

South San Luis Obispo County **SANITATION DISTRICT**

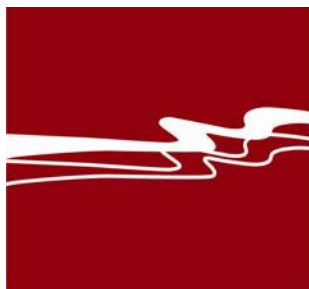
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Sewer System Management Plan



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List of Acronyms and Abbreviations

APCD	Air Pollution Control District
BMP	Best Management Practices
CAP	Capacity Assessment Plan
Cal EMA	California Emergency Management Agency
CCTV	Closed Circuit Television
CDFG	California Department of Fish and Game
CIP	Capital Improvement Plan
CIWQS	California Integrated Water Quality System
CRWA	California Rural Water Association
CWEA	California Water Environment Association
District	South San Luis Obispo County Sanitation District
EH	San Luis Obispo County Environmental Health Department
FOG	Fats, Oil and Grease
FSE	Food Services Establishment
GWDR	General Waste Discharge Requirement
HMA	High Maintenance Area
I/I	Inflow & Infiltration
LRO	Legally Responsible Official
mgd	Million Gallons per Day
NPDES	National Pollution Discharge Elimination System
OERP	Overflow Emergency Response Plan
OES	Office of Emergency Services (County)
O&M	Operation and Maintenance
PM	Preventative Maintenance
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition
SHECAP	Sewer Hydraulic Evaluation and Capacity Assessment Plan
SORR	Sewer Overflow Response Report
SSMP	Sewer System Management Plan
SSLOCSD	South San Luis Obispo County Sanitation District
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
WDR	Waste Discharge Requirement

Introduction

This Sewer System Management Plan (SSMP) has been prepared in compliance with requirements of the Central Coast Regional Water Quality Control Board (RWQCB) pursuant to Section 13267 of the California Water Code. South San Luis Obispo County Sanitation District (District) also complies with RWQCB Sanitary Sewer Overflow (SSO) electronic reporting requirements issued in November 2004.

More recently, the State Water Resource Control Board (SWRCB) acted at its meeting on May 2, 2006 to require all public wastewater collection system agencies in California with greater than one mile of sewers to be regulated under the General Waste Discharge Requirement No. 2006-0003-DWQ. The SWRCB action, which applies to the District, mandates the development of an SSMP and the reporting of SSOs using an electronic reporting system. The SWRCB SSMP requirements are similar to those of the RWQCB but differ in organization and some details.

The intent of this SSMP is to meet the requirements of both the RWQCB and the Statewide Waste Discharge Requirements. The organization of this document is consistent with the RWQCB guidelines, and addresses both the RWQCB and the SWRCB requirements. The SSMP includes eleven elements as follows:

- 1. Goals**
- 2. Organization**
- 3. Legal Authority**
- 4. Operation and Maintenance**
- 5. Design and Performance Provisions**
- 6. Overflow Emergency Response Plan**
- 7. Fats, Oil & Grease Control Program**
- 8. System Evaluation and Capacity Assurance Plan**
- 9. Monitoring, Measurement and Program Modifications**
- 10. Sewer System Management Plan Audit**
- 11. Communication Plan**

South San Luis Obispo County Sanitation District System Overview

The county Board of Directors formed the South San Luis Obispo County Sanitation District in 1963 for the purpose of providing wastewater treatment to its neighboring communities. Upon formation, the District included Arroyo Grande, the Communities of Oceano, Halcyon and several unincorporated areas in the vicinity. The City of Grover Beach was a contract agency.

By 1965, the District completed the construction of the sewage treatment plant on a 7.6 acre site located by way of latitude 35 degrees 07" North and longitude of 120 degrees 37' 33.61" West. The treatment plant is located between the Oceano Airport and the Arroyo Grande Creek Channel on Aloha Place in Oceano.

The original design of the District treatment facility provided secondary treatment for an average daily flow of 2.5 million gallons per day utilizing the activated sludge process. At the time, treated effluent was discharged through a 36" diameter outfall line that extended approximately 1,000' off the Pismo Beach State Beach.

By 1980, the treatment facility was upgraded and a new outfall line was installed. Improvements at the treatment plant included the installation of a gravity sludge thickener, sludge drying beds, the addition of a third influent pump, construction of a maintenance building, and installation of an standby engine generator for continued effective treatment during periods of power failures. The new outfall was required because of damage to the original outfall caused by the 1978 storms. The new outfall extends some 4,400' offshore into 55' of water.

The upgrades allowed for the solids to be removed in Clarifiers, pumped to a Gravity Thickener, where the sludge is given time to thicken, after which it is pumped to the Primary Digester which is heated and mixed, and operates in the mesophilic range and remains there for approximately 25 days.

The primary digester overflows into a secondary digester that is neither heated nor mixed. The sludge remains in this digester for about 15 days. Throughout this period, the solids settle to the bottom and the clear liquid overflows out the top and returns to mix with the influent flow entering the plant. The settled sludge is removed from the bottom and is dewatered by means of a centrifuge or placed into drying beds where the water evaporates or drains back to the plant head works.

Further treatment plant improvements were completed in 1987 and provided a fixed film reactor for secondary treatment, eliminating the activated sludge treatment process originally constructed. The secondary clarifier structure which had been an integral unit with the aeration tanks for activated sludge had been modified to remove the aeration tanks and to create a larger secondary clarifier. Additional modifications on existing unit processes were made to enhance the efficiency of the treatment plant including a new chlorine contact tank and larger emergency generator constructed in 2006.

Today, the District continues to operate using the fixed film reactor for secondary treatment with a design capacity flow rate of 5 million gallons per day (mgd) and a 9 mgd peak wet weather flow. Sewage collection services are continually provided by the Cities of Arroyo Grande, Grover Beach and the Oceano Community Services District. Sewage collected by these jurisdictions is transported through their collection systems into trunk sewers owned and operated by the District which then feed to the sewage treatment plant.

Additionally, the City of Pismo Beach Discharges treated municipal wastewater directly to the District outfall, and is regulated by NPDES Permit No. CA 0048151. It is incumbent upon the District to protect the environment to the greatest degree possible. The responsibility includes preventing overflows, which may include restricting or prohibiting the volume, type, or concentration of wastes added to the system.

Governing Body

The District is governed by a three member body, known as the SSLOCSD Board of Directors, who is appointed by the respective Member Agencies on a yearly basis. The Board of Directors includes one representative from each Member Agency, specifically, the City of Arroyo Grande, City of Grover Beach and the Oceano Community Services District.

The Board of Directors makes decisions in the best interest of the District. The Board makes policy and operational decisions with advice from the contract administrator/engineer and District staff. The Board of Directors also establishes policy, sets goals and objectives, approves the annual budget, approves expenditures and

performs other related functions. For names of the current board members see **Appendix B.**

The Central Coast Region of the State Water Quality Control Board oversees the water quality and Sanitary Sewer Systems requirements as defined in Water Quality Order No. 2006-003-DWQ. The Waste Discharge Requirement (WDR) applies to all the public agencies that own/operate a sanitary sewer system comprised of more than one mile of pipe or sewer lines which convey untreated wastewater to a publicly owned treatment facility within the State of California.

One of the requirements of the WDR is the preparation and implementation of a Sewer System Management Plan (SSMP). By preparing and implementing the procedures in the SSMP, the occurrence of Sanitary Sewer Overflows (SSOs) is expected to decrease. Most of the requirements are currently in practice by SSLOCSD due to years of taking a proactive approach to sewer system management.

Element 1 – Goals

This element identifies the goals SSLOCSD has established for the management and maintenance of the wastewater collection system and discusses the role of the SSMP in supporting these goals. These goals provide focus for the District Staff to continue high-quality work and to implement improvements in the management of the collection system.

1.1 Regulatory Requirements

The summarized requirements for the Goals element of the SSMP are as follows:

RWQCB Requirement

The collection system agency must develop goals to manage and maintain all parts of the collections system. The goals address the provisions of adequate capacity to convey peak wastewater flows, as well as a reduction in the frequency of SSOs and the mitigation of their impacts.

SWRCB Requirement

The collection system agency must develop goals to properly manage, operate and maintain all parts of it's wastewater collection system in order to reduce and prevent SSOs, as well as to mitigate any SSOs that occur.

Element 1 – Goals Appendix

Supporting information for Element 1 is included in **Appendix A** which contains the following document:

- **Sewer System Management Plan Schedule**

1.2 Goals Discussion

The District seeks to provide high quality and cost-effective wastewater collection for its clients by meeting the following goals:

- Be available and responsive to the needs of the public, and work cooperatively with local, state and federal agencies to reduce, mitigate and properly report SSOs.
- Properly manage and maintain the District public sewer collection system to minimize SSOs.
- Identify, prioritize, and continuously renew and/or replace sewer collection system to maintain reliability now and into the future.
- Provide adequate capacity for peak wet weather wastewater flows.

Element 2 – Organization

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

2.1 Regulatory Requirements

The summarized requirements for the Organization element of the SSMP are as follows:

RWQCB Requirement

The collection system agency's SSMP must identify Staff responsible for implementing measures outlined in the SSMP, including management, administration and maintenance positions. Identify the chain of communication for reporting and responding to SSOs.

SWRCB Requirement

The collection system agency's SSMP must identify:

- The name of the responsible and authorized representative;
- The names and telephone numbers for management, administrative and maintenance positions responsible for implementing specific measures in the SSMP program. Include lines of authority as shown in an organization chart or similar documents with a narrative explanation; and
- The chain of communication for reporting SSOs, from receipt of a complaint or other information, including persons responsible for reporting SSOs to the State and Regional Water Quality Control Board and other agencies if applicable (such as SLO County Public Health Officers, SLO County Office of Emergency Services, SLO County Environmental Health Agency, Regional Water Quality Control Board, Fish and Game, Coast Guard, and/or California Emergency Management Agency).

Element 2 - Organization Appendix

Supporting information for Element 2 is included in **Appendix B** which contains the following documents:

- **List of Current Board Members**
- **Current List of District Staff**
- **Chain of Communicating Sanitary Sewer Overflows**
- **Organizational Chart**

2.2 Organization Discussion

The following section outlines the District organization, general and SSMP responsibilities of personnel, authorized representative, and chains of communication for SSO responding and reporting. Names and contact information for current Staff is available in **Appendix B** and is updated as needed.

2.3 District Organization

The District provides wastewater treatment to a combined population of almost 49,000 residents and is governed by a three member body, known as the Board of Directors, who each serve a one year term, unless directed otherwise by the Member Agencies. The Board of Directors includes one representative from the City Arroyo Grande, City of Grover Beach and the Oceano Community Services District. The Board of Directors makes policy and operational decisions with advice from the contract administrator/engineer and District Staff.

Daily District management is carried out by the Plant Superintendent, Shift Supervisor, Maintenance Mechanic, Lab Technician, and Plant Operators. The Plant Superintendent reports directly to District Administration and the District Board.

The Plant Superintendent is responsible for implementation of the Sewer System Management Plan (SSMP). The Plant Superintendent is also the designated Staff member who is responsible for all Wastewater Collection operations.

Operations Staff is on-call twenty four (24) hours per day with a 40 minute response time.

The complete organizational chart of the District is found in **Appendix B**.

2.4 Description of General Responsibilities

This section includes a brief description of the job title, authority and respective responsibilities associated with each position.

Board of Directors

The legislative head of SSLOCSD consist of agency representatives from the City of Arroyo Grande, City of Grover Beach, and Oceano Community Services District and is composed of three members. The three members are appointed, on a non-partisan basis. Board of Directors serve a one-year term. These members establish District policies, approve ordinances and resolutions, make financial decisions, approve agreements and contracts, and hear appeals on decisions made.

Plant Superintendent

The Plant Superintendent is responsible for wastewater treatment/water reclamation plant operation activities. This includes administering all wastewater treatment, reclamation and disposal functions for SSLOCSD Wastewater Treatment Plant, providing work oversight, review and evaluation to treatment plant personnel. Successful performance of the work requires a high degree of technical and regulatory knowledge to ensure that all plant operations and laboratory activities are in compliance with RWQCB, Air Pollution Control District, Department of Toxic Substances Control, and other county, state, and federal environmental regulatory requirements.

The Plant Superintendent manages, reviews and evaluates all water reclamation facility operations, maintenance, influent, and effluent activities. The Superintendent also performs related work as assigned.

The Superintendent receives general direction from the District Administrator within a framework of legal requirements, policies and established organizational values and processes with independence of action to meet changing operational conditions. Direct supervision is provided to various levels of plant operations and maintenance by the Superintendent.

Shift Supervisor

The Shift Supervisor plans, organizes and communicates assignments clearly to Staff. The Shift Supervisor is responsible for daily operations and maintaining the District plant in a safe, clean and orderly manner. The Shift Supervisor coordinates operational activities with facilities maintenance Staff. He/she operates the computer system utilizing various menu driven programs. The Shift Supervisor works weekends and is on standby on a rotating schedule.

Plant Operator

The Plant Operators operate and maintain the District system in a safe, clean, and orderly manner. The Plant Operators assist in operational activities with facilities Staff. The Operators operate a variety of equipment, vehicles, and power tools including trucks, dump trucks, articulated loader, light crane, welders, and presses. The Plant Operators work weekends and are on standby on a rotating schedule.

Electrical/Mechanical Technician

The Electrical/Mechanical Technician operates and maintains the District system in a safe, clean, and orderly manner. He/she operates a variety of equipment, vehicles, and power tools including trucks, dump trucks, articulated loader, light crane, welders, and presses. The Electrical/Mechanical Technician has knowledge of maintenance and repair principles of mechanical, hydraulic, electrical, and instrumentation systems commonly used in wastewater treatment plants. This position also requires familiarity of maintenance principals of pumps, motors, valves, blowers, electrical motor control centers, and electronic instrumentation systems. Safety practices, rules and regulations are strictly adhered to.

Senior Maintenance Mechanic

The Senior Maintenance Mechanic is responsible to maintain skillful knowledge of the use of hand and power tools, electrical testing equipment, electrical testing equipment, and equipment typically used in facilities and equipment maintenance. The Senior Maintenance Mechanic evaluates and troubleshoots complex mechanical and electrical systems. They are responsible for coordinating with Operations Staff and scheduling the completion of preventative maintenance activities at the District treatment plant. The Senior Maintenance Mechanic is also responsible for reading system and equipment drawings and wiring diagrams.

Laboratory Technician

The District maintains an Environmental Laboratory Accreditation Program (ELAP) certified laboratory on-site where many regulatory tests are conducted. The Laboratory Technician works under the direction of the Plant Superintendent collecting samples and performing a variety of routine analyses of water, wastewater, reclaimed water and sludge in support of Plant operations and environmental requirements.

Bookkeeper/Secretary

The District Bookkeeper/Secretary is responsible for performing a variety of financial duties following standard guidelines, but occasionally requiring the use of independent judgment. The Bookkeeper/Secretary interprets and implements policies, procedures and computer applications related to the finance system. Typical duties include accounting, report writing, data entry, processing payments, and extensive public contact.

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2.5 Responsibility for SSMP Implementation

The Plant Superintendent is responsible for overseeing the overall implementation of the SSMP. Various individuals within the District organization are responsible for implementing one or more of the SSMP elements. Table 2-1 summarizes the responsibilities for SSMP implementation by element. The District Engineer and the District Administrator also have roles in implementing the SSMP.

Table 2-1: Responsibility for SSMP Implementation by Element

Element	SSMP Description	Responsible Person(s)
1	Goals	District Administrator
2	Organization	District Administrator
3	Legal Authority	District Administrator
4	Operations and Maintenance	District Engineer / Plant Superintendent
5	Design and Performance Standards	District Engineer
6	Overflow Emergency Response Plan	District Engineer
7	Fats, Oils and Grease Program	District Engineer
8	System Evaluation and Capacity Assurance Plan	District Engineer
9	Monitoring, Measurement and Program Modifications	District Engineer
10	SSMP Audits	District Engineer
11	Communication Plan	District Engineer

Responsibility for Element 1 – Goals

The District Administrator is responsible for leading Staff in the implementation of the District's goals.

Responsibility for Element 2 – Organization

The District Administrator is responsible for updating the organizational structure, SSMP implementation assignments, and SSO responding and reporting chain of communication, as needed.

Responsibility for Element 3 – Legal Authority

The District Administrator is responsible for upholding the District Sanitary Code and for drafting new ordinances, as needed.

Responsibility for Element 4 – Operations and Maintenance

The District Engineer and Plant Superintendent are jointly responsible for 1) Resources and Budget, and 2) Outreach to Contractors 3) Prioritizing Preventative Maintenance, 4) Purchasing Contingency Equipment and Replacement Inventories, 5) Training for Staff, 6) Updating the Collection Systems Map, and 7) Scheduling Inspections and Condition Assessment.

Responsibility for Element 5 – Design & Performance Standards

The District Engineer is responsible for reviewing design and construction documents to ensure that all construction projects meet the District standards. This position is responsible for updating standards for installation, rehabilitation and repair, as needed. This position is also responsible for the inspection of construction projects to ensure District standards have been followed.

Responsibility for Element 6– Overflow Emergency Response Plan

The District Engineer is responsible for implementation of the Overflow Emergency Response Plan, including revisions to the plan and annual trainings for maintenance crew members and Staff.

Responsibility for Element 7 – Fats, Oils and Grease (FOG) Control Program

The District Engineer is responsible for identifying grease hot spots and maintains an effective cleaning program for grease problematic sewers. District Staff is responsible for inspecting grease traps/interceptors that have been installed at non-residential locations and for enforcing discharge regulations, as needed throughout the various member agencies.

Responsibility for Element 8 – System Evaluation and Capacity Assurance Plan

The District Engineer is responsible for establishing and assessing capacity requirements for the District trunk line system and for the preparation and implementation of District Evaluation and Capacity Assurance Plan. This portion of the SSMP is responsible for the development and implementation of the Districts long-term Capital Improvement Plan (CIP), including updating budgets and schedules.

Responsibility for Element 9 – Monitoring, Measurement and Program Modification

The District Engineer is responsible for monitoring the implementation of and assessing success of the overall SSMP program elements, with the assistance of various Staff. This position is responsible for identifying trends in SSO occurrences and providing recommendations to the District Board.

Responsibility for Element 10 – SSMP Audits

The District Engineer is responsible for overseeing the annual SSMP audits.

Responsibility for Element 11 – Communication Plan

The District Engineer is responsible for communicating with the public and nearby regulatory agencies of the status of the District's SSMP.

2.6 Chain of Communication for Responding to SSO

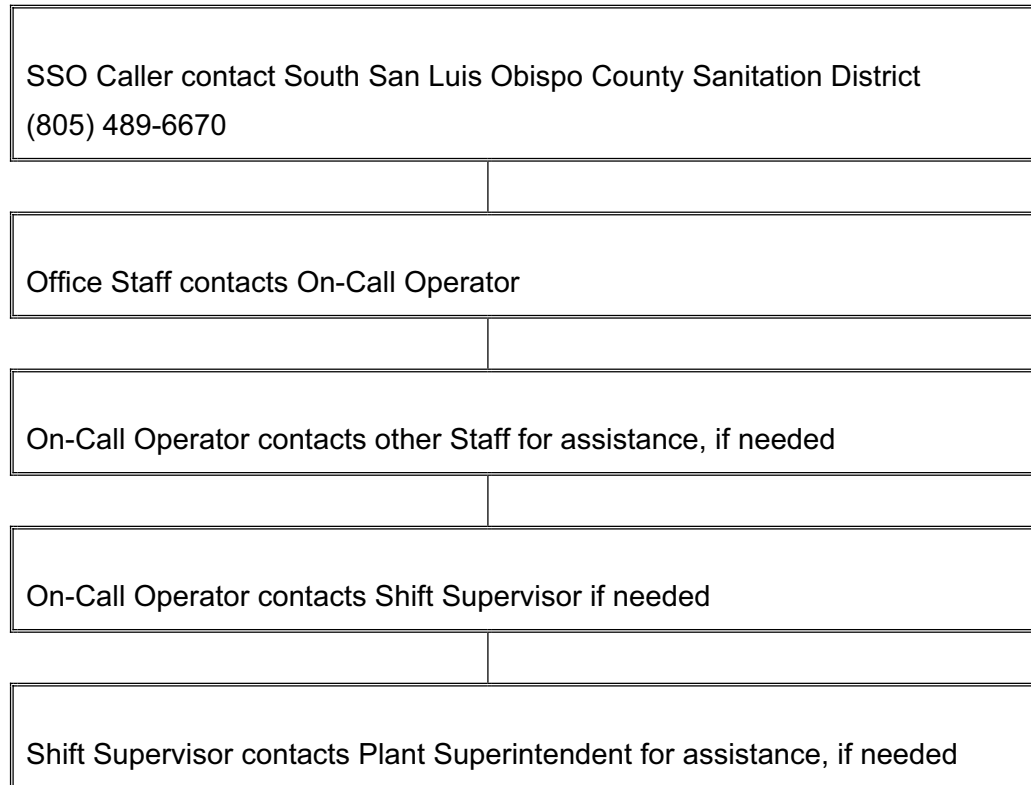
The Chain of Communication for reporting SSOs begins with contact at the Plant Superintendent's Administrative office either by residents, 911 dispatchers or police and fire departments. There are times where police and fire personnel may contact the Plant Superintendent or his delegate directly. The SSLOCSD telephone contact number is (805) 489-6670. This telephone number is answered twenty four (24) hours per day by either District Staff, or a message referring callers to the on-call operator. All spill reports start with this contact and preparation of a Sewer Overflow Response Report (SORR). The SORR, as provided in **Appendix D**, describes the nature of the SSO and other reported information. The office Staff or on-call operator notifies Operations Staff via handheld radios of the overflow and response to the SSO is conducted. The Superintendent and/or Shift Supervisor are responsible for reporting the SSO to the RWQCB. The District procedure is to report all spills regardless of size and whether or not the spill reaches the waters of the State.

In the event of a report of a possible wastewater spill, or when Staff is contacted concerning odors, standing water or an overflowing manhole, the following steps are taken to verify the report and ensure the safety of the public.

1. The receiver of the call (Operations Staff Member or 911 Operator) will obtain the location from contact and any description they may have of the problem. Additionally, the name and phone number of the caller is to be obtained for follow-up information if necessary.
2. The call receiver will contact the on-call Operator by phone immediately and direct Staff to the described location. The SORR is initiated and provided to the responding Staff.
3. District Staff may proceed to the location to verify report.
4. On-call Staff member will contact the supervisor and request appropriate support. The Staff member will keep administrative Staff informed of progress as necessary.
5. Operations Staff will notify the Superintendent or his delegate.
6. Superintendent and/or Shift Supervisor will notify all appropriate public agencies as necessary. The Shift Supervisor or his delegate contacts applicable agencies, including the Board of Directors if the trunk sewer system is affected. SLO County Health and/or Cal EMA will be contacted only if the spill presents a public health hazard.

See Figure 2-1 for the Chain of Communication for Responding to SSOs

Figure 2-1: Chain of Communication for Responding to SSO



The applicable agencies that would be contacted include: (For a complete list of current personnel to be contacted see **Appendix B**).

1. San Luis Obispo County Health Department (Contact immediately if public contact)
2. Central Coast Regional Water Quality Control Board (RWQCB), Contact within 24 hours with written report within 5 days)
3. San Luis Obispo County OES (Contact within 2 hours if spill over 1,000 gallons)
 - i. On-Call/Duty OES Coordinator 805-781-5011
4. Cal EMA Warning Center (Contact within 2 hours if spill over 1,000 gallons) 1-800-852-7550
5. CA Department of Fish & Game (Contact within 2 hours if spill affects fish and/or wildlife)

Upon completion of containment and clean-up, the Superintendent and/or Shift Supervisor will use the Sewer Overflow Response Report (SORR) to complete the final SSO report to the California Integrated Water Quality System (CIWQS) database, the RWQCB, Cal EMA and the SLO County Environmental Health Department as needed.

Element 3 - Legal Authority

The District maintains the Legal Authority for a Pretreatment Ordinance/Program and FOG Ordinance/Program. Both programs have been requested by the District Member Agencies to be administered and enforced. All other agreements and Ordinances set forth by the District pertain specifically to sewer rate fees. These fees are set by resolution and each of the Member Agencies bill customers in the appropriate corresponding agency. The Member Agency then pays the agreed resolution portion to the District for the treatment of the sewage at the plant. The District does not have any direct customers. The Member Agencies are responsible for maintaining proper records, new construction, building permits, and billing customers. The District is responsible for the maintenance and upkeep of the treatment plant and the trunk lines. In some instances where the legal authority falls outside jurisdiction lines of the Member Agencies, the authority to enforce current building, construction codes, and ordinances falls to SLO County.

3.1 Regulatory Requirements

The District will demonstrate, through its sanitary sewer system use ordinances, service agreements, or other legally binding procedures, that it possesses the necessary legal authority to:

- Prevent illicit discharges into its sanitary sewer system (examples may include Inflow & Infiltration (I/I), storm water, chemical dumping, unauthorized debris and cut roots, etc.);
- Require that sewers and connections be properly designed and constructed;
- Ensure access for maintenance, inspection, or repairs for portions of the sewer system owned or maintained by the Public Agency, and
- Limit the discharge of fats, oils, and grease and other debris that may cause blockages.

Element 3: Legal Authority Appendix

There is no Appendix related to Element 3.

3.2 Inspections and Maintenance

All discharge collected by District come from the Member Agencies that maintain proper codes and enforcement abilities to protect the lines and discharges that enter the treatment plant. The District's responsibility is to run an efficient plant, treat the discharge that enters the system and meet discharge effluent levels throughout the treatment process.

The District inspects and cleans the trunk lines that are under its jurisdiction every 6 years. The lines are cleaned more frequently if a problem is identified.

3.3 Design and Construction

Standards and Design Specifications ensure the sewer lines and connections are properly designed and constructed. The purpose of the Standards and Specifications is to provide minimum standards for the design, types and uses of materials, and the preparation of plans for construction, repair, or alteration of District treatment facilities.

The District utilizes the District Engineer to provide support in engineering and inspections to ensure proper installation, testing and inspection of sewer treatment

upgrades. The District Engineers are trained and experienced in design and construction. The District Engineers routinely attend professional conferences and educational seminars to remain familiar with advancements in the industry. The District Engineers use the Standards and Design Specifications designated by the District and SLO County for the construction of all new and rehabilitated sewer related projects.

3.4 Ensure Access for Maintenance, Inspection and Repairs

In 2008 the District completed a project that identified all manholes and repaired and or altered a number of manholes to insure that they were readily accessible. This included brush clearing, installation of bollards, raising of manholes and repaving.

3.5 FOG Control

A FOG Ordinance was adopted by the District in 2008 and provides the legal authority for each Member Agency FOG Control Program to regulate the Food Service Establishments (FSEs) located within the District service area.

3.6 Enforcement of its Sewer Ordinance

It is also essential to protect SSLOCSD from illicit discharges that may interfere with the proper functioning of the treatment plant. In the event that the violation results in a chronic problem and the Member Agencies are unable to obtain correction by the violator, the District shall become involved. SSLOCSD has the authority to become involved if the violation pertains to Pretreatment or FOG. The District's current regulatory abilities to enforce illicit discharge are found in the following ordinances.

SSLOCSD Pretreatment Ordinance 1994-1

- Article V, Section 23 – Remedies
- Article V, Section 24 – Declaration of Public Nuisance
- Article V, Section 25 – Assessment of Cost
- Article V, Section 26 – Civil Remedies/Administrative Complaint
- Article V, Section 27 – Criminal Penalties
- Article V, Section 28 – Termination of Service

SSLOCSD FOG Ordinance 2008-01

- Article VI, Section 6.1 – General Procedure
- Article VI, Section 6.2 – Determination of Non-Compliance
- Article VI, Section 6.3 – Permit Suspension
- Article VI, Section 6.4 – Permit Revocation
- Article VI, Section 6.5 – Bypass
- Article VII, Section 7.1 – Criminal Prosecution
- Article VII, Section 7.2 – Remedies Non-exclusive

The Pretreatment Ordinance Article V and FOG Ordinance VI and VII allow SSLOCSD to order temporary or permanent injunctive relief with the assistance of Legal Counsel.

3.7 Sewer Use Fees

Sewer fees are periodically reviewed for proper fee structure and applicability. This is further discussed in:

SSLOCSD Ordinance 2006-1

- **Exhibit A – Rates by Classification**
- **Exhibit B – Connection Fees**

Every person or business that discharges into the SSLOCSD Treatment Plant pays a sewer fee. The fee funds the daily operation, maintenance and administration of the treatment plant and trunk lines. Fees are reviewed and adopted by the Board of Directors through the Ordinance process.

Element 4 – Operations and Maintenance

4.1 Regulatory Requirements

The District will evaluate its service area to determine measures and activities that shall be taken to evaluate the overall collection system and make repairs as a preventative maintenance measure. The District will complete the following measures and activities:

- Resources and Budget
- Outreach to Plumbers and Building Contractors
- Prioritize Preventative Maintenance
- Contingency Equipment and Replacement Inventories
- Training for Maintenance Workers
- Updating the Collection Systems Map
- Scheduling Inspections and Condition Assessment

Element 4: Operations and Maintenance Appendix

Supporting information for Element 4 is included in **Appendix C** which contains the following documents:

- **Capital Improvement Plan Budget**
- **Sewer Trunk Line Cleaning Schedule and System Map**

4.2 Collection System Map

SSLOCSO maintains up to date electronic collection system maps created and maintained by staff using a Geographic Information System (GIS). Overlaid onto aerial imagery, these maps provide detailed locations of the system's components, with references to roads, homes, trees, etc within the District Boundary.

In addition to providing general location mapping, the electronic map is updated as needed to include precise information relating to the general characteristics of the system components. This information includes; material composition, pipe diameters, segment lengths, slopes, grade elevations, invert elevations, and survey data. Interactive links incorporated into the electronic maps provide immediate access to system photos, Closed Circuit Television (CCTV) inspection videos and the system's construction drawings.

Collection system maps are printed to hard copy and provided to the District's staff and contractors for use during routine maintenance and operations and during capital improvement projects (CIP). As-built plans and construction drawings are maintained as the system is improved through the CIP, and data is routinely integrated back into collection system mapping.

4.3 Preventative Maintenance

The District's CCTV inspection and cleaning program is an integral component of preventative maintenance.

These services are performed simultaneously and are executed under a publicly bid service contract awarded by the District. Performing CCTV inspection in conjunction with cleaning operations provides quality control to the District by providing real-time visual

verification that the debris encountered is completely removed from the system and allowing for additional efforts if necessary while the contractor is still onsite. The trunk system is cleaned according to a rotating schedule with special focus on area identified using the CCTV results. System-wide cleaning occurs once every six (6) years.

Lastly, the District has identified several hotspots throughout the trunk line system which are cleaned a maximum of once every three years. Traditionally these spots consist of areas of known Inflow/Infiltration, root intrusion, grease, dips, and those areas located upstream of a system "bottle neck".

4.4 Rehabilitation and Replacement Plan

The District understands that as sewer collection systems age, the risk for deterioration, blockages, and collapse increase considerably. In an effort to mitigate those risks, the District performs regular visual and contracted CCTV inspections of the manholes and sewer pipes within the collection system.

The District completes engineering reviews and assessments on the information obtained from the inspections to prioritize system deficiencies noted. Short-term and long-term rehabilitation actions are implemented to address each deficiency.

Long-term rehabilitation actions are incorporated into upcoming fiscal year budgets as capital improvement projects (CIP). Short-term rehabilitation actions are funded through the annual operating budget developed for collection system maintenance. Work for short-term and long-term rehabilitation actions are performed by area contractors through publicly bid service contracts awarded by the District. Examples of short and long term rehabilitation actions implemented by the District are described below.

In 2008 the District completed system wide CCTV inspection of the collection system. Assessment of that inspection resulted in the development of a CIP in which a substantial amount of the collection system will be internally relined by trenchless rehabilitation technology. Funding for this long-term rehabilitation project is allocated in the current and future fiscal year budgets.

Also in 2008, a survey of the existing collection system discovered that twenty of the District's trunk line manholes were inaccessible due to changes in grade, road construction, blocked access, and easement. The District implemented a project which rehabilitated the manholes by clearing encroaching vegetation, dirt, and debris, thereby providing secure access to the manholes and allowing for routine maintenance and emergency response. This short-term rehabilitation action was funded through the annual operating budget developed for collection system maintenance.

4.5 Training

Training programs includes formal classroom training and on-the-job training. Training is facilitated by both District staff and by outside training workshops. On-the-job cross training is pursued to ensure staff has a proficient working knowledge of the sewer system. District staff is cross-trained so that critical tasks can be performed without interruption. Task proficiency is a requirement for all job positions and promotions, and training records are maintained to schedule further training.

Crews are initially trained in the proper operation and maintenance of all new major mobile equipment and facilities by the contractor/manufacturer. Written operation and maintenance manuals are used as resource material for start-up training as well as new staff training.

Safety training is an integral part of the District's program. Every staff member receives formal training. Staff is trained in Confined Space Entry. Employees are trained in hazardous materials management, as required.

The staff is also trained to participate in the [Overflow Emergency Response Plan](#) and reporting procedures for SSOs.

4.6 Equipment and Parts Inventory

The District's Operations and Maintenance (O&M) plan provides for regular CCTV inspection and system-wide cleaning of the collection system. Providing for regular inspection and cleaning of the collection system allows the District to assess current sewer conditions, and develop an appropriate maintenance strategy and equipment and parts inventory.

Utilizing contracted services for the components which comprise the Operations and Maintenance Plan eliminates the need for the District to maintain inventoried parts and equipment for the repair and replacement of system components. The contracts executed are inclusive of all equipment and parts necessary for completion of work. In the event of an emergency, local retailers are available to supply needed equipment and parts at short notice.

Ferguson Enterprises is recognized in SLO County as the largest distributor of plumbing and builder products. Ferguson's is located a short distance from the District. They were contacted in early 2009 and confirmed that the majority of the items required for repair and replacement are currently stocked and available for immediate purchase. Mid State Concrete Products, also located in SLO County, manufactures a comprehensive line of precast concrete products including manholes, grade rings, and commercial and industrial waste system structures and piping. They were also contacted in early 2009 and also confirmed that the majority of these items are readily stocked and available for immediate purchase.

Element 5 - Design and Performance Standards

The intent of this element is to identify the standards and specifications used in new construction as well as repair of existing sewer systems to ensure a high quality, well designed and functioning sanitary sewer system. This element also includes procedures for inspection of newly constructed and repaired sewer systems.

Element 5 – Design and Performance Standards Appendix

There is no Appendix related to Element 5.

5.1 Regulatory Requirements

The SSMP must identify:

1. Design and construction standards and specifications for the installation of new sanitary sewer systems, pump stations and other appurtenances; and for the rehabilitation and repair of existing sanitary sewer systems.
2. Procedures and standards for inspection and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.2 Design and Construction Standards

Standards and Specifications provide minimum standards for the design, types and uses of materials, and the preparation of plans for construction, repair, or alteration of the District sewer trunk lines.

Work on the trunk line system follows the standards and specifications of the Member Agency that has jurisdiction over the area where the work is done. The District Engineer is in the process of developing a set of standards and specifications for tapping into the existing trunk lines.

When the Member Agency doesn't have standards for the work being done the SLO County or State of California standards and specifications are used.

5.3 Inspection Standards

The District provides continuous inspection during the construction and repair of sewer facilities along the trunk lines. The District's standard procedure requires work to be placed into service only after it is accepted by the District Engineer or its delegate following satisfactory inspection and testing.

Element 6 - Overflow Emergency Response Plan

SSLOCSO is in the process of obtaining a written agreement with the City of Arroyo Grande stating that should there be an overflow, the City will provide containment and control of the event.

6.1 Regulatory Requirements

District will implement an OERP agreement that identifies measures to protect public health and the environment. At a minimum, the plan includes:

1. Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSO in a timely manner;
2. A program to ensure appropriate response to all overflows;
3. Procedures to ensure prompt notification to appropriate regulatory agencies and other potentially affected entities (e.g. health agencies, regional water boards, water suppliers, etc.) of all SSOs that potentially affect public health or reach the waters of the State. All SSOs shall be reported in accordance with the California Water Code, other State Laws, and other applicable RWQCB or WDR permit requirements. The SSMP identifies the officials who will receive immediate notification;
4. Procedures to ensure that appropriate Staff and contractor personnel are aware of and follow the OERP and are appropriately trained;
5. Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
6. A program to ensure that all reasonable steps are taken to contain untreated wastewater and prevent discharge of untreated wastewater to waters of the United States and minimize or correct any adverse impact on the environment resulting from an SSO, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

Element 6 - OERP Appendix

Supporting information for Element 6 is included in **Appendix D** which contains the following documents:

- **Wastewater Division SSO Response and Operational Guidelines**
- **Sewer Overflow Response Report (SORR)**
- **SSO Report Forms**

6.2 Overflow Emergency Response Plan Discussion

The OERP is summarized below and provided in Appendix E. The OERP addresses several issues such as spill response, detection, mitigation, clean up, investigation, documentation and reporting.

6.3 SSO Notification

The OERP includes spill detection including the procedures for dispatching the first responder to the site of a possible SSO.

The Plant Superintendent and/or designated person is on standby twenty-four (24) hours per day, seven (7) days per week and is aware of low manholes that may overflow

during an emergency. In the event of a spill, containment followed by chlorine application and wash down protocol is used. If the event occurs during non-office hours, the local Fire Department contacts the Plant Superintendent or on-call Staff that has the resources deemed necessary to correct the problem.

6.4 SSO Response

The OERP incorporates spill response measures including response priorities, safety, and initial containment measures. During regular business hours, the Superintendent sends one or more Operations Staff to respond to an SSO notification. The District's goal for responding to an SSO during business hours is immediate from receipt of call. The District's goal for responding to SSO during non-business hours is 45 minutes. The collection systems Operations Staff usually are the SSO First Responder and are responsible for mitigation, documentation, most reporting, and follow-up.

SSLOCSD policy is to respond to all spills within its collection service area boundary and provide mutual aid outside when requested, whether on public or private property and to take all steps possible to prevent the spills from reaching the storm drains, flood control channels, or waters of the State. Element 2 addresses the organizational structure of the District and details the lines of authority along with the responsibilities of personnel during an emergency.

6.5 SSO Reporting

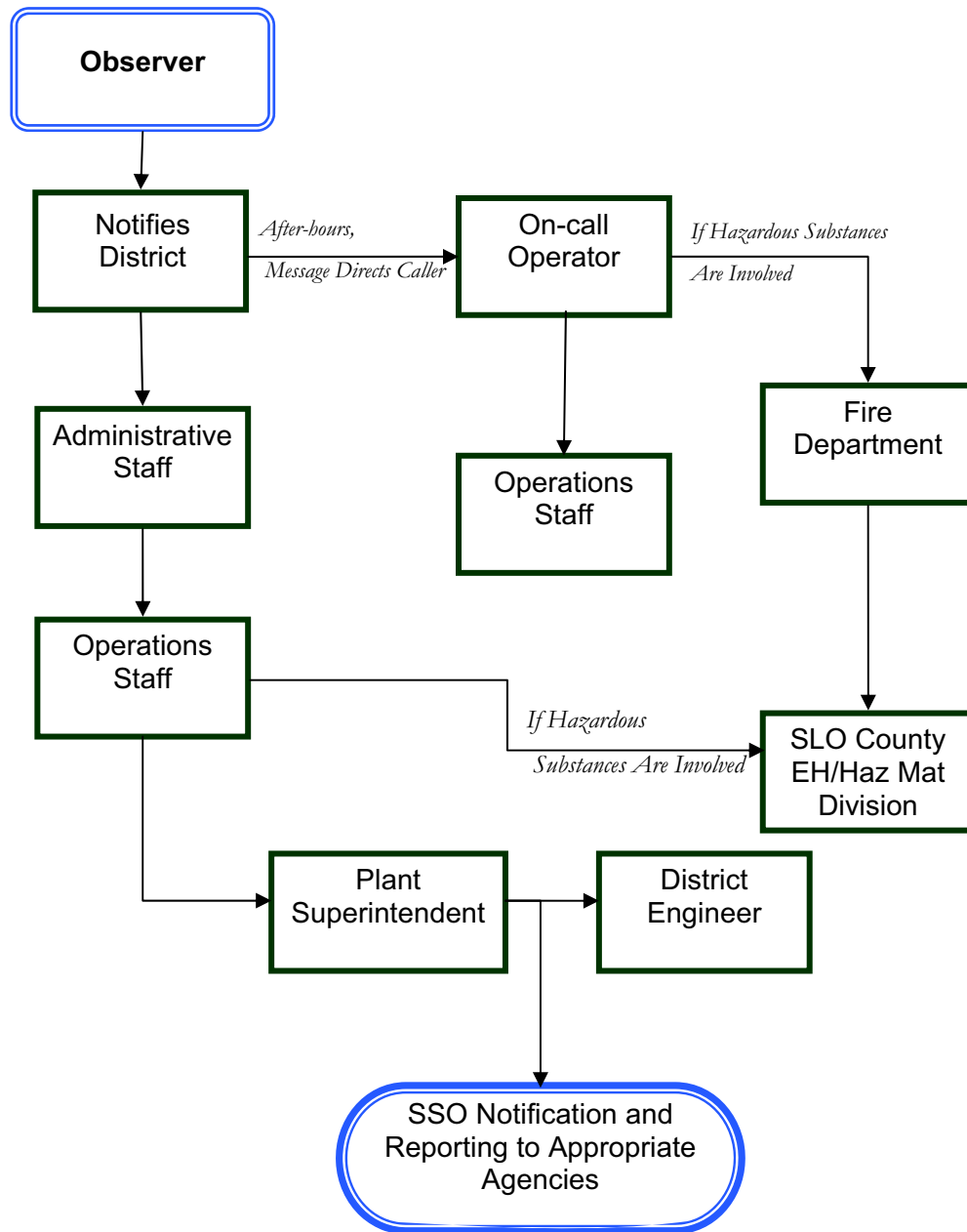
The OERP covers Spill Reporting, including internal reporting and external state and local agency reporting. The notification procedures provided below summarize the reporting requirements in the OERP. **Appendix B** includes current contact information for agency reporting.

6.6 SSO Chain of Communication

The Plant Superintendent is the authorized individual at this time to certify electronic spill reports submitted via CIWQS.

SSOs are reported by calling the District office at (805)489-6670. The phone is answered by office personnel during the regular business hours of 7:30 am to 4:00 pm. After hours the call is referred to an on-call operator. This Chain of Communication is outlined in Figure 6-1 below.

Figure 6-1: Communications flow when emergency is called into the District



6.7 Chain of Communication for Responding to SSO

The Chain of Communication for reporting SSO begins with contact to SSLOCSD office. The telephone contact number is (805) 489-6670. This telephone number is answered Monday through Friday, 7:30am to 4:00pm. After hours or on weekends the emergency number is 911.

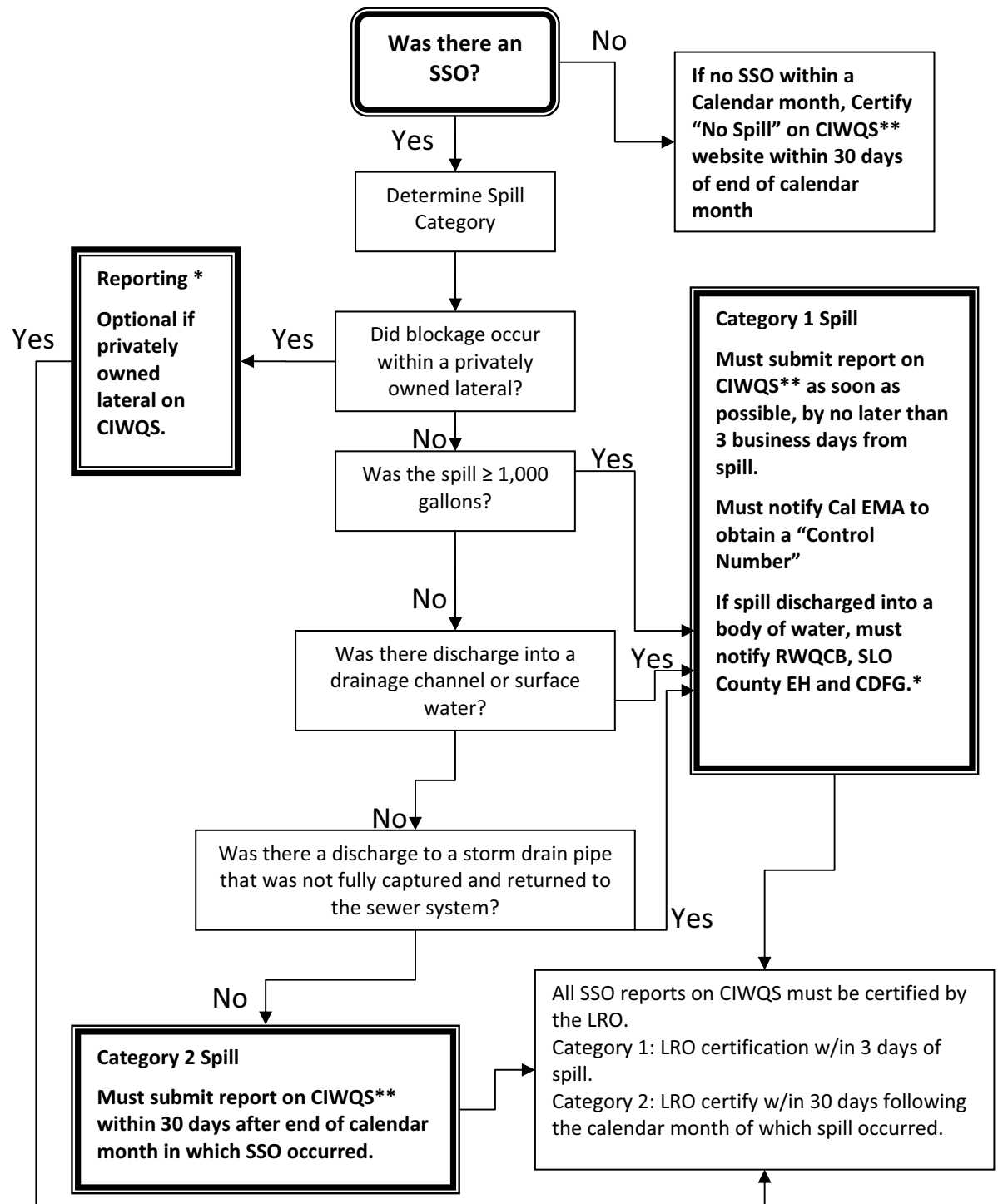
The majority of spill reports start with this contact. The Sewer Overflow Response Report (SORR) is provided in **Appendix D**, and describes the nature of the SSO and other reported information. The procedure is: Office Staff notifies Operations Staff of the overflow and response to the SSO is conducted. The Plant Superintendent is primarily responsible for reporting the SSO to the RWQCB and other agencies as required by the nature of the spill (Category 1 or 2)

In the event of a possible wastewater spill, or when Staff is contacted concerning odors, standing water, or an overflowing manhole, the following steps are taken to verify the report and ensure the safety of the public.

1. District staff obtains the location and any description of the problem, name and phone number of the caller for follow-up information.
2. The SORR is initiated and provided to the Operations Staff that will be responding.
3. Operations Staff proceeds to the location to verify the report.
4. Operations Staff may request appropriate support and will keep administrative Staff informed of progress as necessary.
5. Plant Superintendent shall notify the District Engineer as necessary.
6. Plant Superintendent, or his/her designee, will notify all appropriate public or regulatory agencies as required by the complexity of the spill.
7. Upon mitigation, containment and clean-up of the spill, the Plant Superintendent, or delegate, will use the SORR to complete the final SSO report to the CIWQS database, the RWQCB, Cal EMA, and the County of San Luis Obispo Environmental Health Department as needed.

The communication chain for responding to an SSO is shown in Figure 6-2. Detailed information on the District overflow response procedure shall be found in the OERP once it is fully developed, and will also be included in **Appendix D**.

Figure 6-2: Chain of Communication for Reporting SSOs



* These reporting requirements do not preclude other emergency notification requirements and timeframes mandated by other regulatory agencies (Environmental Health, RWQCB, Cal EMA, or State law).

** If CIWQS website is not available, you must FAX to RWQCB and reattempt as soon as possible.

6.8 Reporting Procedures

SSLOCSD is registered with the CIWQS electronic SSO reporting system, and routinely utilizing these procedures. An SORR will be completed for all reportable spills. The information recorded on the SORR is entered into CIWQS in accordance with the mandated reporting timelines. Copies of the SORR are located in the District office. The following are the reporting procedures for SSO:

Category 1 - Sewage spills equal to or greater than one thousand (1,000) gallons and/or all sewage spills that enter a water body of the State, or occur where public contact is likely, regardless of the size, will be considered a Category 1 spill. Category 1 spills will be reported immediately to the Cal EMA Warning Center to obtain a Spill Control Number. This Spill Control Number will be included in the spill report forms. Category 1 spills will be reported immediately to the RWQCB, SLO County Environmental Health Department and/or the CDFG. Notifications will be made immediately, upon awareness of spill. CIWQS notifications will be made within 3 business days following the SSO and certified by the Legally Responsible Official (LRO) no later than 3 days following the SSO event. This allows the LRO to certify the document should the spill occur on a weekend and Operations Staff mitigated the occurrence.

Category 2 - A sewage spill that is less than one thousand (1,000) gallons and does not enter a water body or storm drain shall be considered a Category 2 spill. These spills will be reported to CIWQS no later than thirty (30) days following the calendar month in which the spill occurred. The RWQCB must also be notified in writing within thirty (30) days.

A Sewage Spill Report shall be submitted immediately to the RWQCB electronically or via facsimile and will include the following information:

- Name and address of discharger, and reporting party.
- Date and time of spill. Time spill stopped.
- Location/address of spill/manhole number if available.
- Volume of spill. Path of spill. Water body affected.
- Cause of spill, action taken to stop spill.
- Time cleanup began and time cleanup completed.
- Discussion of cleanup and any public notices posted.
- Number of spills in same location over last three years.
- Discussion of measures taken to prevent spills at this location.
- List of other public agencies notified.

The OERP discusses the circumstances under which the public should be notified of an SSO and establishes responsibilities for posting notices or contacting the media. Potential public notification measures include the temporary signage to indicate pollution of surface water or ground water due to an SSO and notification through media outlets. The District Administrator will be the contact person for media notification.

6.9 SSO Categories

1. Category 1 - All discharges of sewage resulting from system stoppage in the District sanitary sewer system that:
 - A. Equal or exceed 1000 gallons, or
 - B. Result in a discharge to a drainage channel and/or surface water; or
 - C. Discharge to a storm drain pipe that was not fully captured and returned to the sanitary sewer system.
2. Category 2 – All other discharges of sewage resulting from a stoppage in the SSLOCSD sanitary sewer system.
3. Private Lateral Sewage Discharges – Sewage discharges that are caused by blockages or other problems within a privately owned lateral.

6.10 SSO Reporting Timeframes

Category 1 – All SSOs that meet the above criteria for a Category 1 SSO must be reported as soon as: (1) SSLOCSD 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 SSO must be made to CIWQS as soon as possible but no later than 3 business days after the District is made aware of the SSO. Additional information may be added to the certified report, in the form of an attachment, at any time within the 3 day period.

The above reporting requirements do not preclude other emergency notification requirements and timeframes mandated by other regulatory agencies, SLO County Public Health, SLO Environmental Health, RWQCB, Cal EMA, or State law.

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

Private Lateral Sewage Discharges – All sewage discharges that meet the above criteria for Private Lateral sewage discharges may be reported to CIWQS with SSLOCSD discretion. If a private lateral sewage discharge is recorded in CIWQS, the District must identify the sewage discharge as occurring and caused by a private lateral, and a responsible party (other than SSLOCSD) should be identified, if known.

If there are no SSOs during a calendar month, SSLOCSD will provide, within 30 days after the end of each calendar month, a statement in the CIWQS database certifying that there were “No SSOs” for the designated month.

In the event that the CIWQS database is not available, SSLOCSD must fax all required information to the appropriate RWQCB offices in accordance with the time schedules identified above. In such event, the District must also enter all required information into CIWQS as soon as practical.

6.11 SSO Training

The District Staff is fully trained to handle a large scale SSO event and has experience with a Category 1 spill. The District understands the value in proper training of Staff for emergency purposes and intends to continue Staff training. The role of each person during an emergency is established and is clear and concise. The District has pre-established responsibilities for Staff members that provide an efficient response. The

District Staff called upon to respond is required to have been properly trained. Administrative Staff may be called upon to respond as required to provide administrative and/or reporting support.

6.12 SSO Impact Mitigation

The OERP includes spill mitigation and cleanup procedures for handling a prolonged SSO situation. The OERP also covers SSO responses for different situations, including wet weather overflows, pump station failures, and force main breaks. Mitigation efforts include instructions for setting up perimeters and control zones to contain SSOs and prevent sewage from reaching surface waters, storm drains, or other sensitive environmental areas. The OERP includes discussion about public notification procedures when an SSO has the potential to endanger public health.

The District takes all reasonable steps to contain sewage and prevent sewage discharges to surface waters and minimize or correct any adverse impact on the environment resulting from the SSO, including such accelerated or additional monitoring as necessary to determine the nature and impact of the discharge.

Operations Staff will use suitable materials, to block the catch basin entrances to storm drains and will also use a contracted company to vacuum up spills and to provide wash down water where appropriate. The District may use the storm drain system as a containment device if needed. The outlet to the storm drain is blocked and the spill and wash down water are then vacuumed from the line.

The impact of spills is minimized by washing the spill down with water to the maximum extent possible.

For mitigation purposes the SLO EH Department can provide SSLOCSD assistance in post-SSO monitoring. In the event of a spill, the SLO EH Department is notified immediately along with other applicable agencies. The District then utilizes the SLO EH Department for the service of monitoring water quality post-SSO. The District will also provide any necessary support, equipment, or Staff as requested to assist in the water quality monitoring.

Element 7 - Fats, Oils and Grease (FOG) Control Program

This section of the SSMP describes the FOG Program for the District. At this time there is no need to specifically design a FOG Program for the District. The justification for this decision is that the District does not have any Food Service Establishments (FSEs) within its own permitted jurisdiction nor has it experienced any grease related problems. The District Member Agencies do have FSEs and operate active FOG inspection programs. Their main goal is to decrease the amount of FOG that is entering the sewer system and minimize the risk of SSOs.

7.1 Regulatory Requirements

Each Agency shall evaluate its service area to determine whether a FOG control program is needed. If an Agency determines that a FOG program is not needed the Agency must provide justification as to why it is not needed. If FOG is found to be a problem, the Agency must prepare and implement a FOG source control program to reduce the amount of these substances discharged to the sanitary sewer system. This plan shall include the following as appropriate:

- a. An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;**
- b. 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;**
- c. The legal authority to prohibit discharges to the system and identify measures to prevent SSO's and blockages caused by FOG;**
- d. 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;**
- e. Authority to inspect grease producing facilities, enforcement authorities, and whether the Agency has sufficient staff to inspect and enforce the FOG ordinance;**
- f. An identification of sanitary sewer system sections subject to FOG blockages and establishment of a cleaning maintenance schedule for each section; and**
- g. Development and implementation of source control measures for all sources of FOG discharged to the sanitary sewer system for each section identified in (f) above.**

Element 7 - FOG Appendix

Supporting information for Element 7 is included in **Appendix E** which contains the following documents:

- **FOG Best Management Practices Booklet**
- **Commercial Flyer**
- **No Grease Door Hanger**

7.2 FOG Control Program Discussion and Outreach

The District does not have any FSEs within its owned trunk lines. Member Agency FOG Programs include outreach to FSEs and the residential community. Future flyer development and distribution produced by either the District or its Member Agencies will involve multiple topics in order to provide public education in an economically feasible manner. For example a flyer may incorporate FOG information in addition to storm water management or proper disposal methods for pharmaceuticals.

The District and its Member Agency flyer development and distribution will occur as an ongoing process as necessary.

7.3 Identification of Grease Problem Areas and Sewer Cleaning

One objective of a FOG control program is the identification of trouble spots, or High Maintenance Areas (HMA), that are likely to have grease accumulation. The District does not have a history of problems associated with FOG accumulation. If the District determines that FOG HMA exists, Staff will track locations and causes of dry weather blockages and any grease attributed SSO. At that time, the District will also evaluate the effectiveness of its current programs and determine if a FOG program is warranted.

The Member Agencies have successfully inspected potential FOG producing FSEs within their jurisdiction and in 2007 began issuing FOG Control Permits to FSEs that meet permit requirements as specified in the District local ordinance.

As a preventative measure, the District will continue with its routine cleaning schedule for its responsible trunk line. In addition to these cleanings, Operations Staff will focus on instances of identified HMA. Cleaning frequency will depend upon the history of stoppages or overflows of a sewer line.

The District information pertaining specifically to the cleaning and maintenance of sewer lines is included in Element 4: Operations and Maintenance.

7.4 Legal Authority for FOG Program

The District developed and adopted a FOG Ordinance in 2008. The Ordinance is designed to protect the treatment plant and it's Member Agencies that discharge into it. The FOG Ordinance provides an extension to the District Pretreatment Ordinance which each Member Agency adopted in 1995.

The fundamental goals of 2008-01 FOG Ordinance are:

- To aid in the prevention of SSOs from the contribution and accumulation of FOG into the sewer system from industrial and commercial establishments, particularly food preparation and serving facilities.
- To prevent the introduction into the District Sanitary Sewer System, discharges that will interfere with the operation of the system which includes, but is not limited to, any gravity type sanitary sewer system, force main system, or the POTW.

- To protect the District Sanitary Sewer System and its Member Agencies, its personnel, and members of the general public who may be affected by sewer blockages and obstructions.
- To prevent pass through of FOG to receiving waters.
- To improve the opportunity to reclaim and recycle all FOG from FSE grease traps or interceptors.
- To provide for fees which equitably distribute the cost of testing for FOG at the FSE.
- To enable the District to comply with its National Pollutant Discharge Elimination System (NPDES) permit and non-discharge requirement conditions, sludge use and disposal requirements, and any other Federal or State laws to which the District is subject.

The District FOG ordinance also includes:

- Requirements for Grease Interceptors and Gravity Separating Devices at user's expense when, in the opinion of the District, they are necessary for the proper handling of liquid wastes containing grease.
- Requirements for all interceptors to be sized using the California Uniform Plumbing Code (UPC), current edition, as a guide.
- Requirements for Interceptors to be of a sufficient capacity to provide the appropriate quality of effluent as per Member Agency Standards and to be in an easily accessible location for the purposes of cleaning and inspection. A sample box or tee is required on all interceptors and separators.
- Requirements for interceptors and separators to be properly maintained to ensure compliance with Ordinance requirements.
- Requirements for the installation of a grease interceptor or trap shall be determined on a case-by-case basis by the District Administrative Staff using the UPC as a guide.
- Requirement for the installation of a gravity separation device shall be determined on a case-by-case basis by the District Staff using the UPC as a guide.

Inspections of FOG producing FSEs are conducted twice a year. If inspectors find that a grease interceptor or gravity separating device installed prior to the effective date of the ordinance is incapable of adequately retaining the FOG in the wastewater flow, the District shall notify the user, in writing, that an adequate interceptor or gravity separating device shall be installed within a specific, reasonable time period.

Element 8 – System Evaluation and Capacity Assurance Plan

This element identifies the procedures in place to evaluate the collection system. The design criteria will be discussed as well as a Capital Improvement Plan (CIP) and a schedule for implementation. This element will ensure the collection system is able to handle the changes to the communities it services.

Element 8 –Capital Improvements Appendix

Supporting information for Element 8 is included in **Appendix F** which contains the following documents:

- **Capital Improvement Plan and Budget**
- **System Hydraulic Evaluation & Capacity Assurance Study**

8.1 Regulatory Requirements

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

1. Evaluation: Actions needed to evaluate those portions of the sanitary sewer system that are experiencing or contributing to a SSO discharge deficiency. The evaluation should provide estimates of peak flows associated with conditions similar to those causing overflow events, estimates of the treatment plant's key system components, hydraulic deficiencies (including components of the system with limiting capacity) and the major sources that contribute to the peak flows associated with overflow events;
2. Design Criteria: Where design criteria do not exist or are deficient, undertake the evaluation identified above to establish appropriate design criteria; and
3. Capacity Enhancement Measures: The steps needed to establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP may include an implementation schedule and may identify sources of funding.
4. Schedule: The District will develop a schedule of completion dates for all portions of the capital improvement program developed in (1)-(3) above. This schedule may be reviewed and updated consistent with the SSMP requirements as described by the SWRCB GWDR.

8.2 System Hydraulic Evaluation and Capacity Assurance Plan

A Trunk Sewer System Capacity Study was completed in 2006, the Trunk Sewer System Capacity Study is provided in **Appendix F**. It was concluded in the report that overall flow capacities were within the design flow capacities. There were 3 main problem areas which have been addressed by the cities in which they are located.

The trunk lines were CCTV video inspected in 2008 and an evaluation of the video was performed. A maintenance plan was put together based on the evaluation and portions of the system are scheduled to be lined in 2009. A complete CIP Budget and Schedule is provided in **Appendix F**.

A hydraulic analysis of the trunk line system is currently being performed by Wallace Group and is scheduled for completion in 2009.

Element 9 - Monitoring, Measurement and Program Modifications

This element discusses how the District monitors implementation of the SSMP elements. It will also show the steps taken to measure the effectiveness of the SSMP in reducing SSO's. This includes tracking performance indicators and updating the SSMP when necessary to keep it current and useful over time.

Element 9 –Monitoring, Measurement and Program Modifications Appendix

There is no Appendix associated with this Element.

9.1 Regulatory Requirements

The District will be developing a monitoring, measurement and modifications program to maintain the relevant information that can be used to establish and prioritize appropriate policies, procedures, processes and programs funding within the SSMP. These measurements shall include the following information:

- How the agency maintains relevant information that can be used to establish and prioritize appropriate processes within the SSMP;
- How the agency monitors the implementation and, where appropriate, measures the effectiveness of each element of the SSMP;
- How the agency assesses the success of the preventative maintenance program;
- How the agency will update program elements, as appropriate, based on monitoring or performance evaluations; and
- How the agency identifies and illustrates SSO trends, including: frequency, location, and volume.

9.2 Monitoring and Measurement

The District video inspects and cleans the trunk system on a 6 year rotation. During video inspection if there are any problems, the CIP is updated to include repair or replacement. If the problem is minor, immediate work can be performed by the video and cleaning crew.

Element 10 - Sewer System Management Plan Audits

This element is to identify a process for conducting Audits of the SSMP. These audits ensure the SSMP programs are being implemented as intended. This element will include a Gap Analysis form and will identify individuals to perform the audits.

Element 10 – SSMP Audits Appendix

Supporting information for Element 10 is included in **Appendix H** which contains the following document:

- **Audit Report Form**

10.1 Regulatory Requirements

As part of the SSMP, the District shall conduct an internal audit, appropriate to the size of the system and the number of overflows, and submit a report of such audit, evaluating the SSMP and its compliance with the SWRCB GWDR.

At a minimum, these audits will occur every two years and a report will be prepared and kept on file. This audit may focus on evaluating the effectiveness of the SSMP and the District compliance with the SSMP requirements identified in the SWRCB General Order 2006-0003-DWQ, including identification of any deficiencies in the SSMP and steps to correct them.

10.2 Audit Procedures

The District Engineer, with cooperation from the Plant Superintendant will be responsible for assembling an Audit Team consisting of representatives from neutral third parties (i.e., Member Agencies, Local Contractors, etc.) to Audit the SSMP once every two years. When the Audit Team has completed their evaluation a Report shall be prepared and submitted to the District. The Report will be used to develop a plan for the five year update and revision of the SSMP. All Reports and resulting corrections will be kept on file with the SSMP in the District office.

Element 11 - Communication Plan

The intent of this element of the SSMP is to identify the plan for communicating with the public as well as satellite agencies and regulatory agencies.

Element 11 – Communication Plan

There is no Appendix for Element 11.

11.1 Regulatory Requirements

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

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

11.2 Communication Plan

Public meetings are held in the Oceano Community Services District, 1655 Front Street Oceano, California 93475 at 6:00 p.m. on the first and third Wednesday of each month. However, if a regular meeting date falls on a holiday, meetings are usually scheduled the following day.

In addition to discussion at the public meetings the Sewer System Management Plan is posted on the District's website: www.SSLOCSD.org under Environmental Programs while being developed and prior to implementation. The public is welcome to comment at any time.

The District Board of Directors includes one representative from each Member Agency. During board meetings the SSMP audits and modifications are discussed and the information is then brought back to the Member Agencies.

Annual reports are generated in January of each year. The annual report refers to the SSMP and any changes that have been made over the past year. These reports are submitted to the RWQCB.

11.3 Staff Training and Communication

Staff will be trained in the use and implementation of the SSMP relative to any major changes that occur. Staff will also be kept informed regarding minor changes (i.e., phone numbers, staff changes, etc.) as they occur via District email or memos. In addition all new District employees will receive SSMP training as part of their orientation. Records will be kept on-site of who received training and when.

Appendices

Appendix A

Plan and Schedule

Sewer System Management Plan (SSMP)

Plan and Schedule

South San Luis Obispo County Sanitation District

Main Task/Sub-Task	Actions	Due Date / Status
(i) SSMP Development Plan and Schedule	Initial plan on how the agency intends on developing and implementing their SSMP.	Due November 2, 2007
District certification of Development Plan and Schedule	Present SSMP Development plan to District Board for approval.	Completed
(ii) Goal Ele 1	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.	Due: November 2, 2007
SSMP Goals	Stated goals for SSMP	Completed
(iii) Organization Ele 2	Names and staff positions responsible for developing and implementing the SSMP.	Due: November 2, 2007
Organizational Chart for SSLOCSD	Develop organizational chart of management, administration and maintenance personnel.	Completed
SSO Chain of Communications	Develop the internal chain of communications for reporting SSO's.	Completed
(iv) Overflow Emergency Response Plan Ele 6	Written Procedures defining how the District responds to SSO's.	Due: May 2, 2009
Overflow Response Procedures	Develop standard operating procedures for SSO response.	Completed
Notification Procedures	Develop notification procedures to ensure all required regulators (and others) are properly and timely notified of an SSO event.	Completed
Emergency Response Training	Develop and implement Emergency Response Training Program for staff or contractors, if utilized.	Completed
Traffic and Crowd Control	Develop procedures for traffic and crowd control to be utilized during an SSO event.	Completed
Monitoring and Sampling	Develop procedures for monitoring and sampling, if required, for an SSO event.	Completed
Follow-Up	Develop procedures for following up on an SSO event, including investigation for the cause or responsible party.	Completed
(v) Legal Authority Ele 3	District's legal authority to operate and maintain it's sewage collection system.	Due: May 2, 2009
Ordinance Development for Preventing Prohibited Discharges	Develop/amend required ordinance to comply with Order. Add a FOG Ordinance (Fats, Oils and Grease) to the SSLOCSD Municipal Code	Completed
Ordinance Development Requiring Proper Design and Construction	Develop/amend required ordinance to comply with Order. Add Design and Construction Standards to be met for any new projects.	Completed
Ordinance Development for the Limiting of the Fats, Oils and Grease	Develop/amend required ordinance to comply with Order. Add a FOG Ordinance (Fats, Oils and Grease) to SSLOCSD Municipal Code	Completed
Ordinance Development to Enforce Violations	Develop/amend required ordinance to comply with Order. Add a FOG Ordinance (Fats, Oils and Grease) to SSLOCSD Municipal Code	Completed
Ordinance Legal Review	Ordinances developed, amended, and reviewed by District's legal counsel.	Completed
Ordinance Adoption	Adoption of required ordinances by District Board	Completed

Main Task/Sub-Task	Actions	Status / Due Date
(vi) Operation and Maintenance Ele	Collection System operations program and procedures.	Due: May 2, 2009
Mapping	Up to date mapping of the sewage collection system facilities.	Completed
Mapping Updates	Develop procedures for maintaining mapping data.	Completed
Preventative Maintenance Program	Develop a written description of the preventative maintenance activities the District employs.	Completed
Pipeline Maintenance	Develop a schedule for line cleaning and maintenance.	Completed
Pumping and Other Facilities	No pumping facilities in District	Not applicable
Problem Areas	Identify problem areas (high maintenance areas; HMA) and develop procedures for their maintenance.	Completed
Rehabilitation and Replacement Program	Develop a short and long term plan for the rehabilitation or replacement of piping due to system deficiencies, including funding (CIP).	Completed
Inspection Program	Develop a program and schedule for the regular visual inspection of the system.	Completed
Inspection Schedule	Develop a schedule for ongoing inspection of the entire collection system.	Completed
Work Orders	Develop a system to track and schedule all maintenance activities.	Completed
Equipment and parts inventory	Develop an inventory of equipment and replacement parts.	Completed
Critical parts	Develop an inventory of critical replacement parts including procedures for acquisition.	Completed
(vii) Grease Control Program - FOG (Fats, Oils & Grease) Ele 7	Prepare and implement a FOG Control Program to reduce the amount of these substances from being discharged into the collection system.	Due: May 2, 2009
Determination of FOG problems	Evaluate System to determine if FOG related problems exist.	Completed
FOG characterization Study	If FOG problems are present, perform a FOG Characterization Study to determine the location and extent of the problem.	Not applicable
FOG Ordinance	Develop ordinance/policy to ensure legal authority to prevent the discharge of FOG into the sewer system.	Completed
FOG Program	Develop a program to reduce and/or eliminate FOG related sources.	Not applicable
Develop a FOG Source Control Program	Establish an appropriate FOG source control program.	Completed
Public Outreach	Develop an appropriate public education, outreach program and marketing materials designed to assist in the reduction of FOG.	Completed
FOG Disposal	Develop a list of authorized FOG disposal sites.	Not applicable
FOG Inspections	Develop and implement a FOG inspection program.	Not applicable
(viii) Design and Performance Ele 5	Develop and Implement the Capital Improvement Plan that will provide for equipment and system replacements.	Due: August 2, 2009
Design Standards	Develop and/or adopt design and construction standards and specifications for the installation of new sewer systems	Completed
Inspection and testing standards	Develop and/or adopt procedures and standards for inspecting and testing	Completed
(ix) System Evaluation and Capacity Assurance Plan (CAP) Ele	Evaluate current capacity of Collection System and provide solutions to areas with needed improvement	Due: August 2, 2009
Inflow and Infiltration (I&I)	Develop procedures to detect and remediate I&I problems.	Completed
Identify Deficiencies	Identify areas of the system that exhibit capacity deficiencies.	Completed
Analyze Defects	Analyze and prioritize repairs/replacement of pipeline defects.	Completed
Capital Improvement Projects	Capital Improvements: Identify existing and/or future hydraulic bottlenecks, to include rate studies, capacity enhancement, scheduling for completions, and annual reporting.	Completed

Main Task/Sub-Task	Actions	Status / Due Date
(x) Monitoring, Measurements and Plan Modifications Ele 9	The ongoing evaluation of the performance of the SSMP document and it's ability to achieve its stated goals.	Due: August 2, 2009
Data Management	Develop procedures for accumulating and analyzing system maintenance, repairs, projects, reductions of SSO's, and any other pertinent data.	Completed
Program Effectiveness	Develop procedures, report, etc. to measure the effectiveness of the SSMP.	Completed
Program Changes	Develop procedures to initiate changes, enhancements, or correct deficiencies in the SSMP.	Completed
(xi) SSMP Program Audits Ele 10	Program audits are required every two years following the adoption of the final SSMP. Audits shall document the success of the SSMP and improvements made to it.	Due: August 2, 2009
Document Control	Develop procedure for SSMP document control.	Completed
Key Individual(s)	Identify key individual(s) responsible for the SSMP audit (every 2 years). Development of an SSMP Adhoc Audit team consisting of local Cities and Districts for peer review and direction.	Completed
Checklist	Develop a checklist to assist and ensure the SSMP is compliance and effective.	Completed
Reports	Develop reports to assist with analyzing the effectiveness of the SSMP.	Completed
Milestones	Develop milestones (time, events, etc.) that denote program review.	Completed
(xii) Communication Program Ele 11	The communication program is the agency's outreach to the community and satellite contributors about the public collection system and the SSMP document.	Due: August 2, 2009
Public Outreach	Develop a protocol for soliciting and responding to public input.	Completed
Staff SSMP Awareness	Develop a program to ensure staff awareness of SSMP procedures, protocol, etc.	Completed
FINAL SSMP CERTIFICATION	Final SSMP document, after all elements have been developed, documented and implemented.	Due: August 2, 2009
Review by District Attorney	Review of completed SSMP by the District's Attorney.	To be Scheduled
Adoption/Certification of SSMP by District Board	Adoption and certification of final SSMP document by the District's governing body.	To be Scheduled

Appendix B

Current District Board Members

2008/09 Board Members

Oceano Community Services District:

JIM HILL, Chairman

City of Arroyo Grande:

TONY FERRARA, Director

City of Grover Beach:

BILL NICOLLS, Director

Current List of District Staff

Jeff Appleton, Superintendent

(805) 489-6666 T

(805) 489-2765 F

(805) 710-0224 M

jeffa@charterinternet.com

Scott Mascolo, Shift Supervisor

(805) 489-6666 T

(805) 489-2765 F

msscott@charterinternet.com

Aaron Allen, Operator

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(805) 489-2765 F

aarona@charterinternet.com

Trinidad 'Trini' Rodriguez, Operator

(805) 489-6666 T

(805) 489-2765 F

(661) 333-9925 M

trinir@charterinternet.com

Sabrina Spears, Bookkeeper/Secretary

(805) 489-6666 T

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(805) 748-9455 M

sabrinasp@charterinternet.com

Devina Douglas, Principal Analyst

(805) 489-6666 T

(805) 489-2765 F

ddouglas@charterinternet.com

24 hour Emergency Number

South San Luis Obispo County Sanitation District

1600 Aloha Place

Oceano, CA 93445

(805) 489-6670 T

Chain of Communicating Sanitary Sewer Overflows

Organization	Contact Person	Phone Number
San Luis Obispo County Health Department (Contact immediately if public contact)	N/A	(805) 781-5544
California Regional Water Quality Control Board (Contact within 24 hours with written report within 3 days) Central Coast Region	Sorrell Marks	(805) 549-3695 (805) 549-3147
San Luis Obispo County OES (Contact within 24 hours if spill over 1,000 gal.)	On-Call/Duty OES Coordinator	(805) 781-5011
Cal EMA Warning Center (Contact within 24 hours if spill over 1,000 gallons)	N/A	1-800-852-7550
CA Department of Fish & Game (Contact within 24 hours if spill affects fish and/or wildlife)	Central Dispatch Dennis Michniuk	(831) 649-2810 (805) 594-6119

Organizational Chart for SSLOCSD



Appendix C

Capital Improvement Plan and Budget

South San Luis Obispo Sanitation District
Major Budget Items / Four Year Planning Budget

Proj. No.	Project Name	Source of Funds	2009-10	2010-11	2011-12	2012-13	Cost to Complete
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CAPITAL PURCHASES (Fund 019 Operating Budget)

04 MBI 03	Influent Grinder Annual Service	Operating Fund - Struct/Grnds Maint-Major	38,581	41,300	43,400	45,600	
04 MBI 11	Annual GIS/GPS Survey	Operating Fund - Struct/Grnds Maint-Major	5,590	2,500	2,600	2,700	168,881
07 MBI 11	Portable Scaffolding	Operating Fund - Capital Equipment	2,100	-	-	-	13,390
08 MBI 04	Paperwork Archive	Operating Fund - Capital Equipment	6,500	1,000	1,050	1,103	2,100
08 MBI 11	Chemical Tote Mixer	Operating Fund - Capital Equipment	4,000	-	-	-	9,653
08 MBI 12	Portable Air Compressor	Operating Fund - Capital Equipment	19,500	-	-	-	4,000
08 MBI 13	Lab Centrifuge	Operating Fund - Capital Equipment	10,000	-	-	-	19,500
08 MBI 17	Replacement Maintenance Cart	Operating Fund - Capital Equipment	15,000	-	-	-	10,000
08 MBI 20	Sludge Discing Attachment	Operating Fund - Capital Equipment	-	120,000	-	-	15,000
09 MBI 02	Office Copier	Operating Fund - Capital Equipment	7,500	-	-	-	120,000
09 MBI 03	Tank Removal & Polymer Disposal	Operating Fund - Struct/Grnds Maint-Major	6,500	-	-	-	7,500
							6,500

South San Luis Obispo Sanitation District
Major Budget Items / Four Year Planning Budget

Proj. No.	Project Name	Source of Funds	2009-10	2010-11	2011-12	2012-13	Cost to Complete
<u>CAPITAL PURCHASES (Fund 019 Operating Budget) Continued</u>							
09 MBI 04	Vehicle Replacement	Operating Fund - Capital Equipment	-	18,500	-	-	-
09 MBI 05	Dessicator	Operating Fund - Capital Equipment	1,500	-	-	-	18,500
18 MBI x1	Digester No. 1 Cleaning	Operating Fund - Capital Equipment	-	-	-	-	1,500
N/A	Miscellaneous CIP Projects	Operating Fund - Capital Equipment	-	155,000	162,750	170,888	500,000
Subtotal - Capital Purchases			116,771	338,300	209,800	220,291	896,524

EXPANSION PROJECTS (Fund 020 Expansion Fund)

99 MBI 01	SCADA System - Phase 2	Expansion Fund - Capital Equipment	5,000	1,000	1,000	1,000	8,000
01 MBI 01	Energy Services Project	Municipal Lease Funding Struct/Grnds Replace-Impr Expansion Fund - State (Utility) SGIP Refund SGIP Refund	(323,019) (87,918) 152,519 (258,418)	- - - -	- - - -	- - - -	(258,418)
05 MBI 06	New Centrifuge	Expansion Fund - Struct/Grnds Replace-Impr Replacement Fund - Struct/Grnds Replace-Impr	1,090,940 428,400 1,519,340	- - -	- - -	- - -	1,519,340
07 MBI 14	Long Range Plant Expansion	Expansion Fund - Capital Equipment	652,000	4,048,000	7,440,000	-	12,140,000
07 MBI 16	Grease to Gas System	Expansion Fund - Struct/Grnds Replace-Impr	120,000	-	-	-	120,000

South San Luis Obispo Sanitation District
Major Budget Items / Four Year Planning Budget

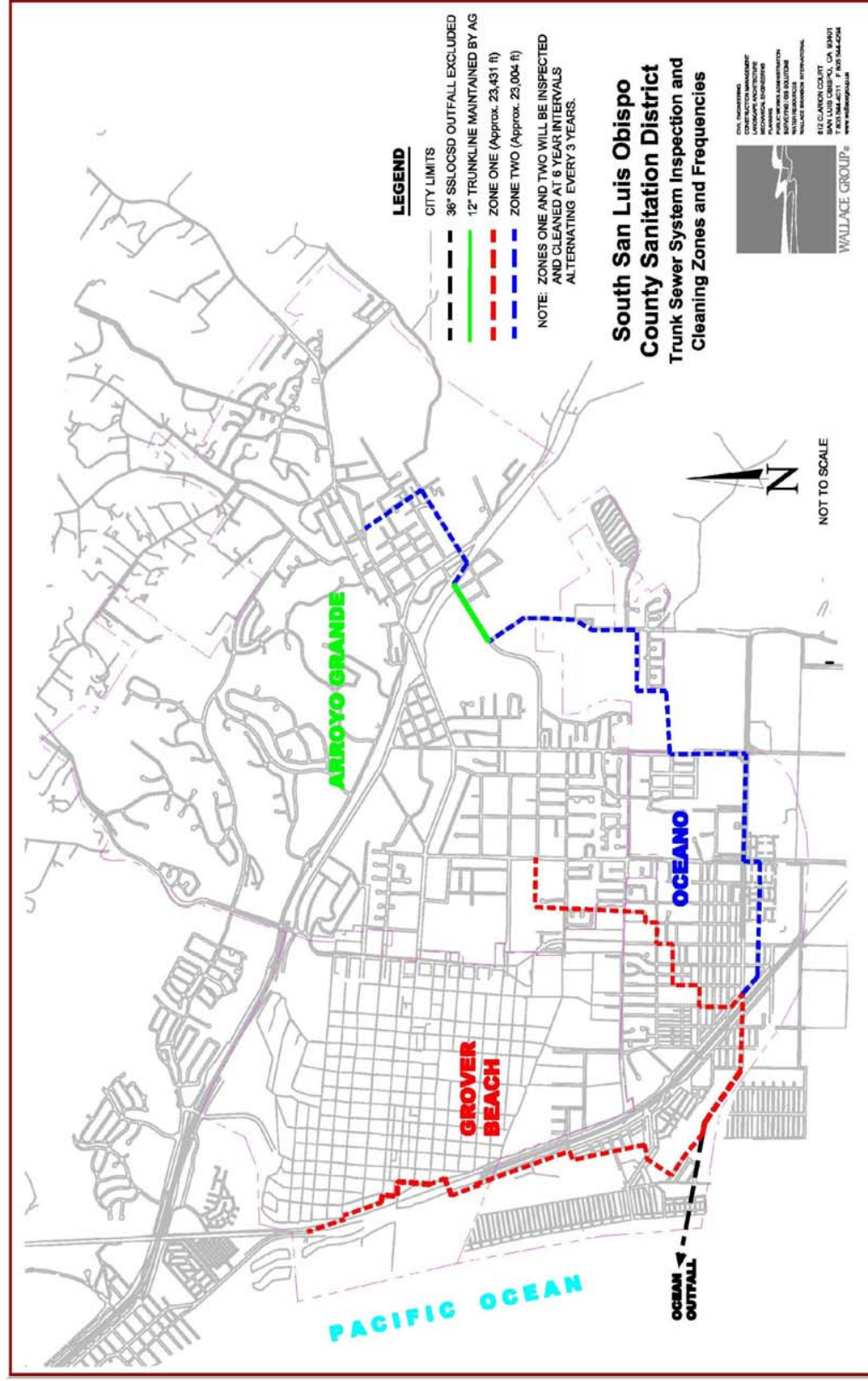
Proj. No.	Project Name	Source of Funds	2009-10	2010-11	2011-12	2012-13	Cost to Complete
EXPANSION PROJECTS (Fund 020 Expansion Fund) Continued							
08 MBI 22	Hellian Strainer Drive Unit	Expansion Fund - Capital Equipment	23,000	-	-	-	23,000
08 MBI 25	AC Pavement in Sludge Lagoon	Expansion Fund - Struct/Grnds Replace-Impr	159,500	-	-	-	159,500
09 MBI 06	Reclaimed Water Filtration	Expansion Fund - Capital Equipment	15,000	-	-	-	15,000
Subtotal - Expansion Projects			2,235,422	4,049,000	7,441,000	1,000	13,776,422

REPLACEMENT PROJECTS (Fund 026 Replacement Fund)

04 MBI 15	Sludge Withdrawal Line Repair	Replacement Fund - Struct/Grnds Maint-Major	16,700	-	-	-	16,700
04 MBI 16	Electrical System Upgrade	Replacement Fund - Struct/Grnds Replace-Impr	425,000	-	-	-	425,000
06 MBI 04	Primary Clarifier No. 1 Catwalk	Replacement Fund - Struct/Grnds Maint-Major	16,800	-	-	-	16,800
06 MBI 05	Primary Clarifier No. 2 Catwalk	Replacement Fund - Struct/Grnds Maint-Major	16,800	-	-	-	16,800
06 MBI 12	Primary Clarifier Drive No. 1	Replacement Fund - Struct/Grnds Replace-Impr	87,918	-	-	-	87,918
06 MBI 13	Influent Pumps Gate and Check	Replacement Fund - Struct/Grnds Replace-Impr	244,285	-	-	-	244,285
07 MBI 12	Influent Pump Room Exhaust Fan /	Replacement Fund - Struct/Grnds Replace-Impr	7,000	-	-	-	7,000
08 MBI 18	Flood Gate Upgrade Project	Replacement Fund - Struct/Grnds Replace-Impr	212,337	3,963	-	-	216,300
08 MBI 19	Cured in Place (CIPP) Lining of	Replacement Fund - Trunk Sewer Maint	735,000	750,000	450,000	600,000	2,535,000
08 MBI 26	Methane Gas Line Replacement	Replacement Fund - Struct/Grnds Replace-Impr	114,000	-	-	-	114,000
09 MBI 01	FFR Pump Refurbishment	Replacement Fund - Struct/Grnds Maint-Major	147,000	-	-	-	147,000

South San Luis Obispo Sanitation District
Major Budget Items / Four Year Planning Budget

Proj. No.	Project Name	Source of Funds	2009-10	2010-11	2011-12	2012-13	Cost to Complete
REPLACEMENT PROJECTS (Fund 026 Replacement Fund) Continued							
09 MBI 07	Explosion Proof Motors	Replacement Fund - Struct/Grnds Maint-Major	-	15,000	-	-	15,000
12 MBI x1	Upgrade Cogen from 150-200 KW Gen.	Replacement Fund - Struct/Grnds Maint-Major	-	-	-	151,938	151,938
12 MBI x2	AG Pipe Bridge Recoating	Replacement Fund - Struct/Grnds Maint-Major	-	-	-	125,000	125,000
12 MBI x3	Sludge Thickner	Replacement Fund - Struct/Grnds Maint-Major				275,000	275,000
12 MBI x4	Primary Clarifier No. 1 Refurb (Arms)	Replacement Fund - Struct/Grnds Maint-Major				250,000	250,000
13 MBI x1	FFR Plastic Media Replacement 2013-14	Replacement Fund - Struct/Grnds Maint-Major					600,000
13 MBI x2	FFR Distribution Arm Replacement 2013-14	Replacement Fund - Struct/Grnds Maint-Major					400,000
14 MBI x1	F. Clarifier No. 1 Refurb (Drive & Arms) 2014-15	Replacement Fund - Struct/Grnds Maint-Major					300,000
16 MBI x1	Tertiary Treatment Project 2016-17	Replacement Fund - Struct/Grnds Maint-Major					
18 MBI x1	Primary Clarifier No. 2 Refurb (Arms) 2018-19	Replacement Fund - Struct/Grnds Maint-Major					300,000
N/A	Emergency Equipment Repairs	Replacement Fund - Struct/Grnds Maint-Major	150,000	154,500	159,135	163,909	1,719,582
Subtotal - Replacement Projects			2,172,839	923,463	609,135	1,565,847	7,963,322
Grand Total			4,525,032	5,310,763	8,259,935	1,787,138	22,586,268

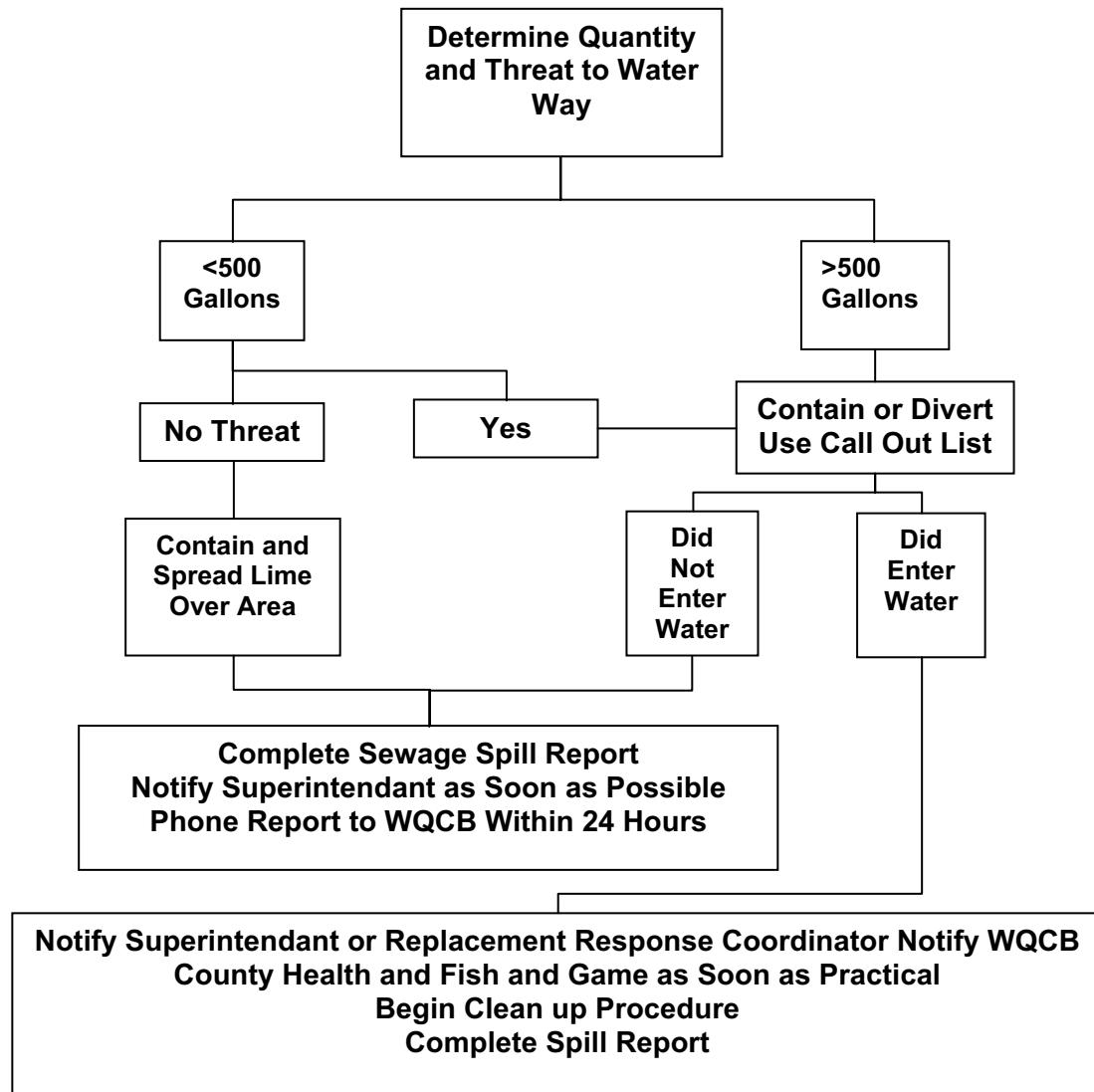


Appendix D

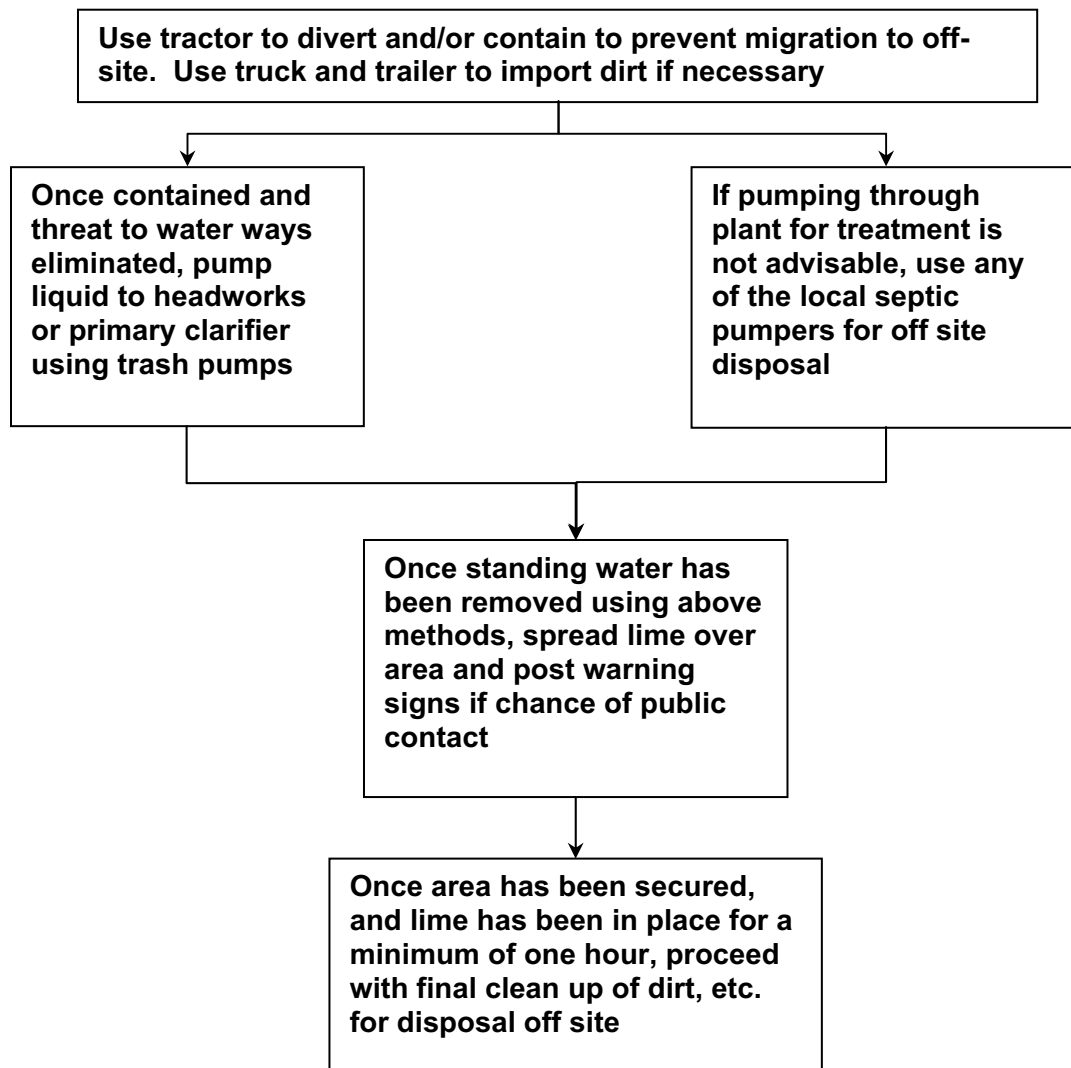
Overflow Emergency Response Plan

South San Luis Obispo County Sanitation District

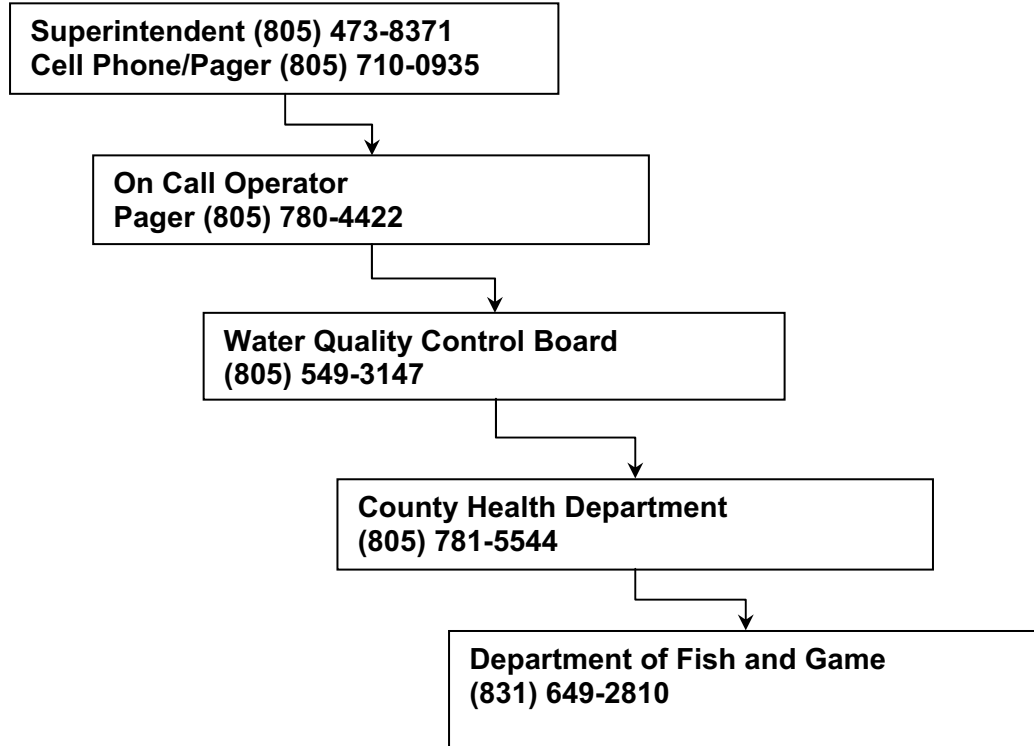
Spill Plan



South San Luis Obispo County Sanitation District
Containment and Clean Up Procedure for Spills Greater than 500 Gallons



**South San Luis Obispo County Sanitation District
Spill Reporting Sequence**



Sewer Overflow Response Report for CIWQS

SEWER OVERFLOW RESPONSE REPORT CIWQS - SSO FORM

DISCHARGER

South San Luis Obispo County Sanitation District
P.O. Box 339, 1600 Aloha Place, Oceano, Ca 93475
(805) 489-6666

SSO TYPE (Select Category 1 or 2)

1- Category 1 (>= 1000 Gals or reached a body of water)

2- Category 2 <1000 Gals, not discharged into a body of water)

SPILL NAME

NO SPILL CERTIFICATION

No Spill	MM/DD/YY	_____		
Confirmation Number		_____		
Entered Date and Time	MM/DD/YY	_____	Time:	_____

SSO DESCRIPTION

Estimated Spill Start Date/Time:	MM/DD/YY	_____	Time:	_____
Date/Time Sewer System Agency was notified or discovered spill:	MM/DD/YY	_____	Time:	_____
Estimated Operator Arrival Date/Time:	MM/DD/YY	_____	Time:	_____
Estimate Spill End Date/Time:	MM/DD/YY	_____	Time:	_____
Estimated Date/Time Clean-Up Began:	MM/DD/YY	_____	Time:	_____
Estimate Date/Time Clean-Up Completed:	MM/DD/YY	_____	Time:	_____

Estimated Spill Volume (Gals)	_____
Estimated Spill Rate (Gals per minute)	_____

SSO LOCATION

Physical Location Details	_____
Latitude of Spill Location	_____
Longitude of Spill Location	_____
Street Number	_____
Street Name	_____
City	_____
Cross Street	_____
County	San Luis Obispo County

Spill Location Description & Path of Spill

SPILL DETAILS

Spill Appearance Point:	Building/Structure
(Circle all which are applicable)	Force Main / Pressure system
	Gravity Sewer
	Manhole
	Other Sewer System Structure
	Pump Station
	Other (Specify)

If Other; required explanation:

Did Spill discharge to a drainage channel and/or surface water?

YES

NO

Did the spill discharge to a storm drainpipe that was not fully captured and returned to the sanitary sewer system?

YES

NO

Was this a Private Lateral Spill?

YES

NO

Name of responsible party (for private lateral spill only)

Final Spill Destination?
(Circle all which are applicable)

Beach
Building Structure
Other Paved Surface
Storm Drain
Street/Curb and gutter
Surface Water
Unpaved surface
Other (Specify)

If Other; required explanation:

Spill Cause:
(Circle all which are applicable)

Debris
Flow exceeded capacity
Grease (FOG)
Operator Error
Pipe Structural problem/failure
Pump Station Failure
Rainfall exceeded design
root intrusion
vandalism
Other (Specify)

If Other; required explanation:

Were Public Health Warnings Posted:

YES

NO

Number of SSO's in Same Location in past five (5) years:

If spilled caused by wet weather, choose size of storm:

1, 2, 5, 10, 50, 100 >100 year storm

Diameter of sewer pipe at the point of blockage or spill:

Material of sewer pipe at point of blockage or spill:

Estimated age of sewer pipe at point of blockage or spill:

Description of surrounding terrain:
(Circle all which are applicable)

flat
mixed
steep

SPILL RESPONSE:

Spill Response Activities (Can Select Multiple Answers)

cleaned Up (mitigation effects of the spill)

contained all or portion of spill

Inspected sewer using CCTV to determine cause

restored flow

returned all or portion of spill to sanitary sewer system

Other (Specify)

If Other; required explanation:

Visual Inspection results from
impacted receiving water:

Overall Spill Description:

NOTIFICATION DETAILSOES Control Number (Required for Category 1: ≥ 1000 gallons and spilled reached surface water or storm drainpipe)

OES Called Date/Time:

MM/DD/YY

Time:

RWQCB Notified Date/Time:

MM/DD/YY

Time:

(Circle Applicable Notification Methods)

Fax

Phone

Letter

Other Agency Notified (OES, County Health, F&G, Other)

Was the Spill report submitted via fax to the RWQCB:

Yes

NO

Date and Time Spill Report of faxed:

MM/DD/YY

Time:

Reported By (NAME):

SSO Report Submitted to RWQCB Representative:

CIWQS REPORTING

Signature of Responding Operator:

Report Entered into CIWQS:

DATE

TIME

INTLS:

CIWQS / SSO EVENT ID:

Signature of Reporting Personnel:

Date:

Fats, Oil and Grease (FOG) Best Management Practices (BMP) Manual



Train Your People



Train kitchen staff and other employees about how they can help ensure the Best Management Practices (BMPs) are implemented.

People are more willing to support an effort when they understand the basis for it.

Use the Most Appropriate Water Temperature.



Use water temperature of less than 140°F in all sinks, especially the pre-rinse sink before a mechanical dishwasher.

Use a mechanical dishwasher with a minimum temperature of 160°F.

Temperatures in excess of 140°F will dissolve grease, but it can solidify in the sanitary system as the water cools.

Water from mechanical dishwashers should not be discharged through a grease trap or interceptor.

Conspicuously Post No Grease Signs



Post these signs in restrooms, over sinks, near all floor drain, near all dishwashers and anywhere else where water may enter a drain to the sewer.

Signs serve as a constant reminder for staff working with FOG.

Use the 3-Sink System



Use the first sink to wash plates; the second sink to rinse plates and the third sink to sanitize with a 50-100 ppm bleach solution.

Water temperatures in the sinks should be less than 140°F.

The system will save energy and costs as a result.

Recycle Waste Cooking Oil



There are many companies who specialize in taking waste cooking oil from fryers and other types of equipment and making animal feed or fuels, such as biodiesel from it.

Recycling reduces the amount of wastes that have to be disposed as a solid waste, and helps to prolong the life of any grease traps and interceptors.

It keeps the FOG out of the sewer system.

Dry Wipe All Pots, Pans and Plates



Wiping the FOG and food that remain in pots, pans and dishware before washing will keep the FOG out of the grease traps and interceptors.

This will result in less frequent cleaning of the grease interceptors and traps, and result in lower maintenance costs.

Properly Dispose of Food Waste



Food should never be poured down a drain or into a toilet.

Recycling of food wastes is the best option for a food service establishment.

Recycling of food wastes will reduce solid waste disposal costs, and the need to more frequently clean grease traps and interceptors.

There are non-profits organizations that will take food wastes to feed those who are hungry.

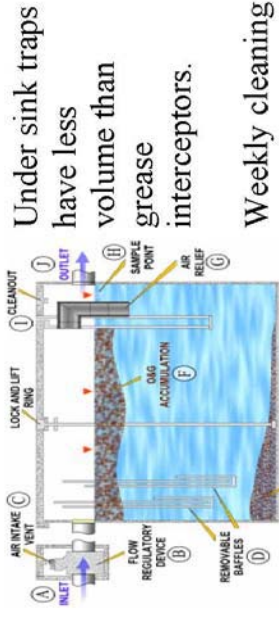
Witness Grease Interceptor Cleaning



The grease hauler should pump out the interceptor or trap completely and clean the sides and any baffles.

You are ultimately responsible for the FOG Control at your place of business.
Witnessing the cleaning of your Trap or Interceptor will ensure the complete removal of all grease and solids.

Clean Undersink Grease Traps at Least Weekly

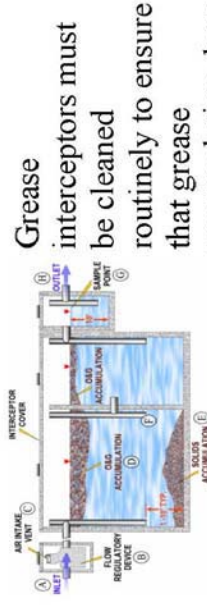


Under sink traps have less volume than grease interceptors.

Weekly cleaning by the establishment's staff will reduce the cost of cleaning any grease interceptors.

Place recovered grease in proper disposal container. It can go in a dumpster, if it is in a closed container. **Do not** pour down any drains or in any toilets.

Clean Grease Interceptors at Least Quarterly



not interfere with proper operation.

The cleaning frequency is a function of the type of establishment, the size of the interceptor, and the volume of flow discharged to the interceptor.

Routine cleaning will prevent plugging of the sewer line between the food service establishment and the sanitary sewer system. A backup will require someone to unplug the line and could pose a serious health risk to workers and patrons.

Keep a Maintenance Log and All Service Records



The log serves as a record of the frequency and volume of cleaning of the grease interceptor(s).

The record helps to ensure that the food service establishment is in compliance with its permit, and affords any inspector the opportunity to verify compliance. Service records verify the accuracy of the log.

The log can optimize the cleaning frequency in order to reduce costs.

Cover Grease Containers Stored Outdoors



Uncovered FOG containers can collect rainwater. Since FOG floats, the rainwater can overflow the container and flow onto the ground where it can reach the stormwater system.

Any discharge to the stormwater may result in adding biological or chemical demand to local receiving waters.

The discharge might also result in legal penalties being imposed on the food service establishment.

Locate Dumpsters and FOG Containers Away From Storm Drains

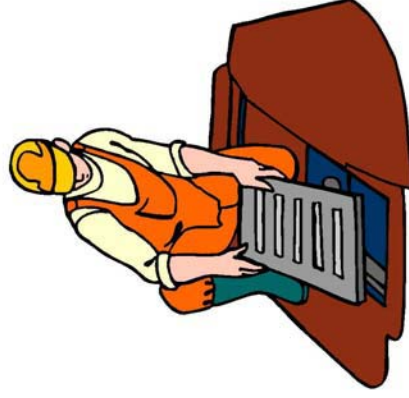


A release of FOG can degrade water quality in receiving streams in the area by adding biological and chemical demand to the stream.

Discharging of FOG into storm drains can also result in fines and other legal actions.

The farther away from a storm drain the FOG is stored, the more time someone has to clean up any spills. **BE AWARE** of FOG dripping out of containers or dumpsters and clean up quickly.

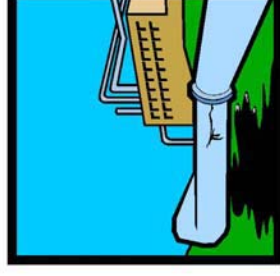
Use Absorbents Around All Storm Drains



Use absorbent pads around all storm drains where dumpsters or containers are nearby.

This can present an effective barrier to prevent FOG from entering the storm drain system.

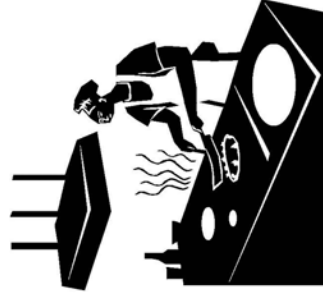
Use Absorbent Pads For All Spills



Absorbent pads can help to clean up grease and oil that is spilled on the ground near outdoor equipment, containers or dumpsters. They prevent the spills from entering the storm drain system when it rains.

DO NOT use absorbent material such as “kitty litter,” or saw dust since they can flow into the storm drains when it rains.

Routinely Clean Exhaust Hoods



If FOG escapes through the kitchen exhaust system, it can accumulate on the roof of the house or restaurant and eventually start a fire or enter the storm drain when it rains.



DO

- Scrape excess grease in a container and dispose of it in the trash or containers specifically designated for grease.
- Place food scraps in waste containers or garbage bags for disposal with solid wastes; or start a compost pile; promote the use of scraping ware prior to washing.
- Place a wastebasket in the bathroom to dispose of wastes.
- Promote the use of the 3 "R's" **R**educe, **R**euse and **R**ecycle.

DON'T

- Discharge fats, oil, and grease in concentrations that will cause an obstruction to the flow in a sewer, or pass through or interference at a wastewater treatment facility. FOG from cooking should not be placed in the kitchen or bathroom sinks or in the toilet.
- Discharge of butchering waste of any kind within the sewer system.
- Discharge wastewater with temperatures in excess of 140° F to any grease traps. This includes water from mechanical dishwashers that have a minimum required temperature of 160° F.
- Discharge waste from a food waste disposal unit to any grease traps.
- Discharge caustics, acids, solvents, soaps, enzymes, or other emulsifying agents into sinks that feed grease traps and/or interceptors.
- Discharge fats, wax, grease or oils containing substances that will become viscous between 32° F (0° C) and 150° F (65° C).
- Utilize biological agents, chemicals, or enzymes for grease remediation without permission from the sanitary agency receiving the waste.
- Clean equipment outdoors in an area where water can flow to the gutter, storm drain, or street.
- Use the toilet as a wastebasket

Provided by:
South San Luis Obispo County Sanitation District
FOG Program
c/o Wallace Group
612 Clarion Court
San Luis Obispo, CA 93401
Attn: Heather Billing or Tammie Nichols
805-544-4011 Tel
805-544-4294 Fax
heatherb@wallacegroup.us
tammien@wallacegroup.us

Commercial FOG Flyer

What you need to know about grease traps and interceptors.

To work correctly, grease traps and interceptors must be properly:

1

DESIGNED

Grease traps and interceptors must be sized to handle the amount of grease expected.

2

INSTALLED

Grease traps and interceptors must be level and vented per Uniform Plumbing Code.

3

MAINTAINED

Grease traps and interceptors must be cleaned and serviced frequently, often daily, to reduce or prevent blockages

Fat - Free Sewers



Fat, Oil, and Grease...
They are bad for your plumbing and your City's sewers.



For More Information or Additional
Brochures- Please Contact:

**South San Luis Obispo County
Sanitation District**
C/O Wallace Group
Attn: Heather Billing or
Tammie Nichols

612 Clarion Court
San Luis Obispo, California 93401
(805) 544-4011 Tel
(805) 544-4294 Fax

Fat, Oil, and Grease...

Understanding Your System

Most food service operations have two systems to serve their wastewater disposal needs: A sanitary system for toilets, urinals, and bathroom sinks, and a kitchen system for floor drains, dishwashers, and prep-sinks.

The systems normally use two- to four-inch pipe to carry the flow of wastewater away from the building to the sewer system. Floor drains allow drainage from the floor into the sewer. P-traps provide a liquid seal against sewer gases and odors. Roof vents enable gases and odors in drainage pipes to escape to the outside... and then there are grease traps...

What is a grease trap?

Grease traps or interceptors, which are part of the kitchen system, capture grease from the wastewater flow. Grease is stored in the reservoir tank, which ranges from 10 gallons to 1000 gallons or more. Small inside grease traps are usually located on the floor in the kitchen preparation areas or near dishwashers. This type of grease trap requires frequent maintenance. Larger outside grease interceptors are usually located a few feet from the building in parking, delivery, or drive-thru areas. Outside interceptors are more effective than traps, but they also require periodic maintenance.

How does a grease trap work?

A grease trap slows down the flow of hot greasy water, allowing it to cool. As the hot water cools, the grease separates and floats to the top of the grease trap. The water continues to flow down the pipe to the sewer. The grease is trapped by baffles that cover the inlet and outlet of the tank, preventing it from flowing out of the trap.

Why do backups and blockages occur?

Most problems result from poor housekeeping or improper and insufficient grease trap and drain line maintenance. A partial or total blockage can cause floor drains, sinks, and dishwashers to back up and become inoperative. A grease trap or drain line that is not proactively maintained will eventually clog, disrupting service and ultimately shutting down your facility. If the buildup of grease blocks the public sewer, the South San Luis Obispo County Sanitation District (SSLOCD) must perform expensive repairs. Grease related blockages have served as the basis for regulations governing the discharge of grease to the sanitary sewer system. SSLOCD enforces the regulations and inspects grease trap installation for food service operations.

A grease trap or drain line that is not proactively maintained will eventually clog, disrupting service and ultimately shut down your facility.

IT IS UNLAWFUL TO DISPOSE OF GREASE INTO THE SEWER SYSTEM!

What problems are caused by grease?

- Sewage backing up into your business.
- Rancid odors.
- Expensive cleanup, repair, and replacement of damaged property.
- Potential contact with microorganisms that can cause illness.
- Higher operating and maintenance costs.

How can you have fat-free sewers?

Training employees about the problem will mean long-term benefits to your business and our community. Training should include:

- The nature of grease.
- The effects of grease on the environment.
- The cost of treating grease and its relationship to higher operating costs.
- Recommended disposal practices.
- Recommended housekeeping practices.
- Proper and periodic maintenance schedule.
- The following dos and don'ts:
 - Post "no grease" signs above sinks and on the front of dishwashers.
 - Never pour grease down sink drains or into toilets.
 - Scrape grease material and food scraps from all cookware and dishware into a can or the trash for disposal.
 - Use a three-sink dishwashing system, which includes sinks for washing, rinsing, and sanitizing in a 50-100 ppm bleach solution.
 - Use strainers in sink drains to catch food scraps and other solids, and empty the drain strainers into the trash.
 - Wipe cookware and dishes before washing.
 - Clean kitchen exhaust system filters routinely.
 - Recycle cooking oil and food waste.
 - Call SSLOCD if you have any questions about sewer system operations and maintenance.

Sewer Bill Inserts for Member Agencies

¡AVISO!
GRASA

se ha encontrado
en las líneas de
alcantarilla en su área.

El aceite y la grasa se pegan dentro de
sus líneas de alcantarilla. Después de
un tiempo la grasa estancada puede
obstruir toda la línea de alcantarilla.

**¡Evitar desbordamiento
de la alcantarilla!**

¡NO!

No tire aceite, grasa, o
comida grasosa en su
fregadero.

No use agua caliente y
jabón para lavar la grasa.
Se va a enfriar y endu-
recer en la alcantarilla.

¡SÍ!

Ponga la grasa enfriada en
un contenedor desechable o
directamente en la basura si
ya esta endurecida.

Remueva la grasa o aceite
de los platos, cazuelas, y
cacerolas con una toalla de
papel antes de lavarlos.

¡Llame para más información!



CITY OF GROVER BEACH
COMMUNITY DEVELOPMENT DEPT
(805) 473-4529

WARNING!
GREASE

has been found
in sewer lines
in your area.

Cooking oil and grease stick to
the insides of your sewer pipes.
Over time, grease buildup can
clog the entire sewer line.

Prevent sewer overflows!

DON'T

Don't pour cooking oil,
grease, or greasy food
down the drain.

Don't use hot water and
soap to wash grease down
the drain! It will cool and
harden in the sewer line.

DO

Pour cooled grease into
disposable containers or
directly into the garbage if
it's solidified.

Wipe away any residual
grease or oil on dishes, pots
or pans with a paper towel
before washing them.

Call for more information!



CITY OF GROVER BEACH
COMMUNITY DEVELOPMENT DEPT
(805) 473-4529

Appendix F

Waste Water Capacity Study 2006

South San Luis Obispo County Sanitation District

Trunk Sewer System Capacity Study

Final Draft Report

May 12, 2006

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SSLOCSD Trunk Sewer System Capacity Study

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SSLOCSD Trunk Sewer System Capacity Study

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1. INTRODUCTION

1.1 PURPOSE

The South San Luis Obispo County Sanitation District's (District or SSLOCSD) existing wastewater collection system was designed and built in 1966. Raw wastewater is collected through 6.5 miles of District trunk lines that extend through Oceano and Arroyo Grande with pipes varying in size from 18 to 30-inches. Trunk lines (pipes varying from 15 to 24-inches) in Grover Beach which convey sewage to the treatment plant were also included in this study although, presently, these trunk lines are not owned by the District. Capacity in District trunk lines is not specifically divided among the parent agencies. As outlined in Ordinance No. 2000-3, impact fees are collected for new developments from each agency which are used for expansion related improvements. As a result, those agencies which sustain the most new development contribute a greater share to facility expansion. This Trunk Sewer Capacity Study presents the analysis of existing and future flows within the District trunk sewer lines and identifies existing and future capacity concerns that will enable staff to make project recommendations throughout the District's service area.

1.2 Scope of Study

The Trunk Sewer Capacity Study was conducted to evaluate the existing wastewater trunk sewers under current and build out conditions, and to re-evaluate how to correct those deficiencies in the SSLOCSD service area. The scope of this study included the following:

Research and Review of Documents - Data for this study included planning information from each agency as well as available records for sewer utility locations throughout the service area.

Existing Wastewater Flows - Wastewater flow data at the District treatment plant was analyzed, and flow information was based on population information data within the District service area. The plant influent data was analyzed to estimate the peak diurnal flow to the plant, and this in turn was used to estimate a peaking factor for each service area. Historical average daily flows incorporating rainfall data and general trends of inflow/infiltration to the plant was reviewed and analyzed, to assess the capacity of trunk lines. This did not include inflow and infiltration (I/I) monitoring in the trunk sewer but is recommended in future studies.

Future Wastewater Flows - Future wastewater flows and flow characteristics were based on growth projections provided by each participating agency served by the District.

Trunk Sewer Modeling - A hydraulic model of the entire gravity trunk sewer was based on information collected from as-built or record drawings. This gravity flow model was created on an Excel spreadsheet developed by Wallace Group. All sewer inverts were provided on District as-built drawings. Design criteria was generated for each trunk sewer relative to design capacities and flow parameters. The flow analysis utilized Manning's open channel flow equation for flow in circular channels. All sewers 12" diameter and larger which directly impacted the District's trunk sewer system were included in the model. The City of Arroyo Grande's 12" trunk sewer, which is part of the District's overall trunk sewer system, was recently modeled in their wastewater master plan. This data was also included into this spreadsheet. Wastewater demands were distributed throughout the trunk sewer system based on available zoning/land use maps. Analysis of these zoning/land use maps included discussions with corresponding agency staff relative to developed and undeveloped areas through their respective service areas. Model runs were conducted for existing flows (at diurnal peak flow conditions during the maximum month), and at future projected wastewater flows (also at diurnal peak flow conditions during the maximum month).

1.3 Acknowledgments

The District appreciates the assistance provided by the following individuals and thanks them for their contributions to this report:

Jeff Appleton – Plant Superintendent, SSLOCSD

Phil Davis – Utility Manager, Oceano Community Services District

Chuck Ellison – General Manager, Fluid Resource Management; former Superintendent
SSLOCSD

Mike Ford – Utility Manager, City of Grover Beach

Scott Mascolo – Shift Supervisor, SSLOCSD

Shane Taylor – City of Arroyo Grande, Public Works Superintendent

Murray Wilson – Staff Assistant, City of Grover Beach Planning Department

2. SSLOCSD SERVICE AREA

2.1 Service Area Boundaries

The District encompasses a geographic area of 165 square miles. It is located within an area known as the Five Cities area in the southwestern portion of San Luis Obispo County, 15 miles south of the City of San Luis Obispo. Refer to Figure 2-1 for the project vicinity map, and Figure 2-2 for the SSLOCSD Service Area Boundaries. Refer to Appendices A and B for maps of the District's trunk sewers. The following is a brief description of each of the communities served by the District trunk sewer system.

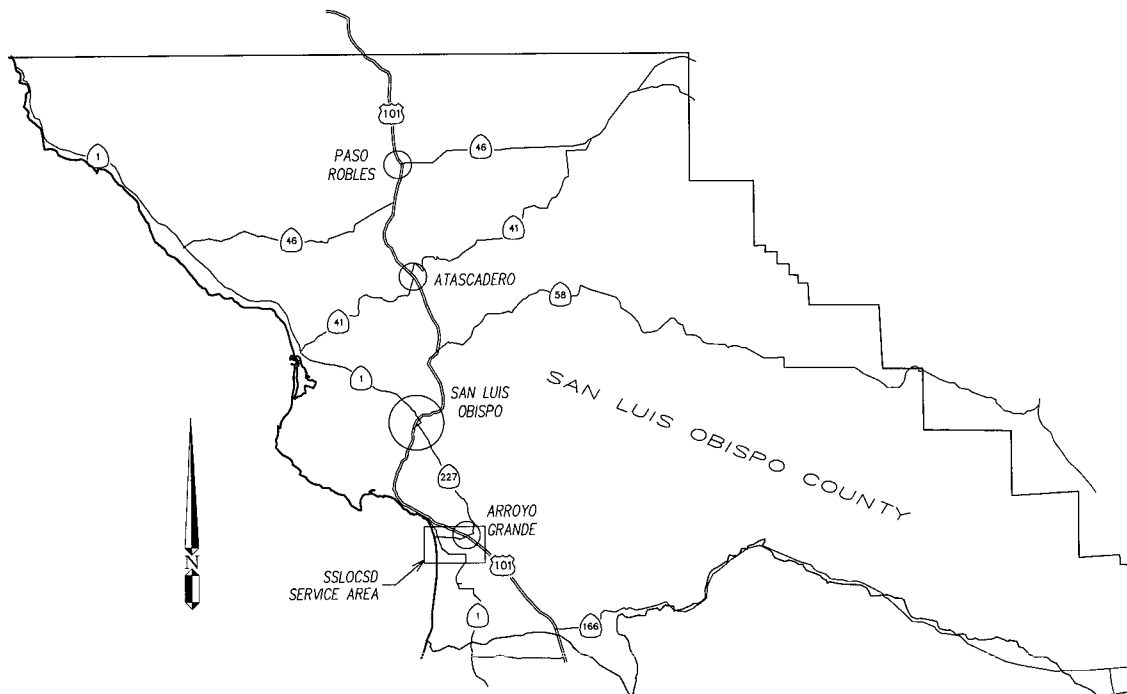


Figure 2-1 Vicinity Map

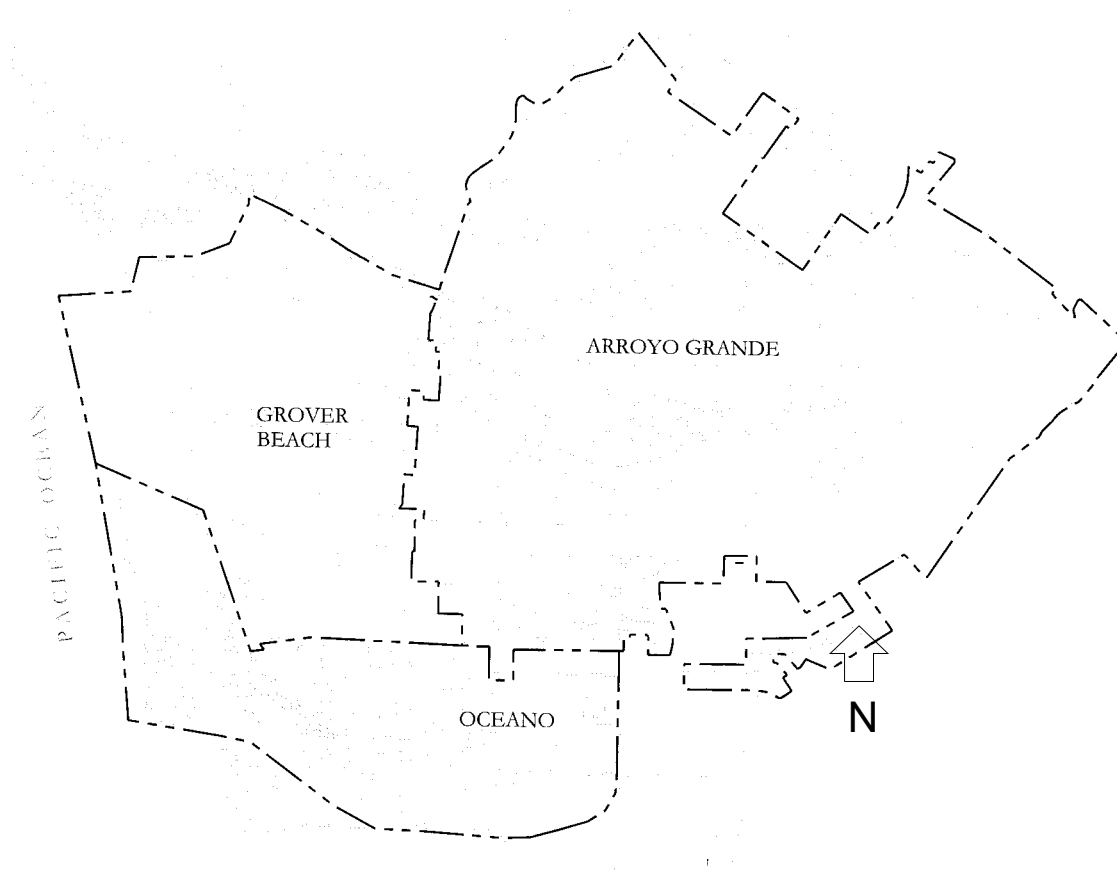


Figure 2-2 SSLOCSD Service Area Boundaries

2.1.a. City of Arroyo Grande

The City of Arroyo Grande is a community encompassing 5.45 square miles of diverse landscape ranging from gentle rolling suburbs to scenic canyon lands.

The City extends on both sides of Highway 101, which bisects Arroyo Grande into an eastern and western section. Both “sections” of the City contain commercial and residential areas. The eastern section contains what many consider the “Old Village” with accompanying residences rising up into canyon land extending to the north and east. A limited amount of agriculture occurs in this City, and Lopez Lake lies due east of Arroyo Grande.

The western section of town includes predominantly suburban homes and service businesses and is served by Grand Avenue, a major commercial corridor which passes through Arroyo Grande and extends into Grover Beach.

2.1.b. City of Grover Beach

Grover Beach is an incorporated ocean -front City encompassing approximately 2.25 square miles.

The topography includes gently rolling hills, urban and suburban neighborhoods. The weather is moderate during the winter and slightly cool during the summer months. The City receives an average of 20 inches of annual rainfall. Grand Avenue is a major commercial corridor connecting to California Hwy 101 in the City of Arroyo Grande.

The economic base is primarily commercial service and tourism, and there are no heavy industries located in the service area. The City has been served by the District since its inception, first as a contract agency, then as a member agency since 1997.

2.1.c. Oceano Community Services District

Oceano is an unincorporated area of San Luis Obispo County governed by the Oceano Community Services District. It reportedly began in the late 1800's as a fishing village and evolved into an agricultural community. At one point, in 1972, the community considered incorporation but the tax base was not adequate to sustain city status.

In 1981, the Oceano Community Services District (OCSD) was formed, and provides water, sewer, street lighting, recreation and fire protection services. The OCSD boundaries encompass an area of approximately 1.7 square miles and includes both the town of Oceano and community of Halcyon.

2.2 Descriptions

The SSLOCSD is governed by a three-member board of directors consisting of a representative from each of its member agencies. Member agencies include the City of Arroyo Grande, the City of Grover Beach, and the Oceano Community Services District. Wastewater collection (trunk sewers only), treatment, and disposal services are provided by the District to each member agency as described in the following sections:

2.2.a. Trunk Sewer System

The District owns and maintains a system of gravity trunk sewers to serve its member agencies. The District trunk sewers vary between 18" and 30" in diameter. The majority of the system was constructed in 1966. The trunk capacity available for each member agency is not established by contract and no capacity allocation exists for each agency. However, the District collects impact fees from new development projects within each member agency, and the funds are used for major replacements and expansion-related improvements. As a result, those agencies which incur the most new development contribute a greater share of the cost to expand the District system expansion.

2.2.b. Wastewater Treatment Plant (WWTP)

The District owns and operates a wastewater treatment and ocean disposal facility with a design average annual flow capacity of 5.0 million gallons per day. The system consists of a secondary treatment facility including the following process elements:

- Headworks - flow meter and raw wastewater pump station
- Primary clarification
- Secondary treatment utilizing a biological fixed film reactor
- Secondary clarification
- Disinfection and dechlorination
- Gravity ocean outfall (shared with the City of Pismo Beach)

The treatment system is operating at approximately 58% of capacity¹ (2.88 mgd). As with trunk capacity, wastewater treatment and disposal capacity was not established by contract and was therefore not apportioned amongst the member agencies.

¹

District flow records, 2000 Annual Report

3. EXISTING AND FUTURE LAND USE AND POPULATION

The land area served by the District includes residences, tourism, and commercial districts composed primarily of service businesses and light industry. Scattered agricultural uses within the District's service area are limited and not currently expanding in scale.

Arroyo Grande, Grover Beach, and Oceano Community Services District each have land use plans as part of applicable general plans guiding development within their respective areas. In the case of OCSD, the County's land use plan governs.

3.1 City of Arroyo Grande

Arroyo Grande's General Plan emphasizes the community's desire to maintain a rural, small town character. It recommends that large scale commercial development remain focused along the Hwy 101 corridor and small scale commercial development continue to occupy the "village area" and the Grand Avenue corridor.

Agricultural uses lie primarily on the southeast side of Arroyo Grande and are split by Hwy 101. Expansion of agricultural uses is unlikely, but Arroyo Grande's general plan considers preservation of existing agricultural land use as a priority goal.

The majority of Arroyo Grande is residential in use and character. Approximately 82% of the land area is occupied by housing. Southwest of Hwy 101 the land is relatively flat and suburban in character. It has a mix of both single family and multiple family residences with single family predominating. The residential area on the Northeast side of Hwy 101 is a mixture of flatter development and hillside residences.

Arroyo Grande has recently experienced a considerable increase in commercial/retail development along the Hwy 101 corridor. There are approximately 18 acres of city land devoted to light industrial and a business park to be developed.

The current population of Arroyo Grande is reported to be 16,115² with a build out population projected to be 20,000 (see Table 3-1) in the year 2012.

² City of Arroyo Grande General Plan

Table 3-1 Existing and Future Populations		
City or District	Existing Population	Future Population (Build Out)
Arroyo Grande	16,115	20,000
Grover Beach	13,067	16,268
Oceano Community Services District	7,260	9,601
Total	36,442	45,869
Populations based on 2000 Census data and assessment of additional dwellings in 2001.		

3.2 City of Grover Beach

Grover Beach's general plan seeks to "... preserve and promote an economically diverse town influenced by the natural benefits of its location on the hills and valleys, reaching out to the coastal dunes, the beach, and the Pacific Ocean."

Most of the City appears commercial, suburban and recreational in character. There is little light industry and no heavy industry. Commercial/Retail uses are located primarily on the Grand Avenue corridor.

The Land Use Element of the General Plan divides Grover Beach into 13 separate neighborhoods for which housing and population statistics have been compiled. The current population of the City of Grover Beach is 13,067 with a projected future build out population of 16,268 (Table 3-1) anticipated to be reached around 2011. Any one of these neighborhoods may have a mix of uses but as in the case of Arroyo Grande, they are primarily residential in character. Two exceptions to this, however, include the Central Business District Neighborhood and the Beach Neighborhood. In these neighborhoods residential uses give way to commercial and retail uses.

Two major transportation corridors serve Grover Beach. Grand Avenue serves the Central Business District, connecting to Hwy 101 on the East and the beach on the West. Highway One and the railroad line separates the majority of Grover Beach from the beach area. The rail runs north and south and carries both passenger and freight traffic on the main line that connects Los Angeles and San Francisco.

Grover Beach considers itself an "affordable" community while continuing to attract and serve tourists to its natural resources. There is a small area of agricultural land remaining in Grover Beach (approximately 150 acres).

3.3 Oceano Community Services District

The County's San Luis Bay Area Plan governs land use and development in Oceano. There are both coastal and inland versions of this plan. Particular reference is made in this plan to the area within the Oceano Urban Reserve Line.

The current population of the Oceano community is 7,260. Population projected by the San Luis Obispo County Oceano Specific Plan and Environmental Impact Report (August 2001) indicates a population of 9,601 at buildout. Although a specific year is not stated for the build out population to be reached, the life of this Specific Plan was stated as 20 years.

The community of Oceano is primarily residential with 42% of its 896 acres encumbered by this use. There are large open space areas within the District in the form of beach land, the Oceano Airport, and several agricultural fields totaling about 126 acres. Of the residential areas, approximately 34% are single family homes, 6% of the areas are mobile home parks, and about 2% are multi-family dwellings.

Commercial areas are located along the railroad/Highway One corridor which divides the community in a north and south direction. There are also commercial uses along Pier Avenue, which is the access point to the beach. These areas account for about 20% of the total land area.

A limited amount of light industrial uses are also located along the railroad corridor. These uses occupy about 20 acres of land. The Oceano airport consisting of approximately 65 acres is located very near the beach area and the District's wastewater treatment plant.

Most of the housing units in Oceano are modest single family homes with vacation homes located along the beach. About 75 percent of the housing was built before 1984, with about a third of that constructed before 1960.

4. WASTEWATER FLOWS

4.1 Existing Wastewater Flows

Existing wastewater flows were assessed utilizing the following sources of data:

- The Arroyo Grande Wastewater Master Plan.
- The District wastewater treatment plant influent flow records and annual reports.
- Population data from each agency.

Since no additional flow data was available from Grover Beach or Oceano, the existing wastewater flows were derived from the sources of data listed above. The approximate percentage of the total flow that the City of Arroyo Grande contributes to the District treatment facility was determined. The District flow data, which includes continuous flow records and daily totals, was then used to confirm seasonal peaking factor characteristics. As of mid-2001, the District served a total population of 36,802 persons including the following entities:

- City of Arroyo Grande (16,115 persons)
- City of Grover Beach (13,067 persons)
- Oceano Community Services District (7,260 persons)

There is a small population that is serviced by the District that is not incorporated within the above mentioned entities. This population consist of less than 50 residences, and the associated demands were included in this study.

Flow meters were installed (2001) at the two District trunk mains that convey wastewater from Arroyo Grande. An analysis of data from the Arroyo Grande Wastewater Master Plan shows that during dry weather periods, Arroyo Grande contributes approximately 44% of the total raw wastewater flow to the District. This result was consistent with the current Arroyo Grande population, which also represents approximately 44% of the total District population. It was a reasonable assumption then, that Grover Beach and the Oceano Community Services District would also contribute proportionate flows based on their population ratios. Table 4-1 shows the determination of existing flows.

Table 4-1 Existing Average Annual (Daily) Flows by Land Use¹			
City or District	Existing Population	Percentage to District Population	Total Average Annual Flow (Million gallons/day)
Arroyo Grande	16,115	44%	1.26
Grover Beach	13,067	36%	1.03
Oceano Community Services District	7,260	20%	0.59
SSLOCSD TOTAL	36,802³	N/A	2.88²

- Notes:
1. These values were based on the values used in the Arroyo Grande Wastewater Master Plan adopted on November 2001.
 2. The Annual Average Flow (year 2000) for The District during the same period was 2.88 MGD
 3. Population not incorporated within Arroyo Grande, Grover Beach, and the OCSD, but were still serviced by the District will not alter the percentages significantly.

Although existing flow data used for this study was based on the year 2000, the District Treatment Plant average daily flows for 2001, 2002 were 2.72 mgd, 2.73 mgd respectively. It was a reasonable assumption that the present day flow analysis will vary minimally from the data used in the year 2000. The population as of 2003 has increased by about 3%¹ from 2001.

4.2 Peaking Factor Analysis

In order to appropriately design wastewater collection facilities, peak flow conditions are quantified, and summarized below:

Average Annual Flow (AAF) was obtained by dividing the total flow conveyed in one year by 365 days. Peak conditions were derived by multiplying the AAF by a peaking factor (PF). Table 4-1 summarizes the average annual flows to the SSLOCSD WWTP.

Peak Day Dry Weather Flow (PDF) is the maximum flow during one day of the dry season. This flow condition is often used for the biological design of treatment processes. PDF was based on data provided by the District.

Peak Hour Wet Weather Flow (PHWWF) is the single hour maximum flow rate during wet weather. This condition will govern the design of sewers and represents the maximum flow rate that the system must convey. This flow condition was used in determining the peaking factor used for this study.

Average Day Maximum Month Dry Weather Flow reflects the maximum flow rate during the peak month of summer. This condition reflects the seasonal variation in dry weather flow. This flow condition was only used as a reference (Table 4-2).

Table 4-2 Summary of Peaking Factor Analysis		
Peak Flow Condition	Historical Peaking Factor (SSLOCSD)	Arroyo Grande Peaking Factor
Average Annual (Daily) Flow (AAF)	--	--
Peak Day Dry Weather Flow (PDF) ¹	1.17	1.3
Peak Hour Wet Weather Flow (PHWWF) ²	2.79	3.0
Average Day Maximum Month Dry Weather Flow	1.02	1.1
Notes: 1.PDF was based on the District Peak Day in September, 2000 2.From the Arroyo Grande Wastewater Master Plan, PHWWF was confirmed by checking two conditions. Firstly, peak hour wet weather flow at The District was examined. Secondly, the known daily flow fluctuation in AG was applied to the AG portion of the maximum day wet weather flow at The District (March 5, 2001). The latter condition was assumed representative of the trunk lines within Arroyo Grande and Oceano.		

¹According to the 2003 Economic Report for the City of San Luis Obispo by the Research Department of the SLO Chamber of Commerce - Grover Beach 13,433; Arroyo Grande 16,523; OCSD 7,574

Table 4-2 summarizes the peaking factors used for this study. These peaking factors reflect peak flows due to gravity (lift stations were assumed inflow equals outflow) in reference to AAF. Since the Oceano trunk system also conveys Arroyo Grande flows, the Arroyo Grande peaking factor (3.0) was used for the trunk system within Arroyo Grande and Oceano. The various Arroyo Grande lift stations cause plug flows which adversely affect the peak gravity flow analysis (Table 4-2). Flow data from Arroyo Grande factors in the impact of its upstream lift stations. These plug flows will reflect higher peak flows to some extent downstream in the District trunk sewers (Appendix E - locations of these lift stations).

The trends of inflow/infiltration flows were factored into the peaking factors chosen for this study.

4.3 Future Wastewater Flows

Table 4-3 summarizes the future wastewater flows for each City/District at build-out using each member agency's planning and population information. The existing peaking factors from Table 4-2 were applied to these future wastewater flows for the build-out trunk sewer capacity analysis.

Table 4-3 Future Wastewater Flows (Average Daily Flows)		
City or District	Build-out Population	Build-out Flows (mgd)
Arroyo Grande	20,000	1.65
Grover Beach	16,268	1.34
Oceano Community Services District	9,601	0.79
Total	45,869	3.83

4.4 Arroyo Grande Tract Map Development Update

An updated tract map of Arroyo Grande enabled more conclusive flow projections (see Table 4-5, and Figure 4-4). The relevant issues are as follows:

- Although all but one (see #24 on Fig 4-4) of these developments are consistent with the Land Use Map of the Arroyo Grande General Plan, some of these developments are not projected by the Arroyo Grande Wastewater Master Plan.
- Flow additions by developments upstream of LS1, West AG, and East AG showed minor variances in the flow allocations projected by the AGWWMP.
- Present design upgrade plans to LS1 pumps will not exceed the existing pump outflow.
- LS1 and West Arroyo Grande wastewater flows are conveyed by the SSLOCSD Sewer Farm Trunk System, which has identified concerns (see section 5).
- East Arroyo Grande wastewater flows are conveyed by the SSLOCSD Cherry Avenue and Southside Trunk System.

Table 4-4 summarizes wastewater flow additions that will be contributed by developments shown by the updated tract map (see Table 4-5 for the full description). The Projected Average Flows account for current developments constructed or soon to be constructed. Although this data would indicate an excess of flows, it must be considered that the projections made by the AGWWMP are going to vary from the actual planned developments. Flow contributions from the updated tract map also shows that the Future Total Average Daily Flow projected by the AGWWMP has not been exceeded. For the purpose of this study, it will be assumed that these flows will add to the Future Total Average Daily Flow projected by the AGWWMP. With this assumption, flows from East Arroyo Grande will not impact the Southside Trunk System, but flows from West Arroyo Grande will impact the 18" Bakeman Lane Trunk Sewer (see Section 5) within the Sewer Farm Trunk System.

Table 4-4 – Arroyo Grande Updated Flow Additions	
Upstream Area	Projected Average Flows (gpd) <small>(unaccounted by AGWWMP projections)</small>
Lift Station 1	35,729
West Arroyo Grande	7,338
East Arroyo Grande	6,900
Unaccounted Total Average Flows (gpd)	49,967
Existing Total Average Daily Flow (gpd) (stated in AGWWMP)	1,260,000
Future Total Average Daily Flow (gpd) (projected by AGWWMP)	1,650,000
Future Total Average Daily Flow (gpd) (adjusted per the updated flow additions)	1,700,000

5. WASTEWATER TRUNK SEWER SYSTEM ANALYSIS

5.1 Trunk Sewer System Model

An Excel based spreadsheet program developed by Wallace Group was used to evaluate existing and future flows to the trunk sewer system. This spreadsheet program utilized Manning's Equation for Circular channel flow in conjunction with information from the Circular Channel Ratios¹ graph for d/D vs. Q/Q_{full} . This graph relates the ratio of depth of flow to the diameter of pipe (d/D) and the ratio of the actual flow rate to the full capacity flow rate (Q/Q_{full}).

Appendix C displays the existing and future flows to the system.

Appendix F, Table 1 - displays the existing flow data spreadsheet for the represented agencies.

Appendix F, Table 3 - displays the future flow data spreadsheet for the represented agencies.

5.2 Analysis and Deficiencies

Design criteria for the gravity sewer analysis recommends a maximum allowable flow depth ratio (d/D - ratio of depth of flow over diameter of pipe) of 0.90 for peak hour wet weather flow. This design criteria is acceptable for large diameter trunk lines (over 12"); however design judgement is required for each particular case. This design criteria is also consistent with that derived in the Arroyo Grande Wastewater Master Plan.

5.2.a Flow Impacts and Analysis

Analysis of the trunk sewer system was viewed under existing and future flow conditions.

- Existing Conditions:
 - Oceano - analysis shows no flow/capacity issues.
 - Arroyo Grande -
 - analysis shows flow conditions exceeding 0.90 d/D at Fair Oaks Ave near Hwy101 (Appendix F, Table 1, line 48 -52) at PHWWF.
 - 18" Bakeman Lane trunk sewer (Appendix F, Table 1 line 78 - 83) analysis does not show the d/D over 0.90. However, there are potential capacity issues with the trunk line in this reach. District staff² has reported a sag on this line. This sag has been substantiated by recent video of this reach of sewer. Recommendations for this Bakeman Lane trunk line are discussed in section 6.
 - Grover Beach - analysis shows the 18" trunk line (beginning at the intersection of Manhattan Street and Pacific Blvd to the corner of Coolidge Drive and Norswing Street) with a d/D over 0.80 (See Appendix F, Table 1, line 110 - 115) at PHWWF. All the flows from Grover Beach converge at manhole #340 (See Appendix F, Table 1, line 115).

¹From Civil Engineering Reference Manual 7th Edition Appendix 19.C

²Jeff Appleton, the Superintendent of the District WWTP

- Future Conditions:
 - Analysis of future conditions was conducted by determining the location of future growth and development from land use and zoning information. Locations of future flow additions were then introduced into the trunk sewer system accordingly. Such flows are shown on Figure 5-1 and are discussed as follows:
 - Oceano
 - future flow additions are observed to enter the Southside Trunk Sewer near Halcyon Road and Highway One. These flows would be conveyed by the 27" and 30" trunk lines along Nipomo Street and Highway One to the Treatment plant.
 - The District Trunk Sewer lines within Oceano have adequate capacity for buildout flows.
 - Arroyo Grande
 - 18" Bakeman Lane trunk line(Appendix F, Table 3 line 79- 83) d/D is over 0.90 at this stretch.
 - Other future flows are observed to enter the 27" trunk line (Southside Trunk Lines) at Halcyon Road at East Oceano.
 - The Southside Trunk lines show adequate design flow capacity.
 - Grover Beach
 - Future flows enter the 18" trunk line at Manhattan Street and Pacific Blvd (Appendix F, Table 3, line 110 - 115).
 - Further analysis of this stretch of trunk line shows surcharging in MH# 340 where all the flows converge.
 - Computer modeling shows surcharging at a height of about 2.5' from the invert of the manhole; this will raise the water level about 12" above the pipe crown during peak hour wet weather flow conditions.

5.2.b Gravity Flow Conditions

Since the impact of the lift station pumps are intermittent in nature, the system was appropriately analyzed with the lift station pumps cycling on and off. The analysis of the trunk sewer system was based on Peak Hour Wet Weather Conditions along with plug flows by various lift stations within the system (refer to Appendix E for lift station locations). A special analysis was considered with flow conditions that do not include the plug flows of these various lift station pumps. This analysis is displayed in Appendix F, Table 2 for Existing Conditions and Appendix F, Table 4 for Future Conditions. Although these conditions do not occur often, this analysis must be considered since it shows a picture of what conditions look like without the short cycles of increased flows that the lift stations discharge. Gravity flow conditions may be simulated if variable frequency drives (VFD) were installed in the upstream Arroyo Grande Lift stations. VFDs control the lift station motor so that the pumps continuously run to match flow output to flow input.

5.3 Conclusions / Recommendations

Overall results show that the capacities of District trunk lines for existing and future flows are adequate, except for three potential problem areas (see Appendix D for the map that identifies these areas) as follows:

- 18" trunk line beginning at the corner of Manhattan Street and Pacific Blvd in Grover Beach
 - This trunk line shows existing flows which approach the limits of design flow capacity during peak hour wet weather flow. Future analysis shows the potential for surcharging at manhole #340. Solutions such as decreasing the I/I in the trunk sewer system, should be investigated to abate this future problem. Also, flow monitoring is recommended to confirm the hydraulic peaking factors used in this study. Once the flow monitoring confirms the accuracy of the hydraulic model, further recommendations will need to be made at that time.
- 18" trunk line (Sewer Farm Trunk Line) at Bakeman Lane near the Oceano/West Arroyo Grande border
 - This trunk line is deep, around 25' at one point, and is located in an easement surrounded by a dense residential development and improvements in the easement. Along with these challenges, the trunk line is also reported to be sagging, and there is debris in the line restricting flow. This study recommends immediate solutions to mitigate this problem. *See the full discussion of this recommendation in chapter 6.*
- 12" trunk line at Fair Oaks lane near Hwy 101 in Arroyo Grande.
 - This trunk line is owned by the City of Arroyo Grande. A capital improvement plan for this stretch of trunk line is outlined in the Arroyo Grande Wastewater Master Plan, adopted November 13, 2001.

Recommendations:

- 2300-ft of 12" VCP Trunk Line along Fair Oaks Ave near Hwy 101 at Arroyo Grande needs to be upgraded by the City of Arroyo Grande, as recommended in the Arroyo Grande Wastewater Master Plan.
- 18" trunk sewer line near Bakeman Lane
 - Debris removal and pipe cleaning.
 - Flow monitoring upstream and downstream of the vicinity of the sag should be performed to observe the hydraulic conditions during peak flows.
 - Possible construction of a by-pass relief sewer should be considered if these maintenance measures do not mitigate the problems. *See the full discussion of this recommendation in chapter 6.*
 - The City of Arroyo Grande has a disposal station that is located upstream of the 18" trunk sewer line near Bakeman Lane. A new location to receive these flows through the Southside trunk system should be considered; a possible location is at Valley Road near Fair Oaks Ave.
- Video of District trunk system – Video of the trunk system was filmed during February 2004, but was only partially completed because of manhole inaccessibility within certain areas of the system – approximately 30 manholes are inaccessible. Appendix H shows a map of current sewer video information.
- Flow monitoring – conduct flow monitoring at various locations to verify modeled flows and assumptions. For example, Grover Beach MH#340 should be monitored where all the flows from Grover Beach converge in the 18" trunk line. Grover Beach has grown considerably in the last 3 years and updated wastewater flow data is needed.
- Work with each respective entity (Oceano Community Services District, City of Arroyo Grande, City of Grover Beach) to implement a comprehensive infiltration/inflow (I/I) program to reduce wet weather flows by 25% or more. The City of Arroyo Grande's Wastewater System Master Plan calls for inflow studies upstream of Lift Station #3 in its Capital Improvement Plan. Such programs are required by the Regional Water Quality Control Board in the Districts existing waste discharge requirements.
- Variable Frequency Drives (VFD) be installed in lift stations that are upstream of the 18" trunk sewer line near Bakeman Lane. *See more detailed discussion of this recommendation in section 6.6.*

It is intended that the findings in this report will enable staff to proceed with recommendations that will ensure continued capacity within the District Trunk Sewer System.

Chapter 6 presents a more in depth discussion of the recommendations to the 18" trunk sewer located near and parallel to Bakeman Lane in the form of a feasibility study.

6. BAKEMAN LANE BY-PASS RELIEF TRUNK SEWER FEASIBILITY STUDY

Within the SSLOCSD trunk sewer system, there are observed flow capacity problems within the stretch of trunk lines within the Sewer Farm Trunk system near Bakeman lane that extends on through The Pike. Results from the Arroyo Grande Wastewater Master plan (AGWWMP) , this Trunk Sewer Capacity analysis , and observations and analysis from SSLOCSD staff, indicate the need to restore trunk sewer capacity in this area. The 18" Bakeman trunk line conveys all of the sewage flows from West Arroyo Grande. A solution for continued flow capacity is needed to preserve existing capacity, and accommodate future developments that will be serviced by this stretch of trunk sewer. Staff was authorized by the Board to conduct a feasibility study for improving the 18" Bakeman Lane trunk sewer line.

6.1 Alternatives

The following alternatives assume that the 18" Bakeman Lane Trunk sewer will either need to be replaced or that a by-pass relief sewer be constructed.

A common approach to solving sewage capacity flow problems within trunk mains is to construct a relief sewer main parallel to the problem trunk main. This conventional alternative is not feasible in this case because the vicinity of the Bakeman Lane trunk sewer is virtually inaccessible due to location and depth. A large portion of the trunk sewer is located within a mobile home park and the depths of this stretch of sewer approaches 30-feet. The first construction alternative considered is known as pipe bursting. The second alternative is construction of a relief trunk sewer that would by-pass the problem Bakeman Lane trunk sewer line with another trunk sewer along South Elm Street and the Pike. These alternatives are discussed below.

- **Alternative 1 - Pipe Bursting**

Pipe bursting would make it possible to upgrade the existing sewer from 18" to a 21" diameter HDPE gravity sewer pipe and still meet the slope requirements. This method breaks the existing pipe and pulls the replacement pipe in place of the old. This alternative, although possible, does not appear to be feasible in this case. The drawbacks are summarized in the following:

- The geotechnical report shows highly compacted sand that would make pipe bursting unfavorable.
- The pipe bursting method, when employed in densely pack material, may adversely affect the residences nearby due to possible cracking of siding and drywall from vibrations.
- Inaccessibility of the manholes are a major drawback since construction will require that these manholes be accessed.
- This construction method will not repair the sag problem.

- **Alternative 2 - By-pass relief sewer**

The most feasible alternative is to construct a by-pass relief sewer in an alternative alignment. Since this is a proposed by-pass relief sewer trunk line, it is intended that the existing 18" trunk line remain in service.

The remainder of this chapter summarizes the feasibility analysis of Alternative 2. The proposed alignment of the Bakeman Lane by-pass relief gravity sewer begins at the corner of Fair Oaks and South Elm Street, proceeding south along South Elm Street, then at the intersection of South Elm and The Pike, proceed west along The Pike until it ties in to the sewer manhole near Tamara Street (the proposed end of connection). Please refer to the attached Figure 6-1. There does not appear to be any other feasible alignments. Other alignments would traverse residential areas, and/or would extend length and thus reduce flow capacity and velocities in the trunk sewer.

6.2 General Site Observations

These observations were made on April 2, 2004, Friday between 9:30am and 10:30am:

- At Fair Oaks Ave and South Elm Street, there is a park to the west. The existing trunk line proceeds west from this intersection. South Elm Street is a 4 lane commercial street; ac pavement is in good condition; in fact, the City of Arroyo Grande overlaid this road within the last two years. Mainly condominiums and apartments are on both sides of the street. The street slopes gently in the southerly direction.
- Southbound South Elm Street slopes upward as it crosses Farroll Ave then downward as it crosses Pacific Pointe Way until the intersection at The Pike.
- At The Pike and South Elm Street, the proposed alignment continues westbound along The Pike. The Pike is a 2 lane street with bike lanes on both sides; ac pavement is in good condition (this road has also been overlaid within the last two years) lined on both sides with residential housing.
- The existing trunk sewer MH where the proposed by-pass relief alignment would connect is located at The Pike near Tamara St, in front of North Oceano Elementary School.
- Tamara Street and 23rd Street are both narrow 2 lane residential streets; ac pavement is in good condition. Alignments down these streets were considered undesirable.
- South Elm Street and The Pike are the recommended alignments for the proposed by-pass relief sewer; other streets were investigated but access was limited.
- Utility maps show the width of the South Elm Street right-of-way as 80' and the width of the Pike right-of-way varies from 50' to 70'.

6.3 Utility Issues

The following summarizes utility information within the proposed sewer alignment.

Water utilities:

- The 8" ACP Lopez Water Line runs southbound along the western side of South Elm Street and at the intersection of The Pike proceeds westbound along the northern side of The Pike.
- On South Elm Street, a 10" Arroyo Grande Water Main runs parallel to the 8" Lopez line and proceeds east at the South Elm/The Pike intersection.
- The 6" Oceano water main connects to the 8" Lopez line at South Elm and Lancaster Dr. and both the Oceano 6" main and the 8" Lopez line continues southbound then proceeds westbound at the South Elm/ The Pike intersection. The 6" main runs along the northern side and the 8" Lopez line along the southern side of The Pike.

Sewer Utilities:

- A 10" VCP and 8" VCP gravity sewer run along most of South Elm Street.
- A 8" VCP gravity sewer runs along The Pike.

Gas Utilities:

- Gas lines run along the entire lengths of interest for both South Elm Street and The Pike.

PG&E Utilities:

- There are underground power lines along South Elm Street. The number and location of these lines must be verified before construction.
- There are no underground power utilities along The Pike.

These utility locations are schematically depicted on the utility drawings collected from each utility agency. The exact locations would need to be verified during detailed design. Although there are a moderate amount of utilities within this proposed alignment, there is adequate space for design and placement of a new trunk sewer alignment within the road rights-of-way.

6.4 General Analysis

Table 6-1 presents the Tract Map update for Arroyo Grande which shows the developments that are either under construction or are making progress towards construction. Except where noted, these developments follow the Land Use and Zoning map of the Arroyo Grande General Plan 2001, which was the data referenced by the Arroyo Grande Wastewater Master Plan to estimate future sewer flows. In the area of interest, the updated AG tract map varies little with the 2001 AG General Plan; therefore, the hydraulic sewer analysis from the AG Wastewater Master Plan and the SSLOCSO Trunk Sewer Study can be applied to this study.

Table 6-1 – Developments at West Arroyo Grande¹

Development	Location	Status
Long's Drugs, Starbucks, Panda Express	Courtland St and Grand Ave, SE corner	Under Construction
Santa Lucia Bank	Courtland St and Grand Ave, NW corner	Under Construction
Tract 2338 – 26 SFR homes	Stonecrest Dr and El Camino Real	Under Construction
Commercial Building	El Camino Real, north of Brisco Rd	Under Construction
Tract 2236 – 20 SFR homes	Rodeo Dr. north of West Branch St.	Plan Check
Tract 1998 – 40 SFR homes ²	La Canada and James Way	EIR Review ²
20 Condos	James Way, east of Oak Park Blvd	Plan Check
40 Senior Apartments	Camino Mercado north of West Branch	Approved
5 Professional office bldgs	Camino Mercado near West Branch St.	Plan Check
Tract 2240 – 9 units	South Elm St. near Fair Oaks Ave.	Completed
Tract 2471 – 9 SFR homes	Grand Ave between Oak Park Rd and Courtland St.	Plan Check
108 Senior Apartments	Courtland St between Brighton and Grand Ave	Plan Check
Tract 2532 – 8 units	Ash St, east of South Elm St	Plan Check
Tract 2505 – 47 units	Ash St near Courtland St	Plan Check
Notes: 1. These flows will have influence on the Bakeman Lane Trunk Sewer. 2. The Arroyo Grande Wastewater Master Plan, adopted in November 2001, designates this as open space. Assuming that this subdivision will be approved, Appendix G shows an additional 7000 gallons per day added to the Future flow analysis. These flows enter the SSLOCSD trunk system at Fair Oaks and South Elm Street; which means that these flows would flow into the proposed by-pass relief trunk line or existing Bakeman Lane trunk.		

Table 6-2 summarizes the existing and proposed flows through the trunk system.

Flows enter the 18" Bakeman trunk line from two main areas (see Figure 6-1):

1. At the Fair Oaks/South Elm Street connection
2. At the connection where the 18" trunk line changes direction from west to south which is at the northeast corner of Tract 2310.

Table 6-2 – Trunk Sewer Conditions with Future Peak Flows¹

Trunk Sewer and Conditions	Peak Flow (gpm)
Future flows to Bakeman Ln 18" Trunk Sewer	2000 ^{1,5}
18" Bakeman Ln Trunk sewer with S. Elm St/The Pike By-pass Relief Trunk in operation ¹	900 ²
Proposed South Elm St/The Pike By-pass Relief Trunk Sewer ³	1100 ⁴
Notes: 1. These peak flows are future flows projected by the Arroyo Grande Wastewater Master Plan, adopted November 2001. 2. These are projected future flows that would continue to flow through this existing trunk line; since these flows connect downstream from where the proposed by-pass relief sewer alignment would connect. 3. See Appendix G for hydraulic analysis for each proposed trunk sewer diameter options. 4. These are the future flows projected by the Arroyo Grande Wastewater Master Plan that flows to the connection point of the proposed by-pass relief trunk line. 5. These are what the future flows would be to this existing 18" trunk line if no by-pass relief sewer were constructed.	

Table 6-3 - General Information for Proposed By-Pass Relief Sewer Alignment			
	Location	Approximate Top of Grade Elevation (ft)	Approximate Invert Elevation (ft)
Beginning of by-pass	South Elm / Fair Oaks Ave	78.0	73.5
End of by-pass	The Pike (near Tamara St)	83.5	60.2

The information in Table 6-3 was obtained from SSLOCSD Trunk Sewer Plan and Profile record drawings.

1. The total estimated length of the proposed by-pass trunk line is 3700 linear feet.
2. The elevation drop of the manhole inverts at the beginning and end of the proposed alignment is estimated at 13 ft. This would give an average slope of about 0.35%.

Appendix G at the end of this report presents a hydraulic analysis for trunk sewer options of various diameters for both existing and future conditions. It is recommended that a trunk sewer diameter of 21" be used; this allows more capacity, but also provides full build-out capacity should the Bakeman trunk sewer fail in the future. The SSLOCSD trunk system diameter reverts to 18" at the connection point at The Pike/Tamara Street. Even though the proposed by-pass relief sewer is a larger diameter, the hydraulic analysis as shown in the SSLOCSD Trunk Sewer Capacity Study shows that there is adequate flow capacity within the existing trunk sewers from this point of connection to the Wastewater Treatment Plant. The larger diameter proposed by-pass relief sewer will allow for future flows as shown on Table 6-1.

The criteria for capacity is the ratio of depth of flow (d) to diameter of pipe (D) for peak flow. A d/D ratio of 0.90 is a recommended design criteria for peak flows within large diameter (18" and over) trunk sewers. Once the proposed by-pass relief trunk sewer is in place, the existing trunk sewer will convey peak flows at less than 50% of its current capacity. The reduced flow within the existing 18-inch trunk sewer will be well within its calculated design capacity; but, this condition will need to be monitored because the sagging problem will cause this stretch of sewer to behave differently from calculated hydraulic analysis. This sagging trunk line can be a maintenance issue because of solids deposition. Additional future developments that are out of scope of the current land use and zoning analysis from the Arroyo Grande Wastewater Master Plan are recommended to tie in

to the proposed by-pass sewer.

6.5 Cost Estimates

This sub-section presents the cost estimate for the by-pass relief sewer alignment.

Budget cost estimates were prepared for this project with the following assumptions:

- The Arroyo Grande Wastewater Master Plan, adopted November 2001, is referenced for estimating the gravity sewer construction costs.
- The costs are estimated in Year 2004 dollars with an Engineering News Record (ENR) construction cost index of 7311 (November 2004).

A. By-pass relief sewer alignment cost estimate

It is assumed that half of the South Elm Street right-of-way will need to be resurfaced at 1.5" thick overlay.

Table 6-5– Construction Cost Summary – By-Pass Relief Sewer Alignment		
Pipe Diameter	Estimated Depth	Estimated Cost
21'	less than 10 feet	\$160 /LF
21'	10 to 15 feet	\$170 /LF
21'	over 15 feet	\$200 /LF
Cost for 3,700-LF of Sewer Pipe		\$740,000
Asphalt Re-Surfacing ¹ @ \$2.50 / SF		\$370,000
Pavement Striping ² @ \$1.10 / LF		\$4,070
Subtotal		\$1,114,070
Contingency at construction 25%		\$275,520
Design, Construction Management, Administration @ 40%		\$445,630
TOTAL ESTIMATED CONSTRUCTION COST		\$1,835,220
Note: 1. Based on County of SLO approved unit costs, adjusted for June 2004. Assumes AC grinding and 1.5" asphalt overlay of 40' wide (which is approximately half of the road) over the 3,700 length of road. 2. Based on County of SLO approved unit costs, adjusted for June 2004.		

6.6 Conclusion

Future flow (Appendix F, Table 4) conditions for the existing 18" Bakeman Lane Trunk Line shows an acceptable 85% d/D at PHWWF when gravity flow conditions apply (i.e. upstream lift stations are off or the upstream lift station pump flow output equals flow input). As upstream lift station pumps cycle on and off at the flow rate of each particular lift station, a plug flow is generated which increases the anticipated PHWWF. Gravity flow conditions can be maintained if the lift station motors are controlled by variable frequency drives (VFD). In the case of the Bakeman Lane Trunk Sewer, upstream Lift Station 1 in Arroyo Grande contributes the most flows. At the time of this report, it is confirmed¹ that upstream Lift Station #7 will be abandoned and its flows converted to gravity flow. Design plans to upgrade Lift Station 1 are in progress and a VFD will be included in the design.

The City of Arroyo Grande has a disposal station that is located upstream of the 18" Bakeman trunk sewer. Relocation of this disposal site should be considered. A location that would convey these flows through the east trunk system is preferable. Such a location is at Valley Road near Fair Oaks Ave.

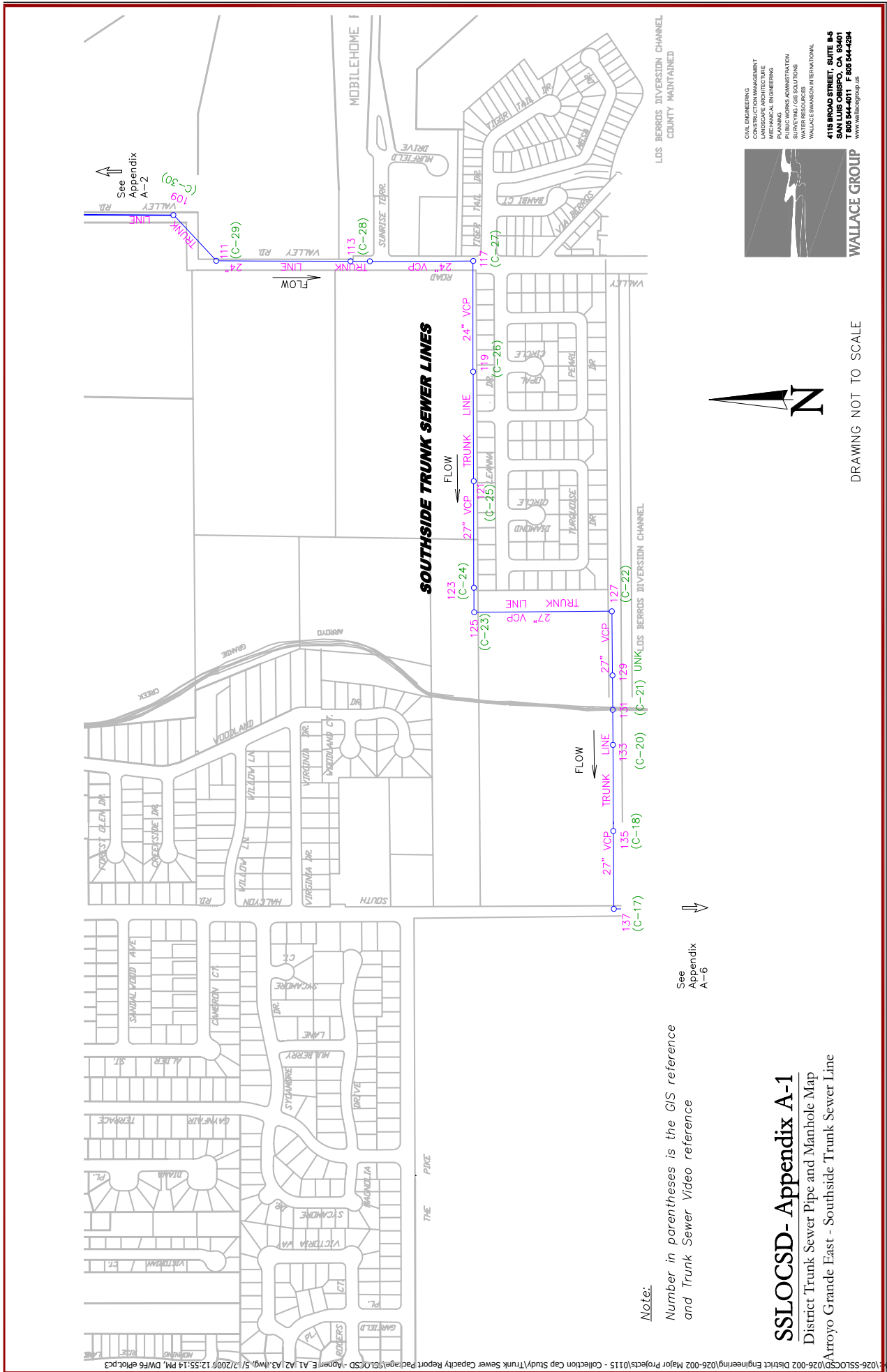
The Bakeman Lane trunk sewer slope is very flat (0.0184%) and it also contains a sag. Sewer video information show that debris is causing up to 50% blockage at some sections. Inaccessibility issues make it difficult to service these areas. Such conditions also make it difficult to predict the hydraulic conditions within this trunk sewer. If these conditions can be mitigated, new construction may be avoided. It is highly recommended that efforts to remove this debris be pursued as soon as possible.

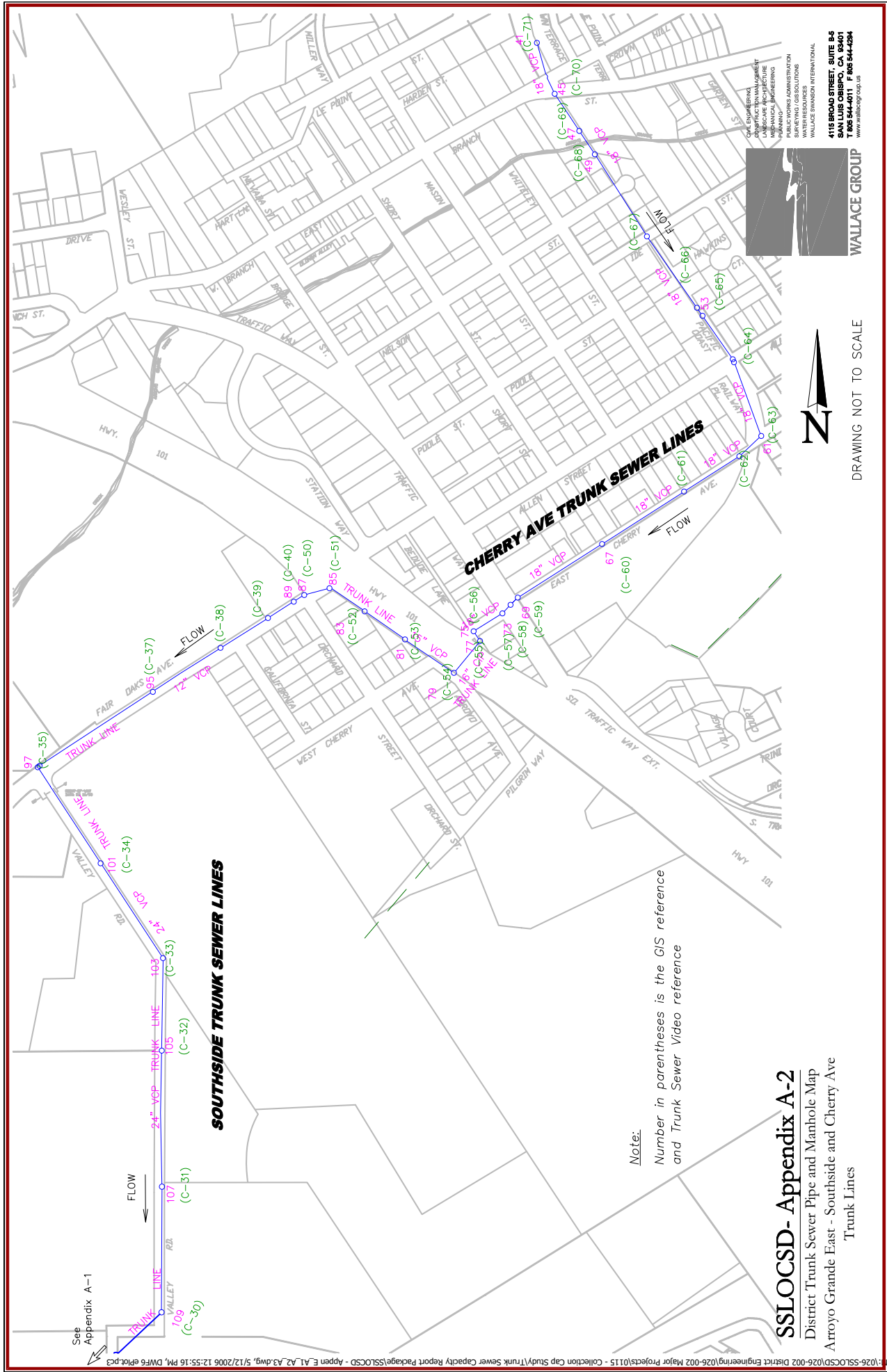
This chapter concludes that construction of a by-pass sewer alignment (along South Elm Street and The Pike) is feasible – although costly. Utility coordination and traffic control are issues that can be addressed in more detail during design phase. The estimated total costs (see Table 6-5) for this gravity by-pass sewer line by conventional trench construction is about \$1,835,220.

Flow capacity to the 18" Bakeman Lane trunk line needs to be improved, but the urgency of this improvement is driven by additional wastewater flows from new developments within the West Arroyo Grande area. The 18" trunk line can function marginally if no new additional flows impact this line.

¹ Confirmed by Shane Taylor, City of Arroyo Grande Public Works Superintendent, June 29, 2004

Appendices





See Appendix A-1

FLOW

SOUTHSIDE TRUNK SEWER LINES

CHERRY AVE TRUNK SEWER LINES

Note:
Number in parentheses is the GIS reference
and Trunk Sewer Video reference

SSLOCSD- Appendix A-2
District Trunk Sewer Pipe and Manhole Map
Arroyo Grande East - Southside and Cherry Ave
Trunk Lines



DRAWING NOT TO SCALE



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See
Appendix
A-6
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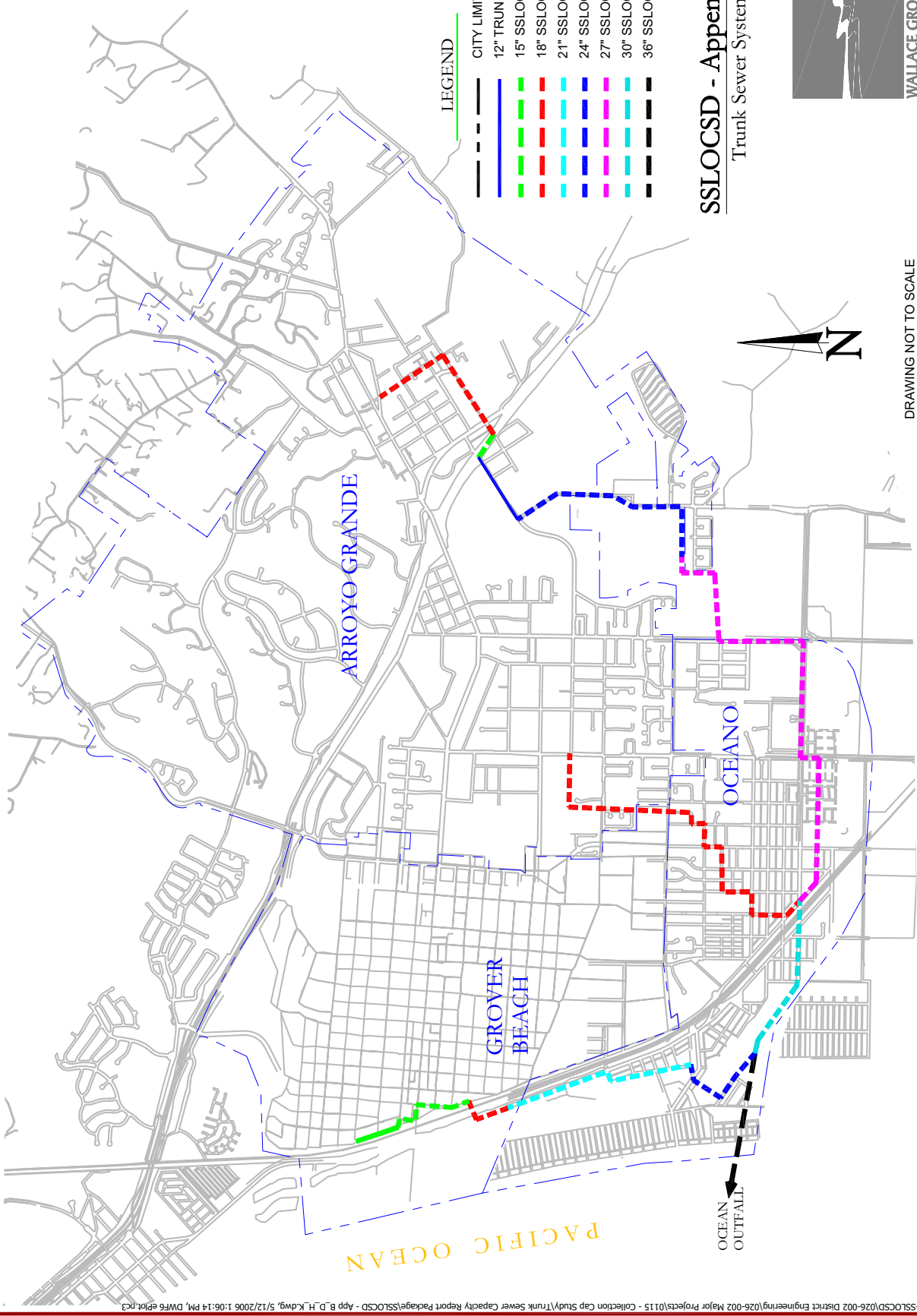


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4115 BROAD STREET, SUITE B-5
SAN LUIS OBISPO, CA 93401
T 805 544-4011 F 805 544-4294
www.wsi-usa.com



LEGEND

- CITY LIMITS
- 12" TRUNKLINE MAINTAINED BY AG
- 15" SSLOCSD TRUNKLINE
- 18" SSLOCSD TRUNKLINE
- 21" SSLOCSD TRUNKLINE
- 24" SSLOCSD TRUNKLINE
- 27" SSLOCSD TRUNKLINE
- 30" SSLOCSD TRUNKLINE
- 36" SSLOCSD TRUNKLINE

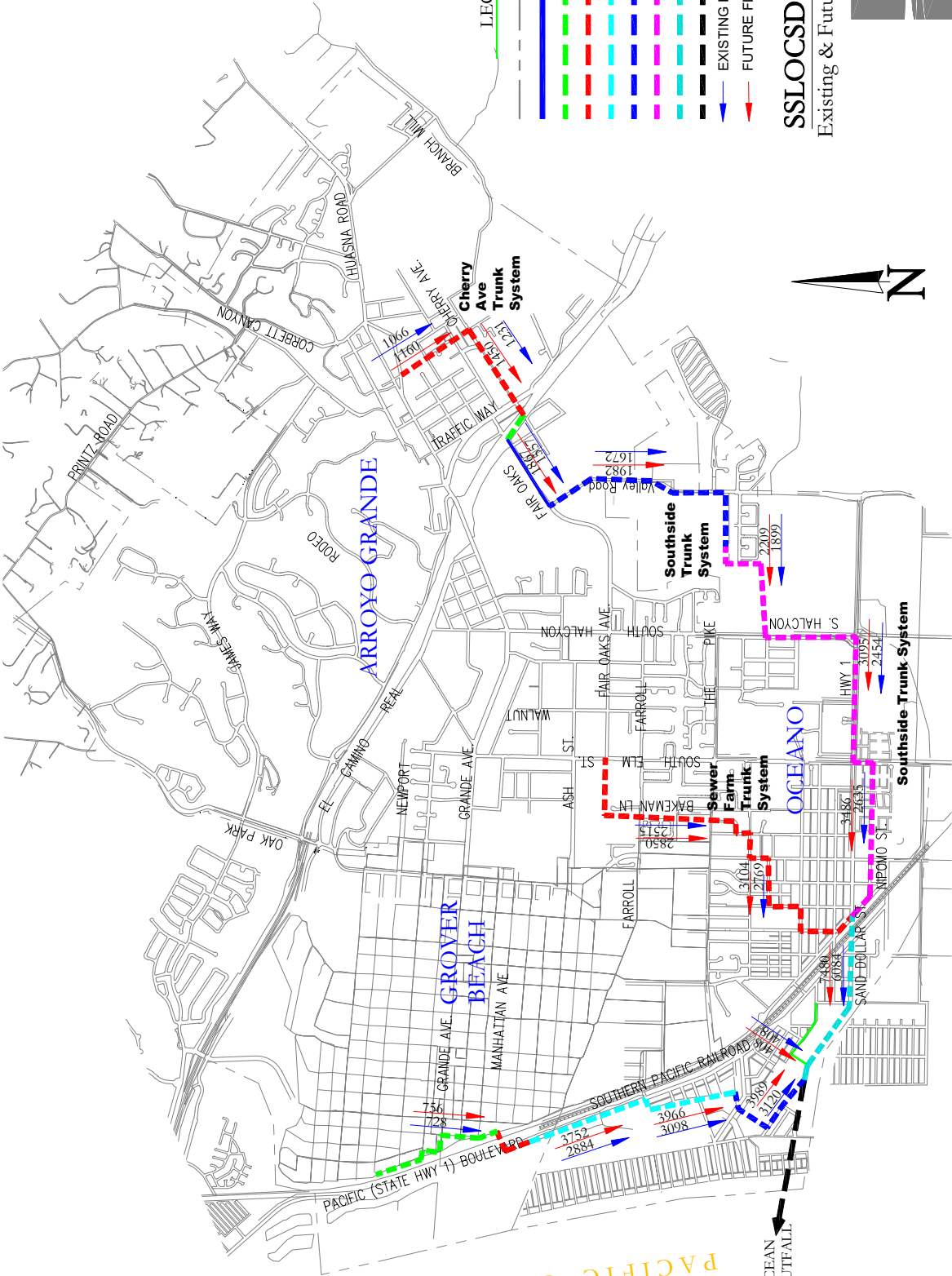
SSLOCSD - Appendix B

Trunk Sewer System

CIVIL ENGINEERING
 ENVIRONMENTAL MANAGEMENT
 LANDSCAPE ARCHITECTURE
 MECHANICAL ENGINEERING
 ELECTRICAL ENGINEERING
 PUBLIC WORKS ADMINISTRATION
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WALLACE GROUP

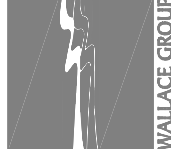
DRAWING NOT TO SCALE



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- 30" SSLOCSD TRUNKLINE
- 36" SSLOCSD TRUNKLINE
- EXISTING FLOW (in 1000 gpd)
- FUTURE FLOW (in 1000 gpd)

SSLOCSD - Appendix C
Existing & Future Flow Conditions



CIVIL ENGINEERING
ENVIRONMENTAL MANAGEMENT
LANDSCAPE ARCHITECTURE
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