

MCKINLEYVILLE COMMUNITY SERVICES DISTRICT SANITARY SEWER MANAGEMENT PLAN

Prepared for:
McKinleyville Community Services District
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INTRODUCTION

This Sewer System Management Plan (SSMP) has been prepared in compliance with requirements of the State Water Resource Control Board (SWRCB) pursuant to Order No. 2006-0003, Statewide General Waste Discharge Requirements (WDR) for Sanitary Sewer Systems. The WDR requires development and implementation of a written SSMP, and defines eleven mandatory SSMP elements. The WDR also defines associated monitoring, record keeping, reporting, and public notification requirements.

The McKinleyville Community Services District's (MCSD's) SSMP has been prepared with the assistance of Freshwater Environment Services (FES), as described in the agreement between the MCSD and FES dated December 27, 2010. This initial SSMP will become a living document, and should be updated as needed to reflect changes to the SSMP elements. The intent of this SSMP is to meet the requirements of the Statewide WDR.

This document presents eleven elements in the order presented in the WDR:

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

As contained in the MCSD National Pollution Discharge Elimination System (NPDES) permit, the MCSD (or District) owns and operates a secondary treatment facility. The treatment system consists of four aerated ponds followed by a treatment wetlands. During the discharge season, which extends from October 1 through May 14, wastewater is discharged from Discharge Point 001 to the Mad River, a water of the United States within the Blue Lake hydrologic area 109.10 and to percolation ponds adjacent to the Mad River Estuary when the flow in the Mad River is less than 200 cubic feet per second (cfs). During summer, a portion of the wastewater treatment plant effluent is used to irrigate the Hiller storm water treatment marsh where it provides moisture to sustain wetland vegetation through the dry season. Runoff producing rainfall events cause the Hiller storm water treatment marsh to overflow into an unnamed tributary to the Mad River estuary. Prior to the onset of the wet season and storm water overflows from the marsh, the wastewater application to the treatment marsh is ceased and the treatment marsh is allowed to dry through evaporation and evapotranspiration.

ELEMENT 1: GOALS

The intent of this section is to identify the goals that the District has established for its SSMP. These goals are intended to provide focus for District staff to continue proactive management of its wastewater collection system.

1.1 Regulatory Requirements for the Goals Element

The WDR requires that the SSMP goals focus on proper management, operation, and maintenance of all parts of the sanitary sewer system. This will help reduce and prevent Sanitary Sewer Overflows (SSOs), as well as mitigate any SSOs that do occur.

1.2 SSMP Goals

The goals of the MCSD's SSMP include:

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

ELEMENT 2: ORGANIZATION

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

2.1 Regulatory Requirements for the Organization Element

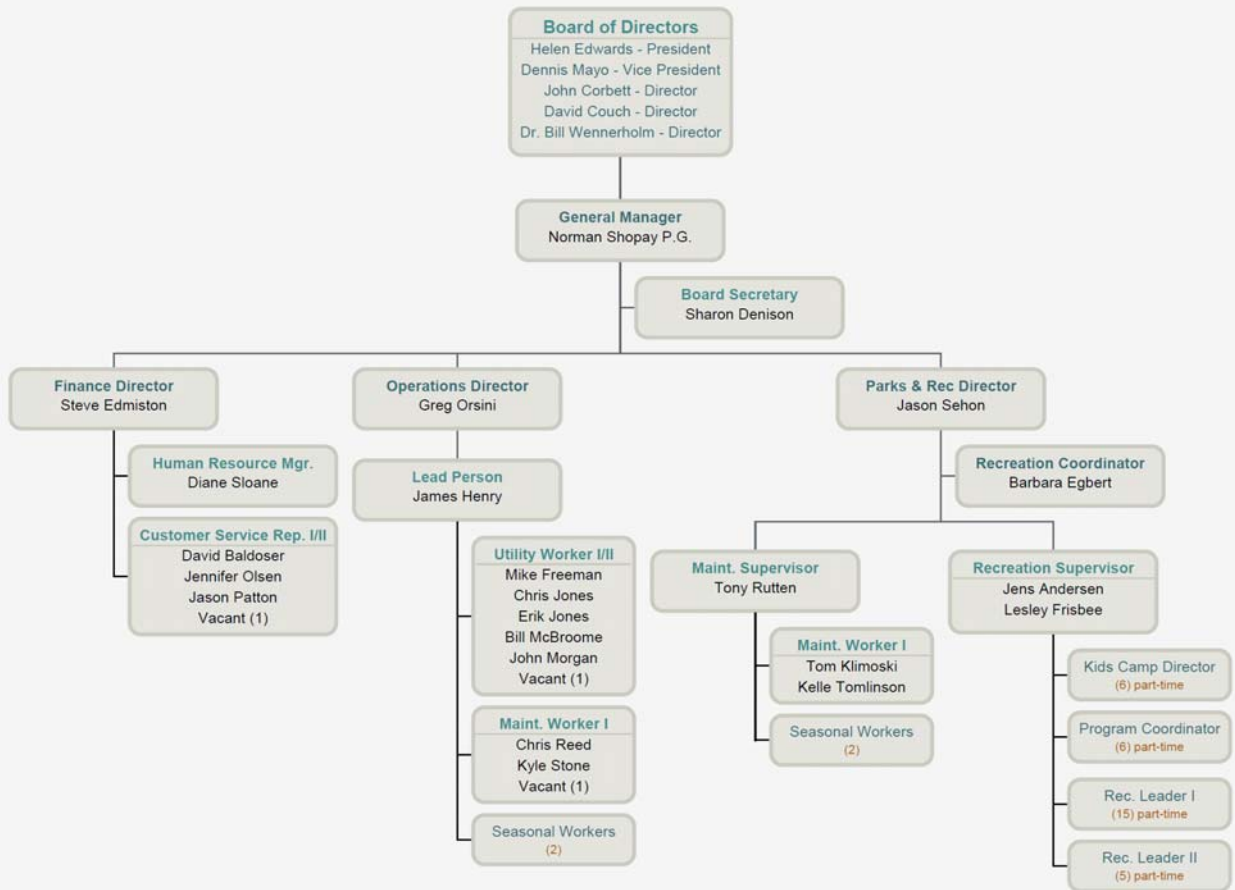
The WDR requires that the Organization element of the SSMP provides the following:

- The name of the responsible or 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 document with a narrative explanation; and
- The chain of communication for reporting SSOs, from receipt of a complaint or other information, including the person responsible for reporting SSOs to the State and Regional Water Boards and other agencies if applicable.

2.2 Organization

The portion of the District's organization chart related to management, operation, and the maintenance of the wastewater collection system is shown on the next page:

McKinleyville Community Services District
Organizational Chart (Fiscal Year 2011/2012)



A description of the roles for wastewater collection system agency staff is described below:

MCSD Board of Directors – Establishes policy.

General Manager – Enforces policy, plans strategy, directs staff, allocates resources, delegates responsibility. Along with the Operations Director, the General Manager authorizes outside contractors to perform services. The General Manager provides relevant information to the Board of Directors.

Operations Director – Manages field operations and maintenance activities, provides relevant information to the General Manager, prepares and implements contingency plans, participates in emergency response, investigates and reports SSOs, and trains field crews.

Lead Person – Oversees preventive and corrective maintenance activities, mobilize and respond to notification of stoppages and SSOs.

Contract Engineer – MCSD utilizes the services of several local and regional engineering and environmental consulting firms on as an needed basis to provide a wide range of technical support services.

Position	Name	Phone Number
General Manager	Norman Shopay	(707) 839-3251
Operation Director	Greg Orsini	(707) 839-3251
Lead Person	James Henry	(707) 839-3251
Utility Workers	9 individuals and 2 seasonal	(707) 839-3251

2.3 Authorized Representative

The General Manager, Norman Shopay, is the Legally Responsible Official (LRO) that prepares, certifies and submits electronic spill reports to the RWQCB and SWRCB and to notify other government agencies.

2.4 SSO Reporting Chain of Communication

Sanitary system overflow (SSO) detection, notification, response and reporting processes will be described in Element 6.

The regulatory notification responsibility is as follows;

1. First responder (Utility Worker) collects field documentation and provides it to the Lead Person.
2. Lead Person reviews the field documentation and provides it to the Operations Director.
3. The Operations Director reviews the field documentation and prepares the necessary electronic submittals and notifications.
4. The electronic submittals are reviewed by the General Manager and certified.
5. Notifications are made by the Operations Director under the delegated authority of the General Manager.

ELEMENT 3: LEGAL AUTHORITY

This element of the SSMP discusses the District's Legal Authority, including its Rules and Regulations and agreements with other agencies. This section fulfills the Legal Authority requirement for the WDR (Element 3).

3.1 Regulatory Requirements for the Legal Authority Element

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

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

3.2 MCSD Legal Authority

MCSD Rules and Regulations

The legal authority required for the SSMP is contained within the District's Rules and Regulations. Article III of the MCSD Rules and Regulations "Sewer Services" is dedicated to the sewer system, and is included in (Appendix A). The specific Rules and Regulations that satisfy the requirements of the SSMP are identified below:

- Regulation 17. - General Provisions - Sewer;
- Regulation 18. - Use of Public Sewers Required;
- Regulation 19. - Permits And Fees;
- Regulation 22. - Building Sewers, Lateral Sewers, and Connections;
- Regulation 23. - Community Sewer Construction;
- Regulation 24. - Use of Public Sewers;
- Regulation 26. - Discharge Report, Wastewater Discharge Permits, and Administration;
- Regulation 29. - Enforcement;
- Regulation 30. - Abatement; and
- Regulation 31. - Wastewater Capital Reserve Fund.

Portions of the above Regulations are discussed in the following sub-sections as they pertain to prevention of illicit discharges, proper design and construction of sewer and connections, maintenance access, and enforcement measures.

The District has adopted the most recent version of the Unified Plumbing Code as part of the MCSD Standards and Specifications. The District is in the process of updating the MCSD Rules and Regulations. All discussions in the following sub-sections on the District's legal authority, as required by the SSMP, are based on the District's existing Rules and Regulations as of the date of this plan.

Prevention of Illicit Discharges

Measures prohibiting illicit discharges are included in MCSD Rules and Regulation Article III, Sewer Use, Regulation 24, Use of Public Sewers, and Regulation 26 Discharge Report, Wastewater Discharge Permits and Administration. The specific Rules regarding prevention of illicit discharges are discussed in the sections below

Stormwater and I/I. The following Rules prohibits discharge of uncontaminated water, including stormwater, into a sanitary sewer through direct or indirect connection:

- Rule 24.02 Prohibitions on Storm Drainage and Ground Water;
- Rule 24.03 Prohibition on Unpolluted Water; and
- Rule 22.07 Cleanouts (All cleanouts shall be maintained watertight).

Industrial Waste. Regulation 26, "Discharge Report, Wastewater Discharge Permits and Administration", requires major contributing industry to obtain a permit and prohibits discharge in excess of the permit allowance. The permit issued may require pretreatment or include other provisions for wastewater quality and quantity. Additional prohibitions related to the discharge of industrial waste are listed below:

- Rule 24.01 Prohibitions on Discharge;
- Rule 24.04 Limitations on Radioactive Waste;
- Rule 24.05 Limitations on Use of Garbage Grinders;
- Rule 24.06 Limitations on Point of Discharge;
- Rule 24.07 Holding Tank Waste;
- Rule 24.08 Limitations on Wastewater Strength;
- Rule 24.09 Disposal of Unacceptable Waste;

Proper Design and Construction of Sewers and Connections

Regulations pertaining to the design, construction, and inspection of building sewers and connections are included in Article III of the MCSD Rules and Regulations.

- Permit Required. A permit is required prior to constructing a building or lateral sewer or connecting to a public sewer (Rule 19.01, Rule 22.01, and Rule 23.01).
- Design and Construction Requirements. Regulation 22, Building Sewer, Lateral, Sewers, and Connections, and Regulation 23, Community Sewer Construction specifies design and construction requirements. The specific Rules regarding design and construction standards are included in Rule 22.02 through 22.10 and Rule 23.09. The MCSD does have Standard District Specifications that are available at the District Office.

- Inspection and Testing. All building sewers and laterals must be inspected by the duly authorized employee of the District, per Rule 19.07. All building sewers and laterals must be tested by the duly authorized employee of the District, per Rule 22.13.

Maintenance Access

Rule 26.04 requires that property owners shall allow the District or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection or sampling or in the performance of any of their duties.

Limit Discharge of FOG and Other Debris

Rule 24.08.2 established a limit of 300 mg/L fats oils and greases of animal or vegetable origin. The following Rules limits the introduction of FOG into the MCSD collection system:

- Rule 24.10 Interceptors Required;
- Rule 24.11 Preliminary Treatment of Wastes;
- Rule 24.12 Maintenance of Pretreatment Facilities;
- Rule 24.13 Availability of District Facilities;

Enforcement Measures

Regulation 29 established the authority for enforcement of the MCSD Rules and Regulations including issuance of Cease and Desist Orders. Regulation 30 established the authority for abatement of public nuisances including civil liability, penalties and authority for termination of service.

Control of I/I from a Satellite Collection System

The SSMP requirements state that the District must demonstrate that it has the legal authority to control I/I into its collection system, including I/I from satellite systems. MCSD does not have a satellite collection system.

3.3 Agreements with Other Agencies

The SSMP requirements for legal authority are fulfilled by MCSD's Rules and Regulations. The District does not have legal agreements with any other agencies.

ELEMENT 4: OPERATION AND MAINTENANCE PROGRAM

4.1 Regulatory Requirements for the Operations and Maintenance Program Element

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

- The District must maintain an up-to-date map of the sanitary sewer system, showing all gravity line segments, manholes, pumping facilities, pressure pipes, valves, and applicable storm water conveyance facilities;
- The District must describe routine preventive operation and maintenance activities by staff and contractors; including a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The Preventive Maintenance program should have a system to document scheduled and conducted activities, such as work orders;
- The District must develop a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency. The program should include regular visual and TV inspections of manholes and sewer pipes, and a system for ranking the condition of sewer pipes and scheduling rehabilitation. Rehabilitation and replacement should focus on sewer pipes that are at risk of collapse or prone to more frequent blockages due to pipe defects. Finally, the rehabilitation and replacement plan should include a capital improvement plan that addresses proper management and protection of the infrastructure assets. The plan shall include a time schedule for implementing the short-term and long-term plans plus a schedule for developing the funds needed for the capital improvement plan;
- The District must provide equipment and replacement part inventories, including identification of critical replacement parts; and
- The District must provide training on a regular basis for staff in sanitary sewer system operations, maintenance, and require contractors to be appropriately trained.

4.2 Maps

The MCSD maintains a set of sanitary sewer system maps utilizing Computer Assisted Drafting (CAD) and Geographic Information System (GIS) software. The sanitary sewer system maps are updated with new and rehabilitated facilities by MCSD staff on an annual basis. Currently Humboldt County is working on mapping the storm water features in McKinleyville. Electronic copies of the maps are maintained at the field office. Hard copies of these maps are kept in the field office and in utility trucks and are used to locate and identify wastewater and storm drainage structures and to aid in the response to a SSO. When the storm water mapping data is available from Humboldt County, the District plans on having these two data sets merged into a GIS platform and will generate a combined wastewater and storm drainage atlas which will be utilized in the office and in the field.

4.3 Preventive Operations and Maintenance Program

The wastewater treatment plant (WWTP) performs a variety of scheduled, preventive, predictive, and breakdown maintenance on a diverse spectrum of equipment is managed using asset management software SEMs. The main goal of maintenance activities is to ensure equipment availability and reliability to meet plant process operation requirements.

The District prioritizes its preventive maintenance activities. The preventive maintenance program includes compiling and maintaining a list of areas within the system that require repeated maintenance, referred to as “trouble spots”. The preventive maintenance program includes scheduled hydro-cleaning of the trouble spots list, regular inspection of lift stations, manholes and flows, and investigation of customer complaints.

Gravity Sewers

The District currently uses in-house services for routine and emergency sewer cleaning as needed.

The primary focus of the District’s preventive maintenance activities is on sediment that accumulates in the bellies (low spots or sags in the collection system) of the sewer main forming trouble spots. Accumulations of Fats Oils and Greases is the secondary cause of restrictions in the gravity sewers. The MCSD maintains a list of trouble spots. Preventive maintenance on the trouble spots are performed and documented quarterly and semi-annually. The District maintains data tables indicating the manhole that was entered, direction of hydro-cleaning and observations. An example quarterly and semi-annual hydro-cleaning schedules and documentation is included in Appendix B.

Lift Stations and Force Mains

The District’s force mains O & M program consists of periodic inspections and corrective maintenance activities conducted by District staff. Flow inspections are made periodically from the manholes located at the intersection of the force main and the gravity sewer line. The location of the manholes permits access for upstream cleaning of the force mains. Documentation of manhole inspections is contained in Appendix C.

The District’s WWTP staff is responsible for the District’s five lift stations. The District performs daily and weekly inspections of each lift station. Weekly inspections include cycling the valves, purging bubblers and recording pump hours in the lift station notebooks. Every two weeks backup generators at the lift stations are tested. Monthly lift station inspections are comprehensive and includes verification of all systems, battery charge and site inspection. Quarterly all wet wells at the lift stations are cleaned. Documentation of lift station inspections is contained in Appendix D.

The Supervisory Control and Data Acquisition (SCADA) computer system records and stores alarms automatically. The lift stations currently have Programmable Logic Controls (PLCs) that communicate alarms via radio to the SCADA computer in the District office, which utilizes a computer autodialer to call the on call pager after hours.

Root Control

The District has very few problems with roots throughout the system. There are three locations where roots cause issues. One pipe was excavated and repaired and two manholes currently have root intrusion.

Odor Control

The District receives very few odor complaints per year. The complaints are most often in the area of treatment lagoons in Hiller Park due to low water levels. The District has no official odor control program in place.

Non-Routine Maintenance

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

Special Needs Maintenance

The District has a hot spots sewer cleaning program for identified problematic line segments to prevent blockages and SSOs with a quarterly and semi-annual cleaning cycle. Frequencies of cleaning cycles may be adjusted based on the observations during the sewer cleaning. The frequency will be shortened for line segments with moderate to heavy accumulations and extended for line segments with lesser accumulations.

Emergency Maintenance

The District's collection system facilities have periodically experienced blockages and/or SSOs that require unplanned maintenance under emergency conditions. The District has developed emergency response procedures contained within Element 6.

Information Systems/Data Collection

The District currently tracks assets and maintenance activities with an electronic work order system and assets management software published by SEMS Technology (SEMS Software Suite).

4.4 Rehabilitation and Replacement Program

The District utilizes a combination of inspection activities to assess the condition of sewer assets including:

- Routine (daily) aboveground inspections of the collection system facilities, and lift stations to identify defects, damage or other identified problems;
- CCTV is used for inspections of trouble spots, any new installation, and 11 months after installation of new connections;
- Manhole inspections are completed every two years,
- A capacity analysis model is currently being developed by SHN Consulting Engineers & Geologists (SHN); and
- Smoke testing and dye testing is used based on manhole inspections to monitor and reduce I/I.

Given the relative young age of the MCSD collection system (less than 25 years) the District currently does not have any identified rehabilitation and replacement projects. When problems are encountered the policy is to "fix when found". Fixed assets are tracked and funding is allocated annually for sewer asset upgrades.

4.5 Training

The WWTP has developed a comprehensive Operator Training Program that expands the abilities of the operational staff, resulting in better service to the public. WWTP operating staff attends the trainings. The MCSD has a matrix indicating staff, certifications, renewal dates, and

continuing education requirements that is maintained by Human Resources staff. The MCSD offers numerous in-house training programs and participates in the California Water Environmental Association (CWEA) certification program which requires ongoing continuing education to maintain certifications. MCSD has weekly safety meetings.

The trainings include:

- CPR;
- First Aid;
- 40 hour Hazardous Waste Operators Certification;
- Chlorine Safety;
- Driver Safety;
- Blood borne pathogen training;
- Confined Space Entry;
- Trenching Training;
- Back Safety;
- Excavation shoring;
- Sexual harassment training;
- Flagging Training; and
- Lockout/Tagout procedures.

The status of operator certification at the treatment plant for 2011 include three Grade IIs, and four Grade I operators.

4.6 Contingency Equipment and Replacement Parts Inventory

The District has a wastewater equipment inventory list contained in Appendix E. The District currently has equipment on hand to bypass sewer failures and lift station failures, such as portable pumps, and quick connections for hoses. MCSD maintains an inventory of basic replacement parts including oil filters and air filters. Additional equipment or critical replacement parts can be acquired locally from equipment rental companies or can be overnight delivered from various vendors. The District has enough replacement parts to rebuild the pumps at all of the lift stations if necessary.

ELEMENT 5: DESIGN AND PERFORMANCE PROVISIONS

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

5.1 Regulatory Requirements for the Design and Performance Provisions

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

- The District must have design and construction standards and specifications for the installation of new sewer systems, lift stations and other appurtenances; and for the rehabilitation and repair of existing sewer systems; and
- The District must have procedures and standards for inspecting and testing the installation of new sewers, pumps, and other appurtenances and for rehabilitation and repair projects.

5.2 Standards for Installation, Rehabilitation and Repair

The MCSD complies with this provision of the WDR through the use of the MCSD Rules and Regulations as listed below.

Regulation 22 Building Sewers, Lateral Sewers, And Connections

Rule 22.02 Design and Construction Requirements

Design and construction of building sewers and lateral sewers shall be in accordance with the rules, regulations and ordinances of the District.

Regulation 23 Community Sewer Construction

Rule 23.09 Design and Construction Standards

Minimum standards for the design and construction of sewers within the District shall be in accordance with the applicable provisions of the ordinances, rules, and regulations heretofore or hereinafter adopted by the District, copies of which are on file in the office of the General Manager.

In addition the MCSD maintains a Board approved set of Standards and Specification with details that was revised and approved in 2003. The MCSD has the goal of updating the Standards and Specification by 2013.

The MCSD Standard Specifications dated 2003 indicates the following:

- The District hereby adopts the Uniform Plumbing Code (latest edition) as a guide and supplement to this regulation. Any item not covered herein shall be referred to the code for a determination.

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

The MCSD complies with this provision of the WDR through the use of the MCSD Rules and Regulations as listed below.

Rule 22.06. Old Building Sewers

Old building sewers may be used in connection with new buildings only when they are found, upon examination and test by the Manager, to meet all requirements of the District.

Rule 22.13. Testing

All building sewers and lateral sewers shall be tested in strict accordance with rules, regulations and ordinances of the District.

RULE 23.11. Completion Of Sewer Required

Before acceptance of any sewer line by the District and prior to the admission of any wastewater into the system, the sewer line shall be tested and shall be complete in full compliance with all requirements of the accepted specifications and to the satisfaction of the Manager.

ELEMENT 6: OVERFLOW EMERGENCY RESPONSE PLAN

The intent of this section of the SSMP is to document the District's Overflow Emergency Response Plan (OERP) contained in Appendix F.

6.1 Regulatory Requirements for the Overflow Emergency Response Plan

The District shall develop and implement an Overflow Emergency Response Plan that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all SSOs in a timely manner;
- A program to ensure appropriate response to all overflows;
- 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 in accordance with the Adopted Amended Monitoring and Reporting Requirements State Water Resources Control Board Order Number WQ 2008-0002-EXEC. All SSOs shall be reported in accordance with this Order, the California Water Code, other State Law, and other applicable Regional Water Board WDR or National Pollution Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification;
- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- 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 the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

6.2 Goals

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

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

6.3 SSO Notification Procedure

The processes that are used to notify the District of the occurrences of an SSOs are contained in Section 2.0 of the OERP (Appendix F).

6.4 SSO Response Procedures

The overflow response procedures that are employed by the District are contained in Section 3.0 of the OERP (Appendix F).

6.5 Public Notification

The public notification processes that are employed by the District are contained in Section 3.6 of the OERP (Appendix F).

6.6 Water Quality Sampling and Testing

Water quality sampling and testing procedures that are employed by the District are contained in Section 3.7 of the OERP (Appendix F).

6.7 SSO Investigation and Documentation

SSOs investigation and documentation procedures are contained in Section 4.0 of the OERP (Appendix F).

6.8 SSO Reporting

The internal and external reporting process for SSO events are contained in Section 5.0 of the OERP (Appendix F).

6.9 Equipment

A description of the equipment used to respond to SSOs is contained in Section 5.0 of the OERP (Appendix F).

6.10 Training

A Description of the training to support the OERP is contained in Section 5.0 of the OERP (Appendix F).

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

The intent of this section of the SSMP is to document the District's FOG Program and identify program additions.

7.1 Regulatory Requirements for the FOG Program

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

- An implementation plan and schedule for a public education outreach program that promotes proper disposal of FOG;
- 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;
- The legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG;
- Requirements to install grease removal devices (such as traps or interceptors) design standards for the grease removal devices, maintenance requirements, BMP requirements, record keeping and reporting requirements;
- Authority to inspect grease producing facilities, enforcement authorities, and whether the District has sufficient staff to inspect and enforce the FOG ordinance;
- An identification of sewer system sections subject to FOG blockages and establish a cleaning maintenance schedule for each section; and
- Development and implementation of source control measures, for all sources of FOG discharged to the sewer system, for each sewer system section identified above.

7.2 Public Education and Outreach Program

The MCSD provides public education and outreach during monthly interceptor inspections conducted by MCSD staff. MCSD provides additional FOG information to the community through inserts in their billings, monthly newsletter and on the District webpage.

7.3 FOG Source Control

The MCSD has an active and successful FOG source control program that includes monthly inspections that are documented by MCSD staff. If it is determined by the Inspector that an interceptor need maintenance the Lead Person provides a verbal notice to maintain (pump and remove contents of the interceptor). Documentation of MCSDs FOG inspections is included in Appendix G . If an interceptor is continually in need of maintenance the Lead Person can require an increased maintenance frequency. Following the notice to maintain an interceptor the operator must fax a copy of documentation that the interceptor has been maintained.

7.4 Disposal of FOG

Currently there are three FOG haulers in the area including Footprint Recycling, North State Rendering, and Steve's Septic. FOG generated within the MCSD sanitary sewer service area will be transported for disposal by one of the three above listed haulers.

7.5 Legal Authority for FOG Program

MCSD Regulation 24, Rule 24.08.2 prohibits discharge of oil and grease to a public sewer in concentrations greater than 300 mg/L. MCSD Regulation 24 Rule 24.10 of the MCSD Rules and Regulations requires an interceptor when necessary and also includes requirements for maintaining interceptors.

7.6 Requirements to Install Grease Removal Devices

The MCSD Regulation 24 Rule 24.10 requires an interceptor when necessary and includes requirements for maintaining interceptors.

7.7 Authority to Inspect Grease Producing Facilities

The MCSD Regulation 24 Rule 24.10.05 contains the authority for the District to inspect grease producing facilities.

The MCSD Regulation 26 Rule 26.04 additionally contains the authority for the District to inspect any user.

7.8 Identification of Grease Problem Areas and Sewer Cleaning

The MCSD maintains a list of trouble spots, primarily caused by low spots in the sewer mains. Preventive maintenance on the trouble spots are performed and documented monthly. Examples of the trouble spot list and documentation are included in Appendix B.

ELEMENT 8: SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

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

8.1 Regulatory Requirements for the System Evaluation and Capacity Assurance Plan

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

- **Evaluation:** The District must identify actions needed to evaluate those portions of the sewer system that are experiencing or contributing to an SSO discharge caused by hydraulic deficiency. The evaluation must provide estimates of peak flows, estimates of the capacity of key system components, hydraulic deficiencies, and the major sources that contribute to the peak flows associated with overflow events.
- **Design Criteria:** Where design criteria do not exist or are deficient, the agency should undertake the evaluation identified in the Evaluation section above to establish appropriate design criteria.
- **Capacity Enhancement Measures:** The agency must identify the steps needed to establish a short- and long-term Capital Improvement Plan (CIP) to address identified hydraulic deficiencies including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I/I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding.
- **Schedule:** The agency shall develop a schedule of completion dates for all portions of the CIP developed in the Evaluation, Design Criteria and Capacity Enhancement Measures sections above. This schedule shall be reviewed and updated at least every five years.

8.2 Capacity Evaluation

The District is working with SHN Engineers and Geologists to develop a hydraulic model of the MCSD sanitary sewer collection system. MCSD has a goal of having the hydraulic model completed by December 2013. The resulting model will document the condition and capacity of the existing wastewater infrastructure, determine future facility requirements, and develop recommendations for near-term and longer-term improvements.

8.3 Recommended Capacity Projects

The MCSD sanitary sewer collection system is relatively young (less than 25 years) and the District currently has identified the following capacity projects;

- Line 5 between manholes (MH) 5-2 and 5-3;
- Line 6.3 between MH 6-17 and MH 6-6; and
- Line 6 between MH 6-3 and MH 6-4.

When problems are encountered the policy is to "fix when found". Fixed assets are tracked and funding is allocated annually for sewer asset upgrades. Following completion of the hydraulic model some capacity projects may be identified.

8.4 Schedule

The District has identified specific areas (listed above) that will require capacity expansion of the collection system if funding is available. If funding is not available, it is planned and approved during the next fiscal year.

ELEMENT 9: MONITORING, MEASUREMENTS, AND PROGRAM MODIFICATIONS

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

9.1 Regulatory Requirements for the Monitoring, Measurements, and Program Modifications

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

- Maintain relevant information that can be used to establish and prioritize appropriate SSMP activities;
- Monitor the implementation and, where appropriate, measure the effectiveness of each element of the SSMP;
- Assess the success of the preventive maintenance program;
- Update program elements, as appropriate, based on monitoring or performance evaluations; and
- Identify and illustrate SSO trends, including: frequency, location, and volume.

9.2 Monitoring Information

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

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

9.3 Performance Measures

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

- Total number of SSO locations per 100 miles of sewer;
- Volume of spilled wastewater recovered (million gallon (MG) per year) compared to total volume of wastewater spilled (MG/yr); and
- Volume of spilled wastewater discharged to surface waters (MG/yr) compared to total volume of wastewater spilled (MG/yr).

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

Additional performance measures include programs that the MCSD is developing for implementation as a result of the SSMP development process. These programs include:

Future Activity and Schedule	Completion Date
<ul style="list-style-type: none"> When the storm water mapping data is available from Humboldt County, the District has a goal of having these two data sets merged into a GIS platform and will generate a combined wastewater and storm drainage atlas which will be utilized in the office and in the field. 	2013
<ul style="list-style-type: none"> The District has the goal of updating the District constructions Standards and Specification by 2013. 	2013
<ul style="list-style-type: none"> The District has the goal of completing the development of a hydraulic model used to evaluate system capacity by December 2011 	December 2011

9.4 Performance Monitoring and Program Changes

The SSMP should be updated periodically to maintain current information, and programs need to be enhanced or modified if they are determined to be less effective than needed. The District will annually evaluate the performance of the wastewater collection system using the performance measures listed in Section 9.3. The District will review the successes and needed improvements of the SSMP as part of the SSMP biannual audit, described in Element 10.

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

ELEMENT 10: SSMP PROGRAM AUDITS

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

10.1 Regulatory Requirements for the SSMP Program Audits

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

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

10.2 SSMP Audits Discussion

The District will audit its SSMP every two years. The first audit will be completed prior to March 1, 2013 and will cover calendar years 2011 and 2012. The audit will determine whether the SSMP meets the current requirements of the WDR, whether the SSMP reflects the District's current practices, and whether the District is following the SSMP.

The audit will be conducted by a team consisting of the MCSD Staff. The audit team may also include, outside agencies, and/or contractors. The scope of the audit will cover each of the sections of the SSMP.

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

The District will update its SSMP at least every five years. The first update will be completed on or before March 1, 2016.

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

The District Staff will seek the approval from the District Board of Directors for any significant changes to the SSMP. The authority for approval of minor changes such as employee names, contact information, or limited procedural changes is delegated to the Operations Director.

ELEMENT 11: COMMUNICATION PLAN

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

11.1 Regulatory Requirements for the Communication Plan

The WDR requirements for the Communication Plan element of the SSMP are summarized below:

- The District 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 District as the program is developed and implemented; and
- The District shall create a plan of communication with systems that are tributary and/or satellite to the District's sanitary sewer system.

11.2 Communication Plan

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

- **District Website** – The District will evaluate the use of a webpage on the District's existing website to facilitate the transfer of information to the public regarding the SSMP. This webpage would include the entire SSMP, audit performance information, and associated information. The webpage would also serve as a venue for soliciting input from the public on the SSMP.
- **Quarterly Newsletter** – An annual notice regarding the sanitary sewer system performance can be included in the quarterly newsletters. The notice would contain general SSMP information. The notice could also refer the customers to the District website for additional details, if an SSMP webpage is implemented.
- **Notices in Public Spaces** – Notices of the SSMP project could be posted and handouts made available in public spaces such as the District Office and library. Information will reference the District's website with additional information.
- **Board of Directors Meetings** – Board of Directors Meetings are public meetings. General SSMP information and updates on sanitary sewer system performance could be added as a regular discussion item on the Board of Directors agenda.

APPENDIX A
MCSD ARTICLE III RULES AND REGULATIONS

ARTICLE III - PUBLIC SEWER

REGULATION 17. - GENERAL PROVISIONS - SEWER

Rule 17.01. PURPOSE AND POLICY. This wastewater Discharge Ordinance sets uniform requirements for discharges into the wastewater collection and treatment system and enables the District to comply with the administrative provisions of the Clean Water Grant Regulations, the water quality requirements set by the Regional Water Quality Control Board and the applicable effluent limitations, national standards of performance, toxic and pre-treatment effluent standards, and any other discharge criteria which are required or authorized by State or Federal law, and to derive the maximum public benefit by regulating the quality and quantity of wastewater discharged into the Authority and District systems. This Ordinance provides a means of determining wastewater volumes, constituents and characteristics, the setting of charges and fees, and the issuance of permits to certain users. Revenues derived from the application of this Ordinance shall be used to defray the costs of operating and maintaining adequate wastewater collection and treatment systems and to provide sufficient funds for capital outlay, bond service costs, capital improvements, and depreciation.

Rule 17.02. VIOLATION UNLAWFUL. It shall be unlawful for any person whose building is required to be connected to a public sewer under this Ordinance to connect to, construct, install or provide, maintain and use any other means of sewage disposal from said building except by connection to a public sewer in the manner as in this Ordinance provided.

Rule 17.03. RELIEF ON APPLICATION. When any person, by reason of special circumstances, is of the opinion that any provision of this Ordinance is unjust or inequitable as applied to their premises, they may make written application to the Board of Directors, stating the special circumstances, citing the provision complained of, and requesting suspension or modification of that provision as applied to their premises.

If such application be approved, the Board may, by resolution, suspend or modify the provision complained of, as applied to such premises, to be effective as of the date of the application and continuing during the period of the special circumstances.

Rule 17.04. RELIEF ON OWN MOTION. The Board may, on its own motion, find that by reason of special circumstances any provision of this regulation and Ordinance should be suspended or modified as applied to a particular premise and may, by resolution, order such suspension or modification for such premises during the period of such special circumstance, or any part thereof.

Rule 17.05. DISTRICT INSPECTOR. The Manager may personally perform or employ some fit and qualified person or persons to perform the duties of inspecting the installation, connection, maintenance and use of all side sewers, public sewers, and facilities in connection therewith in the District, to be known as the District Inspector.

Rule 17.06. SEWER PERMITS AND FEES. No public sewer, side sewer, building sewer or other sewerage facility shall be installed, altered or repaired within the District until a permit for the work has been obtained and all fees paid in accordance with the requirements of this Ordinance, and any other ordinance adopted by the Board of Directors.

REGULATION 18. - USE OF PUBLIC SEWERS REQUIRED.

Rule 18.01. TREATMENT OF WASTEWATERS REQUIRED. It shall be unlawful to discharge to any stream or watercourse any domestic or industrial wastewater or other polluted waters, except where suitable treatment has been provided in accordance with the provisions of this Ordinance.

Rule 18.02. UNLAWFUL DISPOSAL. Except as hereinafter provided, it shall be unlawful to construct or maintain any privy, privy vault, septic tank, cesspool, seepage pit or other facility intended or used for the disposal of wastewater.

Rule 18.03. SEWER REQUIRED. The owner of any proposed building to be situated within the District and abutting on any street in which there is now located or may in the future be located a public sewer of the District, is hereby required to connect, at their expense, said building directly with the proper public sewer in accordance with the provisions of this Ordinance provided that said public sewer is within three hundred (300) feet of the nearest point of the property line and the building is within one thousand (1,000) feet of the public sewer.

The owner of any existing building, provided with a lateral connection resulting from the Special Assessment proceedings or otherwise, shall connect to the public sewer within ninety (90) days after date of official notice to do so.

Rule 18.04. PRIVATE WASTEWATER DISPOSAL SYSTEMS. Where a public sewer is not available under the provisions of Section 3.03, or as determined by the Board of Directors, the building sewer shall be connected to a private wastewater disposal system complying with public health Ordinances of the County of Humboldt and applicable regulations of the California Regional Water Quality Control Board, North Coast Region.

DETERMINATION. Where in the opinion of the Board, public sewer service is not available in accordance with this Ordinance, due to lack of treatment facilities capacity available to the District, approval may be given for the interim use of private Wastewater disposal systems.

APPLICATION. When regular application is made for sewer service, and it is determined that treatment capacity is not available to provide service to the property, the owner must enter into an agreement with the District to provide for the following:

- (a) Apply for and secure a private wastewater disposal permit from the Humboldt-Del Norte County Health Department, and/or California Regional Water Quality Control Board.
- (b) Pay all applicable costs for the installation of a sanitary sewer connection.
- (c) Construct the building sewer within three (3) feet of the final connection point of the building.
- (d) Agree to abandon the private wastewater disposal system and make a final connection to the sanitary sewer within ninety (90) days of notice from the District that public sewer is available.

Rule 18.05. OCCUPANCY PROHIBITED. No building, industrial facility or other structure shall be occupied until the owner of the premises has complied with all rules and regulations of the District.

Rule 18.06. ABANDONED SEWAGE DISPOSAL SYSTEMS. Where a sewage disposal system is abandoned consequent to connecting with the public sewer, the applicant making the connection shall fill the abandoned septic tank as required by the County Health Officer within thirty (30) days from the time of connecting to the public sewer. Every abandoned building sewer or part thereof shall be plugged or capped in an approved manner within five (5) feet of the property line.

REGULATION 19. - PERMITS AND FEES

Rule 19.01. PERMIT REQUIRED. No unauthorized person shall uncover, make any connection with or opening into, use, alter, or disturb any community sewer or appurtenances or perform any work on any lateral or building sewer without first obtaining a written permit from the District and paying to the District the applicable permit fee.

Rule 19.02. APPLICATION FOR PERMIT. There shall be five (5) classes of permits:

- (a) Single Family Residence.
- (b) Multiple Dwellings.
- (c) Commercial, Industrial, School, Public and Other User Permit.
- (d) Public Sewer Construction Permit.
- (e) Sewer Alteration Permit and Trailer Court.

Any person legally entitled to apply for and receive a permit shall make such application on forms provided by the District for that purpose. They shall give a description of the character of the work proposed to be done and the location, ownership, occupancy and use of the premises in connection therewith. The Manager may require plans, specifications or drawings and such other information as may be deemed necessary.

If the Manager determines that the plans, specifications, drawings, descriptions or information furnished by the applicant is in compliance with the ordinances, rules and regulations of the District, a permit shall be issued upon payment of the required fees. The issuance of wastewater discharge permits to establishments producing industrial wastes shall be governed by the provisions of Regulation 26 of this Ordinance.

Rule 19.03. SEWER PERMITS. There shall be five (5) classes of permits requiring various fees, as follows:

- (a) Single Family Residence: \$30.00
- (b) Multiple Dwellings: \$30.00 plus \$2.00 per living unit up to 50 units (all over 50 units at \$1.00 per unit).

The fees charges for (a) and (b) above allows for one on-site inspection. Any follow-up inspections required will be charged to the applicant at cost.

(c) Commercial, Industrial, School, Public and Other User Permit: \$30.00 plus \$.25 per ft. over 100 feet of building sewer length.

(d) Public Sewer Construction Permit: \$30.00 plus an amount equal to 5% of the estimated Construction Cost shall be deposited prior to Commencement of Construction. Actual cost will be charged when the project is approved by the District.

(e) Sewer Alteration Permit and Trailer Court. \$30.00 - ONE CALL ONLY

Rule 19.04. PLAN CHECK FEES. A plan check fee in the amount of 2% of the estimated construction cost for main extensions and engineering review of subdivisions will be charged when an application for service is filed with the District. Actual Cost will be charged when the application is approved by the Board of Directors.

Rule 19.05. COMPLIANCE WITH PERMIT. After approval of the application, evidenced by the issuance of a permit, no change shall be made in the location of the sewer, the grade, materials, or other details from those described in the permit or as shown on the plans and specifications for which the permit was issued except with written permission from the District, the Manager or other authorized representatives.

Rule 19.06. AGREEMENT. The applicant's signature on an application for any permit shall constitute an agreement to comply with all of the provisions, terms and requirements of this and other ordinances, rules and regulations of the District, and with the plans and specifications filed with their application, if any, together with such corrections or modifications as may be made or permitted by the District, if any. Such agreement shall be binding upon the applicant and may be altered only by the District upon the written request for the alteration from the applicant.

Rule 19.07. ALL WORK TO BE INSPECTED. All sewer construction work shall be inspected by an inspector acting for the District to insure compliance with all requirements of the District. No sewer shall be covered at any point until it has been inspected and passed for acceptance. No sewer shall be connected to the District's community sewer until the work covered by the permit has been completed, inspected and approved by the Inspector. If the test proves satisfactory, the Inspector shall issue a certificate of satisfactory completion.

Rule 19.08. NOTIFICATION. It shall be the duty of the person doing the work authorized by permit to notify the Manager of the District in writing that said work is ready for inspection. Such notification shall be given not less than twenty-four (24) hours before the work is to be inspected. It shall be the duty of the person doing the work to make sure that the work will stand the tests required by the District before giving the above notification.

Rule 19.09. CONDEMNED WORK. When any work has been inspected and the work condemned and no certification of satisfactory completion given, the owner of the premises, or the agent of such owner, shall repair the sewer or other work authorized by the permit in accordance with the ordinances, rules and regulations of the District.

Rule 19.10. ALL COSTS PAID BY OWNER. All costs and expenses incident to the installation and connection of any sewer or other work for which a permit has been issued shall be borne by the owner. Such costs shall include the costs expended by the District for the installation of lateral sewers. These costs are in addition to any other connection permit fee required by this or any other ordinance of the District that provides for connection fees, rates and charges. The owner shall indemnify the District from any loss or damage that may directly or indirectly be occasioned by the work.

Rule 19.11. STREET EXCAVATION PERMIT. A separate permit must be secured from the State, County or any other person having jurisdiction thereover by owners or contractors intending to excavate a public street for the purpose of installing sewers or making sewer connections.

Rule 19.12. LIABILITY. The District and its officer, agents and employees shall not be answerable for any liability or injury or death to any person or damage to any property arising during or growing out of the performance of any work by any such applicant. The applicant shall be answerable for, and shall save the District and its officers, agents and employees harmless from, any liability imposed by law upon the District or its officers, agents, or employees, including all costs, expenses, fees and interest incurred in defending same or in seeking to enforce this provision. Applicant shall be solely liable for any defects in the performance of his work or any failure which may develop therein.

Rule 19.13. TIME LIMIT IN PERMITS. If work under a permit is not commenced within six (6) months from the date of issuance or if after partial completion, the work is discontinued for a period of one year, the permit shall thereupon become void and no further work shall be done until a new permit shall have been secured. A new fee shall be paid upon the issuance of said new permit.

REGULATION 20. - EXTENSION CHARGES

Rule 20.01. GENERAL. In general, those requiring service that requires a main extension to or in front of their property shall pay the entire cost of such service, which in some cases may be partially reimbursable if other parties connect, all as allowed by District Ordinance.

Upon application, the Manager will determine the cost of such extension and arrange for such extension, either by District or outside contract services. Upon approval by the Board, and upon advance of funds by the applicant for such work, the District will cause the work to be performed.

The District shall use, as a guide for the cost of such services, the average cost of initial installation for the District system modified by inflation, depth, paving, and ground conditions as determined by the Manager. If the work is to be accomplished by District forces, or by outside contract, the estimated cost will be placed on deposit prior to the commencement of work. Any actual difference in cost will either be refunded to the applicant or paid in addition by them prior to use of the main extension.

REGULATION 21. - CONNECTION CHARGES

Rule 21.01. GENERAL. It is hereby found and determined that it is necessary to reimburse the District for money advanced and to establish conditions of equality as to properties, either not assessed or by later occurring facts, deemed to have been under-assessed, during special assessment proceedings conducted by the District for the purpose of constructing sewer mains and facilities to serve properties within the assessment district created therefore when such non-assessed properties are permitted to connect to such sewer mains and facilities.

"Non-assessed properties" include, but are not limited to, portions of larger parcels which, at the time of assessment levy, were expected to continue in residential use by a single family but which are thereafter divided or segregated for separate residential use, either alone or in combination with other property, and may include properties which at the time of assessment levy, were owned by a government entity but which thereafter become privately owned. "Non-assessed properties" also include acreage whose later parceling or subdivision results in a larger number of direct connections to the system than was originally anticipated at the time of assessment, or may also be the result of any "more intensive" use than was contemplated by the original assessment levy.

Rule 21.02. CONNECTION CHARGE. The connection charge provided by this Ordinance shall be computed by the Manager based upon "what the share of the cost of said sewer main and facilities of the connecting property would have been had it been assessed in said proceedings, using the same formula as used in the assessment district for determining the assessment." The basis of the original assessment levy is as follows:

- (a) General area charge (all land within 600 feet of sewer main) = \$180.00 per acre.
- (b) Local area charge (all land within 200 feet of a sewer main = \$540.00 per acre,
- (c) Unit Charge
 - 1. Lateral Charge - 4 inch = \$1,200.00
 - Lateral Charge - 6 inch = \$1,425.00
 - 2. Local Sewer Availability - 4 inch = \$405.00
 - Local Sewer Availability - 6 inch = \$625.00

(d) Capacity Charge - \$1761.00 per Equivalent Residential Unit subject to adjustment as provided in Rule 1.21.

(e) Development intensity charge - per excess living unit with allowance of one living unit per one-half (1/2) acre of land = \$225.00 per unit.

(f) Example of application of above described charges: For a one-half (1/2) acre parcel of normal shape that falls entirely within the local and general area with a single dwelling unit constructed thereon, cost would be:

General area charge - \$180.00 x .5 acre = \$	90.00
\$540.00 x .5 acre	= 270.00
4 inch lateral	= 1,200.00
Sewer availability	= 405.00
Capacity charge	= <u>1,761.00</u>
Subtotal	= 3,726.00

(g) The connection charge for the addition of a secondary dwelling as defined by Humboldt County Ordinance No. 1633, Chapter 6.1 shall be the same as the local sewer availability charge for four - inch laterals as specified in subsection (c)2. above. If an additional lateral is required the full charge rate shall apply.

(h) Buy in capacity charge - For all lands added to the sewer service area the Manager shall collect the additional charges set forth in the respective Resolution amending the sewer service area in addition to the other charges described above.

(i) Connection charges do not include paving over trenches as required by Humboldt County Public Works Department. Paving costs are the responsibility of the developer.

Rule 21.03. DEVELOPMENT CREDIT. For subdivisions or main extensions wherein the owner constructs all of the local sewers at their own cost for connection to the District's system, a credit for such construction cost to be subtracted from the general connection charge may be made for all except the following:

- (a) The availability charge of \$405.00 per unit.
- (b) The intense land development charge of \$225.00 per excess unit.
- (c) The capacity charge.

REGULATION 22. - BUILDING SEWERS, LATERAL SEWERS AND CONNECTIONS

Rule 22.01. PERMIT REQUIRED. In accordance with Regulation 21 of this Ordinance, no person shall construct a building sewer, lateral sewer or make a connection with any public sewer without first obtaining a written permit from the District and paying all fees and connection charges as required therein.

Rule 22.02. DESIGN AND CONSTRUCTION REQUIREMENTS. Design and construction of building sewers and lateral sewers shall be in accordance with the rules, regulations and ordinances of the District.

Rule 22.03. MINIMUM SIZE AND SLOPE. The size and slope of the building sewer shall be subject to the approval of the Manager, but in no event shall the diameter be less than three (3) inches. The slope of such 3-inch pipe shall not be less than one-fourth (1/4) inch per foot, except where the grade may require a slope of 1/8-inch per foot, which may be installed only with District approval.

Rule 22.04. BUILDING DRAIN. Whenever possible, the building sewer shall be brought to the building at an elevation below the lowest floor. No building sewer shall be laid parallel to or within three (3) feet of any bearing wall

which might thereby be weakened. The building sewer shall be laid at uniform grade and in straight alignment in so far as possible. Changes in direction shall be made only with properly curved pipe fittings, with clean-outs at each 45-degree bend or more, and in general conformance with the "Uniform Plumbing Code."

Rule 22.05. SEPARATE SEWERS. No two adjacent buildings fronting on the same street (or corner) shall be permitted to join in the use of the same side sewer. Every building or industrial facility must be separately connected with a community sewer if such community sewer exists in the street upon which the property abuts or in an easement which will serve said property. However, two or more buildings located on property belonging to the same owner may be served with the same side sewer provided the property cannot be subdivided into smaller legal-sized lots. Upon the subsequent subdivision and sale of a portion of said lot, the portion not directly connected with such community sewer shall be separately so connected with a community sewer, and it shall be unlawful for the owner thereof to continue to use or maintain such indirect connection.

Rule 22.06. OLD BUILDING SEWERS. Old building sewers may be used in connection with new buildings only when they are found, upon examination and test by the Manager, to meet all requirements of the District.

Rule 22.07. CLEANOUTS. Cleanouts in building sewers shall be provided in accordance with all applicable rules, regulations and ordinances. All cleanouts shall be maintained watertight. Cleanouts shall comply with the Uniform Plumbing Code.

Rule 22.08. SEWER TOO LOW. In all buildings hereafter constructed in which any building sewer is too low to permit gravity flow to the community sewer, sanitary wastewater carried by such building sewer shall be lifted by artificial means, approved by the Manager, and discharged to the community sewer at the expense of the owner. In all buildings in which the floor level is below the elevation of the nearest manhole located upstream from the point at which the lateral sewer intersects the main, a backflow prevention device shall be installed in the building sewer at the expense of the owner.

Rule 22.09. JOINTS AND CONNECTIONS. All excavations required for the installation of a side sewer shall be open trench work unless otherwise approved by the Manager. Pipe laying and backfill shall be performed in accordance with the rules, regulations and ordinances of the District, except that no backfill shall be placed until the work has been inspected.

Rule 22.10. CONNECTION TO PUBLIC SEWER. The connection of the building sewer into the community sewer shall be made in strict accordance with standard District specifications and at the applicant's expense. The invert of the building sewer at the point of connection shall be at a higher elevation than the invert of the community sewer. A smooth neat joint shall be made and the connection made secure and watertight. The connection to the community sewer shall be made in accordance with the rules, regulations and ordinances of the District. Any work on community sewers and any work on lateral sewers done within a public right of way shall be performed by a duly licensed plumber or contractor under the inspection of the District. Any damage to the public sewer shall be repaired at the cost of the applicant to the satisfaction of the District.

Rule 22.11. PROTECTION OF EXCAVATION. All excavations for side sewer installation shall be adequately guarded by the applicant with barricades or lights so as to protect the public from hazard. Streets, sidewalks, parkways and other property disturbed in the course of the work shall be restored in a manner satisfactory to the District or any other person having jurisdiction thereover.

Rule 22.12. MAINTENANCE OF BUILDING SEWER. Building sewers shall be maintained by the owner of the property served thereby. In the event of stoppage, the owner shall be responsible for rodding the entire side sewer. The District will perform all other lateral maintenance.

Rule 22.13. TESTING. All building sewers and lateral sewers shall be tested in strict accordance with rules, regulations and ordinances of the District.

REGULATION 23. - COMMUNITY SEWER CONSTRUCTION

Rule 23.01. PERMIT REQUIRED. Any person legally entitled to apply for a permit shall make such application on forms provided by the District for that purpose. The application shall be reviewed by the Manager who shall determine if it is complete. Where the Manager deems the application to be complete, the Manager shall set consideration of the application on the agenda of an upcoming Board meeting. Where the Manager deems the application to be incomplete, the applicant shall submit the additional information itemized by the Manager until the Manager deems the application to be complete. Where the County of Humboldt has required the applicant to offer the dedication of property to MCSD as a condition of land use approval, the Manager shall not deem the main extension application to be complete unless the applicant has satisfied the assessment district formation application requirements of Rule 72.01 and Rule 72.02 of Regulation 72 of the District's Rules and Regulations. In accordance with Article IV of this Ordinance, no person shall construct, extend or connect to any community sewer without first obtaining a written permit from the District and paying all fees and furnishing bonds as required therein. The provisions of this Section requiring permits shall not be construed to apply to contractors constructing sewers and appurtenances under contracts awarded and entered into by the District.

Rule 23.02. PLANS, PROFILES and SPECIFICATIONS. The application for a permit for community sewer construction shall be accompanied by complete plans, profiles and specifications, complying with all applicable ordinances, rules and regulations of District prepared by a Registered Civil Engineer showing all details of the proposed work based on an accurate survey of the ground. The application, together with the plans, profiles and specifications, shall be examined by the Manager who shall approve them as filed or require them to be modified as he deems necessary for proper installation. After examination by the Manager, a permit shall be issued predicated upon the payment of all fees and furnishing bonds as required by the District. The permit shall prescribe such terms and conditions as the Manager finds necessary in the public interest.

Rule 23.03. SUBDIVISIONS. The requirements of Rule 23.01 and 23.02 of this Ordinance shall be fully complied with before any final subdivision map shall be approved by the County or District. The final subdivision map shall provide for dedication for public trail use of easements and right of ways in which community sewer lines are to be constructed where such use does not significantly threaten a sensitive natural resource and where the access is designated in a public agency adopted access/trail plan. If a final subdivision map of a tract is recorded and the work on constructing sewers to serve the tract is not completed within the time limit allowed in the permit, the Manager may extend the time limit or may complete the work and take appropriate steps to enforce the provisions of the bond furnished by the subdivider.

Rule 23.04. EASEMENTS OR RIGHTS OF WAY. In the event that an easement is required for the extension of the community sewer or the making of connections, the applicant shall procure and have accepted by the Manager proper easement or grant of right of way sufficient in width to allow the laying and maintenance of such extension or connection, normally 20 feet minimum.

Rule 23.05. PERSONS AUTHORIZED TO PERFORM WORK. Only properly licensed contractors shall be authorized to perform the work of community sewer construction within the District. All terms and conditions of the permit issued by the County and District to the applicant shall be binding on the contractor. The requirements of this Section shall apply to side sewers installed concurrently with community sewer construction.

Rule 23.06. GRADE STAKES. Grade and line stakes shall be set by a Registered Civil Engineer or Licensed Land Surveyor prior to the start of work on any community sewer construction. The contractor shall be responsible for accurately transferring grades to sewer invert.

Rule 23.07. COMPLIANCE WITH LOCAL REGULATIONS. Any person constructing a sewer within a street shall comply with all state and county laws, ordinances, rules and regulations pertaining to the cutting of pavement, opening, barricading, safety, lighting and protecting trenches, backfilling and repaving thereof and shall obtain all permits and pay all fees required by the department having jurisdiction prior to the issuance of a permit by the District.

Rule 23.08. PROTECTION OF EXCAVATION. The applicant shall maintain such barriers, lights and signs as are necessary to give warning to the public at all times that a sewer is under construction and of each dangerous condition to be encountered as a result thereof. The applicant shall also protect the public in the use of the sidewalk against any such conditions in connection with the construction of the sewer. Streets, sidewalks, parkways and other property disturbed in the course of the work shall be reinstalled in a manner satisfactory to the County and District and any other person having jurisdiction thereover.

Rule 23.09. DESIGN AND CONSTRUCTION STANDARDS. Minimum standards for the design and construction of sewers within the District shall be in accordance with the applicable provisions of the ordinances, rules, and regulations heretofore or hereinafter adopted by the District, copies of which are on file in the office of the Manager. The District may permit modifications or may require higher standards where unusual conditions are encountered.

"As-built" drawings showing the actual location of all mains, structures, Y's, T's, laterals and cleanouts shall be filed with the District before final acceptance of the work.

Rule 23.10. MAIN EXTENSION. The District will provide for all main extensions upon application for service. The applicant shall pay for the cost of the main to and across their frontage. Special provisions may be required for a corner lot or other irregular shaped lots and shall be determined by the Manager.

Normally the main shall be extended the same size as terminated or as a minimum eight (8) inch unless a waiver for short dead-end lines is allowed by the Manager, in which case a six (6) inch will be the minimum size required.

In the event the applicant is required to pay for the construction of a main extension across others property frontage where the property is already served by the District, the District may share in the cost of construction for that portion of the main extension, provided it is not a part of the applicants frontage. The District will share in the cost of construction only where it is the Manager's opinion the applicant can not reasonably expect a refund as provided in Rule 23 of this Ordinance.

The maximum District contribution toward construction costs will be fifty percent (50%) of the total construction cost, or One Thousand Two Hundred and Fifty Dollars (\$1,250.00), whichever is less.

The District will determine the fair and reasonable value for construction of said facilities.

The District will pay its share of construction costs when all facilities are completed in accordance with the District Standard Specifications and acceptance by the District.

The District will not be a party of any agreement, either verbal or written, by or between the applicant and their contractor.

The provisions of this section do not apply to Rule 6.03 of this Ordinance.

Rule 23.10.1. When a person applies to connect their property to a main extension previously paid for by another person as set forth above, such applicant shall pay to the District, in addition to all other charges, one-half of the actual original cost of the main extension across their street frontage, presuming they own property on one side of the street only. When such connection is made within ten years of the date of original connection of such extension to the District's system, the District shall, upon receipt of payment from such applicant, pay the amount so collected to the person who paid for the extension originally.

Rule 23.10.2. When a person applies for an additional or enlarged lateral to property that fronts on a main extension paid for by another owner subsequent to the date the applicant's property was originally connected to the system, such applicant shall pay the District one-half of the actual original cost of such main extension across his street frontage. When such additional or enlarged service is connected within ten years of the date of original connection, the District shall, upon receipt of payment from such applicant, pay the amount so collected to the person who paid for the main extension originally.

Rule 23.11. COMPLETION OF SEWER REQUIRED. Before acceptance of any sewer line by the District and prior to the admission of any wastewater into the system, the sewer line shall be tested and shall be complete in full compliance with all requirements of the accepted specifications and to the satisfaction of the Manager. Where the Applicant has applied to form an Open Space Maintenance Zone pursuant to Regulation 72 of the District's Rules and Regulations for the project, the District shall not consider acceptance of the facilities until the title to the donated property has been transferred and all conditions of the open space maintenance plan approval have been satisfied.

Rule 23.12. ZONES OF SPECIAL BENEFIT. The Board may, by resolution form zones of special benefit where service to a specific geographic area will entail extraordinary operating or maintenance costs that benefit only those properties in that specific geographic area. The resolution establishing each such zone shall describe the extraordinary operating and maintenance requirements, establish the initial annual zone-wide extraordinary operating and maintenance costs, determine the formula for division of annual costs among the properties within the zone, establish a monthly fee for each such property and direct staff to collect fees on the consolidated utility bill. The Board may amend the requirements, costs, formula and monthly fee by subsequent resolution to reflect any changes in the zone or the costs of providing extraordinary services to the zone. Where the Board has added new territory into the Sewer Service area, all lands within each such area shall constitute a zone of special benefit and all such lands shall pay the charges and fees set forth in the resolution adopted by the Board for those lands. Applicants may execute a development agreement

compatible with current state law and Board adopted policy in lieu of securing Board Acceptance of works prior to finalization of the subdivision map for the project. Where a development agreement is so executed, MCSD shall not activate sewer service to any portion of the subject property until all required improvements are installed to MCSD's satisfaction.

Rule 23.13. SEWER SERVICE AREA. The Board, by resolution, may establish the boundaries of the sewer service area. The initial resolution shall include all properties that are currently in the Sewer Collection System Assessment District administered by Humboldt County on behalf of the District.

Rule 23.14. EXPANSION OF SEWER SERVICE AREA. The Board, by resolution, may expand the boundaries of the sewer service area where the Board finds that the inclusion area

is contiguous to the existing sewer service area; that the inclusion will not result in islands of unserved property; that the applicant has paid all collection system, treatment system and disposal system buy in capacity charges and that the inclusion area is inside the District. Said resolution shall also establish one or more zones of special benefit. Where the area proposed for inclusion requires formation of one or more assessment districts to fund construction of sewer improvements, such assessment districts shall be formed prior to amendment of the sewer service area. The collection, treatment and disposal system buy in capacity charges shall be calculated by computing the existing sewer flow from the property and multiplying that flow times the then current annual buy in charge as set forth in a resolution to be adopted by the Board.

Rule 23.15. APPLICATION TO INCLUDE LANDS INTO SEWER SERVICE AREA. Any land owner may apply to the District to include properties in Sewer Service Area by submitting the completed form provided by the District along with a processing fee of \$100.00. Said application shall include a map of the area proposed for inclusion, a legal description of the area proposed for inclusion and a report prepared by a professional engineer projecting the sewer flows resulting from full buildout of the inclusion area, and describing the collection system needed to serve inclusion area full buildout sewer flows.

Rule 23.16. PROCESS FOR CONSIDERATION OF APPLICATION TO INCLUDE LANDS IN SEWER SERVICE AREA. When the Manager receives a complete application, the Manager shall set an agenda item on a subsequent Board agenda for Board consideration of the application. The manager shall submit said application and the Engineer's report along with a staff report projecting the buy in capacity charge for the proposed area. The Board shall review the application, the engineer's report and the Manager's report to determine if an assessment district is required to fund the works required to serve the full buildout of the inclusion area.

If no assessment district is required, the Board may consider adoption of a resolution amending the sewer service area or deny the application. Each such resolution shall establish a Zone of Special Benefit and require the payment of the adopted buy in capacity charge as a condition of adding the inclusion area into the sewer service area. If an assessment district is required, the Board may opt to initiate such an assessment district or deny the application. Should the Board agree to initiate such an assessment district, the Board may require the applicant to pay all legal, engineering, environmental and funding costs associated with the formation of said assessment district.

The Board may consider adoption of a resolution amending the sewer service area only after such an assessment district has been formed. Each such resolution shall establish a Zone of Special Benefit and require the payment of

the adopted buy-in capacity charge as a condition of adding the inclusion area into the sewer service area.

Rule 23.17. ADVANCE COSTS AND REFUNDS. When a person applies to connect their property to a main extension previously paid for by others, such applicant shall pay to the District, in addition to all other charges, one half of the actual original cost of the main extension across their street frontage, presuming they own property on one side of the street only. When such connection is made within ten years of the date of the original connection of such extension to the District's system, the District shall, upon receipt of payment from applicant, pay the amount so collected to the person who paid for the extension originally.

REGULATION 24. - USE OF THE PUBLIC SEWERS

Rule 24.01. PROHIBITIONS ON DISCHARGES. No person shall discharge wastes to a community sewer which cause, threaten to cause, or are capable of causing either alone or by interaction with other substances:

- (a) a fire or explosion;
- (b) obstruction of flow or injury to the treatment works;
- (c) danger to life or safety of personnel;
- (d) a strong offensive odor or prevention of the effective maintenance or operation of the treatment works;
- (e) air pollution by the release of toxic or malodorous gases or malodorous gas-producing substances;
- (f) interference with the wastewater treatment process;
- (g) the District's effluent or any other product of the treatment process, residues, sludges, or scums, to be unsuitable for reclamation and reuse or to interfere with the reclamation or treatment process;
- (h) a detrimental environmental impact or a nuisance in the Waters of the State or a condition unacceptable to any public agency having regulatory jurisdiction over the District.
- (i) discoloration or any other condition in the quality of the District's treatment works effluent such that receiving water quality requirements established by law cannot be met;
- (j) conditions at or near the District's treatment works which violate any statute or any rule, regulation, or ordinance of any public agency or State or Federal regulatory body;
- (k) the District collection system's treatment works to be overloaded or cause excessive collection or treatment costs, or may use a disproportionate share of the facilities.

Rule 24.02. PROHIBITIONS ON STORM DRAINAGE AND GROUND WATER. Storm water, ground water, rain water, street drainage, subsurface drainage or yard drainage shall not be discharged through direct or indirect connections to a community sewer.

Rule 24.03. PROHIBITIONS ON UNPOLLUTED WATER. Unpolluted water, including, but not limited to cooling water, process water or blow-down from cooling towers or evaporative coolers shall not be discharged through direct or indirect connection to a community sewer.

Rule 24.04. LIMITATIONS ON RADIOACTIVE WASTES. No person shall discharge or cause to be discharged, any radioactive waste into a community sewer except;

- (a) when the person is authorized to use radioactive materials by the State Department of Health or other governmental agency empowered to regulate the use of radioactive materials, and

(b) when the waste is discharged in strict conformity with current California Radiation Control Regulations (California Administrative Code, Title 17) and the Nuclear Regulatory Commission regulations and recommendations for safe disposal, and

(c) when the person is in compliance with all rules and regulations of all other applicable regulatory agencies.

Rule 24.05. LIMITATIONS ON THE USE OF GARBAGE GRINDERS. Waste from garbage grinders shall not be discharged into a community sewer except:

(a) Wastes generated in preparation of food normally consumed on the premises, or

(b) where the user has obtained a permit for that specific use from District, and agrees to undertake whatever self-monitoring is required to enable the District to equitably determine the charges and fees based on the waste constituents and characteristics.

Such grinders must shred (normally 3/8 inches minimum) the waste to a degree that all particles will be carried freely under normal flow conditions prevailing in the community sewer. Garbage grinders shall not be used for grinding plastic, paper products, inert materials, or garden refuse, that subsequently enters the sewer.

Rule 24.06. LIMITATIONS ON POINT OF DISCHARGE. No person shall discharge any substances directly into a manhole or other opening in a community sewer other than through an approved building sewer, unless he has been issued a permit by the District. If a permit is issued for such direct discharge, the user shall pay the applicable charges and fees and shall meet such other conditions as required by the District.

Rule 24.07. HOLDING TANK WASTE. No person shall discharge any holding tank waste into a community sewer unless he has been issued a permit by the District. Unless otherwise allowed under the terms and conditions of the permit, a separate permit must be secured for each separate discharge. This permit will state the specific location of discharge, the time of day the discharge is to occur, the volume of the discharge and the wastewater constituents and characteristics. If a permit is granted for discharge of such waste into a community sewer, the user shall pay the applicable charges and fees and shall meet such other conditions as required by the District. An exception to the above is that no permit will be required for discharge of domestic wastes from recreational vehicles holding tanks provided that such discharges are made into a District approved facility designed to receive such wastes.

Rule 24.08. LIMITATIONS ON WASTEWATER STRENGTH.

Rule 24.08.1. No person shall discharge wastewater containing in excess of:

- 0.1 mg/l arsenic
- 0.2 mg/l cadmium
- 2.0 mg/l copper
- 1.0 mg/l cyanide
- 1.0 mg/l lead 0.01 mg/l mercury
- 1.0 mg/l nickel
- 1.0 mg/l silver
- 0.5 mg/l total chromium
- 3.0 mg/l zinc

All analyses shall be performed in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater, by a State Certified Laboratory.

Rule 24.08.2. No person shall discharge any wastewater:

- (a) Having a temperature higher than 150 F (65.5 C).

(b) Containing more than 300 mg/1 of oil or grease of animal or vegetable origin.

(c) Containing more than 100 mg/1 of oil or grease of mineral or petroleum origin.

(d) Having a pH lower than 6.0 or higher than 9.0.

(e) Containing in excess of 0.02 mg/1 total identifiable chlorinated hydrocarbons which cannot be removed by the Authority's wastewater treatment process.

(f) Containing in excess of 1.0 mg/1 phenolic compounds which cannot be removed by the Authority's wastewater treatment process.

Rule 24.08.3. Effluent limitations promulgated by the Federal Act shall apply in any instance where they are more stringent than those in this Ordinance. Under Section 307 (b) of the Act, Federal pretreatment standards are designed to achieve two purposes: (1) to protect the operation of publicly owned treatment works, and (2) to prevent the discharge of pollutants which pass through such works inadequately treated. Users in industrial categories subject to effluent guidelines issued under Section 304 (b) of the Act, which are discharging incompatible pollutants to publicly owned treatment works, are required to adopt the best practicable control technology currently available, as defined by the Administrator pursuant to Section 304 (b) of the Act. Where the District's treatment works was designed to and does achieve substantial removal of pollutants other than the four pollutants listed in the definition for compatible pollutants in Section 1.11 (BOD, SS, pH, and fecal coliform bacteria), the District may, at its discretion, not require the user to achieve best practicable control technology currently available, since this may lead to an uneconomical duplication of treatment facilities. The term "substantial removal" contemplates removals in the order of 80 percent or greater. Minor incidental removals in the order of 10 to 30 percent are not considered "substantial."

Rule 24.08.4. The District Manager shall cause to be prepared from time to time a list of the maximum permissible quantities or concentrations of certain constituents in industrial or wastewater flows and otherwise issue detailed directions for meeting the requirements of this section.

Limitations on wastewater strength in Rule 24.08.1 and Rule 24.08.2 of this Ordinance may be supplemented with more stringent limitations pursuant to Rule 26.02.4.

(a) If the District determines that the limitations in Rules 24.08.1 and 24.08.2 may not be sufficient to protect the operation of the District's treatment works, or

(b) If the Authority determines that the limitations in Rule 24.08.1 and 24.08.2 may not be sufficient to enable the District's treatment works to comply with water quality standards or effluent limitations specified in the District's National Pollutant Discharge Elimination System (NPDES) permit.

Rule 24.09. DISPOSAL OF UNACCEPTABLE WASTE. Waste not permitted to be discharged into the community sewer must be transported to a State approved disposal site. The required "Waste Haulers Report" must be completed and a copy furnished within 30 days to the District by the discharger.

Rule 24.10. INTERCEPTORS REQUIRED. Grease, oil and sand interceptors shall be provided when, in the opinion of the Manager, they are necessary for the proper handling of liquid wastes, containing grease in excessive amounts, or any flammable wastes, sand and other harmful ingredients; except that such

interceptors shall not be required for buildings used for residential purposes. All interceptors shall be of a type and capacity approved by the Manager and shall be so located as to be readily and easily accessible for cleaning and inspection.

All such grease, oil and sand interceptors shall be maintained by the Owner, at their expense, in continuous efficient operation at all times.

Rule 24.10.01. GREASE INTERCEPTORS/TRAPS. Establishments serving food, manufacturing food products, Slaughter Houses, Packing Establishments, Car Washes, Auto Wash Racks, etc. are grouped into the following major categories: INDUSTRIAL-commercial facilities as defined in sections 709 and 710 of the Uniform Plumbing Code, and those facilities designated by the General Manager.

HIGH VOLUME-full menu types establishments operating over 16 hours per day and/or serving 500 or more meals per day.

MEDIUM VOLUME-full menu or specialty menu type establishments serving full meals 8 to 16 hours per day, and/or 100 to 400 meals per day.

SMALL VOLUME-fast food, take out or specialty type food establishments with limited menus, a minimum of dish washing, and/or minimal seating capacity.

Rule 24.10.02. GREASE INTERCEPTORS. Industrial facilities, High Volume and Medium Volume food establishments as defined in Section 709 are required to install a grease interceptor.

The size, type and location of each grease interceptor shall be approved by the General Manager or his designated representative. Waste in excess of 140°F (60°C) shall not be discharged into a grease interceptor.

Grease interceptors shall have a minimum 750-gallon capacity.

Any type of business or establishment such as, but not limited to restaurants, bakeries, donut shops, take-out, drive-in eating establishments, ice cream or milk drive-in stations, hospitals, hotels, markets, recreation or reception halls, etc., where any grease or other objectionable materials may be discharged into a public or private sewage main or disposal system shall have a grease interceptor.

Interceptors shall be constructed and installed at the expense of the owner, in accordance with the design previously approved by the General Manager.

Each grease interceptor shall be so installed and connected that it shall be at all times easily accessible for inspection, cleaning, and removal of the intercepted grease. A grease interceptor may not be installed in any part of a building where food is handled. Proper location of the grease interceptor shall meet the Uniform Plumbing Code Requirements and the approval of the General Manager.

Each commercial facility or business establishment for which a grease interceptor is required shall have an interceptor which shall serve only that business establishment.

Buildings remodeled for use requiring interceptors shall be subject to these regulations.

For the purpose of this section the term 'fixture' shall mean and include each plumbing fixture, appliance, apparatus or other equipment required to be connected to or discharged into a grease interceptor by any provision of this section.

Waste discharge from fixtures and equipment in the above-mentioned types of establishments which may contain grease or other objectionable materials, including, but not limited to, scullery sinks, pot and pan sinks, dishwashers, food waste disposal, soup kettles, etc., and floor drains located in areas where such objectionable materials may exist, may be drained into the sanitary waste through the interceptor when approved by the General Manager. Exception:

Toilets, urinals, and other fixtures containing fecal material may not flow through the interceptor.

The interceptors shall be maintained in efficient operating condition by periodic removal and proper disposal of the accumulated grease. No such collected grease shall be introduced into any drainage piping or public or private sewer.

Abandoned grease interceptors shall be emptied and filled in the same manner as required for abandoned septic tanks as described in Section 1119 of the Uniform Plumbing Code.

The cover for grease interceptors shall be one-half inch (1/2") steel plate reinforced as required by the General Manager, said reinforcing to depend upon the load to be imposed on the plate. Except as otherwise provided, the cover shall be gas-tight on all interceptors and the waste shall enter the interceptor through the inlet pipe only. Interceptors shall be so designed that they will not become air bound if closed covers are used. Each interceptor shall be properly vented, Sec 708(d) UPC.

Interceptors shall be installed in such a manner that drainage from areas outside the area intended to be served may not enter. Interceptors shall be tested in a manner approved by the District and shall be witnessed by a District Inspector. Grade rings may be used to establish final grade and shall be installed using Ram-Nek and Ram-Nek primer, and inspected by the District.

Rule 24.10.03. GREASE TRAPS. Any type of business or establishment such as, but not limited to restaurants, bakeries, donut shops, take-out, drive-in eating establishments, ice cream or milk drive-in stations, hospitals, hotels markets, recreation or reception halls, etc., where any grease or other objectionable materials may be discharged into a public or private sewage main or disposal system which is deemed by the General Manager or his designated representative to be a Small Volume food establishment as described in Section 7.09 may choose to install a grease trap in place of a grease interceptor.

The size, type and location of each grease trap shall be approved by the General Manager or his designated representative. Wastes in excess of 140° F (60°C) shall not be discharged into a grease trap.

For the purpose of this section, the term "fixture" shall mean and include each plumbing fixture, appliance, apparatus or other equipment required to be connected to or discharged into a grease trap by any provision of this section.

Waste discharge from fixtures and equipment in the above-mentioned types of establishments which may contain grease or other objectionable materials, including, but not limited to, scullery sinks, pot and pan sinks, dishwashers, food waste disposal, soup kettles, etc., and floor drains located in areas where such objectionable materials may exist, may be drained into the sanitary waste through the grease trap when approved by the General Manager. Exception: Toilets, urinals, and other fixtures containing fecal material may not flow through the grease trap.

No grease trap shall be installed which has an approval rate of flow of more than fifty-five (55) gallons per minute, nor less than twenty (20) gallons per minute, except with prior written approval of the General Manager.

Each plumbing fixture or piece of equipment connected to a grease trap shall be provided with an approved type flow control or restricting device installed in a readily accessible and visible location in the tailpiece or drain outlet of each such fixture. Flow control devices shall be so designed that the flow through such device or devices shall at no time be greater than the rated capacity of the grease trap. No flow control device having adjustable or removable parts shall be approved.

Each grease trap required by this section shall have an approved rate of flow, expressed in gallons per minutes, which is not less than forty (40) percent of the total capacity in gallons of fixtures discharging into said trap. The grease retention capacity of the trap, expressed in pounds of grease, shall not be less than two times the approved rate of flow in gallons per minute.

Any grease trap installed with the inlet more than four (4) feet lower in elevation than the outlet of any fixture discharging into such grease trap shall have an approved rate of flow which is not less than fifty (50) percent greater than that given in the preceding paragraph. Not more than four (4) separate fixtures shall be connected to or discharged into any one (1) grease trap.

Each fixture discharging into grease trap shall be individually trapped and vented in an approved manner. An approved type grease trap may be used as a fixture trap for a single fixture when the horizontal distance between the fixture outlet and the grease trap does not exceed four (4) feet and the vertical tailpipe or drain does not exceed two and one-half (2 ½) feet.

No water-jacketed grease trap or grease interceptor shall be approved or installed. No mechanical grease trap shall be allowed.

Each grease trap shall have an approved water seal of not less than two (2) inches in depth or the diameter of its outlet, whichever is greater.

Rule 24.10.04. TIME OF COMPLIANCE. All commercial facilities and food establishments described in Division VII shall be required to install a sand and/or grease interceptor or grease trap within the sixty (60) day period after the first occurrence of any of the following events:

- (a) Transfer of any ownership or interest in the commercial facility;
- (b) The issuance by the County of any building permit for the construction, reconstruction or related work to be performed on the premises costing more than \$5,000;
- (c) The backup or discharge of raw sewage on or from the premises due to grease build up in their service lateral;
- (d) Or ninety (90) days after receiving written notice from the General Manager of the necessity for installation of such facilities.

Rule 24.10.05. MONITORING AND REPORTING. All establishments having a grease trap or interceptor shall maintain and clean this unit as recommended by the manufacturer. Each grease trap or interceptor shall be regularly maintained by the proprietor or property owner and records kept at the site for inspection by the District. Maintenance will vary depending upon the size of the unit and grease loading. The property owner or proprietor shall send a copy of the maintenance records to the District annually from the time of installation or some other agreed upon date by the District. At no time shall the unit be allowed to become clogged with grease so as to create damage to the District collection or treatment facilities. The Proprietor must develop a cleaning schedule sufficient to keep the unit functioning properly. Records of grease disposal to a collection agent must be made available to District personnel upon request.

Rule 24.11. PRELIMINARY TREATMENT OF WASTES. The admission into the public sewers of any waters or wastes having

- (a) a 5-day Biochemical Oxygen Demand greater than 300 milligrams per liter, or
- (b) containing more than 350 milligrams per liter of suspended solids, or
- (c) containing any quantity of substance having the characteristics described in Rule 24.08, or
- (d) having an average daily flow greater than two percent of the average daily flow of the District,

shall be subject to the review and approval of the Manager. Where necessary in the opinion of the Manager, the owner shall provide, at their expense, such preliminary treatment as may be necessary to

- (i) reduce the Biochemical Oxygen Demand to 300 milligrams per liter, or
- (ii) reduce objectionable characteristics or constituents to within the maximum limits provided for in Rule 24.08, or
- (iii) control the quantities and rates of discharge of such waters or wastes.

Plans, specifications, and any other pertinent information relating to proposed preliminary treatment facilities shall be submitted for the approval of the Manager and no construction of such facilities shall be commenced until said approvals are obtained in writing.

Rule 24.12. MAINTENANCE OF PRETREATMENT FACILITIES. Where required by the District, preliminary treatment facilities for any waters or wastes shall be maintained continuously in satisfactory and effective operation by the owner at their expense and to the satisfaction of District.

Rule 24.13. AVAILABILITY OF DISTRICT FACILITIES. If sewerage capacity is not available, the District may require the discharger to restrict their discharge until sufficient capacity can be made available. When requested, the District will advise persons desiring to locate new facilities as to the areas where wastewater of their proposed quantity and quality can be received by available sewerage facilities. The District may refuse service to persons locating facilities in areas where their proposed quantity or quality of wastewater is unacceptable in the available collection facility.

REGULATION 25. - WASTEWATER VOLUME DETERMINATION

Rule 25.01. METERED WATER SUPPLY. When charges and fees are based upon water usage, such charges and fees shall be applied against the total amount of water used from all sources unless, in the opinion of the District, significant portions of water received are not discharged into a community sewer. The total amount of water used from public and private sources will be determined by means of public meters or private meters, installed and maintained at the expense of the user and approved by the District.

Rule 25.02. METERED WASTEWATER VOLUME AND METERED DIVERSIONS. When charges and fees are based upon water usage and where, in the opinion of the District, a significant portion of the water received from any metered source does not flow into the community sewer because of the principal activity of the user or removal by other means, the charges and fees will be applied against the volume of water discharged from such premises into the community sewer. Written notification and proof of the diversion of water must be provided by the user, and approved by the District, if the user is to avoid the application of the charges and fees against the total amount of water used from all sources. The user may install a meter of a type and at a location approved by the District and at the user's expense. Such meters shall measure either the amount of wastewater discharged or the amount of water diverted. Such meters shall be maintained at the expense of the user and be tested for accuracy at the expense of the user when deemed necessary by the Manager.

Wastewater meters and vaults shall be approved by the District. They must be accurate, trouble free and allow easy access at any time, by District personnel for inspection, measurement or waste character and strength.

Rule 25.03. ESTIMATED WASTEWATER VOLUME.

Rule 25.03.1. For users where, in the opinion of the District, it is unnecessary or impractical to install meters the charges and fees may be

based upon an estimate of the volume to be discharged, prepared by the District. A rational method will be used to estimate the quantity of wastewater discharged and may consider such factors as the number of fixtures, seating capacity, population equivalent, annual production of goods and services or such determinations of water use necessary to estimate the wastewater volume discharged.

Rule 25.03.2. For users who, in the opinion of the District, divert a significant portion of their flow from a community sewer, the charges and fees may be based upon an estimate of the flow and volume to be discharged, prepared by the user and approved by the District provided the user obtains a Wastewater Discharge Permit and pays the applicable charges and fees. The estimate must include the method and calculations used to determine the wastewater volume and may consider such factors as the number of fixtures, seating capacity, population equivalents, annual production of goods and services, or such other determinations of water use necessary to estimate the wastewater volume discharged.

REGULATION 26. - DISCHARGE REPORT, WASTEWATER DISCHARGE PERMITS, AND ADMINISTRATION

Rule 26.01. DISCHARGE REPORTS. The District may require that any person discharging or proposing to discharge wastewater into a community sewer file a periodic Discharge Report. The Discharge Report may include, but not be limited to, nature of process, volume, rates of flow, mass emission rates, production quantities, hours of operation, number and classification of employees, or other information which relates to the generation of waste including wastewater discharge. Such reports may also include the chemical constituents and quantity of liquid or gaseous materials stored on site even though they are not normally discharged. In addition to Discharge Reports, the District may require information in the form of Wastewater Discharge Permit applications and self-monitoring reports.

Rule 26.02. WASTEWATER DISCHARGE PERMITS.

Rule 26.02.1. Each "major contributing industry" as defined in Rule 17.22 or other users with a discharge equivalent to that of a major contributing industry, if not connected to a community sewer, must obtain a Wastewater Discharge Permit before connecting to or discharging into a community sewer.

Rule 26.02.2. The District may issue a Wastewater Discharge Permit to any user, upon application, in accordance with the terms of this Section in the following categories:

- (a) A user who requests charges and fees to be based on an estimate of wastewater flow, or
- (b) Any user whose wastewater strength is less than the normal range for the user classification to which he is assigned because of pretreatment, process changes or other reasons.
- (c) Any industrial user.

Rule 26.02.3. Applicants for a Wastewater Discharge Permit shall complete an application, in the form prescribed by the District. The applicant may be required to submit, in units and terms appropriate for evaluation, the following information:

- (a) Name, address, and SIC number of applicant;
- (b) Volume of wastewater to be discharged;
- (c) Wastewater constituents and characteristics including but not limited to those mentioned in Rules 24.08.1, 24.08.2 and 24.08.3 as determined by a laboratory approved by the District;

- (d) Time and duration of discharge;
- (e) Average and 30 minute peak wastewater flow rates, including daily, monthly and seasonal variations, if any;
- (f) Site plans, floor plans, mechanical and plumbing plans and details to show all sewers and appurtenances by size, location and elevation;
- (g) Description of activities, facilities and plant process on the premises including all materials, processes and types of materials which are or could be discharged;
- (h) Each product produced by type, amount, and rate of production;
- (i) Number and type of employees, and hours of work;
- (j) Any other information as may be deemed by the District to be necessary to evaluate the permit application.

Following approval, the District shall forward the application form and appurtenant plans and data to the Authority for review and approval. The District may require additional information on the characteristics of the wastewater discharge beyond that required on the application form.

Upon receipt of all required information, the application shall be processed and, upon approval, copies shall be filed with the District and one copy shall be returned to the applicant. When properly signed, the application shall constitute a valid Wastewater Discharge Permit. The application shall be approved if the applicant has complied with all applicable requirements of this Ordinance and furnished to the District all requested information and if the Manager determines that there is adequate capacity in the District's facilities to convey, treat, and dispose of the wastewaters.

Rule 26.02.4. Additional Assessment. Reasons for reopening the permit

- (a) The unit charge or schedule of charges and fees for the wastewater to be discharged to a community sewer;
- (b) The average and maximum wastewater constituents and characteristics;
- (c) Limits on rate and time of discharge or requirements for flow regulations and equalization;
- (d) Requirements for installation of inspection and sampling facilities;
- (e) Pre-treatment requirements;
- (f) Specifications for monitoring programs which may include locations, frequency and method of sampling, metering, number, types and standards for tests and reporting schedule;
- (g) Requirements for submission of technical reports or discharge reports;
- (h) Requirements for maintaining plant records relating to wastewater discharge as specified by the District and affording the District access thereto;
- (i) Mean and maximum mass emission rates, or other appropriate limits when incompatible pollutants (as defined by Section 1.19) are proposed or are present in the user's wastewater discharge.
- (j) Other conditions as deemed appropriate by the District to insure compliance with this Ordinance.

Rule 26.02.5. Wastewater Discharge Permits shall be issued for a specified time period, not to exceed five (5) years. A permit may be issued for a period less than a year or may be stated to expire on a specific date. If the user is not notified by the district 30 days prior to the expiration of the Permit, the Permit shall be extended one additional year. The terms and conditions of the Permit may be subject to modification and change by the District during the life of the Permit as limitations or requirements as identified in Rule 24.08 are modified and changed. The user shall be informed of any proposed changes in his Permit at least 30 days prior to the effective date of change. Any changes or

new conditions in the Permit shall include a reasonable time schedule for compliance. Any user proposing a new discharge into the system or a substantial change in the volume or character of pollutants that are being discharged into the system shall notify the District at least forty-five (45) days prior to the proposed change or connection.

Rule 26.02.6. Wastewater Discharge Permits are issued to a specific user for a specific operation. Wastewater Discharge Permits shall not be reassigned or transferred or sold to a new owner, new user, different premises, or a new or changed operation.

Rule 26.02.7. Any user who violates the conditions of the Wastewater Discharge Permit, any provisions of this Ordinance, applicable State and Federal regulations, or any of the following, is subject to having his permit revoked:

- (a) Failure of a user to factually report the wastewater constituents and characteristics of his discharge;
- (b) Failure of the user to report significant changes in operations, or wastewater constituents and characteristics; or,
- (c) Refusal or reasonable access to the user's premises for the purpose of inspection or monitoring.

Rule 26.03. MONITORING FACILITIES. Users who propose to discharge, or who in the judgment of the District could discharge now or in the future, wastewater with constituents and characteristics different from that produced by a domestic premise (see Section 10.04 herein) will be required to install a monitoring facility. When more than one user can discharge into a common building sewer, the District may require installation of a separate monitoring facility for each user. Also when, in the judgment of the District, there is a significant difference in wastewater constituents and characteristics produced by different operations of a single user, the District may require that separate monitoring facilities be installed for each separate discharge.

Monitoring facilities that are required to be installed shall be constructed, operated and maintained at the user's expense. The purpose of the facility is to enable inspection, sampling and flow measurement of wastewaters produced by a user. If sampling or metering equipment is also required by the district, it shall be provided, installed and operated at the user's expense. The monitoring facility will normally be required to be located on the user's premises outside of the building. The District may, however, when such a location would be impractical or cause undue hardship on the user, allow the facility to be constructed in the public street or sidewalk area, with the approval of the public agency having jurisdiction over that street or sidewalk, and located so that it will not be obstructed by landscaping or parked vehicles.

If the monitoring facility is inside the user's fence, there shall be accommodations to allow safe and immediate access for the District personnel, such as a gate secured with a District lock. There shall be ample room in or near such facility to allow accurate sampling and compositing of samples for analysis. The entire facility and the sampling and measuring equipment shall be maintained at all times in a safe and proper operating condition by and at the expense of the user.

When constructed on public or private property, the monitoring facilities shall be constructed in accordance with the District's requirements and all applicable local agency construction standards and specifications.

When, in the judgment of the District, an existing user requires a monitoring facility, the user will be so notified in writing. Construction must be completed within 90 days following written notification unless a time extension is otherwise granted by the District.

All industries discharging into a public sewer shall perform such monitoring of their discharges as the District and/or other duly authorized employees of the District may reasonably require, including installation, use, and maintenance of monitoring equipment and records to the District. Such records shall be made available upon request by the District and to other Agencies having jurisdiction over discharges to the receiving waters.

Rule 26.04. INSPECTION AND SAMPLING. The District may inspect the facilities of any user to ascertain whether the purpose of this Ordinance is being met and all requirements are being complied with. Persons or occupants of premises where wastewater is created or discharged shall allow the District or its representative ready access at all reasonable times to all parts of the premises for the purposes of inspection or sampling or in the performance of any of their duties. The District shall have the right to set up on the user's property such devices as are necessary to conduct sampling or metering operations. Where a user has security measures in force which would require proper identification and clearance before entry into their premises, the user shall make necessary arrangements with their security guards so that upon presentation of suitable identification, personnel from the District will be permitted to enter without delay for the purposes of performing their specific responsibilities.

Rule 26.05. PRETREATMENT. Users shall make wastewater acceptable under the limitations established herein before discharging into any community sewer. Any facilities required to pretreat wastewater to a level acceptable to the District shall be provided and maintained at the user's expense. Detailed plans showing the pretreatment facilities and operating procedures shall be submitted to the District for review, and shall be approved by the District before construction of the facility. The review and approval of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to produce an effluent complying with the provisions of this Ordinance. Any subsequent changes in the pretreatment facilities or method of operation shall be reported to and be approved by the District.

Rule 26.06. PROTECTION FROM ACCIDENTAL DISCHARGE. Each user shall provide protection from accidental discharge of prohibited materials or other wastes regulated by this Ordinance. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the user's expense. Detailed plans showing facilities and operating procedures to provide this protection shall be submitted to the District for review, and shall be approved by the District before construction of the facility.

The review and approval of such plans and operating procedures will in no way relieve the user from the responsibility of modifying the facility as necessary to provide the protection necessary to meet the requirements of this Ordinance.

Rule 26.07. CONFIDENTIAL INFORMATION. All information and data on a user obtained from reports, questionnaires, permit applications, permits and monitoring programs and from inspections shall be available to the public or any other governmental agency without restrictions unless the user specifically requests and is able to demonstrate, to the satisfaction of the District, that the release of such information would divulge information, processes or methods which would be detrimental to the user's competitive position.

When requested by the person furnishing a report, the portions of a report which might disclose trade secrets or secret processes shall not be made available for inspection by the public but shall be made available to governmental agencies for use in making studies; provided, however, that such portions of a report shall be available for use by the state or any state agency

in judicial review or enforcement proceedings involving the person furnishing the report. Wastewater constituents and characteristics will not be recognized as confidential information. Information accepted by the District as confidential shall not be transmitted to any governmental agency or to the general public by the District until and unless prior and adequate notification is given to the user.

Rule 26.08. SPECIAL AGREEMENTS. Special agreements and arrangements between the District and any persons or agencies may be established when, in the opinion of the District, unusual or extraordinary circumstances compel special terms and conditions.

APPENDIX B
QUARTERLY AND SEMI-ANNUAL HYDRO-CLEAN
SCHDULE/DOCUMENTATION

McKinleyville Community Services District

Hydro Cleaning Schedule (quarterly)

Date: 12/17/10		Updated: 12/10/10		Signature: EJ, CJ			
	Street	Line No.	MH To MH	Location	FT.	Condition of Line	% of load
1	Central Ave	6.5	3-36a to 6-35	Pantry south	272	Small Grease	70%
2	Central Ave	6.5	6-34 to 6-36a	Taco Bell south	336	Dirty	70%
3	Central Ave	6.7	6-32 to 6-37	Up Holly	537	Clean	85%
4	Central Ave	6.6	6-38 to 6-39	Up Gwin	230	Greasy	65%
5	Central Ave	6.6	6-13 to 6-38	Hiller to north	335	Creamy water	75%
6	Central Ave	6.5	6-13 to 6-32	Hiller to south	505	Dirty	40%
7	Bella Vista	3.3.2	3-77 to 3-80	To Brewery	443	Grease in channel Creamy water	80%
8	Central Ave	3	3-22 to 3-73	Bartow to south	400	Dirty Water	80%
9	School Rd	3.1.2	3-67a to 3-67a1	School and Betty	267	Creamy Water	50%
10	School Rd	3.1.2	3-67a1 to 3-67	School	23	Creamy, Dirty	5%
11	School Rd	3.1.2	3-66 to 3-67	Wash. To east	507	Dirty Water	90%
12	Mck. Ave.	6.3	6-23 to 6-24	Worth North to Oakdale	506	Clean	90%
13	McKinleyville	6.3	6-17 to 6-6	Hiller to south	377	Dirty	80%
14	Chance Ln.	5.2.1	c/o 5-8 to 5-25a	West end of Chance	245	Some grease, dirty	40%
15	Chance Ln.	5.2	c/o 5-9 to 5-25a	East end of Chance	244	Some grease	40%
16	Railroad	5.2	5-10 to 5-25a	Railrd.to chance	450	Dirty water, chunks	90%
17	McKinleyville	7.0	7-6 to 7-20	Mac & Bates to north	10	Heavy grease chunks	20%
18	West Bates	7.0	7-5a to 7-6	To Mac	390	Heavy grease chunks, dirty - debris (grout)	75%
19	Rita	8.2	8-3 to 8-9	Euc. and Rita to North	325	Dirty water	70%

Street		Line No.	MH To MH	Location	FT.	Condition of line	% Of load
20	Eucalyptus	8	8-3 to 8-4	Euc. and Rita to East	390	Creamy, dirty water	80
21	Eucalyptus	8	8-2 to 8-3	Euc. and Jones East to Rita	339	Some chunk grease, dirty	80
22	Jones	8	8-1 to 8-2	Jones North to Euc.	345	dirty	75
23	Jones	8	7-4 to 8-1	W. Bates and Jones North	339	dirty, some grease	75
24	West Bates	7	7-4 to 7-5	W. Bates and Jones East	341	Creamy & dirty	75
25	Mck.&Gass.	11	11-5 to 11-4	Mck&Gass.west	227	dirty	70
26	Gassaway	11	11-4 to 11-3	Next MH west	368	Greasy & dirty	80
27	Gassaway	11	11-3 to 11-2	Next MH west	298	GREASY & DIRTY	70
28	Halfway Ave	11.0	11-1 to 11-2	Coach to south	307	VERY GREASY & DIRTY ALOT OF CHUNKS	75
29	Azalea Ave	3.10	3-129to3-140	In dip to north	232	Greasy early, cleared up	60
30	Sutter Rd	3.4	3-84 to 3-93	in dip	125	VERY DIRTY -ALOT OF GREASE	20
31	D ST	14.0	14-6 to 14-7	2 nd & D south	350	Dark, dirty water Small chunks of grease	80
32	D ST	14.6	14-6 to 14-1	2 nd & D north	260	Dirty w/ some grease	60
33	2 nd & C	14.0	14-5 to 14-6	In gully to D	300	Dirty, Creamy	75
34	2 nd & C	14.0	14-4 to 14-5	2 nd & C to gully	325	Dirty, Creamy	75
35	Lime in B St ROW	15.1	15-8 to 15-2 Go thru 15-3	Gwin to Lime	482	DIRTY -LITTLE GREASE	95
36	B ST	15.0	15-2 to 15-1	B St Sta to west	318	VERY DIRTY, VERY GREASY	65
37							
38							
39							

McKinleyville Community Services District

6 month Hydro Cleaning Schedule (May and November)

Date:		Updated: 12/10/10				
Street		Line No.	MH To MH	Location	FT.	Comments
1	Sutter + Tasi	3.9	C/o3-18 to3-132	Sutter + Tasi	168	Date of last spill: 12/18/09
2	Sutter	3.9	3-132 to 3-131	Sutter	192	
3	Sutter	3.9	3-131 to 3-138A	Sutter	124	
4	Sutter+Azalea	3.9	3-138a to3-130	Sutter+Azalea	285	
5	Sutter Rd	3.5.2	c/o3-15to3-114	Sutter Rd.	?	Date of last spill: 1/15/10
6	Sutter + Cam.	3.5.2	3-114 to 3113a	Sutter Rd.	171	
7	Sutter+church	3.5.2	3-113a to 3-113	Sutter Rd.	285	
8	Sutter+Nelson	3.5.4	3-16 to 3-117	Sutter Rd.	259	
9	Sutter	3.5.4	3-117 to 3-117a	Sutter Rd.	146	
10	Sutter + Scott	3.5.4	3-117a to 3-112	Sutter Rd.	311	
11	Sutter + Scott	3.5.2	3-113 to 3-112	Sutter Rd.	294	
12	Bella Vista	3.3.1	3-79b to 3-79a	Bella Vista	312	Date of last spill: 6/14/08
13	Bella Vista	3.3.1	3-79a to 3-79	Bella Vista	422	
14	Bella Vista	3.3.1	3-79 to 3-78	Bella Vista	583	
15	Bella Vista	3.3.1	3-78 to 3-77	Bella Vista	504	
16	Salmon ROW	3.1	3-49 to 3-48	Salmon R.O.W.	424	Date of last spill: 12/10 and 9/07
17	Salmon ROW	3.1	3-48 to 3-47	Salmon R.O.W.	200	
18	Salmon ROW	3.1	3-47 to 3-46	Salmon R.O.W.	491	
19	Salmon ROW	3.1	3-46 to 3-45	Salmon R.O.W.	142	

Street		Line No.	MH To MH	Location	FT.	Comments
20	Salmon ROW	3.1	3-45 to 3-44	Salmon R.O.W.	390	
21	Salmon ROW	3.1	3-44 to 3-43	Salmon R.O.W.	500	
22	Salmon ROW	3.1	3-43 to 3-11	Salmon R.O.W.	250	
23	Kelly Pck. Sta.	13	13-2 to 13-1	Mh south of Kelly Pack Sta.	374	Date of last spill: 8/08 and 4/08
24	Kelly Pck. Sta.	13.4	13-9 to 13-1	Mh south of Kelly Pack Sta.	340	
25	Kelly Pck. Sta.	13.4	13-1 to P.S. WW	Kelly Package Station WW	93	
26	Swantado Ct.	8.2.2.1	c/o 8-8 to 8-11a	Swantado Ct.	112	Date of last spill: 3/08
27	Swantado + Imeson	8.2.2.1	8-11a to 8-11	Swantado Ct.	182	
28	Imeson and Rita	8.2.2	8-11 to 8-10	Imeson	98	
29	Airport		c/o to MH#1		439'	We contract with the Airport due to the spills they have experienced in the past.
30	Airport		MH1 to MH2		396'	
31	Airport		MH2 to MH3		82'	
32						
33	These are three other locations I added to quarterly schedule:					
34	Shool Rd.					Date of last spill: 1/08
35	Gwin Rd. ROW					Date of last spill: 1/09
36	Chance Ln.					Date of last spill: 8/06

APPENDIX C
MANHOLE INSPECTION DOCUMENTATION

**McKINLEYVILLE COMMUNITY SERVICES DISTRICT
SANITARY SEWER COLLECTION SYSTEM MANHOLE INSPECTION**

DATE: 1/8/09	INSP: CJ/KS	DATE:	INSP:	DATE:	INSP:
DATE:	INSP:	DATE:	INSP:	DATE:	INSP:
DATE:	INSP:	DATE:	INSP:	DATE:	INSP:
LINE #: 13.1	M.H. #: 13.16	M.H. DEPTH: 8'7"	LOCATION: Sand Point (Parking Lot)		
INITIAL INSPECTION		STRUCTURAL INSPECTION		HYDRAULIC INSPECTION	
LOCATION:		CONE:		INFLOW/INDICATION:	
ROADWAY		SERVICEABLE	X	DEBRIS/SIDES	
UNPAVED	X	BROKEN		DEBRIS/SHELF	
ALLEY		SULFIDES		OTHER:	
OFF SITE	X	MISALIGNED			
OTHER					
		RISER:		SURCHARGING:	
MANHOLE COVER:		SERVICEABLE	X	GREASE RING	
SERVICEABLE	X	BROKEN		DEBRIS RING	
DUSTCOVER		SULFIDES		OTHER:	
DAMAGED		MISALIGNED			
MISSING					
BELOW GRADE		SHELF:		CLARITY OF FLOW:	
ABOVE GRADE		SERVICEABLE	X	TURBID	
		DIRTY		CLEAR	X
RING AND FRAME:		SULFIDES			
SERVICEABLE	X			FLOW:	
LOOSE		CHANNEL:		STEADY	X
MISSING GROUT		SERVICEABLE	X	PULSING	
DISPLACED		OBSTRUCTED		TURBULENT	
		DROP INLET		SURCHARGING	
SIZE OF M.H. COVER:		JUNCTION M.H.		SLUGGISH	X
24 INCH	X	STUBS			
30 INCH				FLOW DEPTH COMPARED TO ADJACENT M.H.	
BOLTDOWN		LEAKS:		SAME	
		CONE		LOWER	
SIZE OF MANHOLE:		RISERS		HIGHER	
4 FOOT	X	SHELF		EXPECTED AMOUNT	X
5 FOOT		CHANNEL			
		STUBS			
ROD HOLE:					
SERVICEABLE	X	TIME: 10:33	FLOW DEPTH: 1"	TIME:	FLOW DEPTH:
HAS EXPANSION PLUG		TIME:	FLOW DEPTH:	TIME:	FLOW DEPTH:
		TIME:	FLOW DEPTH:	TIME:	FLOW DEPTH:
		TIME:	FLOW DEPTH:	TIME:	FLOW DEPTH:
VERMIN:	ROACHES:	Y (N)	RATS:	Y (N)	OTHER:
Observation Summary: Any trench settlement? Right of way conditions: NO; Clear					

APPENDIX D
LIFT STATION INSPECTION DOCUMENTATION

MCKINLEYVILLE COMMUNITY SERVICES DISTRICT
WASTEWATER MANAGEMENT FACILITY
FISCHER ROAD PUMPING STATION
SITE CONDITIONS

DATE: <u>December, 2010</u>	
BUILDING: Roof <u>ok</u>	Doors <u>ok</u>
Locks <u>ok</u>	Screens <u>ok</u>
Emergency Lights <u>ok</u>	
Fire Extinguisher: #1 <u>195</u>	#2 <u>195</u>
FIRE ALARM SYSTEM: (test) <u>No</u>	
(battery) volts <u>13.7</u>	
SECURITY ALARM SYSTEM: (test) <u>yes</u>	(battery) volts <u>13.7</u>
GENERATOR: <u>ok</u>	
(hrs) <u>4313.6</u>	
FUEL DAY TANK: <u>ok</u>	FUEL TANK: (piping) <u>ok</u>
(tank) <u>ok</u>	(Level) inches <u>12.0"</u>
(Gallons) <u>106.68</u>	
BATTERY CHARGER: <u>ok</u>	AUTO TRANSFER SYSTEM: #1 <u>#1</u>
#2 <u>#1</u>	
Battery: (volts) #1 <u>13.5</u>	S/G (cell) #1 <u>>1.300</u>
#2 <u>>1.300</u>	#3 <u>>1.300</u>
#4 <u>>1.300</u>	#5 <u>>1.300</u>
#6 <u>>1.300</u>	
Battery: (volts) #2 <u>13.5</u>	S/G (cell) #1 <u>>1.300</u>
#2 <u>>1.300</u>	#3 <u>>1.300</u>
#4 <u>>1.300</u>	#5 <u>>1.300</u>
#6 <u>>1.300</u>	
RADIATOR: <u>ok</u>	BUBBLER COMPRESSORS #1 <u>ok</u>
#2 <u>ok</u>	Purge <u>No</u>
VAULTS: <u>ok</u>	LOCKS: <u>ok</u>
ELECTRIC PANELS: <u>ok</u>	CONTROLS: <u>ok</u>
SWITCHES: <u>ok</u>	PANEL LIGHTS: <u>ok</u>
LIGHTS: <u>#2</u>	
INTELLIMAC BATTERIES: (volts) #1 <u>12.7</u>	#2 <u>12.6</u>
CHARGER (volts) <u>26.2</u>	
SURGE TANK: <u>ok</u>	(compressor) <u>ok</u>
LIME TANK: <u>#3</u>	AIR RELIEF: <u>ok</u>
VALVES: <u>ok</u>	PIPING: <u>#4</u>
FLOW METER: <u>ok</u>	GAUGES: <u>ok</u>
PUMPS, MOTORS: #1 <u>#5</u>	#2 <u>ok</u>
#3 <u>#6</u>	#4 <u>ok</u>
DRY WELL BLOWER: <u>ok</u>	WET WELL BLOWER: <u>ok</u>
GRIT PITS: <u>ok</u>	WET WELL (wash) <u>11-10-10</u>
HOIST: (inside) <u>ok</u>	(outside) <u>ok</u>
HOIST BEAMS: <u>ok</u>	
FENCE CONDITION: Fence <u>ok</u>	Gates: <u>ok</u>
Locks <u>ok</u>	Barbed Wire <u>#7</u>
Signs <u>9</u>	
MAINTENANCE RECORDS UP TO DATE: (Y/N) <u>yes</u>	SYNCHRONIZE CLOCK: (Y/N) <u>yes</u>
GENERAL APPEARANCE: <u>Bricks starting to grow in grass area, minor weeds in asphalt</u>	
REMARKS: <u>Sump pumps: ok</u>	
<u>Chain at top of wet well stairs needs to be replaced slo GEN</u>	
<u>#1) Fails occasionally</u>	<u>ok</u>
<u>2) Outside light above wet well stairs out</u>	<u>slo PENDING</u>
<u>3) Rusted and some parts look unstable</u>	<u>ok</u>
<u>4) Dry well piping could use touch up paint</u>	<u>slo GEN</u>
<u>5) Running long on hours</u>	<u>ok</u>
<u>6) offline for bearing replacement</u>	<u>ok</u>
<u>7) Barbed wire broken on west fence</u>	<u>slo PENDING</u>
SIGNATURE: <u>[Signature]</u>	

APPENDIX E
MCSD EQUIPMENT INVENTORY

McKinleyville CSD - Enterprise Fund Rolling Stock (#501/551-12420)
Property Plant & Equipment
as of June 30, 2009

					Accumulated Depreciation				
		Cost	Acqu. Date	Useful Life	Balance 6/30/2008	Dpr'n	Disposals	Balance 6/30/2009	Net BV
Enterprise Fund Crew Vehicles (50.8% Water Fund, 49.2% Sewer Fund):									
Unit 8	1998 light duty pickup (MR) 52408	12,451.89	1999	10	12,451.89	-		12,451.89	-
Unit 14	1999 Ford 3/4 ton F250 55561	23,729.06	1999	10	23,729.06	-		23,729.06	-
Unit 9	2000 Chevrolet 3/4 ton 74849	23,146.70	2000	10	18,517.36	2,314.67		20,832.03	2,314.67
Unit 17	2001 Ford F250 3/4 ton 28543	24,595.31	2001	10	19,676.24	2,459.53		22,135.78	2,459.54
Unit 16	2001 Ford F250 3/4 ton 28544	24,595.31	2001	10	19,676.24	2,459.53		22,135.78	2,459.54
Unit 3	2002 Ford F250 3/4 ton 11640	24,258.45	2002	10	16,980.92	2,425.85		19,406.77	4,851.69
Unit 13	2002 Ford Taurus (Mgr) 75251	17,317.99	2002	10	12,122.60	1,731.80		13,854.40	3,463.60
Unit 18	2003 Ford F-350 #31664	28,983.40	2003	10	17,390.04	2,898.34		20,288.38	8,695.02
Unit 19	2004 Ford F250 & Radio & Bed #73067	19,984.83	2004	10	9,992.41	1,998.48		11,990.90	7,993.94
Unit 2	2005 Ford F250 3/4 ton #23857	24,652.66	2005	10	7,395.80	2,465.27		9,861.06	14,791.60
Unit 1	2005 Ford F250 3/4 ton #23858	24,652.66	2005	10	7,395.80	2,465.27		9,861.06	14,791.60
Unit 4	2006 Ford F250 3/4 ton #89591	25,543.90	2006	10	5,108.78	2,554.39		7,663.17	17,880.73
Unit 5	2008 Ford Ranger Pickup #57907	14,141.33	2008	10	-	1,414.13		1,414.13	12,727.20
Unit 20	2008 Ford Ranger Pickup #57908	14,141.32	2008	10	-	1,414.13		1,414.13	12,727.19
Unit 12	2009 Ford Ranger Pickup #57909	15,873.24	2009	10	-	-		-	15,873.24
Other Enterprise Fund Vehicles (50.8% Water Fund, 49.2% Sewer Fund):									
Unit 6	1988 Ford F700 dumptruck 35450	39,289.00	1988	10	39,289.00	-		39,289.00	-
	1979 580-C Loader/Backhoe	32,664.52	1979	10	32,664.52	-		32,664.52	-
John Deere	1985 Deere Tractor/85" Bucket	28,103.99	1985	10	28,103.99	-		28,103.99	-
Utility Trlr	1979 Talley Utility Trailer TNT1378	3,260.00	1979	10	3,260.00	-		3,260.00	-
Super M	Case 580 SM Backhoe #JJG037637	71,283.93	2004	10	35,641.96	7,128.39		42,770.36	28,513.58
Sub-total Enterprise		492,669.49			309,396.61	33,729.78		343,126.39	
Sewer Fund Vehicles:									
Unit 7	Vac-Con Hydrocleaner #14026	203,238.75	2003	10	121,943.26	20,323.88		142,267.14	60,971.61
Unit 11	1979 Ford Econoline van 2983	4,909.00	1979	10	4,909.00	-		4,909.00	-
Pipe Trailer	Irrigation Pipe Trailer	1,155.00	1980	10	1,155.00	-		1,155.00	-
		209,302.75			128,007.26	20,323.88		148,331.14	
Combined Totals		701,972.24			437,403.87	54,053.65		491,457.53	
Water		250,276.10			157,173.48	17,134.73		174,308.21	
Sewer		451,696.13			280,230.39	36,918.93		317,149.32	
		701,972.24			437,403.87	54,053.65		491,457.53	

APPENDIX F
MCSD OVERFLOW EMERGENCY RESPONSE PLAN

MCKINLEYVILLE COMMUNITY SERVICES DISTRICT OVERFLOW EMERGENCY RESPONSE PLAN

Prepared for:
McKinleyville Community Services District
1656 Sutter
McKinleyville, California 95519

March 17, 2011

Prepared by:
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of



Freshwater Environmental Services

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1.0 INTRODUCTION

The intent of this document is to satisfy the McKinleyville Community Services District's (MCSD's) requirement to have an Overflow Emergency Response Plan (OERP).

1.1 Regulatory Requirements for the Overflow Emergency Response Plan

According to the Sanitary Sewer Management Plan (SSMP), the District shall develop and implement an Overflow Emergency Response Plan (OERP) that identifies measures to protect public health and the environment. At a minimum, this plan must include the following:

- Proper notification procedures so that the primary responders and regulatory agencies are informed of all Sanitary Sewer Overflows (SSOs) in a timely manner;
- A program to ensure appropriate response to all overflows;
- 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 in accordance with the Adopted Amended Monitoring and Reporting Requirements State Water Resources Control Board Order Number WQ 2008-0002-EXEC. All SSOs shall be reported in accordance with this Order, the California Water Code, other State Law, and other applicable Regional Water Board Waste Discharge Requirements (WDRs) or National Pollution Discharge Elimination System (NPDES) permit requirements. The SSMP should identify the officials who will receive immediate notification;
- Procedures to ensure that appropriate staff and contractor personnel are aware of and follow the Emergency Response Plan and are appropriately trained;
- Procedures to address emergency operations, such as traffic and crowd control and other necessary response activities; and
- 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 the SSOs, including such accelerated or additional monitoring as may be necessary to determine the nature and impact of the discharge.

1.2 Goals

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

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

2.0 SSO NOTIFICATION PROCEDURE

The processes that are employed to notify the District of the occurrence of an SSO include: observation by the public, receipt of an alarm, or observation by District Staff during the normal course of their work.

Public Observation

Public observation is the most common way that the District is notified of blockages and spills. During business hours calls are received at the District Office (707) 839-3251 and the Lead Utility Worker dispatches Utility Workers as an initial response. Calls may also be received by the Sherriff Office during the day who are then referred to the MCSD office.

After hours, calls to the District Office receive a pre-recorded message giving the phone number of the 24-hour pager assigned to MCSD Utility Staff that are on call (707) 268-4778.

The 24-hour emergency pager phone number (707) 268-4778 is also available on the MCSD website (mckinleyvillecsd.com).

Receipt of Alarm

The District's lift stations have alarm systems that automatically sends the signal alarms to the MCSD Office Supervisory Control And Data Acquisition (SCADA) computer which notifies the on-duty Utility Staff.

After hours the SCADA system auto dials the on-duty pager assigned to Utility staff who then respond.

District Staff Observation

District staff conducts periodic inspections of its sewer system facilities as part of their routine activities. Any problems noted with the sewer system facilities are reported to appropriate District staff who respond to emergency situations. The MCSD has an electronic work order system.

3.0 SSO RESPONSE PROCEDURES

Sewer service calls and lift station alarms are considered high priority events that demand a prompt response to the location of the problem. The goals of this *Overflow Emergency Response Plan* is to protect the public from hazards, identify source of overflow and determine ownership, perform cleanup and abatement, complete proper reporting procedures and provide good customer service. This *Overflow Emergency Response Plan* provides detailed response procedures for the first responder and Utility Staff responsible for identifying the source of the problem, correcting the cause of the overflow, and cleaning the surrounding area. A reporting form to be completed by the first responder is included in Appendix A.

3.1 Priorities

The first responder's priorities are:

- To follow safe work practices;
- To respond promptly with the appropriate equipment;
- To contain the spill wherever feasible;
- To restore the flow as soon as practicable;
- To minimize public access to and/or contact with the spilled sewage;
- To promptly notify the Lead Person who will notify the Operations Director who will notify the General Manager in the event of any SSO;
- To return the spilled sewage to the sewer system;
- To restore the area to its original condition (or as close as possible);
- Notify Operations Director so that required regulatory notices can be initiated; and
- In the event of damage to private or District-owned property or equipment, notify the Operations Director to ensure that the General Manager is notified immediately.

3.2 Safety During Response

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

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

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

- Utilize control devices such as signs, cones, delineators, lights, barricades, when work encroaches in lane(s) of traffic, or in an area subject to pedestrian or vehicle traffic;
- Utilize Personal Protection Equipment such as gloves; hardhat; safety glasses; safety vest; and splash goggles as needed; and

- Utilize proper lifting, pulling and bending techniques when removing a sanitary sewer access cover to protect the responders back.

3.3 Initial Response

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

The first responder will:

- Note arrival time at spill site;
- Verify the existence of a sewer system spill or backup;
- Identify and assess the affected area and extent of spill;
- Contact caller if time permits;
- Notify the Lead Person and or Operations Director in the event of any SSO, the Operations Director will notify the General Manager; and
- Notify the Operations Director if there is damage to private or District-owned property or equipment, reminding the Operations Director to immediately notify the District's General Manager.

The SSO is considered major if the following conditions are present:

- The spill appears to be large, in a sensitive area, or there is doubt regarding the extent, impact, or how to proceed;
- The spill appears to have caused damage to private or District property or equipment;
- The spill is in a public roadway and help with traffic control is needed to protect workers and the public; or
- Additional help is needed, Lead Utility worker will contact other employees, contractors, and/or equipment suppliers.

If the spill is large, has caused damage to private property, or is in a sensitive area, the responder will document conditions with photographs as soon as safety procedures and initial priorities have been implemented at the scene.

During the response to a major SSO District staff will need to decide whether to proceed with actions to restore the flow or to initiate containment measures. The guidance for this decision is:

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

3.4 Initial Spill Containment Measures

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

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

3.5 Recovery and Cleanup

The recovery and cleanup phase begins when the flow has been restored and the overflow of sewage has been stopped. Recovery will be completed using a VAC-CON truck. Typically, the SSO recovery and cleanup procedures include an estimate of spill volume, recovery of spilled sewage and cleanup and disinfection of the area.

Estimate the Volume of Spilled Sewage

Wherever possible, document the estimate using photos of the SSO site before the recovery operation. Various detailed methods of spill volume estimating are included in Appendix C. District personnel are cautioned against making any comments to the public regarding the possible cause or volume of a SSO at any time. Estimates of the volume of spilled sewage and/or cause for the SSO will be made only by the Lead Person in conjunction with the Operations Director.

Recovery of Spilled Sewage

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

Cleanup and Disinfection

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

Cleanup Involving Private Property

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

Cleanup of Hard Surface Areas

- Collect all signs of sewage solids and sewage-related material either by hand or with the use of rakes and brooms;
- Wash down the affected area with clean water until the water runs clear. Take reasonable steps to contain and vacuum up the wash water;
- Disinfect all areas that were contaminated from the overflow using a pressure-wash; and

- Allow area to dry. Repeat the process if additional cleaning is required.

Cleanup of Landscaped and Unimproved Natural Vegetation

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

Steps for Cleanup of Natural Waterways

- The Department of Fish and Game should be notified in the event an SSO impacts any surface water or riparian habitat. Fish and Game will provide the professional guidance needed to effectively cleanup spills that occur in these sensitive environments;
- Cleanup should proceed quickly in order to minimize negative impact. Sewage causes depletion of dissolved oxygen which will kill aquatic life; and
- Any water that is used in the cleanup should be de-chlorinated prior to use if chlorine residual is greater than 1 ppm (chlorine compounds are toxic to aquatic life).

Wet Weather Cleanup Modifications

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

3.6 Public Notification

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

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

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

Major spills may warrant broader public notice. The Operations Director will contact the General Manager for authorization to contact local media when significant areas may have been contaminated by sewage.

New reporting requirements as of February 2008 require that for any discharge of sewage that results in a discharge to a drainage channel or surface water, the District shall notify the following entities as soon as possible, but not later than 2 hours after becoming aware of the discharge.

- State Office of Emergency Services

- Humboldt County Department of Health and Human Services
- Regional Water Quality Control Board

In addition, the District must confirm that it notified these agencies within 24 hours after becoming aware of the discharge and send a report. The confirmation must be made to the Regional Water Quality Control Board.

3.7 Water Quality Sampling and Testing

Water quality sampling and testing is required whenever 500 gallons or more of spilled sewage enters surface water to determine the extent and impact of the SSO. The water quality sampling procedures are:

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

4.0 SSO INVESTIGATION AND DOCUMENTATION

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

Failure Analysis Investigation

The objective of the failure analysis investigation is to determine the “root cause” of the SSO and to identify corrective action(s) needed that will reduce or eliminate future potential for the SSO to recur. The failure analysis shall be conducted in conjunction with the Utilities Lead Worker, the Operations Director, and the District’s General Manager.

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

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

The product of the failure analysis investigation should be the determination of the root cause and the identification of the corrective actions. The findings of the failure analysis investigation shall be signed by the Utilities Lead Worker, and the Operations Director and shall be presented to the General Manager.

SSO Documentation

The first responder will complete the SSO Response First Responder Form contained in Appendix A. The Operations Director will prepare a file for each individual SSO. The file should include the following information:

All SSOs

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

Large SSOs and/or SSOs to sensitive areas

- Volume estimate;
- Appropriate maps showing the spill location;
- Photographs of spill location; and

- Water quality sampling and test results.

Post SSO Event Debriefing

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

As soon as possible after major SSO events, all of the participants, from the person who received the call to the last person to leave the site, should meet to review the procedures used and to discuss what worked and where improvements could be made in responding to and mitigating future SSO events. The results of the debriefing will be recorded and tracked to ensure the action items are completed. The Lead Person, Operations Director and the General Manager shall be included in the SSO Event Debriefing.

4.1 SSO Reporting

The internal and external reporting process for SSO events that are intended to meet the SWRCB requirements are summarized below. Category 1 and 2 SSOs are defined as:

Category 1 SSO – Category 1 SSO refers to all discharges of sewage resulting from a failure in the District's sanitary sewer system that:

- Equal or exceed 1,000 gallons; or
- Result in a discharge to a drainage channel and/or surface water; or
- Discharge to a storm drainpipe that was not fully captured and returned to the sanitary sewer system.

Category 2 SSO – Category 2 SSO refers to all other discharges of sewage resulting from a failure in the District's sanitary sewer system that are not Category 1 SSOs.

Internal SSO Reporting Procedures Category 1 SSOs

The first responder will immediately notify the Lead Utility Worker (working hours or after hours) who will in turn notify the Operations Director. The Operations Director shall immediately notify the General Manager if there appears to have been damage to private or District-owned property or equipment.

The Lead Utility Worker (working hours or after hours) will meet with field crew(s) at the site of the SSO event to assess the situation and to document the conditions with photos.

The Lead Utility Worker will fill out the SSO Response Report Form, contained in Appendix B, and turn it in as soon as possible to the Operations Director (working hours or after hours).

In the event of a very large overflow or an overflow in a sensitive area, the Operations Director will notify the District's General Manager. The District General Manager may notify the Board of Directors.

Category 2 SSOs

The first responder notify the Lead Person who will then notify the Operations Director. The first responder will fill out the SSO Response First Responder Form contained in Appendix A and turn it in to the Lead Utility Worker by the start of the next workday.

External SSO Reporting Requirements Category 1 SSOs

New reporting requirements as of February 2008 require that for any discharge of sewage that results in a discharge to a drainage channel or surface water, the General Manager or Operations Director shall notify the following entities as soon as possible, but not later than 2 hours after becoming aware of the discharge:

- State Office of Emergency Services (and obtain a Spill Control Number);
- Humboldt County Department of Health and Human Services; and
- Regional Water Quality Control Board.

In addition, the District must confirm that it notified these agencies within 24 hours after becoming aware of the discharge. The confirmation must be made to the Regional Water Quality Control Board.

The Operations Director will prepare an initial electronic report using the California Integrated Water Quality System (CIWQS) within three working days of completion of the response and mitigation activities. The General Manager will certify the report. The report will include the information to meet the SWRCB requirements.

The Operations Director will prepare a final electronic report using CIWQS within fifteen calendar days of completion of the response and mitigation activities. The report will be reviewed and approved by the District General Manager before submittal. The General Manager will certify the report. The final report will include the information to meet the SWRCB requirements.

Category 2 SSOs

The Operations Director will prepare an electronic report using CIWQS within 30 calendar days following the month that the spill occurred in. The report will be reviewed and approved by the District General Manager before submittal. The General Manager will certify the report. The report will include the information to meet the SWRCB requirements and the Lead Person will call the SWRCB.

Negative Spill Reports

If there are no SSOs during the calendar month, the District will provide, within 30 days after the end of each calendar month, a statement using CIWQS certifying that there were no SSOs for the designated month. The General Manager will certify the report.

CIWQS Not Available

In the event that CIWQS is not available, the District will fax all required information to the RWQCB 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. The RWQCB Fax number is (707) 523-0135.

5.0 EQUIPMENT AND TRAINING

This section provides a list of specialized equipment that is required to support this Overflow Emergency Response Plan.

Digital Camera

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

Utilities Trucks

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

Portable Pumps and Hoses

Portable pumps and piping will be used to pump around failed facilities and to recover spilled sewage. Portable pumps and hoses are available through local rental agencies. The portable pump required to support this plan is a 6-inch pump.

VAC-Con Truck

The VAC-Con truck is equipped with a high-pressure rodder and is used to respond to SSOs. The VAC-Con truck is used to vacuum up any spilled sewage and to clear blockages.

5.1 Training

This section provides information on the training that is required to support this *Overflow Emergency Response Plan*.

Initial and Annual Refresher Training

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

SSO Response Drills

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

Record Keeping

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

APPENDIX A
SSO RESPONSE FIRST RESPONDER FORM

MCSD

Sanitary Sewer Overflow Response First Responder Form

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

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

First Responder Signature

Date

APPENDIX B
SSO RESPONSE REPORT FORM

MCSD

Sanitary Sewer Overflow Response Report Form

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

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

Date and time verbal report to RWQCB:
Weather conditions prior 72 hours: <input type="checkbox"/> Sunny Weather <input type="checkbox"/> Cloudy Weather <input type="checkbox"/> Measurable Rain <input type="checkbox"/> Rain for Several Days

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

REGULATORY NOTIFICATION DETAILS
OES contacted date and time (if applicable): 800-852-7550
OES Control Number (if applicable):
Spoke to:
Humboldt County Division of Environmental Health contacted date and time (if applicable): 707-445-6215
Spoke to:
Regional Water Quality Control Board contacted date and time (if applicable): 707-576-2220
Spoke to:
Online Reporting of SSO (California Integrated Water Quality System (CIWQS)) http://ciwqs.waterboards.ca.go
Notify the Department of Fish and Game at (707) 445-6493 (if possible fish kill).

APPENDIX C
SSO VOLUME ESTIMATION GUIDE

SANITARY SEWER OVERFLOW - ESTIMATING VOLUME

METHOD 1: EYEBALL ESTIMATE

This method can be useful for small spills up to 100 gallons. To use this method, imagine the amount of water that would spill from a bucket or barrel. A bucket contains 5 gallons and a barrel contains 50 gallons. If the spill is larger than 50 gallons, try to break the standing water into barrels and multiply by 50 gallons.

METHOD 2: MEASURED VOLUME

Most small spills can be estimated with this method. The shape, dimensions, and depth of the spilled wastewater are needed. The shape and dimensions are used to calculate the area of the spill and the depth is used to calculate the volume.

Step 1 - Sketch the shape of the contained sewage

Step 2 - Measure or pace off the dimensions.

Step 3 - Measure the depth at several locations

Step 4 - Convert the dimensions including depth to feet

Step 5 - Calculate the area using the following formulas:

Rectangle Area = length x width

Circle Area = diameter x diameter x 0.785

Triangle Area = base x height x 0.5

Step 6 - Multiply area times the depth

Step 7 - Multiply the volume by 7.5 to convert it to gallons

METHOD 3: DURATION AND FLOW

This method is used when it is difficult or impossible to measure area and depth. The volume of the spill is estimated by multiplying the duration (in hours or days) by the flow rate (in gallons per hour or gallons per day). The time elapsed from the start of the spill to the time the spill has stopped. The following are some approaches that can be used to estimate duration. Start time: Initially, there will be limited deposits of grease and toilet paper at the spill site. After a few days, the grease forms a light colored residue. After a few weeks, the grease turns dark and the quantity of toilet paper and other materials will increase. These changes can be used to estimate start time in the absence of other information.

End time: The time is estimated by observing the "blow down" that occurs when the blockage has been removed.

Flow rate is the average flow leaving the sewer system at the time the spill has stopped. two ways to estimate the flow rate are:

- San Diego Manhole Flow Rate Reference Sheet (attached). This sheet shows the sewage flowing from a manhole cover for a variety of flow rates.
- Changes in flows in the downstream flow meters can be used to estimate the flow rate during the spill (better for large SSOs). Once the location of the spill is known, the number of upstream connections can be determined from the field maps. Multiply the number of connections by 150 gallons per day per connection or 8-10 gallons per hour per connection. Once the duration and flow rate have been estimated, the volume of the spill is the product of duration in hours or days times the flow rate in gallons per hour or gallons per day.

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Response Plan

Attachment D - Sample Templates for SSO Volume Estimation

TABLE 'A'
ESTIMATED SSO FLOW OUT OF M/H WITH COVER IN PLACE

24" COVER

Height of spout above M/H rim H in inches	S S O FLOW Q		Min. Sewer size in which these flows are possible
	in gpm	in MGD	
1/4	1	0.001	6"
1/2	3	0.004	
3/4	6	0.008	
1	9	0.013	
1 1/4	12	0.018	
1 1/2	16	0.024	
1 3/4	21	0.030	
2	25	0.037	
2 1/4	31	0.045	
2 1/2	38	0.054	
2 3/4	45	0.065	
3	54	0.077	
3 1/4	64	0.092	
3 1/2	75	0.107	
3 3/4	87	0.125	
4	100	0.145	8"
4 1/4	115	0.166	
4 1/2	131	0.189	
4 3/4	148	0.214	
5	166	0.240	
5 1/4	185	0.266	
5 1/2	204	0.294	
5 3/4	224	0.322	
6	244	0.352	
6 1/4	265	0.382	
6 1/2	286	0.412	
6 3/4	308	0.444	
7	331	0.476	
7 1/4	354	0.509	
7 1/2	377	0.543	
7 3/4	401	0.578	
8	426	0.613	
8 1/4	451	0.649	
8 1/2	476	0.686	
8 3/4	502	0.723	
9	529	0.761	

36" COVER

Height of spout above M/H rim H in inches	S S O FLOW Q		Min. Sewer size in which these flows are possible
	in gpm	in MGD	
1/4	1	0.002	6"
1/2	4	0.006	
3/4	8	0.012	
1	13	0.019	
1 1/4	18	0.026	
1 1/2	24	0.035	
1 3/4	31	0.044	
2	37	0.054	
2 1/4	45	0.065	
2 1/2	55	0.079	
2 3/4	66	0.095	
3	78	0.113	
3 1/4	93	0.134	
3 1/2	109	0.157	
3 3/4	127	0.183	
4	147	0.211	8"
4 1/4	169	0.243	
4 1/2	192	0.276	
4 3/4	217	0.312	
5	243	0.350	
5 1/4	270	0.389	
5 1/2	299	0.430	
5 3/4	327	0.471	
6	357	0.514	
6 1/4	387	0.558	
6 1/2	419	0.603	
6 3/4	451	0.649	
7	483	0.696	
7 1/4	517	0.744	10"
7 1/2	551	0.794	
7 3/4	587	0.845	
8	622	0.896	
8 1/4	659	0.949	
8 1/2	697	1.003	
8 3/4	734	1.057	
9	773	1.113	

Disclaimer:

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

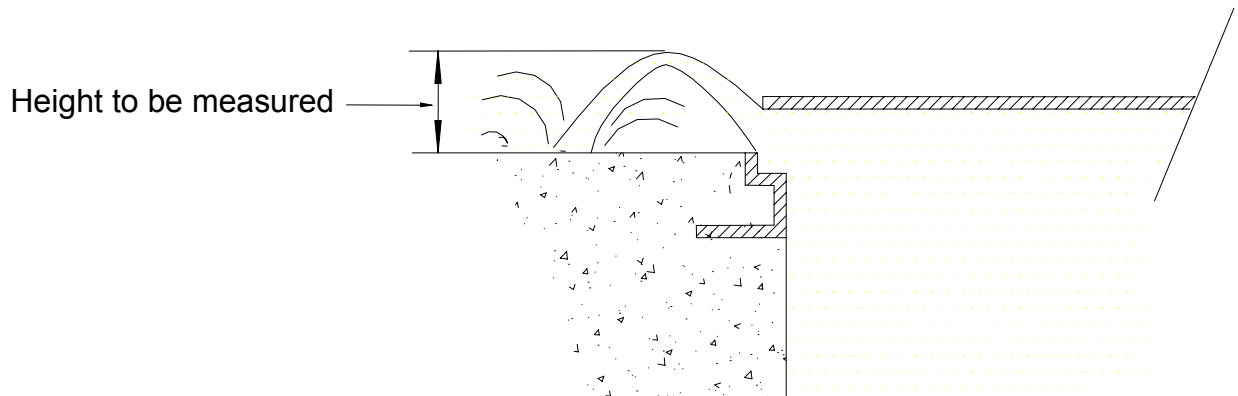
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Response Plan**

The formula used to develop Table A measures the maximum height of the water coming out of the maintenance hole above the rim. The formula was taken from hydraulics and its application by A.H. Gibson (Constable & Co. Limited).

Example Overflow Estimation:

The maintenance hole cover is unseated and slightly elevated on a 24" casting. The maximum height of the discharge above the rim is 5 ¼ inches. According to Table A, these conditions would yield an SSO of 185 gallons per minute.

FLOW OUT OF M/H WITH COVER IN PLACE



This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

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Best Practices for Sanitary Sewer Overflow (SSO) Prevention and
Response Plan

TABLE 'B'
ESTIMATED SSO FLOW OUT OF M/H WITH COVER REMOVED

24" FRAME

Water Height above M/H frame <u>H in inches</u>	S S O FLOW <u>Q</u>		Min. Sewer size in which these flows are possible
	<u>in gpm</u>	<u>in MGD</u>	
1/8	28	0.04	
1/4	62	0.09	
3/8	111	0.16	
1/2	160	0.23	
5/8	215	0.31	6"
3/4	354	0.51	8"
7/8	569	0.82	10"
1	799	1.15	12"
1 1/8	1,035	1.49	
1 1/4	1,340	1.93	15"
1 3/8	1,660	2.39	
1 1/2	1,986	2.86	
1 5/8	2,396	3.45	18"
1 3/4	2,799	4.03	
1 7/8	3,132	4.51	
2	3,444	4.96	21"
2 1/8	3,750	5.4	
2 1/4	3,986	5.74	
2 3/8	4,215	6.07	
2 1/2	4,437	6.39	
2 5/8	4,569	6.58	24"
2 3/4	4,687	6.75	
2 7/8	4,799	6.91	
3	4,910	7.07	

36" FRAME

Water Height above M/H frame <u>H in inches</u>	S S O FLOW <u>Q</u>		Min. Sewer size in which these flows are possible
	<u>in gpm</u>	<u>in MGD</u>	
1/8	49	0.07	
1/4	111	0.16	
3/8	187	0.27	6"
1/2	271	0.39	
5/8	361	0.52	8"
3/4	458	0.66	
7/8	556	0.8	10"
1	660	0.95	12"
1 1/8	1,035	1.49	
1 1/4	1,486	2.14	15"
1 3/8	1,951	2.81	
1 1/2	2,424	3.49	18"
1 5/8	2,903	4.18	
1 3/4	3,382	4.87	
1 7/8	3,917	5.64	21"
2	4,458	6.42	
2 1/8	5,000	7.2	24"
2 1/4	5,556	8	
2 3/8	6,118	8.81	
2 1/2	6,764	9.74	
2 5/8	7,403	10.66	
2 3/4	7,972	11.48	30"
2 7/8	8,521	12.27	
3	9,062	13.05	
3 1/8	9,604	13.83	
3 1/4	10,139	14.6	
3 3/8	10,625	15.3	36"
3 1/2	11,097	15.98	
3 5/8	11,569	16.66	
3 3/4	12,035	17.33	
3 7/8	12,486	17.98	
4	12,861	18.52	
4 1/8	13,076	18.83	
4 1/4	13,285	19.13	
4 3/8	13,486	19.42	

Disclaimer:

This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

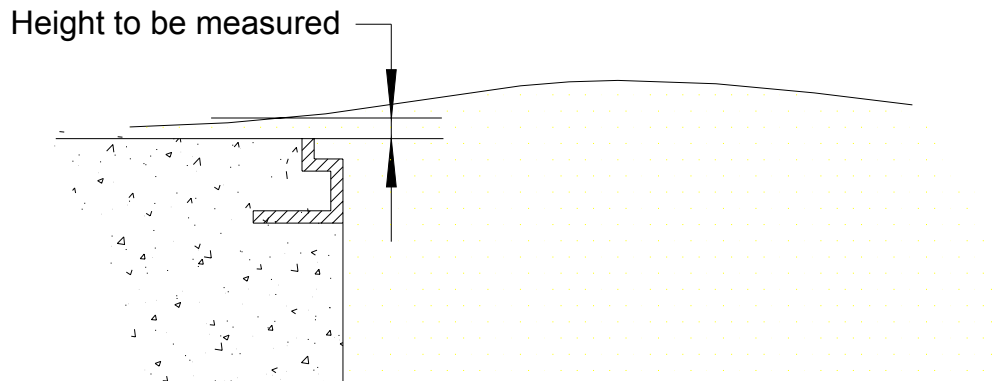
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The formula used to develop Table B for estimating SSO's out of maintenance holes without covers is based on discharge over curved weir -- bell mouth spillways for 2" to 12" diameter pipes. The formula was taken from hydraulics and its application by A.H. Gibson (Constable & Co. Limited).

Example Overflow Estimation:

The maintenance hole cover is off and the flow coming out of a 36" frame maintenance hole at one inch (1") height will be approximately 660 gallons per minute.

FLOW OUT OF M/H WITH COVER REMOVED (TABLE "B")



This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

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Best Practices for Sanitary Sewer Overflow (SSO) Prevention and
Response Plan**

TABLE 'C'
ESTIMATED SSO FLOW OUT OF M/H PICK HOLE

Height of spout above M/H cover <u>H in inches</u>	SSO FLOW <u>Q in gpm</u>	Height of spout above M/H cover <u>H in inches</u>	SSO FLOW <u>Q in gpm</u>	
1/8	1.0	5 1/8	6.2	
1/4	1.4	5 1/4	6.3	
3/8	1.7	5 3/8	6.3	
1/2	1.9	5 1/2	6.4	
5/8	2.2	5 5/8	6.5	
3/4	2.4	5 3/4	6.6	
7/8	2.6	5 7/8	6.6	
1	2.7	6	6.7	
1 1/8	2.9	6 1/8	6.8	
1 1/4	3.1	6 1/4	6.8	
1 3/8	3.2	6 3/8	6.9	
1 1/2	3.4	6 1/2	7.0	Unrestrained M/H cover will start to lift
1 5/8	3.5	6 5/8	7.0	
1 3/4	3.6	6 3/4	7.1	
1 7/8	3.7	6 7/8	7.2	
2	3.9	7	7.2	
2 1/8	4.0	7 1/8	7.3	
2 1/4	4.1	7 1/4	7.4	
2 3/8	4.2	7 3/8	7.4	
2 1/2	4.3	7 1/2	7.5	
2 5/8	4.4	7 5/8	7.6	
2 3/4	4.5	7 3/4	7.6	
2 7/8	4.6	7 7/8	7.7	
3	4.7	8	7.7	
3 1/8	4.8	8 1/8	7.8	
3 1/4	4.9	8 1/4	7.9	
3 3/8	5.0	8 3/8	7.9	
3 1/2	5.1	8 1/2	8.0	
3 5/8	5.2	8 5/8	8.0	
3 3/4	5.3	8 3/4	8.1	
3 7/8	5.4	8 7/8	8.1	
4	5.5	9	8.2	
4 1/8	5.6	9 1/8	8.3	
4 1/4	5.6	9 1/4	8.3	
4 3/8	5.7	9 3/8	8.4	
4 1/2	5.8	9 1/2	8.4	
4 5/8	5.9	9 5/8	8.5	
4 3/4	6.0	9 3/4	8.5	
4 7/8	6.0	9 7/8	8.6	
5	6.1	10	8.7	

Note: This chart is based on a 7/8 inch diameter pick hole

Disclaimer: This sanitary sewer overflow table was developed by Ed Euyen, Civil Engineer, P.E. No. 33955, California, for County Sanitation District 1. This table is provided as an example. Other Agencies may want to develop their own estimating tables.

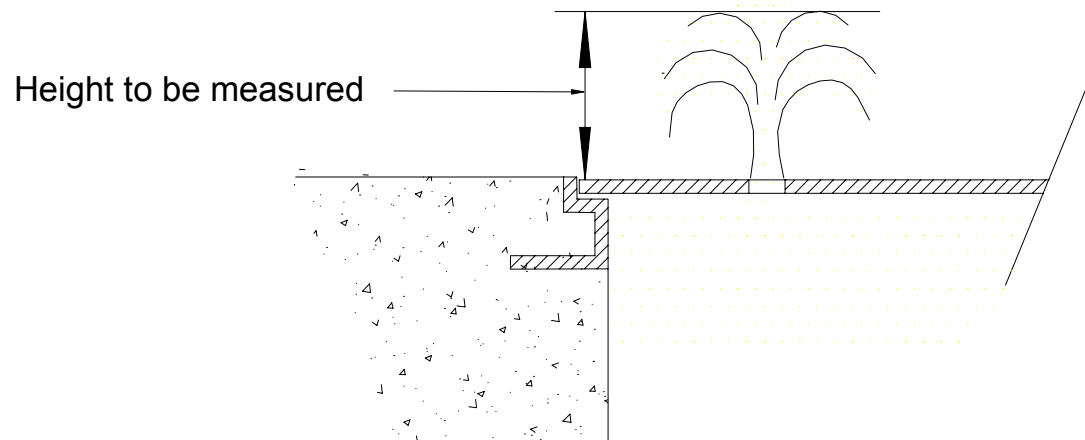
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The formula used to develop Table C is $Q = C_c V A$, where Q is equal to the quantity of the flow in gallons per minute, C_c is equal to the coefficient of contraction (.63), V is equal to the velocity of the overflow, and A is equal to the area of the pick hole.² If all units are in feet, the quantity will be calculated in cubic feet per second, which when multiplied by 448.8 will give the answer in gallons per minute. (One cubic foot per second is equal to 448.8 gallons per minute, hence this conversion method).

Example Overflow Estimation:

The maintenance hole cover is in place and the height of water coming out of the pick hole seven-eighths of an inch in diameter (7/8") is 3 inches (3"). This will produce an SSO flow of approximately 4.7 gallons per minute.

FLOW OUT OF VENT OR PICK HOLE (TABLE "C")



This sanitary sewer overflow drawing was developed by Debbie Myers, Principal Engineering Technician, for Ed Euyen, Civil Engineer, P.E. No. 33955, California, of County Sanitation District 1.

² Velocity for the purposes of this formula is calculated by using the formula $h = v^2 / 2G$, where h is equal to the height of the overflow, v is equal to velocity, and G is equal to the acceleration of gravity.

Collection System Collaborative Benchmarking Group Best Practices for Sanitary Sewer Overflow (SSO) Prevention and Response Plan



City of San Diego
Metropolitan Wastewater Department

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

Wastewater Collection Division
(619) 654-4160

Flow Estimation Pictures



5 gpm



25 gpm



50 gpm



100 gpm



150 gpm



200 gpm



225 gpm



250 gpm



275 gpm

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

rev. 4/99

APPENDIX G
MCSD FOG INSPECTION DOCUMENTATION

Interoffice Memo

Date: January, 2011

To: Greg Orsini

Cc:

From: James Henry

RE: GREASE TRAP INSPECTION

This is a list of grease traps inspected on _____

Date	Location	Results	Int.
1-19-11	Moose Lodge	2 1/4" in 1st, milky water w/ 6" SS in 2nd Get them 'know it needed pumping	ED
1-20	Morris School	Oil skin on top, fairly clean under	ED
1-20	KFC	Unchanged	
1-19	Taco Bell	2 1/4" in 1st, 8'-10" in 2nd - evidence of grease leaving Told to mgr.	ED
1-19	Ray's Food Place	Oil skin, milky under, no SS	ED
—	Kmart	No Kitchen	—
1-19	Six Rivers Brewery	1/2" in 1st (base, oily), skin in 2nd - clean water, no SS	ED
1-19	Luzmilas	2-3" grease, no SS, milky	ED
1-19	Niveens	No grease trap in use	ED
1-20	Burger King	1/2" in 1st, minor in 3rd - looks freshly cleaned	ED
1-19	McDonalds	8-10" in 1st, 2" in 2nd - No SS - Milky	ED
1-19	Denny's	5-6" in 1st, skin in 2nd - Milky w/ no SS	ED
1-19	Carmela's	1" grease, fairly clean under	ED
1-20	Safeway	4-5" solid/floss in 1st, 2nd Creamy water, no SS	ED
1-20	Silver Lining	1/2" grease, clear under, no SS	ED
1-20	Central 76	1/2" skin, clear under, no SS	ED

SS is permeable
on 1/28/11

Foot print will
pump on 2/1/11

Interoffice Memo

1-19	Azalea Hall	1-2" grease, character, 1/2" ss - some evidence of grease leaving - could be cleaned	ED
—	Quiznos	No Grease Trap OOB	—
1-20	Don Juans/Live N.Y.	12" in 1st, w/ ss, 6" in 2nd	ED
—	Round Table	No Grease Trap	—
1-19	Mck. Middle School	1" septic grease, minor ss, clean ca. for	ED
—	Tastebud's	No Grease Trap	—
1-20	US Coast Guard	2" solid grease, clean under	ED
1-20	Timber Ridge Living	1/2" in 1st, 3rd clean - No ss	ED
1-20	Smugs Pizza	Auto trap maintained and functioning	ED
1-19	First Baptist Church	Kitchen closed - no immediate plans to reopen	ED
1-20	Woody's BBQ Central Grill	6" grease, dirty - new owners said they'd empty soon	ED

TAUCED to oscrip

1-20

Interoffice Memo

Date:

To: Greg Orsini

Cc:

From: James Henry

RE: GREASE TRAP INSPECTION

This is a list of grease traps inspected on _____

Date	Location	Results	Int.
	Moose Lodge		
	Morris School		
	KFC		
	Taco Bell		
	Ray's Food Place		
	Kmart	No Kitchen	
	Six Rivers Brewery		
	Luzmilas		
	Niveens		
	Burger King		
	McDonalds		
	Denny's		
	Carmela's		
	Safeway		
	Silver Lining		
	Central 76		

Interoffice Memo

	Azalea Hall		
	Quiznos	No Grease Trap	
	Don Juans/Live N.Y.		
	Round Table	No Grease Trap	
	Mck. Middle School		
	Central Sandwich	No Grease Trap	
	US Coast Guard		
	Timber Ridge Living		
	Smugs Pizza		
	First Baptist Church		
	Central Grill		