blockage. A low discharge pressure may indicate worn impeller or breakage in force main.
  Daily, check motor temperature and pump bearing temperature.
  Daily, listen or feel for unusual noises or vibrations.
  Daily, check for proper guards and safety gear.
  Daily, check for leakage on packing glands.
  Weekly, operate pumps alternately.
  Weekly, check mechanical seals for leakage or excessive heat.
  Weekly, inspect wearing rings, stuffing boxes, packing rings and seals as applicable, and replace when worn or damaged. For pumps with mechanical seals, inspect mechanical seals, o-rings, springs, and maintain as recommended by the manufacturer. Lubricate and check seal water as recommended. Repair or replacement of mechanical seals requires that the pump be taken out of service for repair. Installation of new mechanical seals must be done be a qualified pump mechanic with the proper tools and supplies.

Monthly, or as manufacturer recommends, lubricate bearings. Drain old lubricant and dispose of properly and add fresh lubricant as recommended.
Annually, as a minimum, or more frequently as manufacturer recommends or any time unusual noise, wear or vibration are noted, check the alignment between pump and motor, realign as necessary, tighten any flange connections.
Annually inspect suction line for alignment, eliminate any potential for air pockets.
Annually check all piping supports for wear, corrosion or settling. Pipes should be supported externally, and not bearing weight on pump casing.

After pump maintenance, properly prime pumps as needed prior to placing back in service. This may require manual venting of casing and operation of discharge valving.
If pump is to be left off-line for maintenance, open motor breaker switch, lock out and tag, with reason for out-of-service.
Never operate a pump in dry conditions.

- Motors

Daily, keep motors clean and free of dirt and grease.
Daily, note any unusual noises, smells or vibrations.
Annually, verify that motor nameplate data is current is maintenance log.
Annually, lubricate pump motors and inspect for wear or age related problems.
Annually, clean and dry motor electrical connections and tighten any loose connections. Inspect and tighten hold-down bolts if applicable.
If motors are variable speed, they require additional maintenance for slip rings and bushes. Refer to manufacturer's recommendations. Failure to perform increased maintenance on variable speed drive motors may cause premature failure.

- Valves

Weekly, manually stop pumps. Check valves should close smoothly and completely without slamming. There should be no leakage in check valve.
Monthly, manually operate all valves to ensure proper range of motion.
Most centrifugal pumps may be started against a closed discharge valve to develop prime. The valve should be slowly opened.
Positive displacement pumps should never operate against a closed discharge valve. **Do not operate any pump with suction valve closed.**
Annually, inspect valve packing, stems, seals, nuts, seats, and lubricate or replace parts as needed. Clean and paint valves if applicable. If valves are in vaults, clean vaults.

- Electrical controls

  Daily, check that motor control is in "Automatic" position.
  Weekly, manually check float switch performance. Inspect bubbler, electrode or diaphragm type level controls and clean off scum as needed. Purge bubbler tube if needed.
  Weekly, check for appropriate motor response to each level condition.
  Weekly activate "stop" switch and motor "lock out" switch if applicable. Motors should wind down slowly. After stopping, check that no back-spinning occurs.
  Weekly, check all alarm conditions and autodialer, telemetry or SCADA as applicable.
  Quarterly, change lead and lag pump designations if applicable.
  Quarterly, service and calibrate all instrumentation, such as flow meters, level sensors, and alarms.

- Electrical Systems

  For any modifications, maintenance or repair of electrical systems, a qualified electrician shall be employed. Field staff shall be adequately trained in recognizing electrical hazards and calling on qualified commercial electricians for service.

  Annually, all electrical equipment should be inspected for wear, corrosion, integrity and cleanliness. All control equipment should perform as designed. All fuses and circuit breakers should be functional and properly sized. Electrical systems may be damaged by water, dust, heat, cold, humidity and corrosive conditions. Enclosures shall be dry-method cleaned.
  Annually, an electrician should inspect the system for integrity, current imbalances, loose contacts, overheating and corrosion.
  Annually electric safety systems and protective devices shall be inspected.

- Auxiliary Power

  All generators and transfer switches are tested weeklyunder applicable loads as allowed by Butte County Air Quality Management District permit. Keep units clean and check fuel level and freshness. In the case of diesel generators, consider need to replace fuel prior to fuel aging.

D. STEP Systems

1. General - A large number of residences (approximately 350) in the area known as Villa Verona are connected to the LOAPUD collection system through septic tank effluent pump (STEP) systems. These operate much like standard septic systems, some tanks flow by gravity and others pump partially treated effluent to the sewer collection system rather than to an onsite leach field. While these systems significantly reduce the strength of wastewater entering the collection system, they require an increased maintenance responsibility for the District and a somewhat higher potential for mechanical failure and spillage. As with standard septic tank systems, STEP systems require regular pumping and occasional inspection for system integrity.

2. Individual STEP System Maintenance - All individual Septic Tank Effluent Pump (STEP) systems are serviced according to the manufacturer's recommendations at least once every 5 years. Specific problems or homeowner requests may increase this frequency to protect the system and to protect public health. Routine (5-year) maintenance procedures of the STEP systems include the following:

   (a) General system inspection;
   (b) Pump and inspect the septic tank;
   (c) Remove and clean the biofilter;
   (d) Replace the biofilter, if necessary;
   (e) Clean and inspect pump(s) - rebuild, or replace as necessary; and
   (f) Clean and disinfect the area around the STEP system .

3. Specific STEP Collection System Maintenance - The STEP collection system generally consists of individual service laterals, (most of which are pressure lines, but some are gravity), discharging to a common 3"or 4" main that includes clean-outs and vacuum-air release valves. The mains discharge into gravity sewers at manholes. Due to variable hydraulic in the mains, air is able to enter the system from the discharge points. Ongoing maintenance is required to alleviate hydraulic problems caused by air in the system. This includes air release valve monitoring and maintenance and line valve maintenance.

   Air Release Valve Monitoring/Maintenance
   Monitoring air release valves requires routine visits to air release valve (ARV) location. All valves, automatic and manual, should be vented manually and the conditions reported using one of the five conditions tabulated below. Depending on the type of valve and elevation relative to the energy grade line, conditions (1) and (5) are ideal.

      1. No air — effluent only

2. Minor air —small bubbles
3. Continuous air — large air pockets (1 min. or more)
4. Vacuum — air drawn into the system
5. Passive — no air, vacuum, or effluent

Condition 1, no air — effluent only, is representative of those air release locations below static or energy grade lines (refer to as-built drawing for relative elevations) where no air or gas is accumulating or where the accumulation is being properly released by an automatic ARV.

Condition 2, minor air, can usually be expected where an adequately monitored manual ARV is located.

Condition 3, continuous air — large pockets of air, indicates excessive accumulation of gas or air. The problem may indicate (a) insufficient monitoring of a manual ARV, (b) the need to convert the location to an automatic ARV, or, (c) if the station has an AARV, mechanical malfunction of the valve. An AARV should be bled by opening the blow-off valve beneath the AARV body. This process should be repeated for two additional days. If air continues to escape after several days of manual bleeding, the AARV should be replaced or repaired.

Condition 4, vacuum, indicates that siphoning is occurring. Locations that are subject to siphoning are those with elevations above the energy grade line (refer to as-built drawings). These are usually at the beginning of gravity sections, e.g. the top of standpipes, and should always be handled with AARVs. Condition 4 may be the result of an AARV with a plugged orifice or mechanical apparatus that is frozen shut. In either case, movement of air back into the system is restricted and repair or cleaning of the mechanism is required. If condition 4 is encountered at a MARV location, it indicates a drop in pressure and the need for a check of downstream hydraulic pressures.

Condition 5, passive, is typical of AARV locations that are above the static or energy grade lines and at which air is being properly expelled.

Valve Maintenance

Valve exercising should not be scheduled when high flows are expected, during heavy rainfall. Avoid exercising valves near the end of the day; if a valve sticks closed, repair is much more convenient in the daylight. Begin the exercising procedure at the most remote locations, so as to gain experience where fewer homes would be affected by a stuck valve. Ensure that all valve locations are accessible and clean of gravel, asphalt, weeds, or brush. During an emergency, quick access is advantageous.

When exercising valves at clean outs, the clean out must be secured to avoid sewage spills. Caution should be used in securing pressure caps, since excessive line pressure may blow an improperly secured cap loose.

Bypass valves located at the standpipes are critical to system hydraulics and should be exercised only when other standpipe repair work is in progress.

To maintain a system's integrity, all valves should be returned to their original position, whether open or closed. Maintenance personnel should make certain that nothing is lodged under a valve that is normally closed. Such an obstruction could cause a drop in the system's normal pressure level that might cause air, siphoning, and other problems.

VI. EQUIPMENT INVENTORIES

LOAPUD keeps current inventories of all major equipment for both maintenance and accounting purposes. A current list of capital equipment (Trucks, trailers, backhoes, rodders, trailer mounted pumps, etc.) is provided in Appendix A.2. This list does not include incidental tools and accessories.

The Field Supervisor is responsible for tracking inventories of materials. These include pipes, hoses, spare and replacement mechanical parts, lubricants, fuels, etcetera. The Field Supervisor is responsible for assuring that critical replacement parts are either available in-house, readily available within a 2 - 4 hour period, or that adequate redundant or bypass facilities can be employed to avoid a sewage overflow during the repair or replacement of a critical system element.

VII. INFORMATION MANAGEMENT

A. Mapping

LOAPUD has a detailed collection system map consisting of a cover and index sheet, the collection system showing parcels, pipes, manholes and lift stations, plotted at a scale of 1" = 200'. The 17 sheet system map also includes a table detailing the lengths and slopes of the main trunk line. In addition to the overall system map, the District maintains files of "as-built" drawings for most of the existing infrastructure. As-built or Record Drawings are required for all new construction and reconstruction in the system.

LOAPUD is in the process of creating an electronic version of the collection system map that can be easily updated on a routine basis. This map will include all of the pipes, manholes and lift stations in the system. It will show parcels and services as well.

B. Record Keeping

LOAPUD's infrastructure record keeping includes records of Sewer Overflow Reports, maintenance of the collection system map, maintenance logs for lift stations and equipment, Work Orders and Job Reports. Files are maintained for all contracted construction projects, including Record Drawings and information on the infrastructure and equipment installed. Files are also maintained on improvement projects done with in-house resources.

Office staff keeps financial records and accounting records on file as necessary for tax and legal purposes. This includes information on infrastructure and equipment, financial records on improvement projects, records on funding programs, and information to support financial applications. Customer account records are maintained as well.

C. Rehabilitation and Replacement Plan

LOAPUD, as steward of the collection system infrastructure, has continued to reinvest in the system through the systematic rehabilitation, expansion and replacement of infrastructure.

Through a thorough combination of ongoing CCTV (since 1995) and other inspection processes, maintenance records, overflow incident records, and master-planning based on anticipated growth trends, LOAPUD has identified portions of the system that:

- Have insufficient hydraulic capacity to meet present or future flow;
- Are "bottle-necks" in the system, routinely causing up-stream manhole surcharging;
- Include flat, near flat, and sagging portions of pipeline; and
- Have increased maintenance needs due to system hydraulics or geometry.

For every element of the system that has been identified as being problematic, the District has evaluated whether capital improvements are necessary or whether the area in question is to be targeted for increased maintenance. For instance, if a bottle-neck in the system causes upstream surcharging and is insufficient for future hydraulic capacity, then a capital improvement project up-sizing this element is necessary. For a relatively flat area with no major structural problems, but higher incidents of clogging, increased cleaning and jetting frequency may be necessary.

Every year the District has allocated capital resources to target problem areas, with a typical annual capital improvement budget of $200,000 - $300,000. The vast majority of identified problems in the system were targeted in a $5,000,000 improvement program in the years 2006 - 2007, funded through USDA's Rural Development Program. The projects included in this program were the Stateline Rehabilitation Project, the Oak Knoll Bypass, and the Kelly Ridge Bypass project. In addition, in acquiring three lift stations previously owned and operated by the State of California, LOAPUD improved the reliability and overflow capacity of these 3 lift stations to prevent future sewer overflows.

Due to the relatively small size of the District, the identification of projects for each capital improvement cycle is done informally and in-house, taking into account the hydraulic analyses done in master planning, the maintenance requirements of particular areas as identified by the Field Supervisor, and records of sewer overflows or other documented problems.

APPENDIX

A.1 SEWER SYSTEM MAP

LOAPUDs Sewer System Map is a 17 sheet collection of 24" x 36" drawings of the system available at the District Office.

A.2 EQUIPMENT INVENTORY LIST

#	Item Description
00.	2008 Ford Explorer
1.	2010 Ford F150 4.6L
2.	1999 Ford F-450 flatbed dump
3.	1996 Ford F-350 7.5 L
4.	1996 Ford F-150 fuel truck
5.	Sterling Jet-Rodder
6.	2012 Peterbilt Pump Truck
7.	Bobcat X331
8.	1994 Ford Econoline camera van
9.	Case 580 Super K Backhoe
10.	Peterbilt dump
11.	1993 Ford F-800 pump truck - Back up
12.	Portable compressor
13.	Portable Godwin pump
14.	Back-up Jet-rodder
15.	John Deere 410 backhoe
16.	Easement machine
17.	Portable Onan DYA 60 generator
18.	Rodding machine
19.	Case trencher
20.	John Deere 644A loader
21.	Kabelco excavator
22.	2008 Ford F-350 Dually
23.	Gorman Rupp portable pump

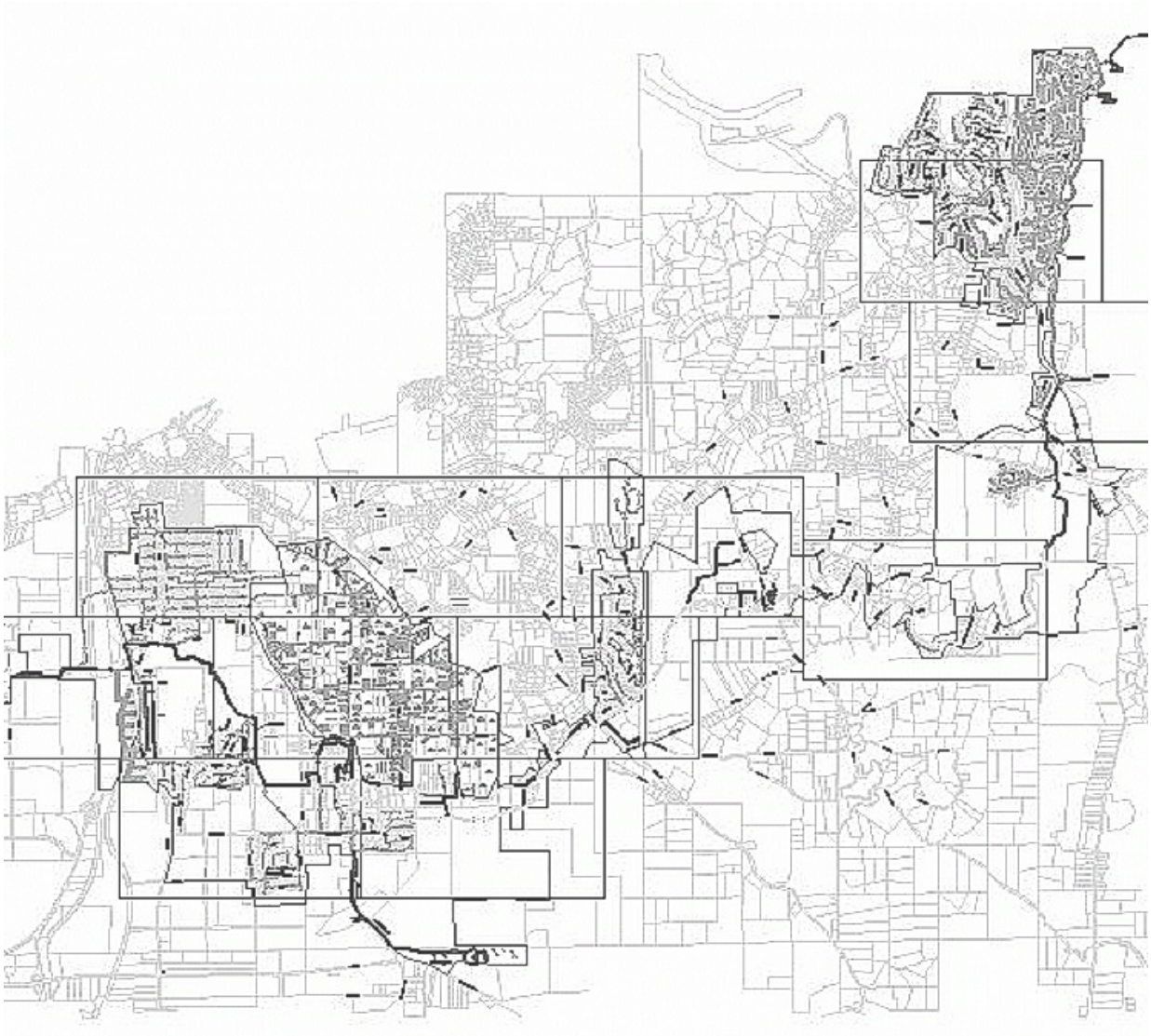
A.3 WORK ORDERS AND JOB REPORTS

Incident Response Work Order (Front)

No.

Time	Date
Incident Location	
Incident Description	
Caller contact information:	
Name	Phone
Address	
Caller observations (e.g., odor, duration, location on property)	
Additional Information	

Incident Response Work Order (Back)



Circle approximate incident location on map.

Additional Information:

Add sample job reports and work orders from scanned PDF

SECTION V - DESIGN & PERFORMANCE STANDARDS

SECTION V
DESIGN AND PERFORMANCE PROVISIONS

Lake Oroville Area Public Utility District has adopted Board Policy No. 6010 DEVELOPMENT IMPROVEMENT STANDARDS (adopted July 11, 1984, amended May 10, 2005) which regulates and guides the design and construction of sanitary sewer facilities within the District by way of Improvement Standards and Standard Details.

The District has adopted the LOAPUD Sewer Improvement Standards and Standard Details including design and construction standards and specifications for installation of new sewer system elements and repair of existing facilities and procedures for inspection and testing of new or repaired facilities.

SECTION VI - OVERFLOW EMERGENCY RESPONSE PLAN

LAKE OROVILLE AREA PUBLIC UTILITY DISTRICT

SEWER OVERFLOW PREVENTION AND RESPONSE PLAN

MARCH 2009
UPDATE JULY 2011

Prepared by:

Sauers Engineering, Inc.
440 Lower Grass Valley Rd.
Nevada City, CA 95959
(530)-265-8021

Lake Oroville Area Public Utility District
SEWER OVERFLOW PREVENTION
AND RESPONSE PLAN

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LIST OF TABLES

LIST OF FIGURES

LAKE OROVILLE AREA PUBLIC UTILITY DISTRICT
SEWER OVERFLOW PREVENTION
AND RESPONSE PLAN

DISTRICT DIRECTORY

Sewer System Owner:
Lake Oroville Area Public Utilities District
1960 Elgin Street
Oroville, CA 95966

www.loapud.com

Main Office:
tel. 530-533-2000
fax 530-533-1750

Contact Persons:

Dwayne Long
General Manager
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Cell: (530) 520-2892
dlong@loapud.com

Cindy Quigley
Communication Officer
Office:(530) 533-2000
cquigley@loapud.com

Dan Sanders
Field Operations Supervisor
Office: (530) 533-2000
Cell: (530)520-7118
dsanders@loapud.com

REGULATORY AGENCIES:

CalEMA

(800) 852-7550

California Regional Water Quality Control Board
Central Valley Regional
415 Knollcrest Drive
Redding, CA 96002
tele: (530) 224-4845
fax: (530) 224-4857

Contact Person:
Greg Cash
Direct: (530) 224-3208

Online spill reporting system:
http://ciwqs.waterboards.ca.gov

Butte County Depart Environmental Health

7 County Center Drive
Oroville, CA 95965
tele: (530) 538-7281

Contact Person:
Kristen McKillop

I. AUTHORITY

Sauers Engineering, Inc. has been retained to prepare this Sewer Overflow Prevention and Response Plan (Plan) in response to the February 28, 2005 letter from the Regional Water Quality Control Board to the Lake Oroville Area Public Utilities District and subsequent orders. The Plan is designed to be consistent with the State Water Resources Control Board Order No. 2006-0003-DWQ Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. The Order was adopted by the State Water Resources Control Board on May 2, 2006. This Sewer Overflow Prevention and Response Plan is one element in the overall Sewer System Management Plan that includes the Sewer Operations and Maintenance Plan, the Sewer System Master Plan and the Fats, Oils and Grease Control Program.

II. GENERAL BACKGROUND

The **prevention** portion of the Plan (Section IV) is designed to minimize the frequency and severity of collection system overflows through effective system management, operation, and maintenance practices. These include: regular system inspection, flow monitoring, and ongoing video surveillance.

The **response** portions of the Plan (Sections V, VI, and VII) are designed to ensure that every report of a confirmed sewage overflow is promptly addressed by the appropriate crews so that negative impacts to beneficial uses of surface waters and customer service can be minimized. The response portion of the plan also spells out the procedure by which spills are reported to regulatory authorities and the public.

The Plan further includes provisions to ensure safety in response and cleanup pursuant to the directions provided by the Butte County Environmental Health Department (BCEHD) and the Regional Water Quality Control Board. For purposes of this Plan, "confirmed sewage spill" is also sometimes referred to as "sewer overflow," "overflow," or "SSO."

The procedure to track the frequency and location of overflows by the District is also described in this Plan. Tracking form can be found in Appendix VI. The information collected and recorded through this tracking exercise, in addition to the regular video monitoring of the collection lines will help to modify, focus and improve ongoing maintenance operations.

A. District Description

The Lake Oroville Area Public Utility District provides sanitary sewer collection services for the unincorporated area east and south of the City of Oroville in Butte County, California. The District's boundary encompasses approximately 8,457 acres (13.2 square miles) ranging in elevation between approximately 200 feet and 1,000 feet above sea level.

The District provides service to approximately 4,000 customers. Customers include single and multiple family residences, a variety of commercial uses, and public facilities including schools and recreational facilities associated with nearby Lake Oroville. For purposes of record keeping and billing, the District converts non-residential customers to equivalent dwelling units (edu). This adjusts larger wastewater customers to the equivalent number of residential customers which generate the same quantity of wastewater. The District currently serves approximately 5,996 edus and an estimated population of 12,000 people.

The District was known as the North Burbank Public Utility District when it formed in 1938. Until 1977, the District owned and operated a wastewater treatment plant providing treatment and disposal services in addition to collection. Treatment and disposal are now provided at a regional plant operated by the Sewerage Commission - Oroville Region (SCOR) which holds the NPDES permit for discharge to the Feather River.

B. Objectives

The primary objective of the Plan is to clarify and formalize the District's procedures to avoid, prepare for, and respond to collection system spills. This completed plan provides guidance in system maintenance and situation response which will:

1. Protect public health and the quality of surface waters;
2. Satisfy Waste Discharge Requirements for sewage collection agencies; and
3. Minimize the risk of enforcement actions against Lake Oroville Area Public Utilities District.

Additional benefits of the Plan are as follows:

- Provide appropriate customer service;
- Protect wastewater treatment plant and collection system personnel;
- Protect the collection system, wastewater treatment facilities, and all related equipment; and
- Protect private and public property beyond the collection and treatment facilities.

This plan shall not supersede existing emergency plans or standard operating procedures unless directed by the General Manager or overseeing regulatory agency.

C. Definitions

1. **Sanitary Sewer Overflow**: A sanitary sewer overflow (SSO, spill, overflow, surcharge) is any overflow, spill, release, discharge or diversion of wastewater from a sanitary sewer system. SSOs include:

   a. overflows or releases of wastewater that reach waters of the United States;
   b. overflows or releases of wastewater that do not reach waters of the United States; and
   c. wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system, and

d. wastewater backups into buildings caused by a blockage or other malfunction of a building lateral that is privately owned is a SSO when sewage is discharged off of private property into streets, storm drains, or waters of the State.

2. **Maintenance**: Any reinvestment in an existing collection system in the form of cleaning, monitoring, inspection, rehabilitation, and relief.

3. **Water of the State:** Any surface or ground water, within the boundaries of California.

4. **Major Spill:** A spill greater than 1,000 gallons, or one that occurs where public contact is likely, regardless of size, or in a sensitive environment (e.g. wetlands, waterways, public access areas, or preserves).

5. **Minor Spill:** A spill that is unlikely to cause illness, damage to property, or otherwise impact the environment *and* is less than 1,000 gallons.

III. LOAPUD Sanitary Sewer System Collection System Overview

A. Pipelines and Manholes

LOAPUD is responsible for the following collection system infrastructure:

TABLE 1 - LOAPUD COLLECTION SYSTEM COMPONENTS

Collection System Components	
Gravity Sewer	74 miles
Force Mains	4.5 miles
Pump Stations	9
Manholes	1,550
Individual STEP systems	350

B. Villa Verona - Pumped "STEP" Systems

A large number of residences (approximately 350) in the Villa Verona Assessment District are connected to the LOAPUD collection system through septic tank effluent pump (STEP) systems. These operate much like standard septic systems, but discharge partially treated effluent to the sewer collection system rather than discharge to an onsite leach field. While these systems significantly reduce the strength of wastewater entering the collection system, they require an increased maintenance responsibility for the District and a somewhat higher potential for mechanical failure and spillage. As with standard septic tank systems, STEP tanks require regular pumping and occasional inspection for system integrity.

C. Lift Stations

The Collection system relies on a series of pump stations to lift wastewater from low lying areas or over hills into the gravity mains that ultimately lead to the SC-OR treatment plant.

The nine lift stations currently maintained and operated by LOAPUD are as follows:

- Royal Oaks Lift Station
- Hanging Tree Lift Station
- Heritage Lift Station
- Mooretown Lift Station
- Las Plumas Lift Station
- Vista Del Cerro Lift Station
- L-1 Lift Station
- L-2 Lift Station
- L-3 Lift Station

Table 2 on the following page presents the capacities and vital information for the LOAPUD maintained lift stations.

Figure 1 on Page 6 shows an overview of the District's collection system. The District boundary is outlined, with existing trunk and collector lines and force mains shown. The approximate location of surface water features are shown. While sewer lines in the proximity of surface water features may pose an immediate risk when an overflow occurs, every sewer line has the potential to overflow to a drainage way that may reach waters of the State.

TABLE 2 - LOAPUD LIFT STATIONS

Royal Oaks Lift Station	
Location:	Royal Oaks Dr.
Capacity:	250 gpm
Surface Elevation:	920'
Pumps:	2 - Moyno 1GOHS1, 15 hp
Wet Well Size:	1,500 gallon
Lift:	60'
Nearest Surface Water:	50'

Hanging Tree Lift Station	
Location:	Hanging Tree Ct.
Capacity:	375 gpm
Surface Elevation:	985'
Pumps:	2-Gorman Rupp T6A-B 88 hp
Wet Well Size:	1,500 gallons
Lift:	101'
Nearest Surface Water:	5'

Heritage Lift Station	
Location:	Rachel Drive
Capacity:	130 gpm
Surface Elevation:	840'
Pumps:	2 - Peabody Barnes 4SEH-1002, 15 hp
Wet Well Size:	1,000 gallons
Lift:	22'
Nearest Surface Water:	30'

Mooretown Lift Station	
Location:	Lower Wyandotte Rd.
Capacity:	447 gpm
Surface Elevation:	245'
Pumps:	2 - FLYGT NP3171 submersible 25 hp
Wet Well Size:	1,500 gal + 16,000 O.F.
Lift:	122'
Nearest Surface Water:	10'

Las Plumas Lift Station	
Location:	Las Plumas Ave.
Capacity:	110 gpm
Surface Elevation:	273'
Pumps:	2-Wemco Torque 3S2 submers.
Wet Well Size:	1,500 gallons
Lift:	11'
Nearest Surface Water:	300'

Vista Del Cerro Lift Station	
Location:	Vista Del Cerro
Capacity:	300 gpm
Surface Elevation:	253
Pumps:	HYDR-O-MATIC #s RV4B & LV4B, 15 hp
Wet Well Size:	1,500 gallons
Lift:	36'
Nearest Surface Water:	300'

L-1 Lift Station	
Location:	Bidwell Canyon Rd.
Capacity:	335 gpm
Surface Elevation:	938'
Pumps:	2 - Gorman Rupp T3A3S-B/WW, 15 hp
Wet Well Size:	4500 gal+ 11,000 O.F.
Lift:	42'
Nearest Surface Water:	100'

L-2 Lift Station	
Location:	Bidwell Canyon Rd.
Capacity:	850 gpm
Surface Elevation:	936'
Pumps:	2 - Gorman Rupp T6A3S-B/WW, 50 hp
Wet Well Size:	7000 gal + 27000 O.F.
Lift:	92'
Nearest Surface Water:	150'

L-3 Lift Station	
Location:	Bidwell Canyon Rd.
Capacity:	100 - 200 gpm
Surface Elevation:	949'
Pumps:	2-FLYGT submers. NP3102, 6 hp
Wet Well Size:	7050 gal + 7535 O.F.
Lift:	81'
Nearest Surface Water:	150'

LAKE OROVILLE

CITY OF OROVILLE

L-1 LIFT STATION

L-2 LIFT STATION

L-3 LIFT STATION

ROYAL OAKS LIFT STATION

HANGING TREE LIFT STATION

HERITAGE LIFT STATION

SC-OR METERING STATION

SC-OR WASTEWATER TREATMENT PLANT

LAS PLUMAS LIFT STATION

VISTA DEL CERRO LIFT STATION

MOORETOWN LIFT STATION

Legend

- Existing Sphere of Influence Boundary
- Existing Service Boundary
- Existing Sewer Gravity Main Lines
- Existing Sewer Gravity Main Lines
- Existing Sewer Force Main
- Parcel Boundary
- Existing Lift Station

Sheet 7 of 14

Sewer System Masterplan 2010

Existing Facilities Map

LAKE OROVILLE AREA PUBLIC UTILITY DISTRICT
1960 ELGIN STREET
OROVILLE, CA 95966
TEL. (530) 533-2000

Sauers Engineering, Inc.
Civil and Environmental Engineers
440 Lower Grass Valley Road, Suite A, Nevada City, CA 95959
Telephone (530) 265-8021

Designed: KEM
Drawn: KEM
Date: March 2010
Scale: 1" = 3,000'

Butte County, California

IV. SPILL PREVENTION PROCEDURES

The District employs a vigorous preventative maintenance and surveillance program. The efforts are focused to minimize the number, severity and frequency of collection system overflows through the following activities:

A. Video Monitoring Procedure

Closed circuit television inspection identifies defects in the sewer collection lines. Unstable sections caused by roots, cracks, displaced joints and intruding connections can be located before they lead to overflows or damaged infrastructure. The procedure also enables LOAPUD staff to keep accurate records and plan future preventative maintenance activities. The monitoring equipment allows for approximately 1,000 feet of collection system to be viewed and recorded each day surveying is carried out.

B. Video Monitoring Schedule

The initial video survey in 1993 proceeded from the furthest northeast extent of the collection system on Kelly Ridge to the eastern most portion, where it discharges to SC-OR's collection system. The initial video survey identified a list of sections that needed further attention. Those sections were then prioritized for repair or replacement based on the severity of the problem. Following the replacement and repair of the most crucial areas identified in the first survey, the entire system has been fully video taped a second time in search of new problem areas and as follow up on repairs made following the first survey. The District conducts ongoing video inspections throughout the year, focusing on older sections of the system and areas known to experience inflow and infiltration.

C. Villa Verona Maintenance Procedure

Each Villa Verona STEP system consists of an individual fiber glass septic tank and a biofilter. Some have pumps to lift effluent into a gravity line. Partially treated septage flows by gravity or is pumped through the biofilter and into small diameter (typically 3") force or larger gravity mains. In some cases several STEP systems pump into a common force main, eventually discharging to the gravity main collection pipeline. Regular maintenance of the STEP system tanks and pumps include the following general steps:

1. Removal and cleaning of the biofilter;
2. Pumping of the septic tank;
3. Replacement of biofilter if necessary;
4. Clean and inspect pump- rebuild, or replace as necessary;
5. General system check, provided no specific problems had been previously noted by homeowner;
6. Cleanup and disinfection of the area around the system.

D. Villa Verona Maintenance Schedule

Current maintenance policy requires the pumping and cleaning of the STEP systems throughout the Villa Verona Area once every five years, or more frequently if problems are reported by homeowners.

E. Lift Station Maintenance Procedure

Lift stations are inspected daily, weekly, and annually including weekends and holidays. Field staff visit each lift station daily to check for general conditions including odors, alarm systems and evidence of overflow or spill. A complete description of lift station maintenance procedures is provided in the LOAPUD Sewer Operations and Maintenance Plan.

F. Lift Station Maintenance Schedule

1. **Daily inspections** include flow and system time recording, pump and motor operation, wet well level and general electronic system check.
2. **Weekly inspections** include cleaning of the wet well and backup generator check. Pumps are also manually run through a full range of operation.
3. **Quarterly/Annual inspections** include all manufacturer recommended mechanical system maintenance, general lubrication, and station cleaning.

G. Winter Preparedness

Field staff focus efforts in September, October, and November on those portions of the collection system which will be less accessible during the winter months or which have shown signs that higher flows may jeopardize system integrity. These areas include:

1. Overland pipe routes likely to be inaccessible due to mud or snow;
2. Problem areas already identified in prior video monitoring;
3. Areas known to receive high wet weather flows due to inflow and infiltration; and
4. Manholes susceptible to inundation, which are sealed to prevent inflow.

H. Flow Measurement

The District maintains a variety of stationary and portable flow measurement equipment. Sewer flows are recorded in various sections of the system during dry and wet periods to detect any excessive inflow and infiltration. Pump durations can also be used at each lift station to determine contributing flow rates. Once identified, the District investigates upstream pipes and connections more closely for sources of the increased flow.

Dry weather (base) flows are recorded in the summer months (July, August, September) when no inflow and little infiltration is likely to be recorded in the system. Pump records are then used during periods of rain to identify general areas of concern and where more specific flow measurement devices should be placed.

V. OVERFLOW RESPONSE PROCEDURE

The Overflow Response Procedure presents the strategy LOAPUD uses to mobilize personnel, materials, tools, and equipment to correct or repair any condition which may cause or contribute to overflows and unpermitted discharge. The plan considers a wide range of potential system failures that could lead to overflows.

A. Sewer Overflow Detection

Report From Public

An overflow may be detected by LOAPUD staff or by the public. LOAPUD is primarily responsible for receiving phone calls from the public regarding possible sewer overflows from the wastewater collection system, and for forwarding work orders to staff and, when necessary, submitting spill reports to the Regional Water Quality Control Board and the County Environmental Health Department.

The telephone operator should obtain all relevant information available regarding the overflow including:

1. Time and date call was received;
2. Specific location;
3. Description of problem;
4. Time possible overflow was noticed by the caller;
5. Caller's name and phone number;
6. Observations of the caller (e.g., odor, duration, back or front of property); and
7. Other relevant information that will enable the responding investigator and crews, if required, to quickly locate, assess and stop the overflow.

The telephone operator then records the incident information and creates an Incident Response Work Order (Appendix II) for assignment to response staff.

Alarms

Lift stations are wired to signal the main office in the event of conditions which may include high level alarms, power failure or unusual pump conditions. Most lift stations are equipped with 2 forms of alarms; SCADA and hardwired telephone auto-dialer. When a lift station alarm occurs, field staff will be notified that the system requires attention. All information regarding alarms will be conveyed to the on duty field staff to initiate a preliminary investigation.

Personnel

Sewer overflows detected by any personnel in the course of their normal duties shall be reported immediately to the main office. Dispatching personnel (office staff) should record all relevant overflow information and dispatch additional response personnel, as needed. (Until verified, the report of a possible spill will not be referred to as a "sewer overflow.") A Sewage Spill Report form (See Appendix III) should be completed by responding personnel within 24 hours of spill confirmation. The General Manager or

other staff with signature authority is responsible for reviewing, updating and signing the final Sewage Spill Report.

B. Sewer Overflow Response

Failure of any element within the wastewater collection system that threatens to cause or causes an overflow will trigger an immediate response to isolate and correct the problem. Field personnel and equipment shall be available at all times to respond to any incident/overflow location. Staff will be dispatched to any site of a reported overflow immediately. Additional maintenance personnel shall be "on call" via cell phone should extra field personnel be needed.

1. Dispatching Field Personnel

a. Office staff should receive notification of sewer overflows as outlined above in Section A, "Sewer Overflow Detection" and dispatch the appropriate field personnel and resources as required.

b. Dispatchers shall notify the appropriate manager or supervisor by cell phone or two way radio regarding sewer overflows and field crew locations.

2. Crew Instructions and Work Orders

a Responding field personnel are dispatched by cell phone or two way radio. They should be informed of the appropriate field personnel, materials, supplies, and equipment that might be needed.

3. Responsibilities of Response Crew Upon Arrival

a. It is the responsibility of the first response personnel who arrive at the site of a sewer overflow to protect the health and safety of the public by mitigating the impact of the overflow to the extent possible. Should the overflow not be the responsibility of LOAPUD but there is imminent danger to public health, public or private property, or to the quality of waters of the State, then prudent emergency action shall be taken until the actual responsible party can provide necessary cleanup actions. Upon arrival at an overflow, the response crew should do the following:

b. Determine the cause of the overflow, e.g. sewer line blockage, pump station mechanical or electrical failure, sewer line break, etc.;

c. Identify and request, if necessary, assistance or additional resources to correct the overflow or to assist in the determination of its cause;

d. Determine if private property is impacted. If yes, notify office staff so the Butte County Environmental Health Department may be advised;

e. Take immediate steps to stop the overflow, e.g. relieve pipeline blockage, manually operate pump station controls, repair pipe, etc. Extraordinary

steps may be considered where overflows from private property threaten public health and safety (e.g., an overflow running off of private property into the public right-of-way); and

f. Request additional personnel, materials, supplies, or equipment that will expedite and minimize the impact of the overflow. Take 'before' cleanup incident photos if possible.

4. Initial Measures for Containment

a. The response crew will initiate measures to contain the overflowing sewage and recover, where possible, sewage which has already been discharged, minimizing impact to public health and the environment.

b. Determine the immediate destination of the overflow, e.g. storm drain, street gutter, body of water, creek bed, etc.;

c Identify and request the necessary materials and equipment to contain or isolate the overflow, if not readily available; and

d. Take immediate steps to contain the overflow, e.g., block or bag storm drains, divert into downstream/downgradient manhole, recover through vacuum truck, etc.

5. Additional Measures Under Potentially Prolonged Overflow Conditions

In the event of a prolonged sewer line blockage or a sewer line collapse, a determination should be made to set up a portable by-pass pumping operation around the obstruction.

a. Appropriate measures shall be taken to determine the proper size and number of pumps required to effectively handle the sewage flow.

b. Continuous or periodic monitoring of the by-pass pumping operation shall be implemented as required.

c. Regulatory agency issues shall be addressed in conjunction with emergency repairs.

6. Cleanup

a. Sewer overflow sites are to be thoroughly cleaned after an overflow. No readily identified residue (e.g., sewage solids, papers, rags, plastics, rubber products) is to remain.

b. Where practical, the area is to be thoroughly flushed and cleaned of any sewage or wash-down water. Solids and debris are to be vacuumed, flushed, swept, raked, picked-up, and transported for proper disposal.

c. The overflow site is to be secured to prevent contact by members of the public until the site has been thoroughly cleaned. Posting if required should be undertaken pursuant to Section VI.

d. Where appropriate, the overflow site is to be disinfected and deodorized.

e. Where sewage has resulted in ponding, the pond should be pumped dry and the residue disposed in accordance with applicable regulations and policies.

f. If a ponded area contains sewage which cannot be pumped dry, it may be treated with bleach. If sewage has discharged into a body of water that may contain fish or other aquatic life, bleach or other disinfectant should not be applied and the California Department of Fish and Game should be contacted for specific instructions.

g. Use of portable aerators may be required where complete recovery of sewage is not practical and where severe oxygen depletion in existing surface water is expected.

C. Water Quality Sampling

In all cases where sewage spills reach surface waters, the receiving waters must be sampled to determine impacts and ensure adequate cleanup. Spills to fresh waters shall be sampled at minimum for Fecal Coliform Organisms. Sampling shall be conducted in the affected receiving water body upstream, at, and downstream of the spill's point of entry, and as necessary to characterize the spill's impact (and to ensure adequate cleanup). This sampling shall be coordinated with the Butte County Department of Environmental Health. All sampling data shall be submitted to the Regional Water Quality Control Board as it becomes available through the Online SSO database.

D. Sewage Spill Report

A Sewage Spill Report (See form in Appendix III) shall be completed by on duty staff the same day the spill is confirmed. Field staff shall promptly notify office staff when the overflow is eliminated. Field staff should provide estimates of the amount of sewage involved in the overflow. See Appendix V for guidance on estimating sewer overflow volumes and flow rates. If it is determined that a sewer overflow has occurred, it must be reported to the SWRCB by telephone and using the online reporting system, as per Section VII. The online reporting system generates a spill report for each event in addition to this in-house spill report form.

E. District Efforts to Contain, Control and Mitigate SSO

In any enforcement action, the Regional Water Board will consider the District's efforts to contain, control and mitigate SSOs. They shall take into consideration whether:

1. The District has complied with requirements for implementing a Sewer System Management Plan, including implementing this Sewer Overflow Prevention and Response Plan.

2. The District can identify the cause or likely cause of the SSO event.

3. There were no feasible alternatives to the discharge, such as temporary storage or retention of untreated wastewater, reduction of I&I, use of adequate backup equipment, collecting and hauling sewage to a treatment facility, or an increase in the capacity of the system to accommodate storm events as identified in the SSMP.

4. The SSO was exceptional, unintentional, temporary, and caused by factors beyond the reasonable control of the District.

5. The SSO could have been prevented by the exercise of reasonable control described in the SSMP for:
   a. Proper system management, operation and maintenance;
   b. Adequate sanitary sewer system facilities with appropriate design capacity to reasonably prevent SSOs;
   c. Preventative maintenance including FOG control;
   d. Installation of adequate backup equipment; and
   e. Infiltration and inflow prevention and control to the extent practical.

6. The District took all reasonable steps to stop and mitigate the impact of the discharge as soon as possible.

F. Customer Satisfaction - Follow-up

Field staff shall revisit the incident site once cleanup operation is completed. They shall take 'after' photographs. Field or office staff shall follow-up in person or by telephone with the citizen(s) reporting and / or affected by the overflow. The cause of the overflow and its resolution shall be explained.

VI. PUBLIC ADVISORY PROCEDURE

A. Internal and Regional Communication

When an overflow has been confirmed to be a threat to public health, the following actions should be taken to notify the public:

- Field personnel verifies overflow and confirms that it indeed could threaten the public and reports back to the main office.
- Office staff shall be the "first-line" of response to the media for any overflow.
- After hours and weekend sewer overflows are reported to the main office at the number(s) listed in the Table 3 as follows.

Table 3
LAKE OROVILLE PUBLIC UTILITY DISTRICT
Phone Contact List

DISTRICT OFFICE 530-533-2000

Office Staff After- Hours Contact Numbers

NAME	PHONE	CELLULAR
DWAYNE LONG	532-1573	520-2892
CINDY QUIGLEY	533-6281	990-1037
DARRIN KAHALEKULU	534-3491	*******

Field Staff After-Hours Contact Numbers

NAME	PHONE	CELL	EMAIL
DAN SANDERS	645-2688	520-7118	dsanders@loapud.com
TYLER CHRISTENSEN	616-0390	520-8309	tylerc@loapud.com
DAN NUSS	534-6650	520-8993	dnuss@loapud.com
VINCE VICTORINO	990-0287	282-2844	vincentv@loapud.com
LUIS ALVAREZ	532-1469	712-7088	lalvarez@loapud.com

Regional Contacts

Agency	Phone
CalEMA	**(800) 852-7550**
Regional Water Quality Control Board	**(530) 224-3208 (Greg Cash)**
Butte County Dept. of Environmental Health	**538-7281**
SC-OR	534-0353
Thermalito Water and Sewer District	533-0740
Butte County Office of Emergency Services	538-7373
City of Oroville Public Works	538-2420
Butte County Dept. Of Public Works	538-7681
California Dept. Fish & Game	(916) 358-2900

Any Category 1 SSO must be reported to the Governor's Office of Emergency Services, the RWQCB and Butte County Dept. Env. Health as per Section VII. Other contacts shall be made as appropriate given the nature and extent of the SSO.

B. Temporary Signage

The following action should be taken, in cooperation with the Butte County Environmental Health Department, to limit public access to areas potentially impacted by unpermitted discharges of pollutants to surface water bodies from the wastewater collection system.

The Butte County Environmental Health Department has primary responsibility for determining when to post notices of polluted surface water bodies or ground surfaces, however until they can respond to the scene of the overflow, LOAPUD will be responsible for the communication to the public that unsafe conditions may be present. The postings will not necessarily prohibit access or use of recreational areas, unless posted otherwise, but provide a warning of potential public health risks due to sewage contamination.

C. Other Public Notification

Public notification will be directed by the **Regional Water Quality Control Board** and/or **Butte County Department of Environmental Health** once they have been informed of the situation according to Section VII below.

VII. REGULATORY AGENCY NOTIFICATION

This Plan establishes procedures which LOAPUD shall follow to provide formal notice to the;

- Regional Water Quality Control Board,
- Butte County Environmental Health Department, and
- CalEMA,

as necessary in the event of a spill. The reporting criteria below explains the reporting limits and to whom various forms of notification should be made, and lists agencies/individuals to be contacted.

A. Regional Water Quality Control Board Notification

Reporting to the Regional Water Quality Control Board shall be in accordance with the State Water Resources Control Board Monitoring and Reporting Program No. 2006-0003-DWQ Statewide General Waste Discharge Requirements for Sanitary Sewer Systems. In accordance with that program, the following reporting through the California Integrated Water Quality System online database is required:

SSO Categories

1. Category 1 - All discharges of sewage resulting from a failure in the sewer collection system that:
    A. Equal or exceed 1,000 gallons; or
    B. Result in a discharge to a drainage channel and/or surface water; or

C. Discharge to a storm drainpipe that is not fully captured and returned to the sanitary sewer system.

2. Category 2 - All other discharges of sewage resulting from a failure in the sewer collection system.

3. Private Lateral Sewage Discharges - Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

SSO Reporting Time frames

4. Category 1 SSOs - all SSOs that meet the above criteria for Category 1 SSOs must be reported as soon as: (1) LOAPUD has knowledge of the discharge, (2) reporting is possible, and (3) reporting can be provided without substantially impeding cleanup or other emergency measures. Initial reporting of Category 1 SSOs must be reported:

(A) by **telephone within 2 hours** of spill confirmation to RWQCB
Current contact: Greg Cash (530) 224-3208
or main office (530) 224-4845; **and**

(B) to the **Online SSO Database** as soon as possible but no later than 3 business days after LOAPUD is made aware of the SSO. The web address for this site is
http://ciwqs.waterboards.ca.gov
Minimum information that must be contained in the 3-day report must include all information identified in Section 9 below, except for item 9.K. A final certified report must be completed through the Online SSO System, within 15 calendar days of the conclusion of SSO response and remediation. Additional information may be added to the certified report, in the form of an attachment, at any time.

The above reporting requirements do not preclude other emergency notification requirements and time frames mandated by other regulatory agencies (CalEMA, Butte County Dept. Environmental Health, etc).

5. Category 2 SSOs - all SSOs that meet the above criteria for Category 2 SSOs must be reported to the Online SSO Database within 30 days after the end of the calendar month in which the SSO occurs (e.g. all SSOs occurring in the month of January must be entered into the database by March 1st).

6. Private Lateral Sewage Discharges - All sewage discharges that meet the above criteria for Private Lateral sewage discharges may be reported to the Online SSO Database based on LOAPUDs discretion. If a Private Lateral sewage discharge is recorded in the SSO Database, LOAPUD must identify the sewage discharge as occurring and caused by a private lateral, and a responsible party (other than LOAPUD) should be identified, if known.

7. If there are no SSOs during the calendar month, LOAPUD will provide, within 30 days after the end of each calendar month, a statement through the Online SSO Database certifying that there were no SSOs for the designated month.

8. In the event that the Online SSO Database is not available, LOAPUD must fax all required information to :

Regional Water Quality Control Board
Central Valley Region
C/O Greg Cash:
415 Knollcrest Drive, Suite 100,
Redding, California 96002
Telephone (530) 224-3208 direct; 224-4845 main office;
Fax: (530) 224-4857

in accordance with the time schedules identified above. In such event, LOAPUD must also enter all required information into the Online SSO Database as soon as it is possible to do so.

Mandatory Information to be Included in Online SSO Reporting

At a minimum, RWQCB requires that the following mandatory information must be included prior to finalizing and certifying an SSO report for each category of SSO:

9. Category 2 SSOs:

A. Location of SSO by entering GPS coordinates;
B. RWQCB Region of occurrence: Region 9 Central Valley Region;
C. County of SSO occurrence: Butte County;
D. Whether or not the SSO entered a drainage channel and/or surface water;
E. Whether or not the SSO was discharged to a storm drain pipe that was not fully captured and returned to the sanitary sewer system;
F. Estimated SSO volume in gallons (See Appendix V);
G. SSO source (manhole, cleanout, ruptured pipeline, etc.);
H. SSO cause (pipeline blockage, roots, etc.);
I. Time of SSO notification or discovery;
J. Estimated operator arrival time;
K. SSO destination;
L. Estimated SSO end time; and
M. SSO Certifications. Upon SSO Certification, the SSO Database will issue a Final SSO Identification (ID) number.

10. Private Lateral Sewage Discharges:

A. All information listed above (if applicable and known), as well as;
B. Identification of sewage discharge as a private lateral sewage discharge; and
C. Responsible party contact information (if known).

11. Category 1 SSOs:

A. All information listed for Category 2 SSOs, as well as:
B. Estimated SSO volume that reached surface water, drainage channel, or not recovered from a storm drain;
C. Estimated SSO volume recovered;
D. Response and corrective action taken;
E. If samples were taken, identify which regulatory agencies received sample results (if applicable);
F. Parameters that samples were analyzed for (if applicable);
G. Were health warnings posted;
H. Beaches impacted (if applicable);
I. Whether or not there is an ongoing investigation;
J. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
K. OES Control number (if applicable);
L. Date OES was called (if applicable);
M. Time OES was called (if applicable);
N. Whether or not Butte County Health Officers were called;
O. Date Butte County Health Officers were called (if applicable); and
P. Time Butte County Health Officers were called (if applicable).

The Online SSO database system keeps an on-going record of all SSOs for the system. The District shall file a monthly report declaring there have been no spills in any month that no SSOs occur. As this reporting system is permanent and on-going, no further annual reports of SSOs are required.

B. Reporting to the Governor's Office of Emergency Services

Official guidance is located in Appendix IV**. Immediate telephone reporting of a verified SSO to CalEMAis required.**

California Water Code Section 13271 requires any person, without regard to intent or negligence, who causes or permits **1,000 gallons or more** of sewage to be discharged or deposited in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (1) that person has knowledge of the discharge, (2) notification is possible, and (3) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify by telephone the

CalEMA
at **1-800-852-7550.**

CalEMA will immediately notify the appropriate Butte County Environmental Health Officer of the discharge. Upon receiving notification of the discharge, the local health officer and administrator of environmental health will determine whether notification of the public is required to safeguard public health and safety. If so, the local health officer

and administrator of environmental health will immediately notify the public of the discharge by posting notices or other appropriate means.

CalEMA Reporting Exceptions: Notification to CalEMA of an unauthorized discharge of sewage is **not** required if:

1) the discharge occurs on land only and does not affect state waters; or
2) the discharge is in compliance with applicable waste discharge requirements.

These exceptions apply only to the responsibility to report to OES, and *do not* alter the Regional Board's reporting policies or waste discharge requirements.

C. Notification of Butte County Department of Environmental Health

Upon verification that a SSO has occurred, the District shall notify by telephone the **Butte County Department of Environmental Health:**

Main Office: 538-7281
Kristen McKillop

The County Environmental Health Department will take primary responsibility for determining the extent of danger to the public, appropriate public notification and posting, and working with the District to establish appropriate receiving water quality testing if applicable.

VIII. DISTRIBUTION AND MAINTENANCE OF PLAN

Annual updates to this Sewer Overflow Prevention and Response Plan should be made to reflect all changes in policies and procedures as may be required to achieve its objectives.

A. Submittal and Availability of Plan

Copies of the Plan and any amendments should be distributed to all field personnel and be made immediately available to office staff.

All other personnel who may become incidentally involved in responding to overflows should be familiar with the Plan.

B. Review and Update of Plan

The Plan should be reviewed annually and amended as appropriate. LOAPUD should:

1. Update this Plan with the issuance of a revised or new NPDES discharge permit;

2. Conduct annual training sessions with appropriate personnel if necessary; and

3. Review and update, as needed, the various contact person lists included in the Plan.

APPENDIX

Appendix I	Equipment Inventory
Appendix II	Incident Response Work Order
Appendix III	Spill Report Form
Appendix IV	California Emergency Management Agency Fact Sheet - Reporting Sewage Releases
Appendix V	Spill Size Estimation Guidelines
Appendix VI	Identified Collection System Problem Areas
Appendix VII	Response Flow Chart

Appendix I

Equipment Inventory

#	Item Description
00.	2008 Ford Explorer
1.	2011 Ford F-150 4.6L
2.	1999 Ford F-450 flatbed dump
3.	1996 Ford F-350 7.5 L
4.	1996 Ford F-150 fuel truck
5.	Sterling Jet-Rodder
6.	2012 Peterbilt Pump Truck
7.	Bobcat X331
8.	1994 Ford Econoline camera van
9.	Case 580 Super K Backhoe
10.	Peterbilt dump
11.	1993 Ford F-800 pump truck back up
12.	Portable compressor
13.	Portable Godwin pump
14.	Back-up Jet-rodder
15.	John Deere 410 backhoe
16.	Easement machine
17.	Portable Onan DYA 60 generator
18.	Rodding machine
19.	Case trencher
20.	John Deere 644A loader
21.	Kabelco excavator
22.	2008 Ford F-350 Dually
23.	Gorman Rupp portable pump

Appendix II

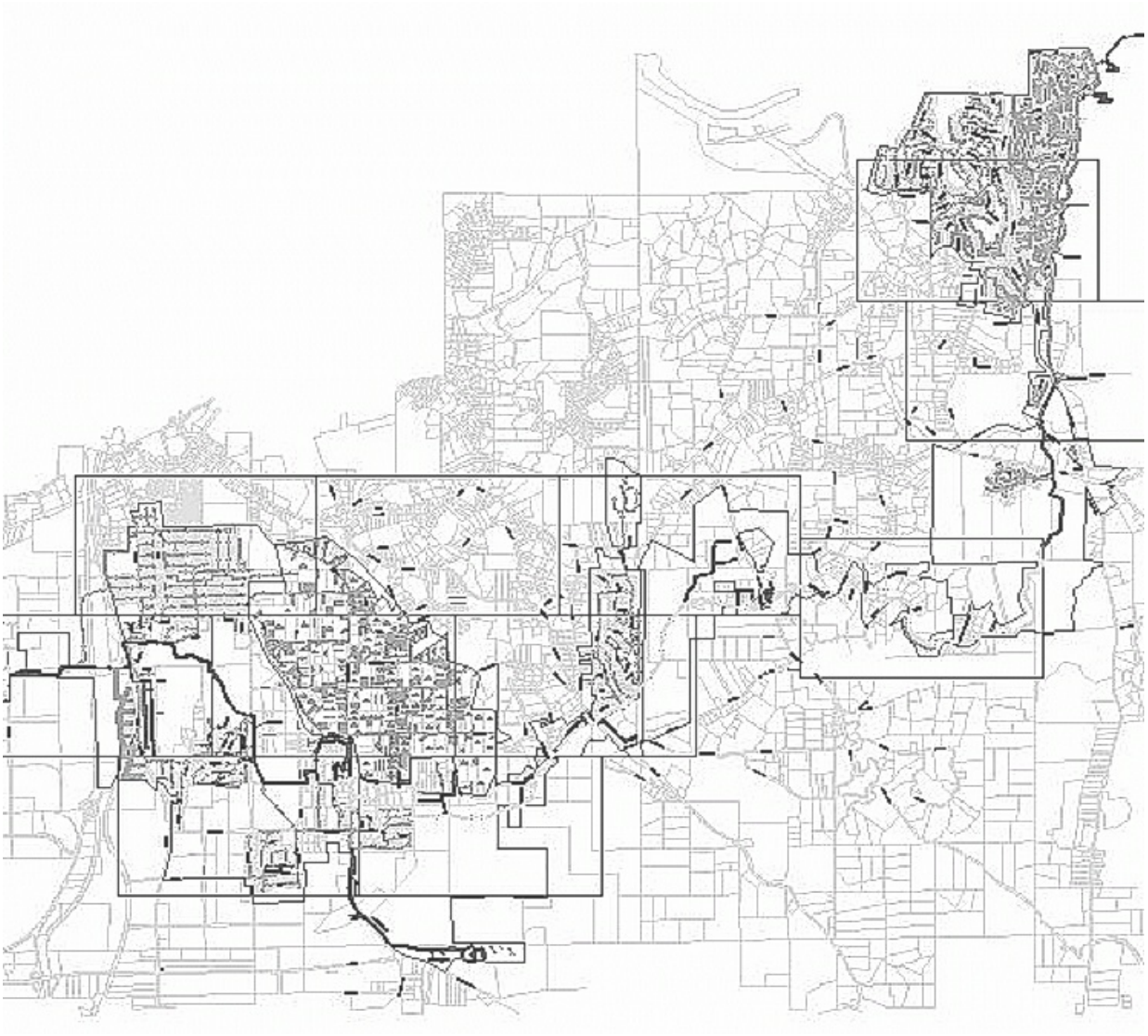
Incident Response Work Order (Front)

No.

Time	Date
Incident Location	
Incident Description	
Caller contact information:	
Name	Phone
Address	
Caller observations (e.g., odor, duration, location on property)	
Additional Information	

Appendix IIb

Incident Response Work Order (Back)



Circle approximate incident location on map.

Additional Information:

Appendix III

Lake Oroville Area Public Utility District

SEWER OVERFLOW REPORT

GENERAL INFORMATION

1. This report is: PRELIMINARY ____ FINAL _____
2. Sanitary Sewer Overflow Sequential Tracking Number: _____
3. SSO Occurrence: Start Date _____ Start Time _____
   Stop Date _____ Stop Time _____
4. Reported by: Name:_____ Contact #:_____
5. Reported to: Name:_____ Contact #: _____

LOCATION & DESCRIPTION

6. SSO Location: Street Address: _____
   Coordinates: Latitude:_____ Longitude:_____
7. Estimated Volume: _____
8. Volume Recovered: _____
9. Estimated Volume Released to Environment: _____
10. Path of SSO: (Storm drain release, Storm drain recovered, ponded, street curb & gutter, etc.)

_____

RECEIVING WATER AFFECTED

11. Surface Water Impacted: Yes_____ No_____
12. If Yes, initial receiving surface water identification: _____
13. Affected secondary receiving water or groundwater identification, if applicable:_____
14. Estimated amount of sewage reaching waters of State:_____
    Details:_____
15. Were any fish killed? _____ If yes, was Fish & Game notified?
16. Were signs posted to warn of contamination? ____ Details:_____

SSO CAUSE

14. Sanitary Sewer Structure ID (manhole #, pipe ID, Lift Station name):_____
15. Identified Cause of SSO (Blockage, pipe failure, electrical failure, capacity deficiency, I&I, etc.):

_____

16. If Blockage, identify cause (roots, grease, debris, vandalism, etc.):

_____

17. Number and dates of SSOs within 1000 feet of this SSO within past 12 months:

_____

18. Precipitation in 72 hour period preceding SSO: _____
19. Other causative or influencing conditions: _____

SEWER OVERFLOW REPORT

CORRECTIVE ACTION

20. Time and Date of Response initiation: _____

21. Description of Response and Corrective Actions Taken:_____

_____

22. Description of Cleanup: _____

_____

23. Description of Disinfection, if applicable: _____

_____

24. Were water quality samples taken?_____ If yes, what parameters? _____

25. Were photos taken? _____

26. Is there an on-going investigation of this SSO? _____

27. What steps will be taken to prevent a reoccurrence of this SSO?

_____

28. What scheduling milestones apply to preventive steps in 27?

_____

29. Was a follow-up contact made with the incident reporter / customer if applicable? _____

NOTIFICATIONS

30. Time and Date of OES notification_____ OES #:_____

31. Time and Date of Butte County DEH notification:_____

32. Time of entry of SSO into CIWQS Online SSO Database:_____SSO# _____

33. List any other agency notifications & details:

_____

_____

CERTIFICATION

I swear under penalty of perjury that the information submitted in this document is true and correct to the best of my knowledge. I certify that I have personally examined and am familiar with the information submitted herein and that based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information.

Signature: _____

Name: _____

Title: _____

Date: _____

FACT SHEET

Reporting Sewage Releases

LOAPUD edited June 2011

Reporting Sewage Releases:

In the past, there have been occurrences where untreated sewage was released into drinking water sources and was not properly reported to the Governor's Office of Emergency Services (OES). Proper and timely notification is imperative to allow government agencies and downstream users to take prompt action to protect public health and safety, the environment, and drinking water supplies. The purpose of this Fact Sheet is to help clarify the reporting requirements for sewage releases in California, under California Water Code §13271, *et seq.* and California Health and Safety Code §5411, *et seq*.

State Law requires that an unauthorized discharge of sewage [as defined in 23 California Code of Regulations (CCR) 2250 (b)] into or onto state waters must be reported to **OES**. Upon such notification, OES will then immediately notify the appropriate **Regional Water Quality Control Board** (RWQCB), the **local public health department**, and **local office of environmental health**. These offices are responsible for determining appropriate public and environmental safety measures.

Report Sewage Releases to:

California Emergency Management Agency
Warning Center
(800) 852-7550

The **Reportable Quantity** for sewage spills is **1000 gallons or more**, as established in regulation [23 CCR 2250 (a)]

Please note that the Regional Water Quality Control Boards and Local Health Departments may have additional reporting requirements – please contact them to see what requirements apply to you!

Are There Any Exceptions?

Notification of an unauthorized discharge of sewage or hazardous substances, under section 13271 (b) of the State Water Code, is not required if the discharge is in compliance with waste discharge requirements.

Penalties For Not Reporting:

Any person who fails to provide the proper notifications is guilty of a misdemeanor and may be punished by a fine of not more than $20,000 dollars or imprisonment for not more than 1 year or both, per section 13271 (c) of the State Water Code. Additional penalties can be administered under Health and Safety Code§5411, et seq

Additional Information:

Further information on reporting requirements can be located on the CalEMA Website at **www.oes.ca.gov** in the *California Hazardous Material Spill/Release Notification Guidance* booklet. Please call the CalEMA Hazardous Materials Unit at **(916) 845-8741** to answer any further questions.

APPENDIX V - Spill Volume Estimating

A variety of approaches exist for the estimation of the volume of a sanitary sewer overflow. The person preparing the estimate should use the method most appropriate to the sewer overflow in question using the best information available. Every effort should be made to make the best possible estimate of the volume.

Method 1 Visual Estimate - The volume of very small spills can be estimated using an "eyeball estimate." To use this method imagine the amount of water that would spill from a bucket or a barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and then multiply by 50 gallons. This method is useful for contained spills up to 100 gallons.

Method 2 Measured Volume - The volume of most small spills can be estimated using this method if rainfall or other extraneous sources are not contributing to the volume. The shape, dimensions, and the depth of the spilled wastewater are needed. The shape and dimensions are used to calculate the area of the spills and the depth is used to calculate the volume.

Step 1 Sketch the shape of the contained sewage
Step 2 Measure or pace off the dimensions.
Step 3 Measure the depth at several locations
Step 4 Convert the dimensions, including depth to feet.
Step 5 Calculate the area using the following formulas:
Rectangle Area = length x width
Circle Area = $0.785 \times D^2$ (where D is diameter of the area)
Triangle Area = base x height x 0.5
Step 6 Multiply the area times the depth
Step 7 Multiply the volume by 7.5 to convert it to gallons.

Method 3 Duration and Flow Rate - Calculating the volume of spills where it is difficult or impossible to measure the area and depth requires a different approach. In this method a separate estimate is made of the duration of the spill and the flow rate. The methods of estimating duration and flow rate are:

Duration: The duration is the elapsed time from the start time to the time the spill stopped.

Start time is sometimes difficult to establish. Here are some approaches:

- Local residents can be used to establish start time. Inquire as to their observations. Spills that occur in rights-of-way are usually observed and reported in short order. Spills that occur out of the public view can go on longer.
- Sometimes observations like odors or sounds (e.g. water running in a normally

dry creek bed) can be used to estimate the start time.

- Changes in flow on a downstream flowmeter can be used to establish the start time. Typically the daily flow peaks are "cut off" or flattened by the loss of flow. This can be identified by comparing hourly flow data, when available.
- Conditions at the spill site change with time. Initially there will be limited deposits of grease and toilet paper. After a few days to a week, the grease forms a light colored residue. After a few weeks to a month the grease turns dark. In both cases the quantity of toilet paper and other materials of sewage origin increase in amount. These changes with time can be used to estimate the start time in the absence of other information.

End time is usually much easier to establish. Field crews on-site observe the "blow down" that occurs when the blockage has been removed. The "blow down" can also be observed in downstream flowmeters.

Flow Rate: The flow rate is the average flow that left the sewer system during the time of the spill. There are three ways to estimate the flow rate:

- San Diego Manhole Flow Rate Chart (see next page): This chart shows the sewage flowing from a manhole cover for a variety of flow rates. The observations of the field crew are used to select the approximate flow rate from the chart.
- Flowmeter: Changes in flows in the downstream flowmeters can be used to estimate the
  flow rate during the spill.
- Estimate based on up-stream connections: Once the location of the spill is known, the number of upstream connections can be determined from the field books. Multiply the number of connection by 200 to 250 gallons per day per connection or 8-10 gallons per hour per connection. If very wet conditions may be contributing to infiltration and inflow, add an allowance for I&I. The allowance may be based on a measurable peaking factor in the system or estimated based on judgement.

Once duration and flow rate have been estimated, the volume of the spill is the product of the duration in hours or days times the flow rate in gallons per hour or gallons per day.

$$\text{Volume} = (\text{Duration}) \times (\text{flow rate})$$

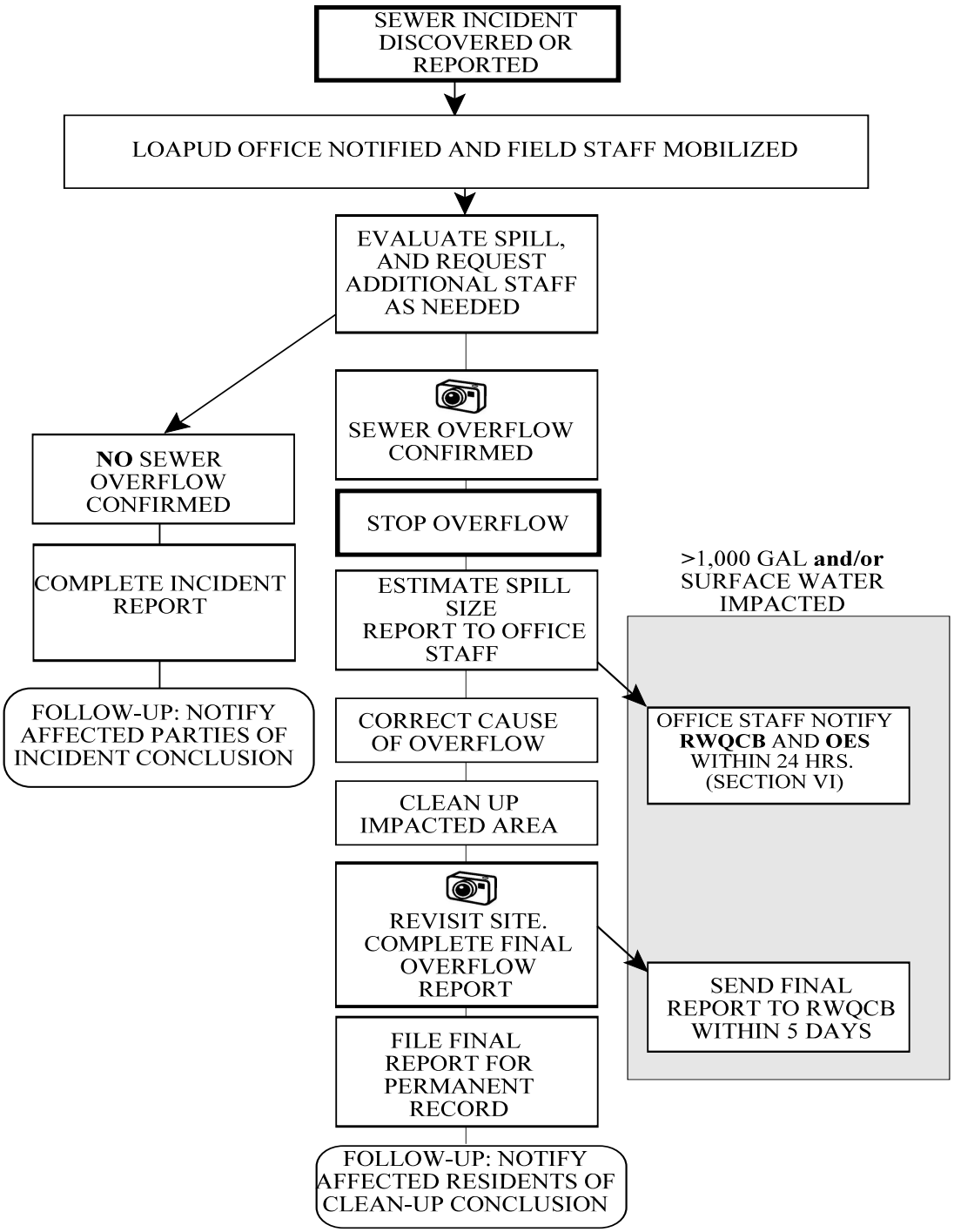
Insert pdf of manhole spills

Appendix VI
Identified Collection System Problem Areas
(Example)

Date/Time	Incident Description/Location	Size (gal.)/ Duration (hrs.)	Surface Water Affected? Y/N	No. of Spills in Same Location in 3 years

Appendix VII

Response Flow Chart



Photodocumentation Advised

SECTION VII - FOG CONTROL PROGRAM

LAKE OROVILLE AREA PUBLIC UTILITY DISTRICT

FATS, OILS AND GREASE (FOG) CONTROL PLAN

APRIL 2009
UPDATED JULY 2011

Prepared by:

Sauers Engineering, Inc.
440 Lower Grass Valley Rd.
Nevada City, CA 95959
(530)-265-8021

Lake Oroville Area Public Utility District

FOG Control Program

Table of Contents

Lake Oroville Area Public Utility District
FOG Control Program

I. INTRODUCTION

A. Purpose of FOG Control Program

Lake Oroville Area Public Utility District has directed Sauers Engineering to assist in preparing a FOG Control Program to prevent the occurrence of problems such as pipeline blockages, reduced capacity and sewer overflows in the collection system caused by the occurrence of fats, oils and grease (FOG), and to reduce the need for extra collection system maintenance caused by the presence of FOG in the system. This FOG Control Plan is in accordance with California State Water Resources Control Board Order No. 2006-0003-DWQ Statewide General WDR for Wastewater Collection Agencies. It is a required element of the overall Sewer System Management Plan.

B. Applicability to LOAPUD

In addition to more than 4,000 residential customers, LOAPUD presently serves 107 commercial connections totaling approximately 1098 commercial EDUs. The existing commercial services include business offices, schools, cabinet shops, sales offices, churches, domestic waste, grocery stores, liquor stores, pet sales, gas stations, wrecking yard, restaurants, laundromats, bars, industrial services and two casinos. In addition, there is undeveloped acreage zoned commercial and planned unit development that may include any of these uses in the future.

Due to the potential for fats, oils and grease in the waste stream from some of these commercial customers, LOAPUD formulated a FOG Source Control Program as an element of the Sewer System Management Plan. In particular, it is known that Food Service Establishments (FSEs), which may include but are not limited to restaurants, delicatessens, coffee shops, bakeries, drive-in, fast food, take-out, doughnut shops, hospitals, markets, schools, churches, motels/hotels, recreation or reception halls and conference centers may have the potential to generate fats, oils and greases in quantities that may cause problems in the collection system. These problems primarily consist of pipeline blockages that restrict system capacity, may cause sewer overflows, and require increased system maintenance.

Due to this potential for FOG related collection system problems, LOAPUD has developed and will enforce this FOG Control Plan.

C. Legal Authority to Adopt and Enforce FOG Control Program

Lake Oroville Area Public Utility District was formed and operates under the Public Utility District Act, Statutes of 1921 of the California Public Utility Code. A five member Board of Directors, elected at large by the District's voters, is responsible for setting policy and general administrative procedures for the District. The policies and procedures set by the Board are administered by the District General Manager.

The LOAPUD Board of Directors has adopted numerous policies and ordinances governing the operation of this utility. The LOAPUD Manual of Board Policies includes adopted Policy No.3065, SEWER USE REGULATIONS, (adopted January 11, 1989 and amended June 14, 2005) regarding the use of public sewers within Lake Oroville Area Public Utility District. This Policy specifically: (a) prohibits illicit discharges to the system (Section 5.1 - 5.8); (b) requires that the system is properly constructed (Section 4.1 - 4.8); (c) ensures access to system elements for inspection and maintenance (Section 4.4); (d) limits the discharge of fats, oils and grease (Section 5.2 - 5.4); and, (c)enforces any violation of these elements (Section 7.1 - 7.5)

Section 8 of the LOAPUD Sewer Ordinance specifically addresses the District's rules and regulations related to Fats, Oils and Grease Control. The stated purpose of this section is to stop sanitary system overflow and reduce grease accumulation in the sanitary sewer mainlines resulting from the introduction of fats, oils and grease from food service establishments.

Section 8.04 of the Sewer Ordinance addresses legal and administrative action for noncompliance with District and California Plumbing Code regulations related to the control of fats, oils, and grease.

LOAPUD has adopted and may continue to adopt additional ordinances, policies, agreements, and procedures that further define their legal authority in these areas and provide more detailed guidelines and/or requirements specific to these issues.

II. STATE REQUIREMENTS OF THE FOG CONTROL PROGRAM

As per the requirements of the California State Water Resources Control Board Order No. 2006-0003-DWQ Statewide General WDR for Wastewater Collection Agencies, this program shall specifically include elements A through G. The verbiage from the WDR requirements are in italics. For each required element, the relevant sections of this FOG Control Plan are identified.

A. Public Education Plan

An implementation plan and schedule for a public education outreach program that promotes proper disposal for FOG. Public education for FSEs can be found in Section II-A.

B. FOG Disposal Plan

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. This can be found in Section II-B.

C. Legal Authority to Control FOG

The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG. LOAPUD's authority to control FOG is described in Section I-C.

D. Grease Interceptor Requirements

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. These elements can be found in Sections III-A, Section IV, and Section V.

E. Inspection and Enforcement

Authority to inspect grease producing facilities, enforcement authorities, and whether the Enrollee has sufficient staff to inspect and enforce the FOG ordinance. This element is addressed in Sections I-C, V-B, and V-D.

F. Identification of Sewer System Components Vulnerable to FOG Problems

An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section. Section VI details LOAPUDs procedures for tracking and responding to FOG related problems.

G. Source Control Measures

Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f). Section VI details the source control measures LOAPUD takes in response to FOG related problems.

III. BEST MANAGEMENT PRACTICES FOR FOOD SERVICE ESTABLISHMENTS

As per Section 8.03 of LOAPUD's Sewer Ordinance, some form of grease control is required at all food service establishments. All FSEs must comply with kitchen best management practices (BMPs) as a first measure to control grease.

A. Best Management Practices (BMPs)

Best management practices (BMPs) are standard operating procedures that sewer system customers and dischargers can use to greatly reduce or eliminate the fats, oils and greases entering the sanitary sewer system. The food service industry can provide FSEs with BMPs tailored to their specific type of establishment.

Following are general **BMPs** that apply to most FSEs:

- **Spill Prevention** - Preventing spills reduces the amount of FOG that may reach a sewer system. Spills can be prevented by keeping clean and dry work surfaces and floors, preventing slipping and tripping, emptying containers before they are too full, covering grease and other containers during transport, and providing employees with proper tools (ladles, covered containers, etc.) for safe transport of FOG materias.
- **Dry Cleanup** - Remove food waste with dry-cleanup methods such as scraping, wiping and sweeping prior to using wet methods such as water. All food waste shall be scraped into garbage receptacles, never washed down drains. Never pour grease, fats or oils down sink drains.
- **Absorb FOG** - Use food grade paper to soak up oil under fryers, and use paper towels to wipe down work surfaces. Properly dispose of used papers in garbage receptacles. Do not rinse them in the sink.
- **Recycle** - Frier grease and oils may be recycled by rendering companies. It may be a resource rather than a waste if handled properly.
- **Reduce** - Instruct kitchen staff to be conservative in their use of fats, oils and grease in food preparation and serving.
- **Clean** - Keep sink traps and work surfaces clean. Empty them frequently into appropriate refuse containers. Do not allow food waste to accumulate in sinks or on surfaces.
- **Maintain Grease Interceptors** - Proper cleaning and maintenance of grease interceptors is critical to their performance. Grease interceptors must be properly sized and utilized in order to be effective.

As per LOAPUD's Sewer Ordinance Exhibit 8.01A, waste discharged into a grease interceptor shall not exceed 140° F (60°C), and the use of chemical and/or biological agents that could be used to dissolve fats, oils and grease are not allowed. Many additional BMPs are listed on various web sites that may be useful to sewer system dischargers. www.calfog.org has numerous resources for FSEs to improve BMPs, train workers, and reduce and eliminate discharges of FOG to the sanitary sewer system.

B. Public Education Plan and Schedule

LOAPUD has developed an implementation plan and schedule for a public education outreach program that promotes proper disposal for fats, oils and greases within the service area that is protective of the sewer collection system. The following table outlines the Public Education Plan and Schedule.

Table III.B.1
Public Education Outreach and Schedule

Customer Category	Education and Outreach	Schedule
Food Service Establishments (FSEs)	Through the District's licensing program each identified FSE within the service area will be educated on the importance of proper FOG disposal, on the BMPs for commercial kitchens and on the consequences of improper FOG control. FSEs will be given copies of BMPs (as in Section III.A) and a Poster from www.calfog.com to be posted in each FSE kitchen facility. (See attached poster)	This is an on-going program to identify and license each FSE within the District. This inventory and licensing program for existing FSEs shall be completed by December 31, 2009. As new FSEs apply for service in the coming years, each will be required to obtain a license through this program.
All Other Wastewater Customers	The District will provide all customers with information on proper disposal of FOG and other inappropriate material by way of billing inserts.	The District will make this information available to all wastewater customers in the system.

Poster available from www.calfog.org

IV. LOAPUD REQUIREMENTS FOR GREASE INTERCEPTORS

As per Section 8.03 of the District Sewer Ordinance, some form of grease control is required at all food service establishments.

A. Installation

In accordance with Section 8.02 of the LOAPUD Sewer Ordinance, a **Food Service Establishment Wastewater Discharge License** is required for all businesses and individuals who operate or intend to operate a food service establishment (FSE) and/or industrial-commercial food manufacturing facility within the district. These facilities include but are not limited to:

Restaurants, delicatessens, coffee shops, bakeries, drive-in, fast food, take-out, doughnut shops, hospitals, markets, schools, churches, motels/hotels, recreation or reception halls and conference centers.

This License allows the District to determine specific grease control needs for each establishment, provide them with guidance on grease control methods, help them improve Best Management Practices and meet the discharge requirements and ensure compliance with the California Plumbing Code.

All new or remodeled FSEs and any industrial-commercial facility where any grease may be discharged into a public or private sanitary sewer system must install an appropriately sized grease interceptor as specified by Chapter 10 of the CPC. For existing facilities, they must comply with this program within a 180 day period after the first occurrence of a transfer of ownership or issuance of a County Building Permit for the premises, and within 60 days of a wastewater backup or discharge due to grease buildup if caused in whole or in part from a discharge from the premises, or if the discharge exceeds the limits (300 mg/l grease) on three occasions in a twelve month period or after receiving written notice from the District of the necessity for installation of such facilities.

Design Standards:
Section 8.05 of the District Sewer Ordinance requires that grease control facilities must be designed, constructed and installed at the expense of the FSE/Owner. They must be designed by a California Licensed engineer, and plans including the size, type and location of each grease interceptor, trap or alternative pretreatment method, together with supporting calculations must be submitted to the District for review and approval. The type and size of grease control method employed by a FSE will be based upon the method identified in Chapter 10 of the CPC.

As per Sewer Ordinance Exhibit 8.01A, each grease interceptor shall be plumbed such that only kitchen waste shall flow through the interceptor. All other wastewater including fecal and non-fecal sources shall be plumbed downstream of the interceptor. Interceptors shall be installed in such a manner that surface drainage may not enter, and they will not become air-bound. The cover and access ports shall be gas-tight and the interceptors

shall be properly vented. No water-jacketed grease interceptor shall be approved or installed. Interceptors located in vehicle traffic areas shall be capable of withstanding an H-20 axle load or greater, depending upon location.

Sewer Ordinance Exhibit 8.01B provides specific design and installation requirements for the limited use of grease traps, but only if a variance to grease interceptors is granted by the District. Any such variance may be rescinded by the District if they determine that the grease trap is not providing adequate grease removal based on visual inspection and/or sample collection. Specific design and installation requirements for grease traps (when allowed) are described in Exhibit 8.01B. No more than four separate fixtures shall be discharged to any one grease trap.

The Ordinance requires that material for and construction of grease control systems must be in accordance with the requirements of the most recent edition of the California Plumbing Code (CPC), the codes of the State of California, regulations of the County of Butte, and Ordinances and Construction Standards of the District.

Sewer Ordinance section 8.06 and Exhibit 8.01A prohibit the installation of food waste disposal grinders at FSEs and provide a time-line for the removal of existing food waste disposal grinders at FSEs that discharge into the District's sanitary sewer system. Exhibits 8-A and 8-B of the Sewer Ordinance provide details for design, construction, installation and testing for grease interceptors, traps and devices.

B. Operation and Maintenance

Section 8.08 of the District's Sewer Ordinance requires that all FSE/Owners of grease interceptors and grease traps shall maintain the devices per the manufacturers' recommendations and in an efficient operating condition by periodic removal and proper disposal of the accumulated grease.

Specific maintenance requirements for grease interceptors are defined in Exhibit 8.01-A and for grease traps in Exhibit 8.01-B. As per Exhibit 8.01-A.F, grease interceptors shall be pumped by a State licensed waste hauler to a site or landfill facility designated to handle kitchen grease. All grease interceptors shall be cleaned a minimum of every 12 months or when the total volume of captured grease and solid materials displaces more than 25% of the wetted capacity of the primary interceptor compartment. Undersized interceptors may require more frequent pumping. When the grease interceptor is being pumped and cleaned, a District inspector will witness the cleaning, if the inspector is available. The FSE is to give 24 hours notice to the District before the scheduled cleaning.

Malfunctioning grease interceptor equipment must be pumped or cleaned within five working days or repaired within 30 working days, unless immediate cleaning and repair is necessary as determined by the District. Malfunctioning grease trap or other alternative equipment must be pumped within 2 working days and repaired within 10 working days, or immediately at the Districts discretion.

All passive and automatic grease traps and other alternative pre-treatment devices shall be opened, inspected, cleaned and maintained a minimum of once per week, (every 7 days) or when the total volume of the captured grease and solid material displaces more than 20% of the capacity of the trap.

C. Disposal of FOG

LOAPUD requires FSEs and other regulated dischargers to contract with a licensed hauler to clean grease interceptors and traps on a regular basis as per the maintenance requirements of LOAPUD Sewer Ordinance Chapter 8. Sewer Ordinance Exhibit 8.01 includes specifics of the requirements. The haulers shall have a valid registration certification for the transport of inedible kitchen grease as specified in California Food and Agriculture Code 19310-19317.

A list of grease hauling and rendering companies listed by county is available on CalFOG's website at: www.calfog.org Other companies may be available, and FSEs and other dischargers may utilize yellow pages or other resources to find licensed grease haulers that service their area.

V. PERMITS AND ENFORCEMENT

A. Permits

In accordance with Section 8.02 of the LOAPUD Sewer Ordinance, a **Food Service Establishment Wastewater Discharge License** is required for all businesses and individuals who operate or intend to operate a food service establishment (FSE) and/or industrial-commercial food manufacturing facility within the district. These facilities include but are not limited to:

Restaurants, delicatessens, coffee shops, bakeries, drive-in, fast food, take-out, doughnut shops, hospitals, markets, schools, churches, motels/hotels, recreation or reception halls and conference centers.

Section 8.02 provides specific details for obtaining the Food Service Establishment Wastewater Discharge License.

B. Inspection

Section 8.02.1 designates that the District will perform one visual of the establishment's business sewer service lateral per year via closed-circuit television, (or more frequently if deemed necessary by the District) to identify whether excess grease is entering the sewer lateral from the establishment.

Section 8.05.5 of the Sewer Ordinance requires all existing FSEs to install a sample port

as per Figures 8.01 and 8.02 on sewer service laterals entering the District's sewer collection system. Sample ports must be accessible to the District at all times. They must be located downstream of the interceptor and upstream of the non-kitchen waste flow tie-in. A clean-out shall be installed immediately downstream of the sample port for cleaning purposes and to allow for the introduction of a closed-circuit camera into the sewer service lateral for visual inspections. As per Section 8.09 of the Sewer Ordinance, the District will obtain random samples from sample ports for the purpose of determining whether a FSE is meeting discharge requirements. District personnel will periodically inspect grease interceptors and food preparation areas. Internal inspections may be made at anytime during normal business hand operation hours with or without prior notice. (8.01A.G.1)

Should the District's monitoring program indicate that grease control measures employed by a FSE are inadequate, either by way of visual inspection of the sewer, increased maintenance frequency by the District, or through sampled taken from the sample port, the FSE will be notified that they must review their kitchen practices to ensure that best management practices (BMPs) are being followed and that grease control facilities are being properly maintained. As per Section 8.09 of the Sewer Ordinance the District will monitor these FSEs more frequently. If subsequent monitoring indicates that the problem persist and that grease continues to accumulate in the sewer lateral, the District will give written notice of non-compliance. Following notice of non-compliance, internal inspections may be made at anytime during normal business and maintenance hours.

C. Record Keeping

As per Exhibit 8.01-A.F, the FSE or discharger shall post and maintain a current grease interceptor and/or grease trap cleaning and maintenance log on the premises and shall have the log available for review by District personnel at all times. Receipts and bills of lading from the pumper/hauler and/or rendering service companies shall be retained for a minimum of 3 years. Grease reduction equipment that is either not functioning properly or has ceased to function must be reported to the District within 24 hours.

D. Enforcement

Section 8.04 of the Sewer Ordinance addresses legal and administrative action for noncompliance with District and CPC regulations related to the control of fats, oils, and grease. Action may include, but is not limited to the assessment of fees for investigation and follow up action. In addition, if it is determined that a sewage overflow or spill was caused by negligent discharge of fats, oils or greases to the sanitary sewer system in a manner prohibited by the District, the discharger may face criminal penalties.

VI. LOAPUD TRACKING OF FOG RELATED COLLECTION SYSTEM PROBLEMS

A. Tracking FOG Related Problems

FOG related problems may be identified by any of the following methods:

- Through an onsite inspection of an FSE;
- Through random sampling of FSE sample ports for grease and oil;
- Through a visual or CCTV inspection of the sewer;
- Through increased maintenance requirements attributable to FOG problems;
- Through a Sanitary Sewer Overflow attributed to FOG in the sewer.

Upon the District discerning that a FOG related problem exists, the District shall determine any and all upstream suspect sources of FOG and shall investigate further to pinpoint the origin of the problem. Following the identification of the problem source, the following source control response shall be implemented. A record shall be kept of the location, source, and resolution of all FOG related collection system problems.

B. Source Control Response

As per Section 8.09.2 and 8.09.3 of the District's Sewer Ordinance:

Should the District monitoring program indicate that grease control measures employed by a FSE are inadequate, either by way of visual inspection of the sewer, increased maintenance frequency by the District, or through samples taken from the sample port, the FSE will be notified that they must review their kitchen practices to ensure that best management practices (BMPs) are being followed and that grease control facilities are being properly maintained.

To ensure that the FSE has resolved any problems and to achieve what is in the best interest of the FSE and the general public, the District will monitor these FSEs more frequently. If subsequent monitoring indicates that the problem persists and that grease continues to accumulate in the sewer lateral, the District will give written notice of non-compliance. Following notice of non-compliance, internal inspections may be made at anytime during normal business and maintenance hours. District personnel may at anytime inspect external facilities.

The District will obtain random samples from sample ports for the purpose of determining whether a FSE is meeting discharge requirements. Samples may also be taken when conditions reveal that grease may be entering the District's collection system by way of the FSEs sewer service lateral. Initial samples will be analyzed at no charge to the FSE. Should the discharge exceed the limits prescribed, follow up samples will be taken once corrective measures by the FSE are completed in accordance with the Sewer Ordinance, or as deemed necessary by the District, and all repeat analyses shall be billed to the FSE until the discharge limits are met.

SECTION VIII - SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

INSERT SEWER SYSTEM MASTER PLAN DATED JULY 2010

SECTION IX - MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

SECTION IX – MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

To effectively keep the SSMP up to date the District will monitor, measure, and modify the SSMP by doing the following:

- The District will maintain relevant information that can be used to establish and prioritize appropriate SSMP activities. Through educational training, trade journals and networking with others in the industry, the district will collect and maintain relevant information appropriate to SSMP activities.

- The District will monitor the program implementation and, where appropriate, measure the effectiveness of each element of the SSMP. This will be done as needed and reviewed bi-annually, making any necessary revisions or modifications to enhance the program.

- The District will assess the success of the preventive maintenance program bi-annually.

- The District will update the program elements as appropriate. This will be done by monitoring or performance evaluations and will be done as needed and reviewed bi-annually.

- The District will identify SSO trends, including frequency, location, and volume. This will be done as needed and reviewed bi-annually.

SECTION X - SSMP PROGRAM AUDITS

SECTION X – SSMP PROGRAM AUDITS

The District will conduct internal audits of the SSMP Program. Since the District has less than 5000 customers, and averages less than one (1) SSO per year, the audits will be done bi-annually. The audit will consist of a review of the SSMP Program and evaluate the effectiveness of the District compliance with the SSMP requirements identified in this subsection. Also included will be identification of any deficiencies in the SSMP and steps to correct any deficiencies found. A report of the audit will be prepared and kept on file.

Upon completion of the first audit, the auditing bi-annual auditing cycle will be evaluated and revised if necessary.

July 2011 Internal Audit

The District conducted an internal audit of the SSMP Program in July 2011. The District still has less than 5000 customers, and over the last 2 years averaged 0.5 SSO per year. The audit showed that the SSMP Program is effective and in compliance with the requirements. No deficiencies were found. Minor enhancements we incorporated in the update. The audits will continue to be done on a two year cycle and will again be reevaluated in July 2013.

July 2013 Internal Audit

The District conducted an internal audit of the SSMP Program in July 2013. The District still has less than 5000 customers, and over the last 2 years averaged 0.0 SSO per year. The audit showed the SSMP Program is effective and in compliance with the requirements. Change of contact information and edits were made during this audit. The audits will continue to be done on a two-year cycle and will again be adopted by the District and recorded on CIWQS in July 2014.

SECTION XI - COMMUNICATION PROGRAM

SECTION XI – COMMUNICATION PROGRAM

The District will communicate with the public on the development, implementation, and performance of the SSMP. Notice of SSMP Program evaluations and meetings, will be posted on the District Message Center or on the District's web site. These notices will invite the public to participate in the program development and participation.

The District shall also maintain open communications with SC-OR, the Regional Sewerage Treatment Plant, inviting their participation in the SSMP Program development and implementation.