

SEWER SYSTEM MANAGEMENT PLAN

South Tahoe Public Utility District

Updated May 2020



LIST OF ACRONYMS	4
EXECUTIVE SUMMARY	5
1. SEWER SYSTEM MANAGEMENT PLAN GOALS	6
2. ORGANIZATION	7
2.1 SANITARY SEWER OVERFLOW RESPONSE AND REPORTING	8
2.2 LEGALLY RESPONSIBLE OFFICIAL	9
2.3 EMPLOYEE ORGANIZATION CHART AND RESPONSIBILITIES	9
3. LEGAL AUTHORITY	11
4. OPERATIONS AND MAINTENANCE	12
4.1 COLLECTION SYSTEM MAPPING	12
4.2 PREVENTIVE AND CORRECTIVE MAINTENANCE	13
4.3 REHABILITATION AND REPLACEMENT PROGRAM	14
4.4 EMPLOYEE TRAINING	14
4.5 EQUIPMENT REPLACEMENT AND INVENTORY TRACKING	14
5. DESIGN AND PERFORMANCE PROVISIONS	15
5.1 DESIGN STANDARDS FOR INSTALLATION, REHAB, AND REPAIR	15
5.2 STANDARDS FOR INSPECTION AND TRAINING OF NEW, REHABILITATED, AND REPAIRED FACILITIES	15
6. OVERFLOW EMERGENCY RESPONSE PLAN	16
6.1 SPILL NOTIFICATIONS	16
6.2 REPORTING REQUIREMENTS FOR DISCHARGE TYPE CATEGORIES	17
6.3 DISTRICT PERSONNEL EMERGENCY CONTACT PHONE NUMBERS	17
6.4 SPILLS INTO SURFACE WATER OR DRAINAGE DITCH	18
6.5 SPILLS ON UNITED STATES FOREST SERVICE LAND	19
6.6 SEWAGE PUMP STATION FAILURE	19
6.7 CONTINGENCY PLAN FOR BY-PASS PUMPING AT SEWER PUMP STATIONS	20
6.8 SPILLS IN ALPINE COUNTY	22
7. FATS, OILS AND GREASE CONTROL PROGRAM	23
7.1 NATURE AND EXTENT	23
7.2 SOURCE CONTROL PROGRAM	23
7.3 COMMERCIAL SOURCE CONTROL	23
7.4 PLAN REVIEW/INSPECTIONS	23
7.5 REPORTING	24
7.6 PUBLIC OUTREACH	24
8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN	26
8.1 COLLECTION SYSTEM HYDRAULIC CAPACITY EVALUATION	26
9. COLLECTION SYSTEM CAPITAL IMPROVEMENT PLAN	29
9.1 MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS	29
10. PROGRAM AUDITS	31
11. COMMUNICATION PROGRAM	32
APPENDICES	
APPENDIX A – CHANGE LOG FORM	
APPENDIX B – SSMP DOCUMENTS AND RECORDS	
APPENDIX C – SOUTH TAHOE PUBLIC UTILITY DISTRICT ADMINISTRATIVE CODE	



APPENDIX D – STANDARD DETAILS

APPENDIX E – CURRENT DISTRICT STAFF CONTACT INFORMATION



LIST OF ACRONYMS

CCTV – Closed Circuit Television
CIP - Capital Improvement Plan
CIWQS - California Integrated Water Quality System
CMMS – Computerized Maintenance Management System
CSD - Customer Service Department
CSMP – Collection System Master Plan
FOG – Fats, Oil and Grease
GIS – Geographic Information System
GWDR — General Waste Discharge Requirement
I/I - Inflow and Infiltration
LACP - Lateral Assessment Certification Program
LOS - Level of Service
LRO – Legally Responsible Official
MACP - Manhole Assessment Certification Program
MRP - Monitoring and Reporting Program
O&M – Operation and Maintenance
OERP - Overflow Emergency Response Plan
OES – Office of Emergency Services
PACP - Pipeline Assessment Certification Program
RWQCB—Regional Water Quality Control Board
SCADA - Supervisory Control and Data Acquisition
SEZ - Stream Environment Zones
SSMP – Sewer System Management Plan
SSO – Sanitary Sewer Overflow
SWRCB - State Water Resources Control Board
URS - Underground Repair Sewer
WDR – Waste Discharge Requirement



EXECUTIVE SUMMARY

The South Tahoe Public Utility District (STPUD or District) collects and conveys the wastewater for the South Lake Tahoe area within El Dorado County. The Sanitary Sewer Collection System (Collection System) includes: 312 miles of sewer gravity main, 106 miles of sewer laterals, 20 miles of pressurized sewer transmission lines; and 43 pump stations to convey all the wastewater to the Wastewater Treatment Plant. All secondary treated effluent is exported 30 miles to Alpine County for agricultural use.

The permitted wet-weather flow into the plant is 18.5 million gallons per day (MGD). Normal dry-weather flow is 4 MGD. The wastewater treatment plant treatment process adjusts to the varying populations in the South Lake Tahoe region, which fluctuates from 20,000 to 100,000 people given the season. During wet-weather, when the area experiences high volumes of snow and/or rain, the inflow and infiltration (I/I) becomes a concern for managing high flows into the plant.

As of May 2, 2006, the State Water Resource Control Board (SWRCB) requires all public agencies that operate a wastewater collection system in California with sewer lines greater than one mile to be regulated under General Water Discharge Requirements (WDR). The SWRCB requires all public agencies to create a Sewer System Management Plan (SSMP) and the reporting of Sanitary Sewer Overflows (SSOs) using an electronic reporting system.

The SSMP has been prepared and revised to be in compliance with SWRCB Order No. 2006-0003 and Order No. WQ 2013-0058-EXEC with the addition of the Amended Monitoring and Reporting Program (MRP). The new MRP requirements issued by the SWRCB are in effect as of September 9, 2013 and are included in this revision of the District's SSMP.



1. SEWER SYSTEM MANAGEMENT PLAN GOALS

The Goals of the SSMP are to provide a plan and schedule to properly manage, operate, and maintain all parts of the collection system to reduce and prevent Sanitary Sewer Overflow (SSO) occurrences, as well as mitigate SSOs that do occur. The District's SSMP Goals were established and adopted in 2007 and include:

- To properly manage, operate and maintain all portions of the District Collection System.
- Minimize the frequency and magnitude of Sanitary Sewer Overflows.
- Prevent public health hazards.
- To meet all applicable regulatory notification monitoring and reporting requirements.
- Protect the District's investment in its collection system by performing preventive maintenance and extending their useful life.
- Prevent damage to public and private property that could result from SSOs.
- Convey wastewater to treatment facilities with minimal inflow and infiltration.
- Provide adequate capacity to convey peak wastewater flows.
- Perform all operations in a safe manner to avoid personal injury and/or property damage.



2. ORGANIZATION

The District's Collection System is operated and maintained by the employees of the District in addition to responding to sewer-related emergencies such as SSOs. Table 2.1 identifies the responsibilities of the listed District management, administrative or maintenance positions. Table 2.2 details District departments or personnel responsible for implementing the specific elements of the SSMP for the District. Telephone numbers for current District employees responsible for implementing the SSMP and assisting during a spill can be found in Appendix E.

TABLE 2.1 – SSMP ROLES FOR WASTEWATER COLLECTION SYSTEM

Role	Responsibility
General Manger	Establishes policy, plans strategy, leads staff, allocates resources, delegates responsibility, authorizes outside contractors to perform services, and may serve as a Public Affairs Manager.
Assistant General Manager/Engineer	Prepares wastewater collection system planning documents; manages capital improvement delivery system; documents new and rehabilitated assets; and coordinates development and implementation of SSMP.
Public Affairs Manager	The Public Affairs Manager will be responsible for facilitating all forms of communication between the general public and the District, including press releases, public outreach and response to public concerns with maintenance and operation of District facilities.
Manager of Field Operations	First point of contact during SSO calls during non-business hours manages collection system and flows into plant, leads emergency response in non-business hours.
Underground Repair Sewer (URS) Supervisor	Manages field operations and maintenance activities, provides relevant information to Enrollee management, prepares and implements contingency plans, leads emergency response, investigates and reports SSOs, and trains field crews.
Pumps Supervisor	Manages field operations and maintenance activities for sewer pump stations, prepares and implements contingency plans, leads emergency response, investigates and reports SSOs, and trains field crews.
Customer Service Supervisor	Ensures that new and rehabilitated assets meet District standards, works with field crews to handle emergencies when contractors are involved; and provides verbal reports to District Engineer.
Asset Management Analyst	Manages data collected from CCTV for analysis and prioritization of repairs.

***ALL SPILLS FROM COLLECTION SYSTEM OR PUMP STATIONS REQUIRE that the Manager of Field Operations and either the Underground Repair Sewer Supervisor or the Pumps Supervisor be notified. Leave messages if unable to contact.**



TABLE 2.2 – CORRESPONDING RESPONSIBLE PARTIES TO SSMP ELEMENTS

SSMP Element	Responsible Party Position
Goals	Board of Directors, General Manager, and Manager of Field Operations
Organization	Manger of Field Operations, URS Supervisor
Legal Authority	District Attorney/ Board Approval, Manager of Field Operations, URS Supervisor
Operations and Maintenance Program	Manger of Field Operations, URS Supervisor, Asset Management Analyst
Design and Performance Provisions	Manger of Field Operations, URS Supervisor, Engineering Department
Overflow Emergency Response Program	Manger of Field Operations, URS Supervisor
Fats, Oils, and Grease Control Program	Manger of Field Operations, URS Supervisor, Public Affairs Manager
System Evaluation and Capacity Assurance Plan	Manger of Field Operations, URS Supervisor
Monitoring, Measurement and Program Modifications	Manger of Field Operations, URS Supervisor
Program Audits	Manger of Field Operations, URS Supervisor
Communication	Manger of Field Operations, URS Supervisor, Public Affairs Manager
Change Log	All persons
Appendices	Manger of Field Operations, Manager of Customer Service, Engineering Department

2.1 SANITARY SEWER OVERFLOW RESPONSE AND REPORTING

Notifications about sewage spills come to the District via SCADA or customer calls. When the District receives notifications about spills, there is a series of phone calls and persons to be notified depending on the nature of the incident. The chain of communication to respond to a SSO or similar emergency is outlined by Figure 2.1 - SSO Response Flowchart. The Underground Repair Sewer Supervisor is responsible for reporting SSOs to the State Water Board, Regional Water Quality Control Board and other agencies which could include the City of South Lake Tahoe, El Dorado County Department of Environmental Health Services, California Department of Fish and Wildlife, and/or Office of Emergency Services (OES).

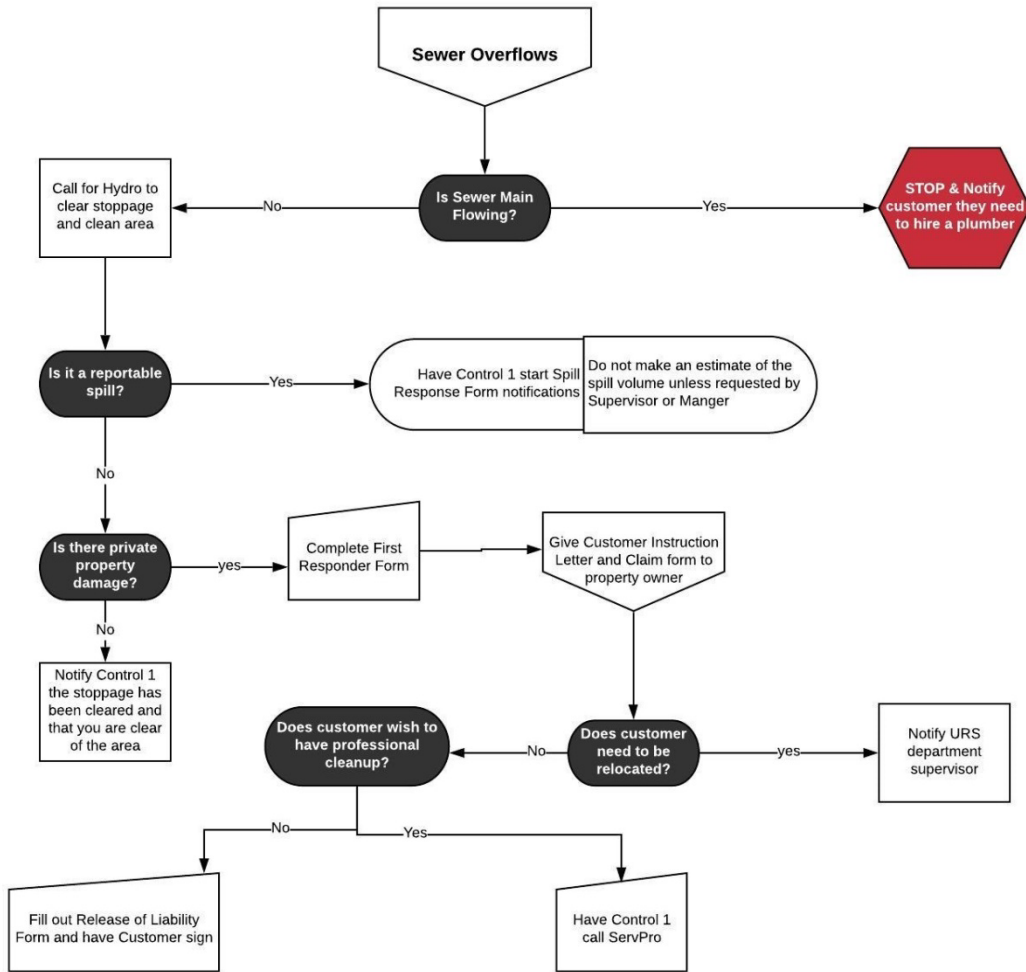


FIGURE 2.1 – SSO RESPONSE FLOWCHART

2.2 LEGALLY RESPONSIBLE OFFICIAL

The role of the Legally Responsible Official (LRO) is filled by the Manger of Field Operations and the Underground Repair Sewer Supervisor. Their duty as the LRO is to report each SSO through the California Integrated Water Quality System (CIWQS) and prepare additional reports for the SWRCB, RWQCB, City of South Lake Tahoe, El Dorado County Department of Environmental Health Services, California Department of Fish and Wildlife, and OES.

The District’s LROs are registered with the SWRCB as outlined by the Monitoring and Reporting Program (MRP) requirements in place as of 2013.

2.3 EMPLOYEE ORGANIZATION CHART AND RESPONSIBILITIES

The organizational chart in Figure 2.3 outlines the general organization of positions for employees at the District as of 2020. Roles and responsibilities of key personnel in managing the collection system and a narrative of their authority are explained in Table 2.1.



South Tahoe Public Utility District

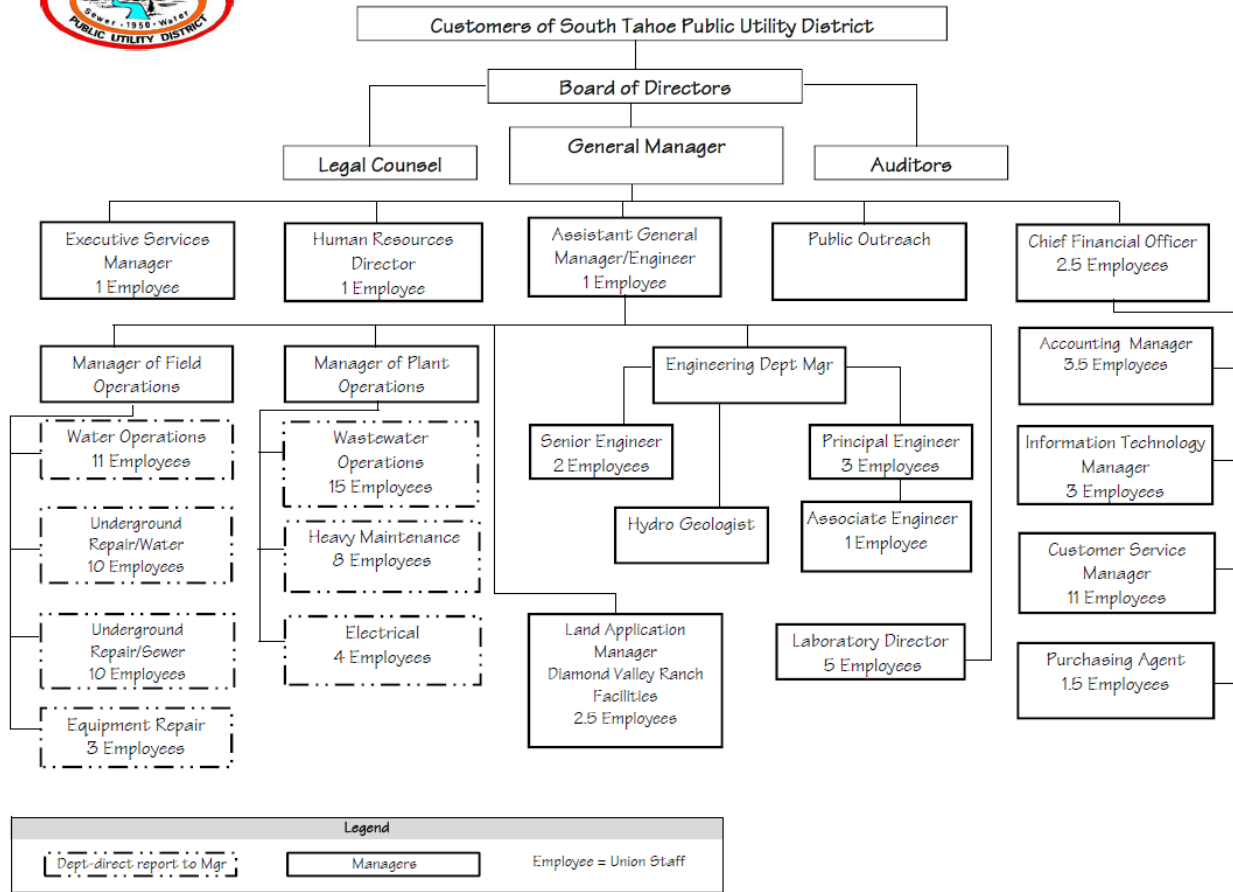


FIGURE 2.2 – STPUD GENERAL ORGANIZATIONAL CHART (2020)



3. LEGAL AUTHORITY

The District's legal authority required for the SSMP by the SWRCB is contained in the South Tahoe Public Utility District Administrative Code and can be found in Appendix C or found on the District website at <http://stpud.us/documents>.



4. OPERATIONS AND MAINTENANCE

The District's sewer collection system operations and maintenance are accomplished by coordination between Underground Repair Sewer, Pumps Crew, Plant Operations and Engineering Department. Each of these departments provides support in a variety of ways to operate and maintain the sewer system. The District utilizes programs to respond to sewer emergencies, clean the sewer system, provide routine maintenance and repairs in problematic areas, provide reliable transmission of sewage to the wastewater treatment plant via pump stations, inspect the sewer system, retain accurate GIS data of the sewer collection system, and plan for improvements to the system using a data driven approach. The District's sewer collection system is shown below by Figure 4.1.

4.1 COLLECTION SYSTEM MAPPING

Geographic Information System (GIS) is the District's main form of collection system mapping.

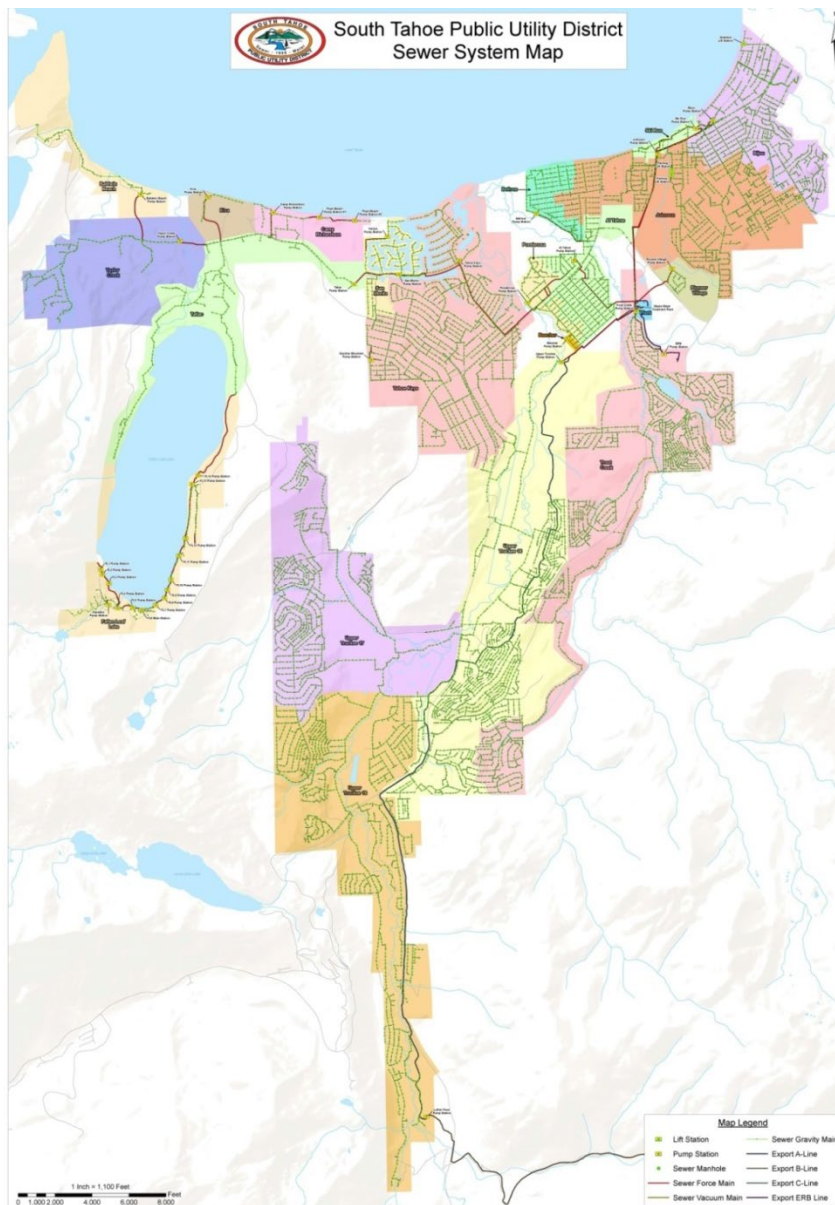


FIGURE 4.1 STPUD GIS SEWER SYSTEM MAP



4.2 PREVENTIVE AND CORRECTIVE MAINTENANCE

The preventive and corrective maintenance for the District's Underground Repair Sewer Crew is extensive and well documented within the district's Computerized Maintenance Management System (CMMS). The log of scheduled maintenance consists of hundreds of different assets that need routine attention or need corrective maintenance to improve or fix problems in the sewer system. Underground sewer crews prioritize maintenance using the data collected and analyzed by the Asset Manager.

District sewer crews perform closed-circuit televisions (CCTV) inspections of manholes and sewer lines. Using data from the CCTV inspections, a sewer prioritization list was created from engineering to focus efforts for inspection on areas of highest concern. Scores were calculated from a matrix analyzing sewer line inspection prioritization scores (Table 4.2). The sewer line inspection prioritization matrix included factors contributing to likelihood of failure and consequence of failure.

TABLE 4.1 – LIKELIHOOD VS. CONSEQUENCE OF SEWER FAILURE

Factors Contributing to Likelihood of failure			Factors contributing to Consequence of failure		
Maintenance	System Design	Environmental	High Cost	Public Impact	Environmental
Inspection score	Waste Age	Pipe between high and low ground water	Near force main discharge	Near critical facilities	River crossing, Inverted Siphons
Enhanced Cleaning list	Low Flow, small slope (<1%)	Zoning factor	Depth	Lahontan List	Located in SEZ
Clay pipe	Near force main discharge	Pipe less than 200 feet from surface water	Roadway type	Large Diameter Main (greater than 10")	Below high groundwater
Type 1 AC pipe	Manhole chimney above grade		"Easements", not located in roadways; poor access		
Lack of cleaning history	Drop Manhole				
Smart cover manholes					
Frequent lateral callouts					

Preventive maintenance schedules can be anywhere from daily, weekly, monthly, quarterly, bi-annually, annually, or longer period. The schedule is based upon the type of maintenance, the number of assets, manpower, equipment, and weather conditions. The District typically hires temporary staff in the summer months to help support staff to ensure the highest priority maintenance to its assets is performed. Preventive maintenance is broken down into different groupings including, but not limited to:

- Hydro vacuum mains: Water pressure hose that cleans the sewer lines.
- Warthog List: This is a special high-pressure water nozzle that cleans heavy grease deposits in sewer mains.
- Vacuum List: List of sewer mains known to have a lot of grit in them.
- Lahontan List: This is a list of manholes close to waterways that are checked more frequently.



- River Crossings: Sewer lines that cross streams
- Enhanced Monthly Cleaning Projects: Sewer lines known to have flat spots and heavy grease build-ups.
- Post-Spot Repair Project: Confirmation spot repairs have been completed correctly.
- Easement Projects: Clearing of brush and routine inspections of manholes.

4.3 REHABILITATION AND REPLACEMENT PROGRAM

Currently, the District has only developed a reactionary maintenance program. As collection system infrastructure ages at relatively the same rate, a replacement program is being developed using data collected in the preventative maintenance program. Corrective Maintenance could include root intrusion, TV inspection of a line to determine if a sink hole is due to a failed sewer main, customer complaint of stoppages, SSO situations, a snow plow hits a manhole, to list a few. These are all tracked in the CMMS either on a scheduled basis or due to an emergency situation.

Monthly automated reporting from CMMS is generated and emailed to key staff at the District. This monthly work order detailed report summarizes each completed work order labor report with all the labor, material, and equipment costs to the District along with a total monthly cost. The Asset Management Analyst reviews work orders to assess the completeness and thoroughness of the reports.

4.4 EMPLOYEE TRAINING

All field staff is trained on the CMMS and able to use it. This valuable tool has enabled the District to move forward in its vision to improve its asset management program and provide a better tool to employees. In addition, all crews are trained annually for:

- Confined space and competent persons
- Pipe Assessment Certification Program (PACP)
- Manhole Assessment Certification Program (MACP)
- CWEA Collection System Maintenance I/II/III certifications and renewals

4.5 EQUIPMENT REPLACEMENT AND INVENTORY TRACKING

Maintenance Connection is a work order management system used to enhance job planning and scheduling by tracking assets, preventative and predictive maintenance and costs associated with labor, materials equipment and other District expenses. The Maintenance Connection database provides us with analysis tools to help make improvements based on data collected. The database is linked with the District's GIS database and parts inventory program, Tyler New World. Combining the tracking and data collection of Maintenance Connection, GIS and Tyler New World will provide the most current data for District crews and reduce duplication of effort saving the District time and money.



5. DESIGN AND PERFORMANCE PROVISIONS

The District's Engineering Department directs the design and performance standards for the sewer collection system and manages construction projects performed by the District's contractors. The Engineering Department works with the Manager of Field Operations and Manager of Plant Operations to define the performance criteria for the collection system, identify products and materials to use for construction of the system, and implement inspection and testing programs for new, existing and rehabilitated sewer assets.

5.1 DESIGN STANDARDS FOR INSTALLATION, REHAB, AND REPAIR

The District's Standard Specifications and Details govern the requirements for procurement and implementation of each project. The District's capital improvement projects for the sewer collection system mainly focus on pump station rehabilitation and recycled water facilities. New construction of sewer mains or projects that increase the capacity of the system are not needed as the service area does not continue to expand. Standard specifications are updated for each project and contain a specific list of bid items pertaining to the unique project. Standard Details are included in the project plans for each collection system or sewer repair project and are included in Appendix D of this document.

A bidding package is awarded each year for collection system spot rehabilitation and repair. The purchasing agent prepares a bidding package outlining the desired locations for sewer line spot repair and lateral abandonment services. Laterals are abandoned when a source of I/I is discovered from an undeveloped California Tahoe Conservancy or United States Forest Service parcel.

5.2 STANDARDS FOR INSPECTION AND TRAINING OF NEW, REHABILITATED, AND REPAIRED FACILITIES

The District maintains and updates procedures for inspecting new sewer lateral connections, requirements for air testing the new sewer laterals, sizing for grease interceptors and manhole testing. Engineering also maintains standard details for construction and repair of manholes, sewer inlets and cleanout, and construction of repair sewer mains. Engineering technicians maintain and update the details accordingly to new standards. As of 2020, the most recent updates are from July 2016 for the standard inspection procedures and standard construction details. With any new construction of sewer laterals, the underground sewer repair department will inspect and approve the sewer lateral using their CCTV equipment.

The District provides training to all employees who work on the collection and recycled water system regularly. Sewer O&M training is done in house within the URS and Pumps department. Emergency and safety training is provided annually or as needed for confined space, competent person, trench safety, driving safety, injury and illness prevention, hearing tests, and hazard communication. Additional trainings and certifications for the collection system departments include LACP, PACP, MACP, and CWEA Collection System Maintenance Certifications (Levels I/II/III). Other certifications required for maintaining the collection system and recycled water are Electrical/Instrumentation Technologist certifications, Laboratory Analyst certifications and Wastewater Operator certifications (Grades I-V).



6. OVERFLOW EMERGENCY RESPONSE PLAN

When an SSO occurs within the District's Collection System, the District crews and staff respond according to the overflow emergency response plan (OERP) as described by this Section.

- Reports of a spill are initially received through customer calls or alarmed by the District's SCADA. The spill should be immediately reported to the Manager of Field Operations and the Underground Repair Sewer Supervisor. Additional District personnel may need to be contacted as described in Section 6.3 of this document.
- For category 1 and 2 spills a crew from Underground Repair Sewer or during after work hours an emergency clean up contractor will be deployed to the site of the spill equipped with camel truck and pumps to contain the spill and equipment and materials needed for repair and clean up. If additional help is needed the Manager of Field Operations will contact additional District staff.
- For Category 3 spills, the response shall follow the Residential Overflows/Backups and Water Damage Procedures document found in Appendix B.
- The Manager of Field Operations shall notify the Customer Service Manager to be prepared for any damage claims from customers.
- A laboratory technician shall be notified to perform water quality testing if the spill enters surface waters or enters storm drain and is not contained.
- Repairs shall be inspected within 48 hours for spills into surface waters to verify the sewer system is operating within the District's level of service standards.
- All of the above mentioned measures shall be taken to prevent, contain, cleanup, and report sewage spills, as well as any other additional measures as dictated by common sense.

6.1 SPILL NOTIFICATIONS

Contacts should be made by the URS Supervisor or Lead Person in charge, or if requested to do so, a Plant Operator. Please be ready to provide the following information:

- Location, time, and probable cause of spill
- Surface water contamination
- Health Risks
- Current Status of spill
- Estimate of Volume (to nearest five or ten gallons)

After obtaining a spill number from OES, fax a copy of Spill Response Form to the RWQCB within 2 hours in addition to calling the following required agencies:

In case of a sewage spill, all of the following must be notified:		
Office of Emergency Services (OES)		800-852-7550
RWQCB, Lahontan		542-5400 544-2271 Fax
EDC Environmental Health Department		573-3450 / 573-3451 (Direct line) 544-7474 (After hours)
California Fish & Game: Fish & Game Dispatch (Region II)	If spill reached surface water	916 358-2900 (Regional Office) 916 358-1300 (Dispatch)

TABLE 6.1 –PUBLIC AGENCIES TO BE NOTIFIED IN THE EVENT OF SSO



6.2 REPORTING REQUIREMENTS FOR DISCHARGE TYPE CATEGORIES

Category 1 (*any volume to surface water*) – 3 days (draft report), 15 days (final report), 45 days (technical report)

- Requires OES # and all notifications be made. Category 1 spills represent a greater threat to public health.
- A discharge of sewage which (1) exceeds 1,000 gallons, or (2) a discharge of sewage to a surface water and/or drainage channel, or (3) a discharge of sewage to a storm drain that was not fully captured and returned to the sanitary sewer system.

Category 2 – 3 days (draft report), 15 days (final report)

- Requires OES # and all notifications be made
- Any discharge of sewage which does not meet the criteria for Category 1. Category 2 spills represent a lesser threat to public health.

Category 3 (*Private lateral discharge*) – 30 days after end of month in which SSO occurred

- No OES # or notifications, voluntarily reported

No Spill – file a No Spill report within 30 days after the end of the month in which no SSO has occurred.

6.3 DISTRICT PERSONNEL EMERGENCY CONTACT PHONE NUMBERS

There are several District personnel that will need to be contacted in the event of a spill. Depending on the location of the spill and the availability of staff a different group of personnel may be contacted in response to a spill. Telephone numbers for current District employees to be notified during a spill can be found in Appendix E.

TABLE 6.2 –DISTRICT PERSONNEL TO BE NOTIFIED IN THE EVENT OF SSO

In case of a sewage spill, the following District staff <i>must</i> be notified under the corresponding circumstances:	
Underground Repair Sewer Supervisor	All Spills
Manager of Field Operations	All Spills
Pumps Supervisor	Pump Station Spills
Customer Service Manager	Residential damage (If unable to contact Underground Repair/Sewer Supervisor or Manager of Field Operations)
Laboratory Director	For a Laboratory Technician in the event a spill reaches surface waters
Water Reuse Operations Manager	Spill in Alpine County (Call Assistant General Manager or General Manager if you cannot reach)



Manager of Plant Operations	If no other managers can be reached
Assistant General Manager	If no other managers can be reached
General Manager	If you cannot reach Manager of Field Operations, Manager of Plant Operations or Assistant General Manager

All Spills from Collection System or Pump Stations require that Manager of Field Operations and Underground Repair/Sewer Supervisor are notified. Leave messages if unable to contact.

6.4 SPILLS INTO SURFACE WATER OR DRAINAGE DITCH

If the SSO flows into any surface water or drainage ditch leading to a stream or any lake the following actions and notifications must happen:

- The Lab must be notified to sample any spill that reaches any surface water
- All spills will be investigated immediately after the stoppage is broken in order to determine the size and extent of the spill
- Lines to be TV'd within 48 hours to determine possible cause

TABLE 6.3 –PUBLIC AGENCIES TO BE NOTIFIED OF SSO INTO SURFACE WATERS

In case of a sewage spill into surface water or drainage ditch, the following must be notified:	
Lakeside Park Water Company Bob Loding	(530) 542.2314 – then dial 0 (775) 772.3699
Edgewood Water Company Patrick McKay	(775) 588.4111 or (775) 588.3566 (530) 588.2787
Kingsbury General Improvement District Shop	(775) 588.3548 (775) 588.2705
California Department of Health Services	(916) 654.3454
Office of Emergency Management	(800) 852.7550
Nevada Division of Health Environ Health	(775) 684.4200 (775) 687.7533
Nevada Office of Emergency Services, Nevada Highway Patrol	(775) 687.5300
Fallen Leaf Lake Mutual Water Company (if spill occurred near FLL)	(530) 544.0608



6.5 SPILLS ON UNITED STATES FOREST SERVICE LAND

If SSO occurs on USFS land, additional persons will need to be contacted as shown by Table 6.4.

TABLE 6.4 – PERSONS TO BE NOTIFIED OF SSO ON USFS LAND

In case of a sewage spill on USFS land, the following must be notified:	
USFS-LTBMU Primary Contact	(530) 543.2600
Bob Rodman	(530) 543.2613
Camino Dispatch (Emergency Contact Center) After Hours ask to contact Joey Keely	(530) 644.0200

6.6 SEWAGE PUMP STATION FAILURE

The following policy shall be followed during and after any sewage spill caused by the failure of a sewage pump station:

- All phone calls reporting or concerning the spill shall be logged in. Please obtain, at a minimum, the time of the call and the address of the caller. Note any significant information (i.e., description of the spill, unusual anger, caller would not give name, etc.).
- If a "generator fail" alarm is received or a sewage pump station will not operate for any other reason, an Underground Repair Sewer Crew, backup pump station operator, mechanic, and electrician shall be called out immediately. When they arrive at the pump station with the necessary equipment (camel, tools, etc.) to prevent or reduce a sewage spill, they shall refer to the maps on the pump station walls that indicate the nearest manhole that will spill first and the nearest manhole to which they can discharge the sewage they collect in the camel. They shall then set up at the manhole that may be or is spilling and begin pumping.
- The Pump Station Supervisor and Manager of Field Operations shall be called out and shall respond immediately. If they are unavailable, the Assistant General Manager and/or General Manager shall be called.
- The Pump Station Supervisor and Manager of Field Operations shall go to the spill site and ensure that:
 - Everything possible is done to contain the spill and to correct its cause.
 - The Assistant General Manager, General Manager, Laboratory, Public Affairs Manager, and the regulatory agencies are contacted. (The Public Affairs Manager will call the press.)
 - An after spill reconnaissance effort is made to determine the extent of the spill and that the appropriate cleanup measures required to mitigate its effects are taken. Typically, Pumps and Underground Repair crew members would do this together.
 - Written reports or tape recorded reports are prepared by all parties involved as soon after the event as possible, detailing the cause, sequence of events, and cleanup efforts. This would typically involve Pumps, Underground Repair, and Operations Department personnel. Videotaping may be appropriate to document the spill.

Overtime is automatically approved to allow for the preparation of these reports.



- As soon as possible after the spill, an after spill meeting with all parties involved is held to review and finalize the spill report.

6.7 CONTINGENCY PLAN FOR BY-PASS PUMPING AT SEWER PUMP STATIONS

1. Johnson Sewer Pump Station: Equipped with hard plumbed pump and wet well by-pass attachments for installation of portable engine driven pumps. Backup power supply generator with auto start runs complete station during power interruptions.
2. Upper Truckee Sewer Pump Station: Equipped with hard plumbed pump and wet well by-pass attachments for installation of portable engine driven pumps. Backup power supply generator with auto start runs complete station during power interruptions.
3. Al Tahoe Sewer Pump Station: Equipped with hard plumbed pump and wet well by-pass attachments for installation of portable engine driven pumps. Backup power supply generator with auto start runs complete station during power interruptions.
4. Bijou Sewer Pump Station: Equipped with hard plumbed pump and wet well by-pass attachments for installation of portable engine driven pumps. Backup power supply generator with auto start runs complete station during power interruptions.
5. Tahoe Keys Sewer Pump: Equipped with hard plumbed pump and wet well by-pass attachments for installation of portable engine driven pumps. Backup power supply generator with auto start runs complete station during power interruptions.
6. Forestry Sewer Stations (Tallac, Taylor Creek, Camp Richardson, Baldwin Beach, Kiva): All equipped with backup power supply generators with auto start, runs complete station during power interruptions.
7. Forestry Sewer Stations (Pope Beach #1, Pope Beach #2): Equipped with connections for a portable generator that runs complete station during power interruptions.
8. Fallen Leaf Main Sewer Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.
9. Ponderosa Sewer Pump Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.
10. Ski Run Sewer Pump Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.
11. San Moritz Sewer Pump Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.
12. Pioneer Village Sewer Pump Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.
13. Bellevue Sewer Pump Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.
14. Trout Creek Sewer Pump Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.
15. Gardner Mountain Sewer Pump Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.



16. Venice Sewer Pump Station: Equipped with backup power supply generator with auto start, runs complete station during power interruptions.



6.8 SPILLS IN ALPINE COUNTY

In the event of a reported spill or leak on the C-Line follow the Alpine County Emergency Procedures, found in Appendix B.



7. FATS, OILS AND GREASE CONTROL PROGRAM

7.1 NATURE AND EXTENT

Fats, oils, and greases (FOG) are concerns in any municipal sewer collection system, but the District does not have many issues concerning FOG. The inter-department communication and roles in controlling FOG include a grease interceptor program, CCTV of the system and public outreach.

7.2 SOURCE CONTROL PROGRAM

The District has implemented the following FOG Source Control elements.

1. The District implemented a plan and schedule for a public education outreach program that promote the proper disposal of FOG.
2. Created the legal authority to prohibit discharges to the system and identify measures to prevent SSOs and blockages caused by FOG. (District Admin Code)
3. Requirements to install grease removal devices (such as traps or interceptors) design standards for grease removal devices, maintenance requirements, record keeping and reporting requirements. (District Admin Code)
4. Authority to inspect grease producing facilities, enforcement authorities, and available District staff to inspect and enforce the FOG ordinance. (District Admin Code)
5. Identified collection system sections subject to FOG blockages and establish an enhanced cleaning and maintenance schedule for each section. (District CMMS)
6. Develop and implement source control measures for all FOG discharged to the collection system.

*Admin Code Sections: 4.6.11 (b), 4.6.13, 6.5.5, 6.5.6, 4.7.4-7, and 4.8.1-3

7.3 COMMERCIAL SOURCE CONTROL

Clogged sewer pipes and drain lines are common consequences of oil and grease in wastewater. The District's sewer customer base includes commercial and industrial waste sites. Commercial customers, specifically restaurants, are the highest producers of FOG in the District's service area. Other contributors of FOG in the District are carwashes and industrial type businesses (i.e. auto repair shops). The fats, oils, and grease collected from these sites were major problems when the FOG interceptor program did not exist.

The Customer Service Department (CSD) at the District facilitates and runs the FOG interceptor program from the start of a new build or reconstruction until the construction is complete and then enforces bi-annual inspections. While all restaurants or food vendor businesses require a grease trap only the restaurants with a dish washer require a grease interceptor to be installed. The only exception to this rule is one business with a dish washer and no grease interceptor that is grandfathered in and where no issues have been detected. Grease traps are limited to handle grease for up to four fixtures including floor drains and sinks but not the water from the restrooms. The grease traps are smaller than interceptors and are sized according to the universal plumbing code Section 1014 and range from 40 to 100 pound capacity. Grease interceptors are sized to handle the wastewater from multi-compartment sinks, pot sinks, dishwashers, and similar fixtures. Grease interceptors need to be cleaned out on a periodic basis depending on the rate of grease accumulation. Grease interceptors are sized according to the Universal Plumbing Code Section 1015 with a typical capacity of 320 to 10,000 gallons.

7.4 PLAN REVIEW/INSPECTIONS

All new building plans, whether residential or commercial, need a stamp of approval from the District's CSD. During the plan review the CSD determines the number of sewer and water units and assesses the need, design and location of a new grease trap or interceptor. Standard details are used when checking the design and inspection of new grease interceptors. After the construction is complete the CSD does one last inspection using dye tabs to ensure the waste water containing gray water and grease flow into the grease interceptor or trap. The inspectors also make sure the wastewater from the restrooms does not enter the traps or interceptors. Once the business's final inspection is passed, they must maintain their grease interceptors and prepare for bi-annual inspections from the CSD.



The District's CSD inspects properties with traps/interceptors bi-annually to ensure there is no risk for grease flowing into the gravity collection system and FOG causing SSO's. The District has a total of 268 traps/intercepts to inspect and is broken up into 4 unique routes (Meyers to Camp Concord, "Y" to Al Tahoe, Al Tahoe to Ski Run, and Ski Run to Stateline). If a business does not pass an inspection a correction notice and 5 days are given in order to fix the problem, in accordance with Admin Code Section 4.7.4. If grease is suspected in the collection system, the CSD will call the URS department to clean the pipe.

7.5 REPORTING

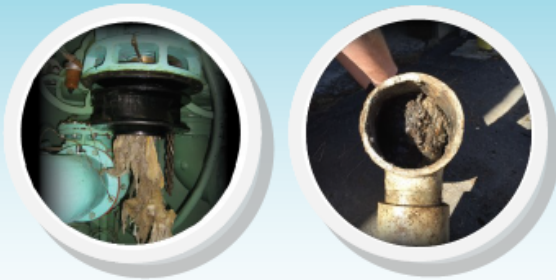
Reporting is a driver and a critical part of collecting data on FOG traps/interceptors. The Manager of Plant Operations collects data on traps/interceptors when preparing the annual report for the Pre-treatment Department of the California Department of Public Health. The information collected for this report includes the type of grease, the last day it was cleaned before the inspection, the size of the trap/interceptor, and the address. On occasion, the SWRCB requests a list of locations with traps/interceptors.

7.6 PUBLIC OUTREACH

Public outreach to residential customers helps decrease FOG in the collection system. When the URS department CCTV's an area where grease is seen, the Public Affairs Manager will hang door notices about proper disposal of FOG as shown by Figure 7.1. If the problem is continuous the crews will add the problem area to their enhanced cleaning list to prevent any blockages and SSO's.



Prevent Sewer Overflows in Your Home



**CLOGGED SEWER PIPES...
EWWW!**

Sewer backups are gross, costly, unhealthy and harmful to our lake and rivers. Sewer back ups cause tens of thousands of dollars in damage each year. By taking a few precautions, you can greatly reduce your risk of a sewer overflow in your home.



1275 Meadow Crest Dr, So Lake Tahoe CA, 96150
530-544-6474 www.stpud.us



DID YOU KNOW

- ◆ Most sewer spills are preventable and the result of misuse of the sewer system.
- ◆ Oils and grease washed down the sink stick to the inside of sewer pipes. Over time, it can build up and block your plumbing system.
- ◆ Home garbage disposals do not keep grease out of the sewer. Hot water and detergents that claim to dissolve grease only pass it down the line and cause problems elsewhere.
- ◆ “Flushable” wipes aren’t flushable! Test after test proves that “flushable” wipes don’t break down in the sewer.
- ◆ Flushing anything other than human waste and toilet paper down the toilet can damage household plumbing, the environment, and the wastewater system.

OK TO FLUSH

- ◆ Human Waste
- ◆ Toilet Paper



NOT OK TO FLUSH

- ◆ Baby Wipes
- ◆ Paper Towels
- ◆ Cotton Swabs
- ◆ Tampons/Pads
- ◆ Condoms
- ◆ Tissue/Kleenex
- ◆ Dental Floss
- ◆ Diapers
- ◆ Cleaning Pads/Wipes

NEVER POUR GREASE OR OIL DOWN THE DRAIN



FIGURE 7.1- PUBLIC OUTREACH DOOR NOTICES



8. SYSTEM EVALUATION AND CAPACITY ASSURANCE PLAN

8.1 COLLECTION SYSTEM HYDRAULIC CAPACITY EVALUATION

HYDRAULIC EVALUATION (CSMP; TM No.8, NO.3, No.7)

A hydraulic evaluation was completed in the 2009 Collection System Master Plan (CSMP) for the District. The evaluation considered the types of flows the District experiences during summer and winter. Summer flows include increased flow from campgrounds and little flow from ski resorts. Winter scenarios include increased flow from ski resorts and less from campgrounds within the District's service area. From the CSMP and historical plant flow data, there is little concern of overflows and capacity related surcharging issues anticipated for summer dry weather scenarios. According to District staff and historical SSO data, the system's hydraulic capacity during dry weather is large enough to convey the sewage load without future concerns of SSOs.

Three design storms were used to evaluate the hydraulic capacity during winter wet months. These evaluations included a rain on snow event from 2005, a 10-year design storm and a 25-year design storm. A rain-on-snow event is a more common cause for higher flows into the wastewater treatment facility due to the higher volume of I/I caused by flooding or saturated groundwater tables. According to the CSMP sewer pipes with adverse or flat slopes "do not appear to cause hydraulic issues in adjacent pipes." During Holiday periods such as Christmas and New Year's the increase in flow, if paired with a storm such as the storm in 2005, may result in a hydraulic deficiency in key manholes. The potential overflows were determined to occur in the Al Tahoe basin along the 8-inch pipe between HWY 50 and the Al Tahoe Pump Station. A relief sewer project, Wildwood Relief Sewer Project, was already implemented after the 2009 CSMP was produced to address this potential site of overflows.

A sewer model has been used in the past to identify the locations with potential for SSOs. An evaluation was conducted to evaluate the District's pump station capacity ([Table 8.1](#)). At this time a new sewer model is being developed and will be completed in 2020.



TABLE 8.1- CSMP EVALUATION OF THE FLOW AND PUMP STATION CAPACITY OF THE DISTRICT'S SEWER COLLECTION SYSTEM. THE CSMP EVALUATED DRY WEATHER FLOW, A NEW YEAR'S STORM FROM 2005, A 10-YEAR STORM, AND A 25-YEAR STORM.

Table 4-2 Model Inflow vs. PS Firm Capacity									
Pumping Station	Current Model Max Flow (GPM)				Future Model Max Flow (GPM)				Firm Capacity (GPM)
	DWF	New Year's	10YR	25YR	DWF	New Year's	10YR	25YR	
<i>Modeled¹</i>									
Al Tahoe ³	2,872	4,731	4,940	5,510	3,047	5,475	5,475	5,475	5,200 ⁴
Bellevue	184	306	306	328	207	327	327	350	900
Bijou ⁵	1,113	2,078	2,081	2,279	449	2,159	2,162	2,360	2,400
Johnson	887	1,306	1,281	1,355	1,040	1,455	1,431	1,505	2,000
Ponderosa	142	176	178	183	67	201	203	209	300
San Moritz	170	353	365	409	178	361	374	417	900
Ski Run	177	351	368	409	178	351	369	410	1,025
Tahoe Keys ³	1,955	2,807	2,904	3,240	2,083	3,334	3,334	3,334	2,500
Trout Creek	381	747	716	765	443	844	812	868	1,800
Upper Truckee	850	2,608	2,480	2,751	1,128	2,788	2,659	2,930	3,500
<i>Not Modeled²</i>									
Beecher	11	13	13	13	5	13	13	13	100
Gardner Mtn	31	47	51	57	35	51	56	61	85
Pioneer Village	24	41	44	49	25	42	44	49	325
Venice	33	74	83	94	34	74	83	95	120

¹Flow through pipe(s) having the PS wet well as their downstream node

²Flow in the pipe leaving the PS force main's terminal manhole less flow from upstream pipe(s)

³The fixed speed pump stations upstream did not run during the peak hour for the 10-year and 25-year storms. This caused a decrease in the future peak hourly flow at these locations. Therefore, the New Year's Storm flow is reported for all three wet weather scenarios.

⁴Firm capacity for Al Tahoe in this table was estimated using pump curves provided by the District.

⁵Flows may increase at the Bijou PS in the future. The Douglas County Sewer Improvement District is investigating the possibility of a future gravity bypass into the STPUD system, which would affect flows at Bijou PS.

FLOW MONITORING PROGRAM

The District actively focusses on preventing SSOs. The main cause of surcharges and SSOs occurs when I/I is present in the system. The flow monitoring program uses SmartCover manhole lids to keep track of height of sewage within manholes and tracks flows with Triton sewer flow monitors. The locations of the flow monitors can be seen in Figure 8.1. These flow monitors collect data on flow height, velocity, and flow continuity from inside the sewer line. During rain-on-snow events the flows are checked to identify locations affected by high I/I. During winter of 2019, a flow monitor helped locate a source of inflow from a manhole cover that was moved from a snowplow.

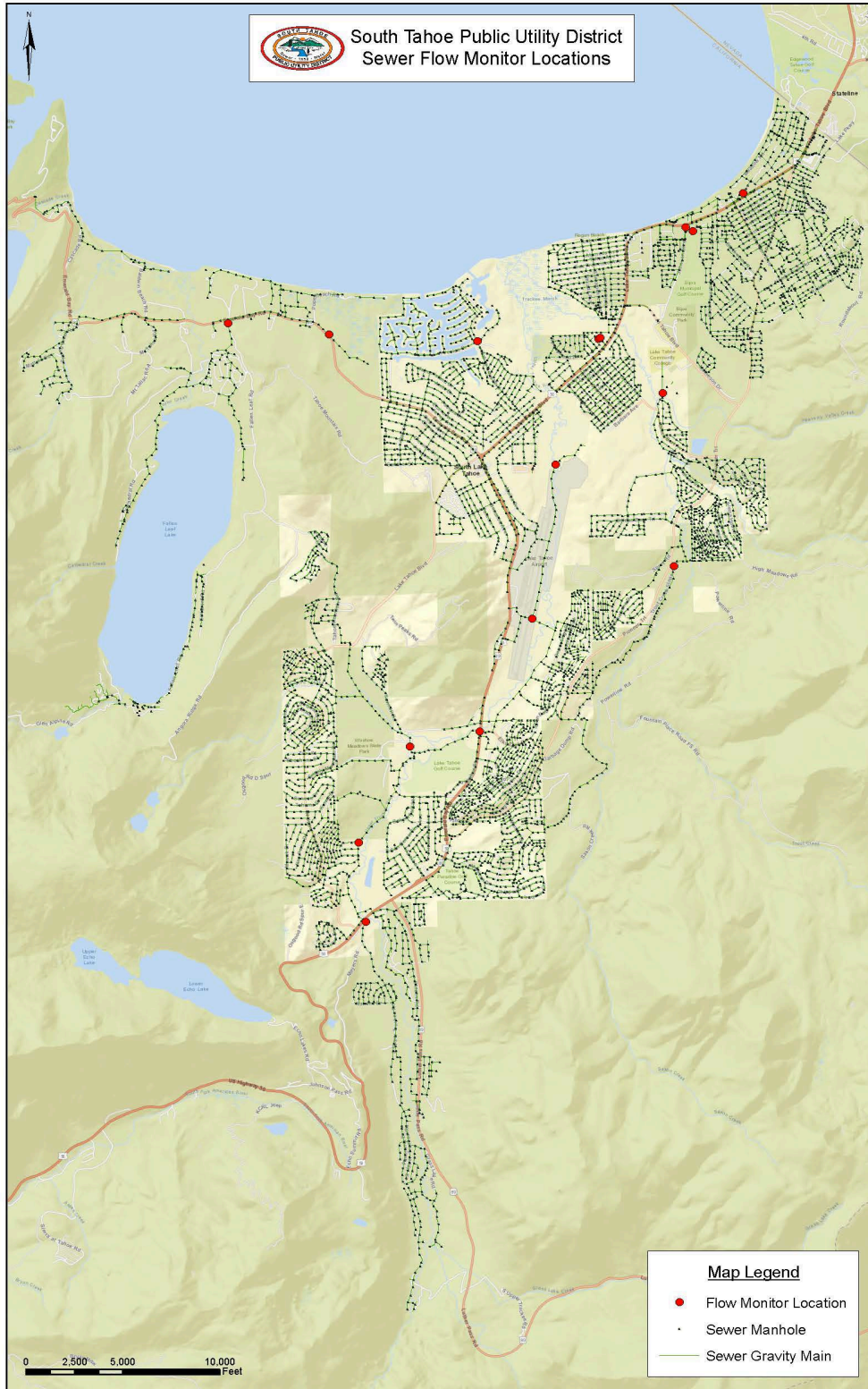


FIGURE 8.1 – LOCATION OF THE FLOW MONITORING DEVICES FOR THE WINTER OF 2019



9. COLLECTION SYSTEM CAPITAL IMPROVEMENT PLAN

Projects included in the Capital Improvement Plan (CIP) are evaluated annually during a series of budget and project planning meetings. The sewer CIP budget was lacking in sewer line replacement projects until the sewer line replacement prioritization tool was developed. A new CCTV truck and camera is also being used to inspect and record issues in sewer pipes in areas identified as likely to have issues. With further inspection data the project list for sewer line repair is increasing and will address areas with flat or inverted slopes as well as areas affected by hydrogen sulfide production. The system capacity will be evaluated in 2020 along with the sewer model update.

SEWER CIP PLANNING

The sewer CIP list is updated for the underground repair sewer, water reuse and pumps department annually. The CIP is a list of projects regarding all aspects of the collection system and consists of gravity main and force main replacements, pump and lift station replacements, treatment plant improvements, asset management, system optimization, and maintenance projects. The District is currently going through a rate increase that would increase the annual sewer budget by 5% per year for the next 5 years to respond to an aging sewer system. The District Board must approve the rate increase as well as the annual sewer budget and 10-year CIP.

9.1 MONITORING, MEASUREMENT AND PROGRAM MODIFICATIONS

The Underground Repair Sewer Supervisor or Lead Person work with the asset manager and the Manager of Field Operations to:

- Report on the operational performance of the collection system.
- Investigate unusual findings found during CCTV
- Prioritize cleaning and video schedules
- Respond to alerts from the SmartCover lids and FlowView instruments

The District's sewer level of service (LOS) goals are reviewed by the board and monitored by District staff on a periodic basis. The District has previously identified five categories of LOS as shown in Table 9.1. Data collected from the asset management programs is used to reevaluate and reprioritize LOS goals.

Data being prepared and reported on includes:

- Peak flows and velocity's from the sewer flow monitoring program
- Number of SSOs and causes
- The number of traps/interceptors inspections and failed inspections
- Number of new service connections
- Locations and number of spot repairs
- Locations and length of pipe inspected from CCTV and any resulting issues
- Number and cause of abandoned inspections

TABLE 9.1 – DISTRICT LOS CATEGORIES, GOALS AND SSMP ELEMENTS ADDRESSED

LOS Categories	Collection System Level of Service (LOS) Goals	SSMP Element address by LOS
Collection System Service	<ul style="list-style-type: none"> • Proactive maintenance to minimize disruptions in service • Quick and effective response to emergencies and potential SSOs 	<ul style="list-style-type: none"> • Operations and maintenance plan • Fat, Oil and Grease control • Capacity Management • Design and construction standards
Community Health, Safety, and Environment	<ul style="list-style-type: none"> • Minimize sanitary sewer overflows (SSOs) • Protect receiving waters and Stream Environment Zones (SEZs) • Protect community from safety hazards 	<ul style="list-style-type: none"> • Monitoring, Measurement and Program Modifications • Overflow emergency response plan



Employee Safety	<ul style="list-style-type: none"> Minimize employee safety risks 	<ul style="list-style-type: none"> Communication Plan
Regulatory Requirements	<ul style="list-style-type: none"> Audit and maintain the SSMP and compliance with Wastewater Discharge Requirements (WDRs) SSO Reporting 	<ul style="list-style-type: none"> Goals, Organization, and Program Audits, Legal Authority
Customer Service	<ul style="list-style-type: none"> Efficient and timely service 	<ul style="list-style-type: none"> Communication Plan Overflow emergency response plan

CCTV INSPECTIONS

CCTV inspections are a main focus for the District's collection system monitoring and assessment of implementing the SSMP elements. An example of the data collected is provided in Table 9.2

TABLE 9.2 – NUMBER OF INSPECTIONS CODED AS ABANDONED AND THE TOTAL LENGTH OF PIPE INSPECTED FROM THE CCTV CAMERA.

Year	Number of abandoned inspections ¹	CCTV linear feet per year
2006	4	18149
2007	3	17718
2008	29	92722
2009	38	129682
2010	2	10679
2012	50	58506
2013	10	31864
2014	37	62230
2015	29	80098
2016	11	30613
2017	19	10387
2018	264	320,311
2019	60 ²	210,000

¹ Abandoned pipe inspections were due to camera getting stuck or hitting an obstruction that was not able to be removed from running the hydro.

² CCTV video from 2019 is in the process of coding at the time of this report and not all abandoned surveys have been counted



10. PROGRAM AUDITS

REGULATORY REQUIREMENTS FOR SSMP AUDITS

The District shall conduct periodic internal audits every two years, performed by the Manager of Field Operations, appropriate to the size of the system and number of SSOs. At a minimum, these audits must occur every two years and 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.

The audit will include:

- Review progress made on development of SSMP elements.
- Review of monitoring, measurement and program modifications.
- Identification of successes of implementing SSMP elements and needed improvements.
- Description of system improvements during the past two years.
- Description of system improvements planned for the upcoming two years, with an estimated schedule for implementation.
- A copy of each audit will be stored as an attached appendix of the SSMP.

During the internal Audit District staff will evaluate and update the goals, organization of staff, and LOS goals presented in this SSMP. Areas of the SSMP that need updated values include the CIP budget, number of sewer traps/interceptors, and data collected for the monitoring element.



11. COMMUNICATION PROGRAM

PUBLIC NOTIFICATION AND COMMUNICATION

The District uses many public accessible entities to distribute information. These will be used to convey SSMP implementation and performance. These entities can be newspaper, local radio, local television spots, and mailers, posting to the Districts web site, and posting at the Districts Office. The Public Affairs Manager will be the person primarily responsible for communicating with the public.

The District's SSMP will be posted to its web site and will be available at the District office upon request. Public comments will be forwarded to the Manager of Field Operations and also forwarded to the staff responsible for SSMP oversight.

The District Board of Directors meets the first and third Thursday of each month at 2:00pm in a public forum at the South Tahoe Public Utility District Offices.

APPENDIX B: SSMP DOCUMENTS AND RECORDS

SAMPLE FIELD REPORT

Alpine County Emergency Procedures

Residential Overflows/Backups and Water Damage Procedures

2.6.7 Attachments

2.6.7.1 Sample Field Report

REPORTED BY

Call Address:
On Service Request _____ (SR # _____)

Caller Name: _____ Phone: _____

Receipt of Call: Date: ____/____/____ Time: ____:____ AM PM Call Received By:

Call Dispatch: ____/____/____ Time: ____:____ AM PM Assigned To:

USD Arrival Time: Date: ____/____/____ Time: ____:____ AM PM

SPILL START TIME NOTES

Caller Interview: Where did you see sewage spill from? From: Manhole Inside Building C/O
 Wet well/Lift station Other _____

Time Caller noticed spill: ____:____ AM PM Date: ____/____/____

Comments:

Last time Caller observed NO Spill occurring: ____:____ AM PM Date:
____/____/____

Comments:

SSO End Time ____:____ AM PM Date: ____/____/____

Other Comments regarding spill start time:



SPILL LOCATION

Observed: Spill from: Manhole ID _____ Lift Station ID _____

Clean Out Address _____

Comments: _____

Building Address _____

Comments: _____

Spill Destination: Building Paved Surface Storm Sys Curb/Gutter Unpaved Surface

Answer these questions:

#1 – Was there a discharge to surface water or a drainage channel that is tributary to surface water? ____ Yes ____ No

#2 - Was there a discharge to a storm drain pipe that was “NOT” fully captured & returned to the sanitary sewer system? ____ Yes ____ No

Water

If you answered no to both questions above, was it \geq 1,000 gallons? ____ Yes ____ No

If yes, the SSO is a Category 2. If NO, the SSO is a Category 3.



SPILL VOLUME WORKSHEET

The purpose of this worksheet is to capture the data and method(s) used in estimating the volume of an SSO. Since there are many variables and often unknown values involved, this calculation is just an estimate. Additionally, it is useful to use more than one method, if possible, to validate your estimate.

The following methods and tools are the approved methods in the SOP CS-103 SSO *Response*. Check all methods and tools that you used:

- Eyeball Estimate Method
- Measured Volume Method
- Duration and Flow Rate Method (Account for diurnal flow pattern for long duration)
- USD SSO Flow Rate Estimating Tool
- Other (explain) i.e.; estimated daily use per capita upstream or meter @ Pump Station.

Eyeball Estimate Method- Imagine a bucket(s) or barrel(s) of water tipped over.

Size of bucket(s) or barrel(s)	How many of this Size?	Multiplier	Total Volume Estimated
1 gal. water jug		X 1	
5 gal. bucket		X 5	
32 gal. trash can		X 32	
55 gal drum		X 55	
Total Volume Estimated Using Eyeball Method			

Measured Volume Method (this may take several calculation as may have to break down the odd shaped spill to rectangles, circles, and polygons) It is important when guessing depth to measure, if possible in several locations and use an average depth. Use the SSO Volume Estimate by Area Work Sheet , if necessary, to sketch the shapes and show your work.

1. Draw a sketch of the spill SSO Volume Estimate by Area Work Sheet, or use a photo copy of USD block book to draw on and attach it.
2. Draw shapes and dimensions used on your sketch
3. Use correct formula for various shapes

Rectangle	$L \times W \times D$
Circle	$3.14 \times R^2 \times D$
Polygons see reference chart	Show formula used

Duration and Flow Rate Method worksheet:

Start Date and Time	1.
End Date and time	2.
Total time elapsed of SSO event (subtract line 1 from line 2. Show time in minutes)	3.
Average flow rate GPM (account for diurnal pattern)	4.
Total volume estimate using duration and flow rate method (Line 3 x Line 4)	5.

CAUSE OF SPILL

Spill Cause: Roots Grease Debris Vandalism Lift Station Fail Other _____

Spill cause to be determined by CCTV inspection (Attach TV Report to this form)

Final Cause Determination:

Follow-up or Corrective Action Taken:

SPILL CONTAINMENT

Containment Implemented: _____ : _____ AM PM Date: _____ / _____



Containment Measures: Plugged Storm Drain Washed Down Vacuum Up Water/Sewage

Other Measures: _____

CLEAN UP



Clean Up Begin: _____:_____ AM PM Date: _____/_____/_____

Clean Up Complete: _____:_____ AM PM Date: _____/_____/_____

Describe Clean Up Operations:

_____ Gallons – Estimate Volume of Spill Recovered (do not count wash down water)

OTHER IMPORTANT MILESTONES

Contacted Supervisor: _____:_____ AM PM Date: _____/_____/_____

Requested Additional EE's/Equip: _____:_____ AM PM Date: _____/_____/_____

Requested Additional EE's/Equip: _____:_____ AM PM Date: _____/_____/_____

Requested Additional EE's/Equip: _____:_____ AM PM Date: _____/_____/_____

Departure Time: _____:_____ AM PM Date: _____/_____/_____

_____ :_____ AM PM Date: _____/_____/_____

_____ :_____ AM PM Date: _____/_____/_____

_____ :_____ AM PM Date: _____/_____/_____

Response Crew: _____, _____, _____
_____ , _____ , _____

SSO Volume by Area Estimation Work Sheet

2.6.7.2 SSO Volume by Area Estimation Work Sheet

Surface: Asphalt Concrete Dirt Landscape Inside Building Other _____

(Draw / Sketch outline of Spill 'Footprint' and attach photos)

[Large empty rectangular box for drawing or sketching the spill footprint.]

~~ Breakdown the 'Footprint' into Recognizable Shapes and Determine Dimensions of Each Shape ~~

Area #1 _____ % Wet _____

Stain. Depth1 _____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #2 _____ % Wet _____

Stain. Depth1 _____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #3 _____ % Wet _____

Stain. Depth1 _____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #4 _____ % Wet _____

Stain. Depth1 _____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #5 _____ % Wet _____

Stain. Depth1 _____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

SSO Volume by Area Estimation Work Sheet

Area #6 _____ % Wet _____

Stain. Depth1 _____ Depth2 _____ Depth3 _____ Depth4 _____ Depth5 _____ Depth6 _____

Area #1 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ Concrete 0.0026' Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #2 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ Concrete 0.0026' Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #3 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ Concrete 0.0026' Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #4 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ Concrete 0.0026' Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #5 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ Concrete 0.0026' Asphalt 0.0013'

Volume: _____ Cu/Ft

Area #6 Square Feet: _____ x % Wet _____ = _____ Sq/Ft

Ave Depth: _____ Concrete 0.0026' Asphalt 0.0013'

Volume: _____ Cu/Ft

Total Volume:

#1 _____, #2 _____, #3 _____, #4 _____, #5 _____, #6 _____ = _____ *cu ft

_____ *cu ft x 7.48 gallons = _____ gallons Spilled.

SSO Volume by Area Estimation Work Sheet

CONVERSIONS

** To convert inches into feet: Divide the inches by 12.

Example: $27'' / 12 = 2.25'$

Or Use Chart A

Example: $1 \frac{3}{4}'' = ?$

$1'' (0.08') + \frac{3}{4}'' (0.06') = \underline{0.14'}$

** One Cubic Foot = 7.48 gallons of liquid.

Chart A		
Conversion:		
<u>Inches</u>	to	<u>Feet</u>
1/8''	=	0.01'
1/4''	=	0.02'
3/8''	=	0.03'
1/2''	=	0.04'
5/8''	=	0.05'
3/4''	=	0.06'
7/8''	=	0.07'
1''	=	0.08'
2''	=	0.17'
3''	=	0.25'
4''	=	0.33'
5''	=	0.42'
6''	=	0.50'
7''	=	0.58'
8''	=	0.67'
9''	=	0.75'
10''	=	0.83'
11''	=	0.92'
12''	=	1.00'

GEOMETRY

For the purposes of this work sheet, the unit of measurement will be in feet for formula examples.

Area is two-dimensional - represented in square feet. (Length x Width)

Volume is three-dimensional - represented in cubic feet. (Length x Width x depth) or (Diameter Squared) $D^2 \times 0.785 \times \text{depth}$.

A Note about Depth

Wet Stain on a Concrete Surface - For a stain on concrete, use 0.0026'. This number is 1/32" converted to feet. For a stain on asphalt use 0.0013' (1/64"). These were determined to be a reasonable depth to use on the respective surfaces through a process of trial and error by SPUD staff. A known amount of water (one gallon) was poured onto both asphalt and concrete surfaces. Once the Area was determined as accurately as possible, different depths were used to determine the volume of the wetted footprint until the formula produced a result that (closely) matched the one gallon spilled. 1/32" was the most consistently accurate depth on concrete and 1/64" for asphalt. This process was repeated several times.

Sewage "Ponding" or Contained – Measure actual depth of standing sewage whenever possible. When depth varies, measure several (representative) points, determine the average and use that number in your formula to determine volume.

Area/Volume Formulas

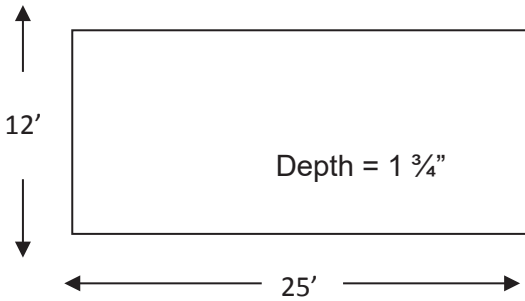
Area is two dimensional and is represented as Square Feet (Sq. Ft.)

Volume is three dimensional and is represented as Cubic Feet (Cu. Ft.)

One Cubic Foot = 7.48 gallons

AREA/VOLUME OF A RECTANGLE OR SQUARE

Formula: **Length x Width x Depth = Volume in Cubic Feet**



Length (25') x Width (12') x Depth (0.14')

25' x 12' x 0.14' = 42 Cubic Feet.

Now the Volume in Cubic Feet is known.

There are 7.48 Gallons in one Cubic Foot

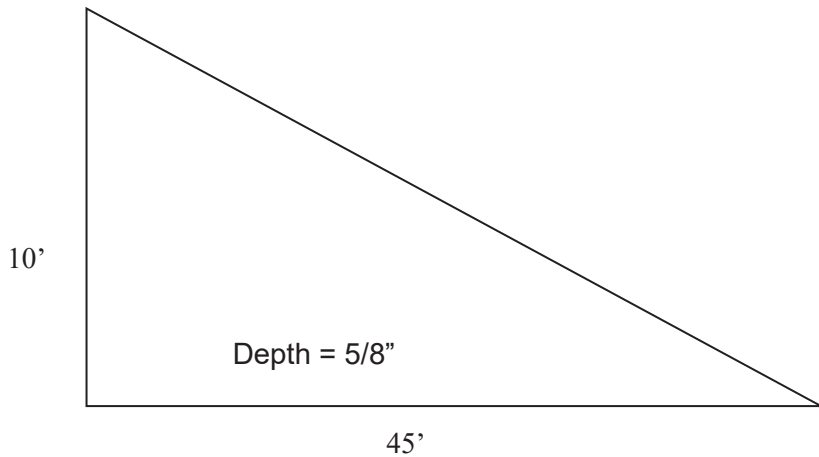
So, 42 Cubic Feet x 7.48 gallons/cubic feet = 314 Gallons

Chart A		
Conversion:		
<u>Inches</u>	to	<u>Feet</u>
1/8"	=	0.01'
1/4"	=	0.02'
3/8"	=	0.03'
1/2"	=	0.04'
5/8"	=	0.05'
3/4"	=	0.06'
7/8"	=	0.07'
1"	=	0.08'
2"	=	0.17'
3"	=	0.25'
4"	=	0.33'
5"	=	0.42'
6"	=	0.50'
7"	=	0.58'
8"	=	0.67'
9"	=	0.75'

SSO Volume by Area Estimation Work Sheet

AREA/VOLUME OF A RIGHT TRIANGLE

Base x Height x 0.5 x Depth = Volume in Cubic Feet



Base (45') x Height (10') x 0.5 x Depth (.05') x 7.48 gallons/cubic foot = 84 gallons
 For Isosceles Triangles (two sides are equal lengths),
 Break it down into two Right Triangles and compute area
 as you would for the Right Triangle above.

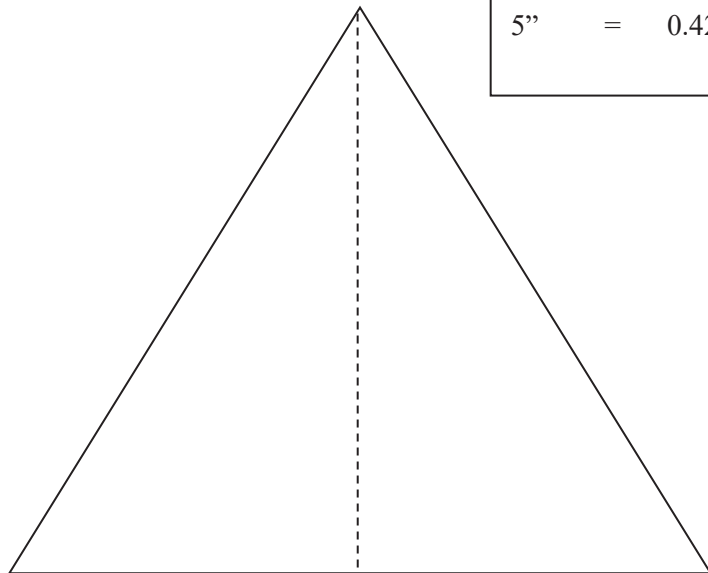


Chart A		
Conversion:		
Inches	to	Feet
1/8"	=	0.01'
1/4"	=	0.02'
3/8"	=	0.03'
1/2"	=	0.04'
5/8"	=	0.05'
3/4"	=	0.06'
7/8"	=	0.07'
1"	=	0.08'
2"	=	0.17'
3"	=	0.25'
4"	=	0.33'
5"	=	0.42'

SSO Volume by Area Estimation Work Sheet

AREA/VOLUME OF A CIRCLE/CYLINDER

$$D^2 \times 0.785 \times d$$

Diameter Squared x 0.785 x Depth = Volume in cubic feet.

Diameter = Any straight line segment that passes through the center of a circle.

For our purposes, it is the measurement across the widest part of a circle.

$$D^2 \times 0.785 \times \text{depth} = \text{Volume in cubic feet}$$

Example:

$$27' \times 27' \times 0.785 \times 0.03 = 17.17 \text{ cubic feet}$$

$$17.17 \text{ cubic feet} \times 7.48 \text{ gallons/cubic feet} = 128 \text{ gallons}$$

Chart - A

Conversion:

Inches to Feet

$$1/8'' = 0.01'$$

$$1/4'' = 0.02'$$

$$3/8'' = 0.03'$$

$$1/2'' = 0.04'$$

$$5/8'' = 0.05'$$

$$3/4'' = 0.06'$$

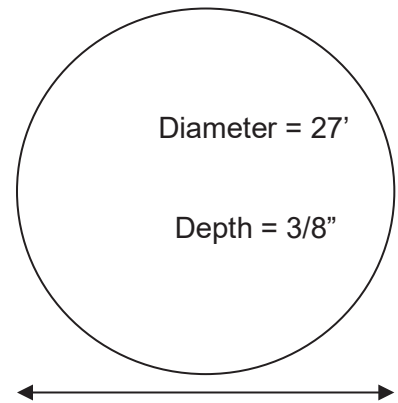
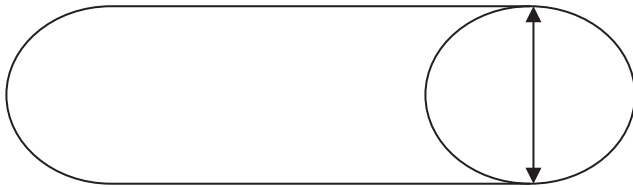
$$7/8'' = 0.07'$$

$$1'' = 0.08'$$

$$2'' = 0.17'$$

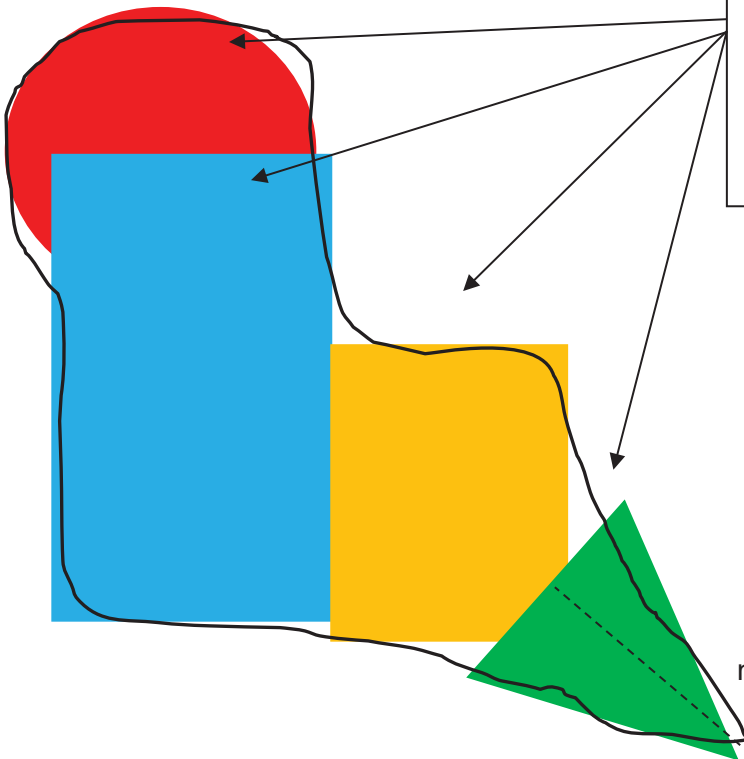
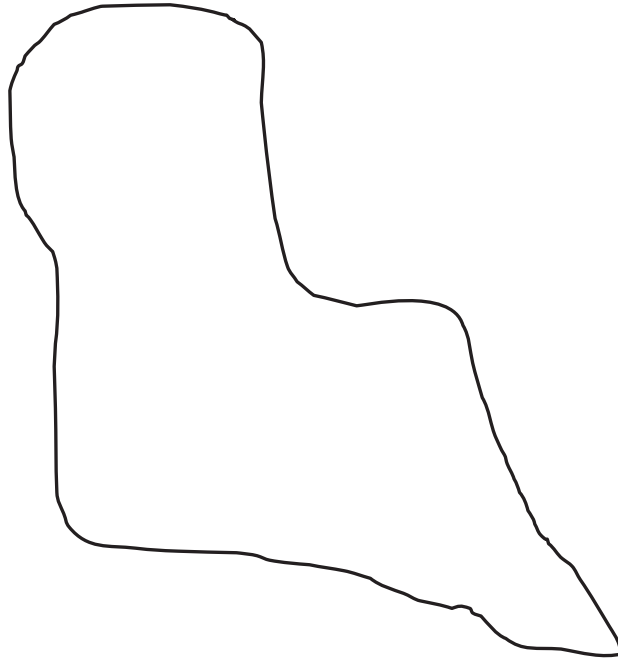
$$3'' = 0.25'$$

$$4'' = 0.33'$$



SSO Volume by Area Estimation Work Sheet

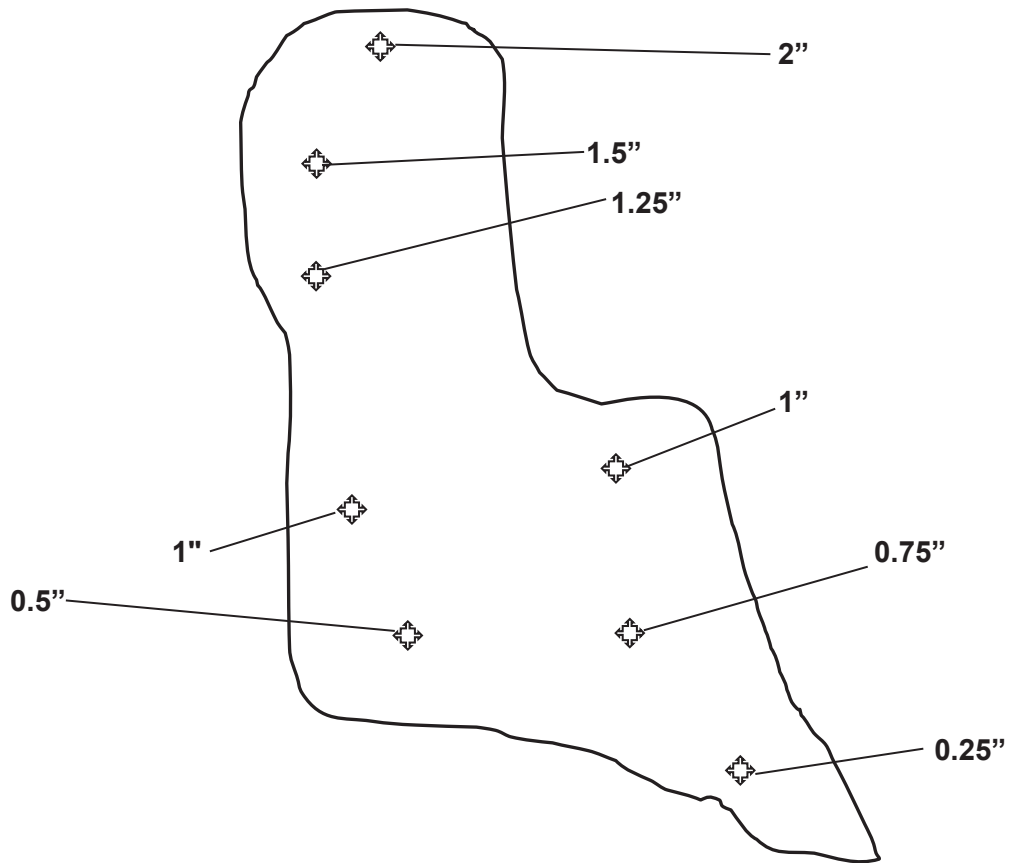
Find the geometric shapes within the shape. If this was the shape of your spill, break it down, as best you can, with the shapes we know.



1. Determine the volumes of each shape.
In this example, after the volume of the circle is determined, multiply it by 55% (+/-) so that the overlap area won't be counted twice.
2. Add all the volumes to determine total spill volume.

If the spill depth is of varying depths, take several measurements at different depths and find the average.

SSO Volume by Area Estimation Work Sheet



$$2" + 1.5" + 1.25" + 1" + 1" + 0.75" + 0.5" + 0.25" = 8.25"$$

$$8.25" / 8 \text{ measurements} = 1.03"$$

Average Depth = 1.03"

SSO Volume by Area Estimation Work Sheet

Step 1

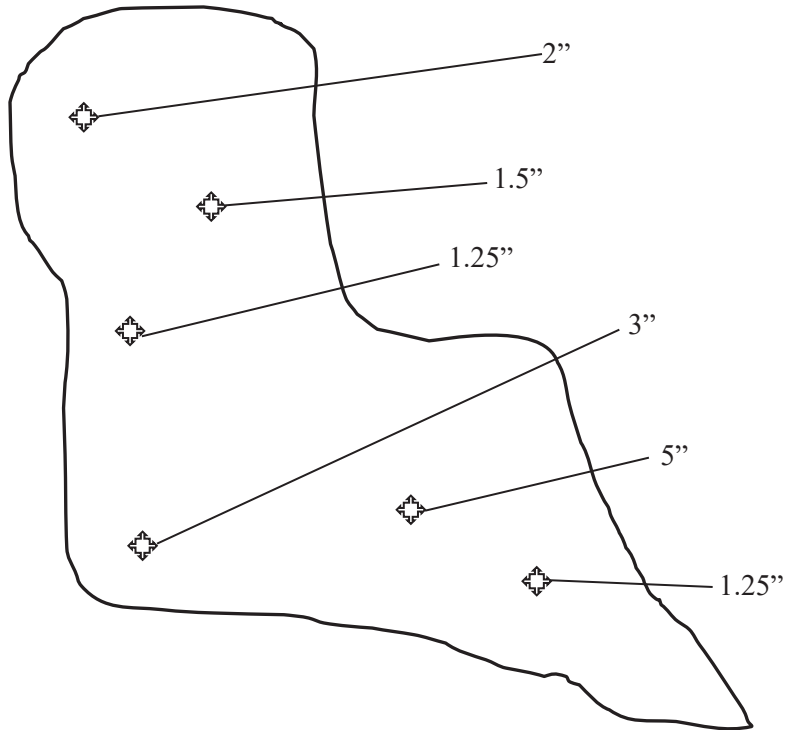
If the spill affects a dry, unimproved area such as a field or dirt parking lot, determine the Area of the wetted ground in the same manner as you would on a hard surface. Using a round-point shovel, dig down into the soil until you find dry soil. Do this in several locations within the wetted area and measure the depth of the wet soil. Average the measurement/thickness of the wet soil and determine the average depth of the wet soil.

NOTE: This can be used in a (Dry) dirt or grassy area that is not regularly irrigated like a field or a dirt parking lot.

Wet weather would make this method ineffective.

Step 2

Take a Test Sample



EXAMPLE:

If the Area of the spill was determined to be 128 Sq/Ft and the average depth of the wet soil is 2.33 inches:

$$128 \text{ Sq/Ft} \times 0.194' = 24.83 \text{ Cu/Ft}$$

$$24.83 \text{ Cu/Ft} \times 7.48 \text{ Gals/Cu/Ft} = 185.74 \text{ gallons}$$

$$185.74 \times 18\% = \underline{33 \text{ Gallons}} \text{ (water in soil)}$$

$$2'' + 1.5'' + 1.25'' + 3'' + 5'' + 1.25'' = 14.0''$$

$$14.0'' / 6 \text{ measurements} = 2.33''$$

$$\text{Average Depth} = 2.33'' (0.194')$$

ALPINE COUNTY

EMERGENCY PROCEDURES INDEX

Emergency Phone Call Out List

Spill Notification Lists:

In case of a spill notify Jim Hilton, Lab, and any other appropriate District personnel who need to respond to spill.

The names on pages 11-12 are the agencies that should be notified as soon as possible.

Note: Lahontan and the Alpine County Health Department must be notified immediately.

If you cannot reach the Health Department inform the Sheriff's Department that the Health Department has not been contacted.

Important Telephone Numbers

Fish Kill Protocol

Emergency Spill Log

Safety of Dams Emergency Numbers

Diamond Valley Ranch

Contact Information

Jim Hilton (530) 544.6474 ext 6286 – District phone
(530) 919-0540 – cell

Jason Glaze (530) 307.9933 – cell

Anthony Gregorich (530) 721.1240 or (530) 318.1792 cell

Shannon Cotulla (530) 544.6474 ext 6206 – District phone
(530) 208.8939 Cell Phone

Ranch phone (530) 694.2753

**LAND APPLICATION DEPARTMENT
(ALPINE COUNTY)
SPILL NOTIFICATION LIST**

NOTIFICATION FOR SPILLS NOT ENTERING WATERWAYS

AGENCY	CONTACT PERSON	PHONE NUMBER
Lahontan	Trevor Miller	(530) 542.5430 Direct (530) 542.5400 (Main Office)
Alpine County Health Department		(530) 694.2146
Alpine County Board of Supervisors	Board Assistant County Clerk	(530) 694.2287 (530) 694 2281
Alpine County Sheriff's Office		(530) 694.2231

**LAND APPLICATION DEPARTMENT
(ALPINE COUNTY)
SPILL NOTIFICATION LIST**

NOTIFICATION FOR SPILLS **ENTERING WATERWAYS**

AGENCY	CONTACT PERSON	PHONE NUMBER
Lahontan	Trevor Miller	(530) 542.5430 Direct (530) 542.5400 (Main Office)
Alpine County Health Department		(530) 694.2146
Alpine County Board of Supervisors		(530) 694.2287
Alpine County Sheriff's Office		(530) 694.2231
Calif Fish & Game		(916) 358.2900
Nevada EPA		(775) 687.4670
Douglas County Community Development		(775) 782.6227
Washoe Tribe	Norm Harry	(775) 265.8682

EMERGENCY AND IMPORTANT TELEPHONE NUMBERS

ALPINE COUNTY

Sheriff – 911 or	(530) 694.2231
Fire – 911 or Dispatched through Sheriff's Office	(530) 694.2231
Ambulance – 911 or Dispatched through Sheriff's Office	(530) 694.2231
Health Department	(530) 694.2146
Board of Supervisors	(530) 694.2287
Public Works (Brian Peters)	(530) 694.2140
California Fish & Game Dispatch	(916) 358.2900

GOVERNMENT AGENCIES

Lahontan	(530) 542.5400
Dam Safety (Param Dhillon)	(916) 227.4621
Forest Service	(775) 882.2766
BLM (Colleen Dulin)	(775) 885.6000

RANCHERS

ACE Herford Ranch (Jim Usher)	
Gansberg Ranch (Chris Gansberg Jr.)	(530) 694.2268
Bruns Ranch (Hubert Bruns)	(530) 694.2933
Neddenriep Ranch (Kent Neddenriep)	(530) 694.2932
Brooke Ranch (Charlotte Brooke)	(775) 781-2655
Celio Ranch (Jennifer Celio)	(775) 230-4652

NEIGHBORING PROPERTIES

Hawkins Property (Pat Baginski)	(530) 544.8873
Cal Able	(800) 598.3009

Indian Creek Reservoir Fish Kill Protocol

1. Notify relevant authorities:

CALIFORNIA FISH AND GAME(916) 358.2900
LAHONTAN WATER QUALITY CONTROL BOARD.....(530) 542.5400
ALPINE COUNTY HEALTH DEPARTMENT.....(530) 694.2146

2. Notify District Lab:

Lab procedures include sampling for:

- Blue Green Algae
- Pesticides
- Dissolved Oxygen
- Temperature
- PH
- Fish tissue sampling

3. Information Sheet:

Fill out an information sheet in detail including;

- Date and time fish kill first reported
- Name of person reporting incident and how to contact them.
- Number of fish killed
- Type of fish killed
- Average size of fish killed
- Are there any visual deformities on the fish
- Amount of water flow into and out of reservoir and where water is being diverted from
- Provide any additional information you may feel is relevant to the investigation

SAFETY NOTE: ALWAYS USE RUBBER GLOVES WHEN HANDLING FISH



State of California
Department of Water Resources
Division of Safety of Dams

- NOTICE -
EMERGENCY PROCEDURES

Indian Creek Dam No. 1062-0, Alpine County

Latitude 38.751833 degrees North, Longitude 119.775779 degrees West

Section 3, Township 10N, Range 20E, Mount Diablo Base Meridian

Storage Capacity = 3,160 acre-feet

Section 6101 of Division 3 of the California Water Code requires owners of dams or reservoirs or their agents to advise the Department of Water Resources fully and promptly of any sudden or unprecedented flood or unusual or alarming circumstance or occurrence affecting the dam or reservoir.

In the event of an emergency involving your dam or reservoir (in addition to calling 911 and notifying local authorities) please notify the following:

1. During working hours:

Michael Waggoner, Chief
Field Engineering Branch
Division of Safety of Dams
2200 "X" Street, Suite 200
Sacramento, CA 95818
(916) 227-9800

2. After working hours and on weekends and holidays:

Aspet Ordoubigian, Area 4 Engineer
916-293-9299 (home) 916-761-0866 (cell) 916-227-4635 (office)

If the Area Engineer is not reachable, contact:

Andrew J. Mangney, Central Region Engineer
530-750-0747 (home) 916-296-0189 (cell) 916-227-4631 (office)

3. If the Area Engineer or the Regional Engineer cannot be reached, call the California Emergency Management Agency at (916) 845-8911.

4. For dam emergencies that may cause downstream flooding, contact the National Weather Service:

NWS Reno @ 775-673-8109 (East of Sierra crest)

NWS Sacramento @ 916-979-3049 (West of Sierra Crest)

FOR OFFICIAL USE ONLY

**THIS NOTICE MUST BE KEPT IN A CONVENIENT PLACE
(preferably near the telephone for use in an emergency at or near the dam site).**



State of California
Department of Water Resources
Division of Safety of Dams

**- NOTICE -
EMERGENCY PROCEDURES**

Harvey Place Dam No. 1062-3, Alpine County
Latitude 38.764664 degrees North, Longitude 119.779947 degrees West
Section 4, Township 10N, Range 20E, Mount Diablo Base Meridian
Storage Capacity = 3,700 acre-feet

Section 6101 of Division 3 of the California Water Code requires owners of dams or reservoirs or their agents to advise the Department of Water Resources fully and promptly of any sudden or unprecedented flood or unusual or alarming circumstance or occurrence affecting the dam or reservoir.

In the event of an emergency involving your dam or reservoir (in addition to calling 911 and notifying local authorities) please notify the following:

1. During working hours:

Michael Waggoner, Chief
Field Engineering Branch
Division of Safety of Dams
2200 "X" Street, Suite 200
Sacramento, CA 95818
(916) 227-9800

2. After working hours and on weekends and holidays:

Aspet Ordoubigian, Area 4 Engineer
916-293-9299 (home) 916-761-0866 (cell) 916-227-4635 (office)

If the Area Engineer is not reachable, contact:

Andrew J. Mangney, Central Region Engineer
530-750-0747 (home) 916-296-0189 (cell) 916-227-4631 (office)

3. If the Area Engineer or the Regional Engineer cannot be reached, call the California Emergency Management Agency at (916) 845-8911.

4. For dam emergencies that may cause downstream flooding, contact the National Weather Service:

NWS Reno @ 775-673-8109 (East of Sierra crest)
NWS Sacramento @ 916-979-3049 (West of Sierra Crest)

FOR OFFICIAL USE ONLY

**THIS NOTICE MUST BE KEPT IN A CONVENIENT PLACE
(preferably near the telephone for use in an emergency at or near the dam site).**



State of California
Department of Water Resources
Division of Safety of Dams

- NOTICE -
EMERGENCY PROCEDURES

Emerg Effluent Holding Dam No. 1062-2, El Dorado County
Latitude 38.915465 degrees North, Longitude 119.965278 degrees West
Section 2, Township 12N, Range 18E, Mount Diablo Base Meridian
Storage Capacity = 184 acre-feet

Section 6101 of Division 3 of the California Water Code requires owners of dams or reservoirs or their agents to advise the Department of Water Resources fully and promptly of any sudden or unprecedented flood or unusual or alarming circumstance or occurrence affecting the dam or reservoir.

In the event of an emergency involving your dam or reservoir (in addition to calling 911 and notifying local authorities) please notify the following:

1. During working hours:

Michael Waggoner, Chief
Field Engineering Branch
Division of Safety of Dams
2200 "X" Street, Suite 200
Sacramento, CA 95818
(916) 227-9800

2. After working hours and on weekends and holidays:

Aspet Ordoubigian, Area 4 Engineer
916-293-9299 (home) 916-761-0866 (cell) 916-227-4635 (office)

If the Area Engineer is not reachable, contact:

Andrew J. Mangney, Central Region Engineer
530-750-0747 (home) 916-296-0189 (cell) 916-227-4631 (office)

3. If the Area Engineer or the Regional Engineer cannot be reached, call the California Emergency Management Agency at (916) 845-8911.

4. For dam emergencies that may cause downstream flooding, contact the National Weather Service:

NWS Reno @ 775-673-8109 (East of Sierra crest)
NWS Sacramento @ 916-979-3049 (West of Sierra Crest)

FOR OFFICIAL USE ONLY

**THIS NOTICE MUST BE KEPT IN A CONVENIENT PLACE
(preferably near the telephone for use in an emergency at or near the dam site).**

Residential Overflows/Backups or Water Damage Procedures

1. Crew will break stoppage as soon as possible.
2. If stoppage/overflow occurs after work hours, Operations Dept. will notify Doug Van Gorden at 530.543.2399 (cell phone 626.253.5481). If noted water damage to private property occurs, Operations Dept. will notify Chris Stanley at 530.721.1659 or 530.541.4410 and Tim Bledsoe at 865.635.6069. Chris or Tim will notify the JPIA claims adjuster, if necessary.
3. If stoppage/overflow or water damage occurs after work hours, Operations Dept. will contact the following company for emergency clean up:
 - ServPro**..... (775) 588.2355
4. Sewer/Water crew will take photographs of damage to property using disposal camera and turn in processed photos to Customer Service Manager.
5. Sewer/Water crew responding to emergency will complete the following forms:
 - a. First Responder Form
 - b. Customer Information Regarding Claims
6. Sewer/Water crew responding to emergency will complete First Responder Form, provide original to Sewer or Water Supervisor and a copy to Customer Service Manager. Crew will complete Customer Information Regarding Claims form and give to CUSTOMER.
7. Sewer/Water crew responding to emergency will provide two additional forms:
 - a. Instructions for Filing a Claim
 - b. Tort Claim for Money or Damages
8. ACWA JPIA claims adjuster will make arrangements for temporarily housing the customer if the residence is uninhabitable. If we cannot reach JPIA, then Tim, Doug Van Gorden or Chris Stanley will book a hotel room with their District credit card and JPIA will transfer billing to their name the following day.
9. Any invoices, bills or correspondence received from claimants **MUST** be provided to Tim Bledsoe immediately to provide insurance adjuster for payment. These bills do NOT go through STPUD (A/P) for payment.

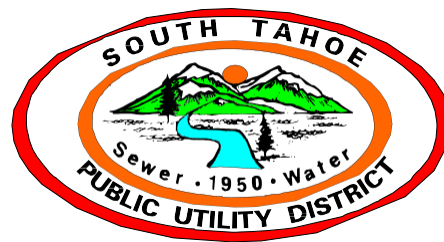
Note: If damage has occurred, Doug Van Gorden, Chris Stanley or Tim Bledsoe will contact our insurance adjuster for damage assessment and claim assignment. If Doug, Chris Stanley or Tim are unavailable, please contact Shannon Cotulla at 530.208.8939.

APPENDIX C: ADMINISTRATIVE CODE

SOUTH TAHOE PUBLIC UTILITY DISTRICT ADMINISTRATIVE CODE

A CODIFICATION OF THE ADMINISTRATION, WATER, SEWER, STREET LIGHTING AND
GROUNDWATER MANAGEMENT PLAN ORDINANCES OF THE

SOUTH TAHOE PUBLIC UTILITY DISTRICT



DECEMBER 15, 2016

SECTION 4 SEWER

Section

4.1 General Provisions

- 4.1.1 Rules and Regulations.
- 4.1.2 Purpose
- 4.1.3 Failure to Use Public Sewer Unlawful.
- 4.1.4 Plumbing, Inspection, Compensation.
- 4.1.5 Powers and Authorities of Inspectors.
- 4.1.6 Right of Entry by District.

4.2 Sewer Permits

- 4.2.1 Sewer Permit Required.
- 4.2.2 Grant of Permit by Board Optional.
- 4.2.3 Class of Permits.
- 4.2.4 Plans, Profiles, and Specifications Required.
- 4.2.5 Special Power of Attorney.
- 4.2.6 Agreement.
- 4.2.7 Compliance With Permit.
- 4.2.8 Fees and Connection Charges.
- 4.2.9 Permits for Sewers Outside District Jurisdiction.
- 4.2.10 Time Limits On Sewer Permits.
- 4.2.11 Easements or Right-of-Way.
- 4.2.12 Street Excavation Permit.

4.3 Public Sewer Specifications

- 4.3.1 Design and Construction Standards.
- 4.3.2 Separate Sewers.
- 4.3.3 Connection to Public Service.
- 4.3.4 Control Manholes.
- 4.3.5 Sewer Materials.
- 4.3.6 Minimum Size and Slope.
- 4.3.7 Sewer Too Low.
- 4.3.8 Sewer Lateral.
- 4.3.9 Existing Sewer Laterals.
- 4.3.10 New Construction.
- 4.3.11 Remodeling, Additions, Change of Use.
- 4.3.12 Purpose of Requirement of Backwater Prevention Device

4.4 Public Sewer Construction

- 4.4.1 Compliance With Local Regulations.
- 4.4.2 Construction Requirements.
- 4.4.3 Liability.
- 4.4.4 Persons Authorized to Perform Work.
- 4.4.5 Grade Stakes.
- 4.4.6 Joints and Connections.
- 4.4.7 Protection of Excavation.

- 4.4.8 All Work To Be Inspected.
- 4.4.9 Notification.
- 4.4.10 Inspection.
- 4.4.11 Condemned Work.
- 4.4.12 As-Built Drawings.
- 4.5 Sewer Fees, Rates and Schedules**
 - 4.5.1 All Costs Paid By Owner.
 - 4.5.2 Fees for Sewer Connection.
 - 4.5.3 Fees and Bond for Public Sewer Construction.
 - 4.5.4 General Rates - Sewer Service.
 - 4.5.5 Special Charges.
 - 4.5.6 Schedule of Units.
 - 4.5.7 Schedule 1.
 - 4.5.8 Schedule 2.
 - 4.5.9 Schedule 3.
 - 4.5.10 Schedule 4.
 - 4.5.11 Schedule 5.
 - 4.5.12 Schedule 6.
- 4.6 Use of Public Sewers**
 - 4.6.1 Sewer Required.
 - 4.6.2 Unlawful Deposit.
 - 4.6.3 Occupancy Prohibited.
 - 4.6.4 Application for Sewer Permit.
 - 4.6.5 Abandonment of Private Facilities.
 - 4.6.6 Duty of Sewer Service User to Report.
 - 4.6.7 Unreported Connections and Discharges.
 - 4.6.8 Disposal of Wastes.
 - 4.6.9 Drainage into Public Sewers Prohibited.
 - 4.6.10 Treatment of Wastes Required.
 - 4.6.11 Types of Waste Prohibited.
 - 4.6.12 Preliminary Treatment of Wastes.
 - 4.6.13 Grease Interceptors/Traps Required.
 - 4.6.14 Special Agreements.
 - 4.6.15 Protection from Damage.
 - 4.6.16 Construction or Location of Improvements.
- 4.7 Maintenance and Repair of Sewers**
 - 4.7.1 Measurements and Tests.
 - 4.7.2 Maintenance of Sewer Laterals.
 - 4.7.3 Maintenance of Pretreatment Facilities.
 - 4.7.4 Maintenance of Grease Interceptors/Traps.
 - 4.7.5 Procedures for Handling Stoppages in Sewer Laterals.
 - 4.7.6 Emergency Repairs by District.
 - 4.7.7 Reimbursement of District.
- 4.8 Sewer Capacity**

- 4.8.1 Schedule of Sewer Units.
- 4.8.2 Current Equity.
- 4.8.3 Rate Relief for Excess Sewer Units.
- 4.8.4 Authority.
- 4.8.5 Inspection.
- 4.8.6 Existing Demand.
- 4.8.7 Application.
- 4.8.8 Payment.
- 4.8.9 Attributes.
- 4.8.10 Transfer of Attributes.
- 4.8.11 Transfer of Sewer Capacity.
- 4.8.12 Transfer of Equity.
- 4.8.13 Costs of Transferring Sewer Capacity.
- 4.8.14 Conditions to Transfer.
- 4.8.15 Additional Procedures.

Section 4.1 General Provisions.

4.1.1 Rules and Regulations. The following rules and regulations respecting sewer construction, disposal of sewage, drainage of buildings and connection to the sewer works of the District are adopted. All related work shall be performed according to the Uniform Plumbing Code or as otherwise specified herein.

4.1.2 Purpose. This Section is intended to provide certain minimum standards, provisions and requirements for design, methods of construction, and use of materials in sanitary sewage facilities, and in side sewers hereafter installed, altered or repaired. This Section shall not apply retroactively and, in the event of an alteration or repair hereafter made, it shall apply only to the new materials and methods used. This Section is also intended to provide a schedule of annual charges for sewer services, payable in advance.

4.1.3 Failure to Use Public Sewer Unlawful. Following the effective date of this Section 4, it shall be unlawful for any person to connect, construct, install, provide, maintain or use any other means of sewage disposal from any building in the District except by connection to a public sewer in the manner as provided in this Section 4.

4.1.4 Plumbing, Inspection, Compensation. The Board shall employ the General Manager to perform the duties of inspecting the installation, connection, maintenance and use of all sewer laterals and plumbing, sewerage, sanitary drainage work and related facilities within the boundaries of the District. The General Manager may assign such inspection duties to his/her designee.

4.1.5 Powers and Authorities of Inspectors. The officers, inspectors and any duly authorized employees of the District shall wear or carry evidence establishing his or her position as such and upon exhibiting the proper credentials and identification shall be permitted to enter in and upon any and all buildings, industrial facilities and properties for the purposes of inspection, reinspection, observation, measurement, sampling, testing or otherwise performing such duties as may be necessary for the enforcement of the provisions of Ordinances, rules and regulations of the District.

4.1.6 Right of Entry by District. Authorized representatives of the District shall have the right of ingress to and egress from a customer's property at reasonable hours for any purpose reasonably related to this Section 4, and all Ordinances, rules, regulations, and specifications of the District duly adopted or amended.

Section 4.2 Sewer Permits.

4.2.1 Sewer Permit Required. No unauthorized person shall uncover, make any connections with or opening into, use, alter or disturb any public sewer or appurtenance, perform any work on any sewer or drainage system or construct a sewer lateral without first obtaining a written sewer permit from the District and paying all required fees and connection charges. The application for a sewer permit shall be on a form approved and provided by the District.

4.2.2 Grant of Permit by Board Optional. The granting of such permit shall be optional with the Board.

4.2.3 Classes of Permits. There shall be two (2) classes of permits, as follows:

- a) Sewer lateral construction permit.
- b) Public sewer construction permit.

4.2.4 Plans, Profiles, and Specifications Required. The application for a permit for public sewer construction shall be accompanied by complete plans, profiles and specifications prepared by a Registered Civil Engineer showing all details of the proposed work based on an accurate survey of the ground and complying with all applicable provisions of the Ordinances, rules and regulations of District. The application, together with the plans, profiles and specifications, shall be examined by the General Manager or his/her designee who shall approve them as submitted or require them to be modified as he/she deems necessary for proper installation. After examination by the General Manager, or his/her designee, the application, plans, profiles and specifications shall be submitted to the Board at its next regular meeting for its consideration. When the Board is satisfied that the proposed work is proper and the plans, profiles and specifications are sufficient and correct, it shall order the issuance of a permit predicated upon the payment of all connection charges, fees, and furnishing of bonds as may be required by the District. The permit shall prescribe such terms and conditions as the Board finds necessary in the public interest.

4.2.5 Special Power of Attorney. The legal owner of record of a parcel of real property may give an acknowledged Special Power of Attorney to any person for the purpose of applying to the District for a sewer permit.

4.2.6 Agreement. The application for a sewer permit, as set forth in Section 4.6.4, shall constitute an agreement to comply with all of the provisions, terms and

requirements of the Ordinances, rules and regulations of the District, and with the plans and specifications filed with the application, if any, together with such corrections or modifications as may be made or permitted by the District. Such agreement shall be binding upon the applicant and may be altered only by the District upon the written request for the alteration by the applicant.

4.2.7 Compliance With Permit. After approval of the application, as evidenced by the issuance of a sewer permit, no changes shall be made in the occupancy, use, location, grade, materials or other details from those described in the permit or as shown on the plans and specifications for which the sewer permit was issued without the express written permission from the District, the District Inspector, or other authorized representative, or the filing of a new application.

4.2.8 Fees and Connection Charges. All connection charges, fees and other charges in the District, and in areas annexed thereto as set forth in the Ordinances, rules and regulations of the District, shall be paid and complied with in the manner provided in said Ordinances, rules and regulations. All fees collected on behalf of the District shall be deposited with the proper authority, as determined by the District, to receive such funds.

4.2.9 Permits for Sewers Outside District Jurisdiction. A permit shall not be granted to connect any lot or parcel of land outside or excluded from the District to any public sewer in or under the jurisdiction of the District unless a petition for annexation is filed with the Clerk of the District. All provisions of annexation to the District, as heretofore or hereafter fixed, shall be prior to issuing a sewer permit. All sewer work constructed shall be inspected in accordance with Sections 4.4.8 and 4.4.10.

4.2.10 Time Limits On Sewer Permits. A sewer permit for construction of a public or sewer lateral shall be null and void:

a) A permit for construction of a sewer lateral shall permit the connection to the District's sewer service, in accordance with the applicable provisions of the Ordinances, rules, and regulations of the District and specifications for sewer service in effect at the date of permitting, for a period of three (3) years from the date the permit is issued. If, at the expiration of the three (3) year initial permit term, the permittee may extend the permit term for an additional one (1) year term (the "Extension Term"), provided that the permittee pays the required administrative fee. (Refer to Section 4.5.13 – Sewer Rate Schedule 7.) Any permit extended pursuant to this subsection shall be subject to the terms of the District's Administrative Code and regulations in effect at

the date of extension.

b) Those permits for construction of a sewer lateral that have been issued prior to the effective date of Ordinance No. 520-10 shall permit the connection to the District's sewer service, in accordance with applicable provisions of the Ordinance, rules, and regulations of the District and specifications for sewer service in effect at the date of permitting, for a period of three (3) years from the effective date of Ordinance No. 520-10. If, at the expiration of this three (3) year term, the permittee has yet to construct the permitted connection to the District's sewer system, the permittee may extend the permit term for an additional one (1) year Extension Term, provided that the permittee pays the required administrative fee. (Refer to Section 4.5.13 – Sewer Rate Schedule No. 7.) Any permit extended pursuant to this subsection shall be subject to the terms of the District's Administrative Code and regulations in effect at the date of extension.

c) If, upon the expiration of any permit term, including, any Extension Term, as applicable, the permittee has not connected to the District's sewer service, and the permit holder fails to extend the permit, as provided for in section (a) or section (b), above, the permit shall be suspended, and no connection to the District's sewer system shall be made thereunder, until the permittee extends the permit term by an additional one (1) year Extension Term and pays the required administrative fee for each full calendar year that has passed since the expiration of the prior three (3) year permit term or one (1) year Extension Term, as applicable. (Refer to Section 4.5.13 – Sewer Rate Schedule No. 7.)

d) At any time prior to connection to the District's sewer system, a permittee may terminate its sewer connection permit and the District shall refund to the permittee the applicable fee for sewer connection, pursuant to Administrative Code section 4.5, paid by the permittee upon receipt of its permit. Upon the permittee's termination of the permit term, the permittee shall not be entitled to the refund of any administrative fees paid for extension of the permit term, as applicable.

e) Any permittee may choose to comply with the changes in the applicable provisions of the Ordinances, rules, and regulations of the District and specifications for sewer service made after the date of permitting but prior to connection to the District's sewer service.

f) Notwithstanding the above, a sewer permit for construction of a sewer lateral will be null and void:

- 1) If construction project is not accepted by County or City for the proposed improvement to be served by the sewer; or
- 2) If the County or City voids or cancels either the application or permit

for construction of the proposed improvements to be served by the sewer.

4.2.11 Easements or Right-of-Way. In the event that an easement is required for the extension of the public sewer or the making of connections, the applicant shall procure and have accepted by the Board a proper easement or grant of right-of-way as determined by the District to allow the laying and maintenance of such extension or connection.

4.2.12 Street Excavation Permit. A separate permit must be secured by owners or contractors intending to excavate in a public street for the purpose of installing or repairing sewers or making sewer connections from the State, County, City or any other public entity with appropriate jurisdiction.

Section 4.3 Public Sewer Specifications.

4.3.1 Design and Construction Standards. Minimum standards for the design and construction of public sewers within the District shall be in accordance with the applicable provisions of the Ordinances, rules, regulations and with the current District specifications for public sewer construction. The District may permit modifications or may require higher standards as conditions dictate, in the District's discretion.

4.3.2 Separate Sewers. Except as otherwise provided herein, each Dwelling Unit or Building under separate ownership or on a separate parcel must be separately connected with a public sewer if such public sewer exists in the street upon which the property abuts or in an easement which will serve said property.

4.3.2.1 Common Ownership. Two or more Dwelling Units or Buildings under common ownership and on the same lot or parcel of land shall be connected through the same connection to a public sewer, provided, however, that the District may limit the number of Dwelling Units or Buildings under common ownership that may be connected by one service connection.

4.3.2.2 Subdivided Parcel. Except as provided in Section 4.3.2.3, when a parcel provided with a service connection to a public sewer is subdivided, that service connection shall be designated to the lot or parcel from which it connects to the District's system, and each other lot or parcel shall require a new service connection.

4.3.2.3 Multiple Service. A Common Interest Development, which consists of

two or more assessors' parcels, and is or will be managed by a Homeowners Association, shall install and maintain one service connection, provided, however, that the District may limit the number of Dwelling Units that may be connected through one service connection or device. A Common Interest Development, which consists of two or more assessors' parcels and is not or will not be managed by a Homeowners Association, shall install and maintain a separate service connection to each Dwelling Unit within the development. The developer of a Common Interest Development may elect, at his or her cost, to have installed and maintained a separate service connection for each Dwelling Unit within the development. In such case, the developer shall be responsible for securing to the District all access easements the District deems necessary, prior to connection to the District's sewer system.

4.3.2.4 Existing Sewer Connections. All sewer connections, existing as of the effective date of Ordinance 516-09, which do not meet the requirements of this Section 4.3.2, but were approved when installed and have otherwise been in compliance with the District's rules and regulations, shall be excluded from the requirements of this Section until the occurrence of a "qualifying event." The following events shall be considered qualifying events requiring compliance with Section 4.3.2: (a) application for new sewer service, (b) request for a change of account name, (c) the District's receipt of notification from the County of El Dorado, City of South Lake Tahoe, or an applicant, that application has been made for a building permit, (d) in the case of a Common Interest Development for which, pursuant to section 6.2.1, a Homeowners Association is responsible for payment of District sewer bills, the dissolution of that Homeowners Association; or (f) any other requested modification of sewer service to the Common Interest Development.

4.3.3 Connection to Public Sewer. The connection of the sewer lateral into the public sewer shall be made at the lateral or "Y" or "T" branch, if such lateral or "Y" or "T" branch is available at a suitable location. Where no "Y" or "T" branch is available, a neat hole may be cut into the public sewer to receive the sewer lateral with entry in the downstream direction at an angle of about forty-five degrees (45°). A wye saddle shall be used for the connection and in no case shall the pipe protrude inside the main sewer. The invert of the sewer lateral at the point of connection shall be made and the connection made secure. The connection to the public sewer shall be made in the presence of the District Inspector and under the District Inspector's supervision and direction and in accordance with the applicable provisions of the Ordinances, rules, regulations and the District's current specifications for sewer construction. Any damage to the public sewer shall be repaired at the expense of the applicant to the satisfaction of the District Inspector.

4.3.4 Control Manholes. When required by the District, the owner of any

property served by a sewer lateral carrying industrial wastes shall install a suitable control manhole to facilitate observation, sampling and measurement of wastes. Such manhole, when required, shall be accessible and safely located, and shall be constructed in accordance with plans approved by the District. The manhole shall be installed by the owner at his expense and shall be maintained by the owner so as to be safe and accessible at all times.

4.3.5 Sewer Materials. The sewer lateral shall be cast iron soil pipe, meeting current applicable standards; or other suitable material established and incorporated by the District into current specifications for sewer construction. Joints shall be of the same material and shall be tight and waterproof.

4.3.6 Minimum Size and Slope. The size and slope of the sewer lateral shall be subject to the approval of the Inspector, but in no event shall the diameter be less than four (4) inches. The slope of such 4-inch pipe shall be not less than one-fourth ($\frac{1}{4}$) inch per foot.

4.3.7 Sewer Too Low. In all buildings in which any sewer lateral is too low to permit gravity flow to the public sewer, sanitary sewage carried by such sewer lateral shall be lifted by artificial means, approved by the District Inspector, and discharged to the public sewer at the expense of the owner.

4.3.8 Sewer Lateral. Whenever possible the sewer lateral should be brought to the building at an elevation below the basement floor. No sewer lateral shall be laid parallel to or within three (3) feet of any bearing wall, which might thereby be weakened. The depth shall be sufficient to afford protection from frost. The sewer lateral shall be laid at uniform grade and in straight alignment insofar as possible. Changes in direction shall be made only approved fittings of the same material.

4.3.9 Existing Sewer Laterals. Existing sewer laterals may be used in connection with new and/or remodeled buildings only when such existing sewer lateral are determined by the District to have passed a current air test, or an air test conducted within the prior ten (10) years. If the air test fails in the lower lateral, the District will perform a CCTV inspection and repair any major structural damage or blockages and/or place into the Asset Management System for minor structural damage or repair. If the air test fails in the upper lateral, the owner shall repair or replace upper lateral piping and air test pipe again. After the lateral passes inspection, either by air test or CCTV inspection, it will be certified for ten (10) years from the date of the inspection.

4.3.10 Sewer Laterals for New Construction. After installation of the upper sewer lateral by the property owner, the upper lateral shall pass an air test. If the air test fails, the owner shall repair or replace the lateral and air test the pipe again. The District will perform a CCTV inspection of the lower sewer lateral and repair any major structural damage or blockages and/or place into the Asset Management System for minor structural damage or repair. After the lateral passes inspection, either by air test or CCTV inspection, it will be certified for ten (10) year from the date of the inspection.

4.3.11 Remodeling, Additions, Change of Use. At the time of Remodeling, all new plumbing fixtures shall be Low Water Use Plumbing Fixtures. These fixtures shall be installed and maintained and shall not be replaced with fixtures which allow greater water use.

4.3.12 Purpose of Requirement of Backwater Prevention Device. (Reference Ordinance No. 510-08, effective July 3, 2008) When stoppages occur in sanitary sewers, there exists the potential of adverse public and private health impacts and damage to property resulting from sewage overflow and back flooding on public and private property. It is the purpose of Section 4.3.12 to protect the health and safety of residents of the District and to minimize the possibility of damage to property by requiring the proper installation and maintenance of backwater prevention devices when deemed necessary by District personnel. Such devices shall be installed in accordance with District specifications.

A. **Maintenance Requirements.** All backwater prevention devices shall be maintained so as to provide for their continuing function as designed. All backwater prevention devices shall be accessible at all times and shall be free from any obstructions, including, but not limited to, rocks, soil, vegetation, snow, landscaping, concrete, asphalt or other ground coverings that may impair the function of and accessibility to the device.

B. **Failure to Follow Backwater Prevention Device Requirements.** Any property owner who has failed to install or maintain a backwater prevention device at the direction of the District shall be responsible for all damage that results from the lack of such a device, or the failure of the defective device to prevent such damage. A property owner may only refuse to install or maintain a backwater prevention device, contrary to the direction of the District, upon the execution of a recordable acknowledgement of the property owner's assumption of the risk and waiver of liability against the District for all overflows impacting the property for which the property owner refuses to install the device. Once executed, the waiver and assumption of risk shall be recorded with the El Dorado County Recorder's Office so as to become part of the property's chain of title.

Section 4.4 Public Sewer Construction.

4.4.1 Compliance With Local Regulations. Any person constructing a sewer within a street shall comply with all State, City and County laws, ordinances, rules and regulations pertaining to the cutting of pavement, opening, barricading, lighting and protecting of trenches, backfilling and repaving thereof and shall obtain all permits and pay all fees required by the public entity having jurisdiction prior to the issuance of a permit by the District.

4.4.2 Construction Requirements. Construction and inspection of sewer laterals shall be in accordance with all applicable requirements of the County, the City, State of California, and provisions of the Ordinances, rules, regulations, and current specifications for sewer construction.

4.4.3 Liability. The District and its directors, officers, agents and employees shall not be liable for any injury or death to any person or damage to any property arising during or arising out of the performance of any work by any applicant. The applicant shall indemnify, defend and hold harmless the District, its directors, officers, agents and employees from and against any and all liabilities, losses, claims, damages, costs and expenses caused by, arising from or related to sewer construction or other related work performed pursuant to this Section 4.4, including but not limited to, any and all attorneys', paralegal and expert fees and expenses, except where caused by the active negligence, sole negligence, or willful misconduct of the District. Applicant shall be solely liable for any defects in the performance of applicant's work or any failure which may develop in such work.

4.4.4 Persons Authorized to Perform Work. Only Class A licensed contractors shall be authorized to perform the work of public sewer construction within the District. All terms and conditions of the permit issued by the District to the applicant shall be binding on the contractor. The requirements of this Section shall apply to sewer laterals installed and/or connected to public sewer construction.

4.4.5 Grade Stakes. Grade and line stakes shall be set by a Registered Land Surveyor or applicably Licensed Civil Engineer prior to the start of construction on any public sewer. The contractor shall be responsible for accurately transferring grades to grade bars and sewer invert.

4.4.6 Joints and Connections. All excavations required for the installation of

a sewer lateral shall be open trench work unless otherwise approved by the District. Pipe laying and backfill shall be performed in accordance current applicable standards, except that no backfill shall be placed until the work has been inspected. All work shall be in accordance with the applicable provisions of the Ordinances, rules, regulations, and current specifications for sewer construction.

4.4.7 Protection of Excavation. The applicant shall maintain such barriers, lights and signs as are required by law or necessary to give warning to the public at all times that a sewer is under construction and of any dangerous condition which may be encountered as a result. The applicant shall also protect the public in the use of the sidewalk against any such conditions in connection with the construction of the public sewer. Streets, sidewalks, parkways and other property disturbed in the course of the work shall be reinstalled in a manner satisfactory to the District, the City, County, or any other public entity having jurisdiction. All required shoring shall be properly installed before the District Inspector enters the excavation.

4.4.8 All Work To Be Inspected. All sewer construction work shall be inspected by the District Inspector or an inspector authorized by and acting for the District to ensure compliance with all requirements of the District. No sewer shall be covered at any point until it has been inspected, tested and accepted by the District. No sewer shall be connected to the District's public sewer until the work covered by the sewer permit has been completed, tested, inspected and approved by the District Inspector.

4.4.9 Notification. It shall be the duty of the person doing the work authorized by a sewer permit to notify 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 shall comply with the tests required by the District before giving the above notification.

4.4.10 Inspection. The District will inspect sewer construction, as described below.

- a) *Sewer Lateral.* The sewer lateral inspection will verify proper installation, connection and use of materials.
- b) *Final Inspection.* A final inspection may be conducted by the District after the City and/or County Building Department has made its final inspection. The District's final inspection will verify that the plumbing fixtures and their location(s) are as specified in the construction plans, the application and sewer permit issued.

4.4.11 Nonconforming Work. When any work has been inspected and the work or any portion of the work is not approved and no certification of satisfactory completion given, a written notice to that effect shall be given instructing the owner of the property, or the agent of such owner, to repair such work or portion of such work as authorized by the permit in accordance with the Ordinances, rules and regulations of the District.

4.4.12 As-Built Drawings. "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.

Section 4.5 Sewer Fees, Rates, and Schedules.

4.5.1 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 paid by the owner.

4.5.2 Fees for Sewer Connection. Sewer connection charges shall be determined as follows:

- a) A sewer connection fee shall be paid to the District by the applicant desiring connection to the District sewer system based upon the number of sewer units which are required to serve the improvements on the property. (Refer to Section 4.5.7 in Appendix Fee Schedule)
- b) At any time sewer capacity is added to any property for which the initial connection charge has been previously paid in an amount which did not include such additional capacity, as a condition to such property remaining connected to the District sewer system, there shall be a subsequent connection charge to provide for the additional sewer capacity requirements. (Refer to Appendix Fee Schedule 4.5.7)
- c) A fee shall be paid to the District for issuing a sewer permit to connect and inspect a sewer lateral and issuing a permit to install and inspect a wye saddle. (Refer to Appendix Fee Schedule 4.5.9)
- d) Reserved
- e) Sewer connection fees as determined from time to time by the Board shall apply to all new connections. Connection fee revenue shall be used to evaluate potential projects related to the sewer enterprise of the District; to plan, study, undertake, complete and finance such capital projects; to pay the costs incurred by the District to provide and inspect new connections, including the portion of the connector's obligation for the accumulated equity in the sewer enterprise and the District's costs in coordinating with other governmental entities to facilitate such

connection.

- f) Neither this provision, nor payment of the connection fees described in this Section shall constitute approval of any capital project.

4.5.3 Fees and Bond for Public Sewer Construction.

- a) A fee, in an amount deemed necessary by the District to pay all engineering, inspection and other costs required to ensure compliance with the terms of the sewer permit and with the Ordinances, rules and regulations of the District, shall be paid by the applicant to the District prior to the time the sewer permit is issued, for reviewing plans and specifications, issuing a sewer permit and inspecting the installation of public sewer mains, laterals and all appurtenances. If the fee fixed by the District is less than the actual cost to the District, the applicant shall be liable for the excess cost to the District.
- b) Prior to the issuance of a permit for public sewer construction, the applicant shall furnish to the District a faithful performance and payment bond or cash deposit in the amount of the total estimated cost of the work. Said bond to be secured by a surety or sureties satisfactory to the District. The cash deposit or faithful performance and payment bond shall be in a form as authorized and approved by the District and shall be conditioned upon the performance of the terms and conditions of the sewer permit and the payment of all subcontractors and material suppliers and shall guarantee the correction of faulty workmanship and the replacement of defective materials for a period of one (1) year after the date of acceptance of the work.

4.5.4 General Rates - Sewer Service. There is hereby established an annual service charge as established by the Ordinances, rules and regulations of the District, for connection to the sewers of the District. The service charge shall be applied to new connections beginning in the third quarter after the quarter in which the final sewer lateral connection inspection at the property line OCCURS. (Reference Ordinance No. 505-08 Effective May 3, 2008)

4.5.5 Special Charges. Facilities in or about residential, commercial and industrial establishments discharging extraordinary amounts of waste into the District's sewer system shall be subject to such charges and to such conditions as may be established by the Board.

4.5.6 Schedule of Units. The following is a schedule of the number of units to be applied to each type of connection to the sewer system of the District:

- a) Homes and Apartments: A minimum of three (3) units for each home or each apartment plus an additional unit for each bath or half-bath in excess of two baths, except that the minimum for a home or apartment having only one bath and only one bedroom, which is equipped with low

- water-use fixtures, or for a studio apartment, is two (2) units.
- b) Motels/Hotels/Timeshares: Each bath with shower and/or standard bathtub with less than seventy-five (75) gallon overflow capacity, one (1) unit. Bathtubs with overflow capacity equal to or greater than seventy-five (75) gallons shall require one (1) additional unit. Each kitchen, one (1) unit.
 - c) Restaurant: One (1) unit per restroom; five (5) units for the first twenty (20) seats, whether indoor seats or outdoor seats, plus one (1) additional unit for every twenty (20) indoor seats or fraction over twenty (20). The first twenty (20) seats of outdoor seating shall not require any units; outdoor seating in excess of the first twenty (20) seats shall require one-half (.5) units per twenty (20) seats; one (1) additional unit for every forty (40) outdoor seats or fraction over forty (40). For the purpose of this Section, where a bar is operated in connection with a restaurant, bar stools will be counted as seats. Commercial establishments that sell food but which have no eating or seating on the property shall be counted as other commercial in sub-paragraph (j).
 - d) Service Stations: Five (5) units, one (1) unit per RV dump.
 - e) Mobile Home/Trailer Parks, Campgrounds: Three (3) units per trailer space that will accommodate a trailer in excess of forty (40) feet in length and twelve (12) feet in width with a sewer connection provided; one (1) unit per trailer space for all other trailer spaces with a sewer connection provided. One (1) unit per two trailer spaces without a sewer connection provided.
 - f) Laundromats: Two (2) units per washing machine.
 - g) Swimming Pools, hot tubs, used in connection with a commercial establishment: Two (2) units per swimming pool and hot tub.
 - h) Taverns without food facilities: Five (5) units, plus one (1) unit per restroom.
 - i) Meeting Rooms, Banquet/Ballroom Facilities: One (1) unit per 100-person of maximum room capacity, or fraction thereof, as designed by the Fire Chief with authority in the jurisdiction.
 - j) All other commercial establishments: One (1) sewer unit per five (5) fixture units as defined in the Uniform Plumbing Code.

4.5.7 - SCHEDULE 1

A fee will be collected to connect to the collection system, or fees will be collected for any additional sewer units, will be collected as defined in the Appendix Fee Schedule

4.5.8 - SCHEDULE 2

An administrative fee will be collected for unreported connections and discharges as defined in the Appendix Fee Schedule 2.

4.5.9 - SCHEDULE 3

A fee will be collected for issuing a permit to connect and inspect a sewer lateral and issuing a permit to install and inspect a wye saddle as defined in the Appendix Fee Schedule.

4.5.10 - SCHEDULE 4

Reserved

4.5.11 - SCHEDULE 5

A fee may be charged for re-inspection of condemned work as defined in the Appendix Fee Schedule.

4.5.12 - SCHEDULE 6

The annual sewer service charges are defined in the Appendix Fee Schedule

4.5.13 – SCHEDULE 7

An administrative fee will be collected for the extension of a sewer permit, pursuant to section 4.2.10. See Appendix Fee Schedule.

4.5.14 – SCHEDULE 8

An administrative fee will be collected for each transfer of excess sewer unit(s), pursuant to section 4.8.14. See Appendix Fee Schedule.

Section 4.6 Use of Public Sewers.

4.6.1 Sewer Required. The owner of any building situated within the District requiring sewage disposal is required, at the owner's expense, to connect said building directly with the proper public sewer in accordance with the provisions of this Section 4, within ninety (90) days after receipt of notice by the agency with authority to do so, unless, due to extraordinary circumstances, special permission is granted to owner.

4.6.2 Unlawful Deposit. Except as provided in this Section 4.6, 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 sewage.

4.6.3 Occupancy Prohibited. No building, industrial facility or other structure requiring sewage disposal shall remain occupied until the Owner of the property has complied with all rules and regulations of the District.

4.6.4 Application for Sewer Permit. Prior to connecting with the public sewer, the owner of the property to be provided sewer service by the District shall apply for a sewer permit on a form approved and provided by the District.

4.6.5 Abandonment of Private Facilities. At such time as a public sewer becomes available to a property served by a private sewage disposal system, as provided in Section 4.6.1, a direct connection shall be made to the public sewer in compliance with the Ordinances, rules and regulations of District, and any septic tanks, cesspools, and similar private sewage disposal facilities shall be abandoned and filled with suitable material as determined by the District Inspector.

4.6.6 Duty of Sewer Service User to Report. It shall be the duty of each owner of property connected to the District sewer system to report to the District all facilities discharging waste into the District sewer. As to any facilities which are not so reported, they shall be deemed to have been connected to the District sewer from the date, as determined by the District, that the property was first connected to the District sewer.

4.6.7 Unreported Connections and Discharges.

(Reference Ord. 525-10, Effective 11/18/10)

Upon discovery of the unreported connections and discharges to the District sewer system, the District shall charge all current charges and fees, including all current connection charges, plus a ten percent (10%) basic penalty, up to three (3) years back

charges for current sewer service fees, a ten percent (10%) penalty on such back charges, and the current administrative fee for unreported connections and discharges. (Refer to Schedule No. 2, Section 4.5.8.) The owner of said property may, at his option, abate the unreported connection(s) immediately or pay all of the above charges and fees. If the owner elects to abate the unreported connection(s), the District may only charge up to three (3) years back charge for current sewer service fees. If the owner can demonstrate sufficient proof to the District Customer Service Manager or authorized representative that the unreported sewer connection(s) existed prior to the purchase of such property by owner, then the District shall not impose any sewer connection fee, back charges, administrative fees or penalties as to the unreported sewer connection(s). As to the unreported connection, the District will charge the appropriate annual service charge beginning with the day the District discovered the unreported sewer connection(s). (Refer to Schedule No. 6, Section 4.5.12.) If the owner fails to complete any of the above options, all charges and fees shall be deemed charges for the purposes of collection and enforcement, and the property shall be subject to disconnection procedures for delinquent charges as provided in Section 6.6.

4.6.8 Disposal of Wastes. It shall be unlawful for any person to place, deposit, or permit to be deposited upon public or private property within the District, or in any area under the jurisdiction of the District, any human or animal excrement, garbage, chemical, or other objectionable waste.

4.6.9 Drainage into Public Sewers Prohibited. No leaders from roofs and no surface drains for rain water shall be connected to any District sewer. No surface or sub-surface drainage or rain water, storm water, seepage, cooling water or unpolluted industrial process waters shall be permitted to enter any public sewer by any device or method whatsoever.

4.6.10 Treatment of Wastes Required. It shall be unlawful to discharge into any stream or watercourse any sewage, industrial wastes, or other polluted waters, as provided by the Water Quality Control Plan for the Lahontan Region, North and South Basins, the Porter-Cologne Water Quality Act and the provisions of this Section 4.

4.6.11 Types of Waste Prohibited. Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described waters or wastes into any public sewer:

- a) Any liquid or vapor having a temperature higher than 150° F.
- b) Any water or waste which contains more than two hundred fifty (250) parts per million, by weight, of fat, oil or grease.
- c) Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas.
- d) Any garbage that has not been properly shredded. Properly shredded garbage shall mean the wastes from the preparation, cooking and dispensing of food that has been shredded to such degree that all particles will be carried freely under the flow conditions normally prevailing in public sewers, with no particle greater than one-half (½) inch in dimension.
- e) Any ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, or any other solid or viscous substance capable of causing obstruction to the flow in sewers or other interference with the proper operation of the sewer system.
- f) Any waters or wastes having a pH lower than 5.5 or higher than 9.0 or having any other corrosive property capable of causing damage or hazard to structures or equipment of the sewer system or personnel of the District.
- g) Any waters or wastes containing a toxic or poisonous substance in sufficient quantity to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, or create any hazard in the receiving waters of the sewage treatment plant.
- h) Any waters or wastes containing suspended solids or dissolved matter of such character and quantity that unusual attention or expense is required to handle such materials at the sewage treatment plant.
- i) Any noxious or malodorous gas or substance capable of creating a public nuisance.
- j) Any septic tank sludge.
- k) Any industrial wastewater that is in violation of applicable industrial general pre-treatment regulation for existing and new sources of pollution as set forth in 40 CFR, part 403, adopted by the Environmental Protection Agency under authorization of the 1977 Amendments to the Clean Water Act, and the industrial wastewater pre-treatment program and rules and regulations of the District. In the event of a violation to this Section 4.6.11, the entire costs which may be incurred by the District for abating, enforcing, administering, and monitoring compliance will be the sole responsibility of the owner/discharger.

4.6.12 Preliminary Treatment of Wastes. Prior to the admission into the District's sewers of any waters or wastes having a) a 5-day Biochemical Oxygen Demand greater than three hundred (300) milligrams per liter (mg/l) by weight, or b) objectionable characteristics or constituents not within the maximum limits provided for in Section 4.6.11, or c) excess quantities and rates of discharge, the District may require preliminary treatment 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 District and no construction of such facilities shall be commenced until said approval is obtained in writing.

4.6.13 Grease Interceptors/Traps Required. Grease, oil and sand interceptors/traps shall be provided when they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, any flammable wastes, sand and other harmful ingredients; except that such interceptors shall not be required for buildings used exclusively for residential purposes. All interceptors/traps shall be of a type and capacity approved by the District and shall be located as to be readily and easily accessible for cleaning and inspection. Sizing of grease interceptors/traps shall be in accordance with current District policy.

4.6.14 Special Agreements. No statement contained in this Section 4.6 shall be construed as preventing any special agreement or arrangement between the District and any owner and/or applicant whereby waste of unusual strength or character may be accepted by the District for treatment, subject to payment therefore by the owner and/or applicant and subject to such terms and conditions as may be required by the District. Prior to the discharge of any such waste into the District sewer system, the owner and/or applicant shall enter into an agreement with the District in such form as approved by the District which agreement shall constitute a special permit to discharge such waste into the District sewer system. The agreement may provide as follows:

- a) *Discharge Requirements.* The agreement may limit the maximum concentration of contaminants, chemicals or other materials contained in any waste to be discharged into the District's sewer system. Such limits shall be determined by the District in its sole discretion, and may be modified by the District at any time.
- b) *Proposed Discharge and Treatment.* The agreement may require the owner and/or applicant to submit information and perform analyses regarding the volume, composition and proposed treatment of the waste to be discharged into the District's sewer system and any other information concerning such discharge as may be requested by the

District in its sole discretion. The District shall evaluate such information and, based upon its evaluation, determine whether the owner and/or applicant should be permitted to connect to and discharge such waste into the District's sewer system.

- c) *Connections, Inspections and Sampling.* The agreement may restrict the locations of any connections to the District's sewer system through which such discharges will occur. The District may, in its sole discretion, inspect and approve any such connections. The District shall have the right to inspect treatment systems and connection facilities, collect discharge samples and provide for the testing of any such samples in order to verify compliance with the terms of the agreement and any other requirements of the special permit.
- d) *Fees, Costs and Expenses.* The agreement may establish fees, as determined by the District in its sole discretion, for the issuance of the special permit. The agreement may require the owner and/or applicant to pay all costs and expenses incurred by the District in reviewing the application, inspecting discharge connections, sampling and testing discharges and issuing the special permit. Such fees, costs and expenses shall be paid prior to execution of the agreement and issuance of the special permit. All fees, costs and expenses incurred after execution of the agreement and issuance of the special permit shall constitute a sewer service charge that shall be billed and payable in accordance with Section 6 of this Administrative Code.

4.6.15 Protection from Damage. No unauthorized person shall maliciously, willfully or negligently break, damage, destroy, uncover, deface or tamper with any structure, improvements, appurtenance or equipment which is a part of the District's sewer system. Any person violating this provision shall be subject to the penalties provided by law.

4.6.16 Construction or Location of Improvements. Except as expressly reserved or permitted in any grant of easement or judgment in eminent domain, it shall be unlawful for any person to construct or locate improvements of any kind or type in, on or over the surface of any easement owned or acquired by the District.

Section 4.7 Maintenance and Repair of Sewers.

4.7.1 Measurements and Tests. All measurements, tests and analyses of the waters and wastes to which reference is made in Sections 4.6.10 and 4.6.11 shall be determined upon suitable samples taken at the control manhole provided for in Section 4.3.4. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the District sewer from the point at which the sewer lateral is connected.

4.7.2. Maintenance of Sewer Laterals. Sewer laterals shall be maintained by the Owner, as defined in the District's Administrative Code, of the property served thereby. Where no Homeowners Association exists for a Common Interest Development, the maintenance of the sewer lateral is the joint and several responsibility of the owners of the property served thereby.

4.7.3 Maintenance of Pretreatment Facilities. Where preliminary treatment facilities are provided for any waters or wastes, they shall be continuously maintained by the Owner, as defined in the District's Administrative Code, in the efficient operation, at such Owner's expense. Where no Homeowners Association exists for a Common Interest Development, the maintenance of preliminary treatment facilities is the joint and several responsibility of the owners of the property served thereby.

4.7.4 Maintenance of Grease Interceptors/Traps. All grease, oil and sand interceptors/traps shall be continuously maintained by the owner in efficient operation, at such owner's expense.

4.7.5 Procedures for Handling Stoppages. Whenever the District discovers or is notified of a stoppage or spill, the District shall dispatch a maintenance crew to the location. The maintenance crew shall check the main line at the location to determine if there is a stoppage in the main line. If a stoppage is discovered in the main line, the District will proceed to clear the stoppage. If a stoppage is not found in the main line but is found in the portion of the sewer lateral between the main line and the foundation of any wall, the owner shall be notified that the clearing of the stoppage or clean up of the spill shall be the responsibility of the owner. If the stoppage is proven to be caused by faulty pipe installation or faulty pipe of the sewer lateral line between the main line and the nearer property line, the District will pay for the repairs.

4.7.6 Emergency Repairs by District. Whenever, in the judgment of the District Inspector, immediate repairs, clean up, or other activities must be performed to a sewer lateral in order to preserve public health or to prevent damage or injury to the District sewer, the District Inspector may, without notice to the property owner, cause such repairs, clean up or other activities to be performed and may contract with a private contractor for such purposes or may perform such repairs, clean up or other activities with District personnel.

4.7.7 Reimbursement of District. The property owner serviced by a sewer lateral shall reimburse the District for the costs of all repairs, clean up or other activities, made or contracted for by the District pursuant to Section 4.7.6. Such charges shall be billed to the property owner and shall be deemed delinquent thirty (30) days after mailing

an invoice for such charges to the property owner and may be collected under the provisions of Section 6.4.

Section 4.8 Sewer Capacity.

4.8.1 Schedule of Sewer Units. The schedule of sewer units, as established in Section 4.5.6, shall be applicable to this Section 4.8.

4.8.2 Current Equity. The present estimated capacity within the District's service area is Eighty-Six Thousand Seven Hundred Two (86,702) sewer units. The present sewer fund equity, after deduction for accumulated depreciation of the fixed assets of the District, is approximately One Hundred Eleven Million Seven Hundred Thirteen Thousand Eighty-One Dollars (\$111,713,081), which is approximately One Thousand Two Hundred Eighty-Eight Dollars (\$1,288) per sewer unit.

4.8.3 Rate Relief for Excess Sewer Units. On a form provided by the District, the owner of a parcel with Excess Sewer Units may apply to the District to participate in the Excess Sewer Capacity Program for the relief of service charges for Excess Sewer Units. The applicant requesting such rate relief shall allow the District full and adequate inspection of the parcel, including any improvements, and the sewer lines and related connection to enable the District to determine if the parcel has any Excess Sewer Units. The applicant may be required to test or remove underground piping, draining lines or the sewer lateral for verification of the sewer capacity required on the parcel and that all fixtures on the parcel are low water-use fixtures. Upon a property owner's application to the District for participation in the Excess Sewer Capacity Program, the billing of quarterly sewer service charges will be suspended on any Excess Sewer Units until such time as they are transferred, pursuant to Administrative Code Section 4.8.14, or put into use on the same parcel. The adjusted service charge, reflecting the suspension of charges on any Excess Sewer Units, shall be effective for the first complete billing cycle after the date of the District's approval of the application and verification of any Excess Sewer Units on the same parcel. A property owner with verified Excess Sewer Capacity will receive a credit for any quarterly charges associated with the verified Excess Sewer Capacity in an amount equal to any suspended sewer service charges for Excess Sewer Capacity. Excess Sewer Units may be transferred to another parcel, pursuant to Administrative Code Section 4.8.14, or may be later used on the same parcel. The owner of a parcel with Excess Sewer Units may acquire sewer capacity, in addition to those units but only in the same manner, with the same priority, and subject to payment of the same fees, as any other parcel which might need to obtain additional sewer capacity, and only if the District has available sewer capacity at the time the owner

requests the additional sewer service.

4.8.4 Authority. No sewer capacity shall be issued which does not comply with the criteria set forth in this Section 4.8 or which would violate any law, including any order or judgment of a court of competent jurisdiction or the orders of competent governmental authorities, including the waste discharge orders of the California Regional Water Quality Control Board - Lahontan Region.

4.8.5 Inspection. Inspection of existing or new sewer piping, as provided in Section 4.4.10, may be required.

4.8.6 Existing Demand. When available estimates indicate that existing sewer capacity demand will exceed the sewer capacity available for issuance at the rate established by this Section 4.8, no further Change in Use sewer capacity shall be issued except upon action of the Board.

Notwithstanding any of the provisions of this Section 4.8.7, the issuance of Change in Use sewer capacity shall be limited as provided in Sections 4.8.8, 4.8.9 and 4.8.16.

4.8.7 Application. Application for Change in Use sewer capacity shall be made on a form provided by the District and shall include complete plans and specifications for the contemplated work of improvement for which such sewer capacity is desired. The application shall not be deemed complete or received by the District unless and until it is accompanied by such plans and specifications.

4.8.9 Attributes. Attributes existing on developed property have been treated as additional, subordinate rights or privileges of that property and, depending upon whether such attributes were lawfully created, were permitted to continue. Such attributes include coverage, square footage within structures, uses, and utility services, including sewer capacity rights and water demand.

4.8.10 Transfer of Attributes. The Tahoe Regional Planning Agency, the City, and the County permit certain transfers of various attributes and the right to attributes from one property to another in accordance with the Amended Regional Plan for the Lake Tahoe Basin, including the "Growth Management Provisions" of its Code of Ordinances and local government codes.

4.8.11 Transfer of Sewer Capacity. Sewer capacity rights are and have been appurtenant to and inseparable from property. In order to accommodate the transfer programs of the Tahoe Regional Planning Agency, the City, and the County, the District has adopted rules and regulations from time to time regarding proposed transfer of the

right to discharge into the collection, treatment, and export facilities of the District.

4.8.12 Transfer of Equity. District's existing customers have an equity credit equal to One Thousand Two Hundred Eighty-Eight dollars (\$1,288.00) per sewer unit which may be used toward the current connection fees when transferring capacity rights.

4.8.13 Costs of Transferring Sewer Capacity. It is necessary and appropriate that the cost of transferring sewer capacity rights be paid by those who request such transfers to occur.

4.8.14 Conditions to Transfer. Transfer of Excess Sewer Units shall be allowed only for the development of Affordable Housing and no sewer permit shall be issued for development of Affordable Housing on a Primary Parcel when Excess Sewer Units are transferred from a Secondary Parcel until there is compliance with all of the following conditions:

- a) *Conforming with General Plan.* The use of the primary property shall conform to the applicable City or County General Plan.
- b) *Approvals.* The applicant for a sewer permit for the Primary Parcel shall secure all approvals for the Affordable Housing development as required by the City or County, the Tahoe Regional Planning Agency and the State of California.
- c) *Sewer Permit.* The owner of the Primary Parcel shall submit a completed Sewer Permit Application to the District.
- d) *Transfer Application.* The owner of the Secondary Parcel shall submit a completed Transfer of Sewer Capacity Rights Application to the District.
- e) *Payments of Fees and Taxes.* All existing unpaid District fees and charges shall be paid for the Primary and Secondary Parcels.
- f) *Satisfaction of Liens.* All liens upon the Secondary Parcel shall be satisfied, or in the alternative, written concurrence shall be obtained from any lienholder, which written concurrence shall save the District free and harmless from any and all claims arising out of the transfer of Excess Sewer Units from the Secondary Parcel in a form acceptable to the District.
- g) *Transfer of All Excess Sewer Units.* When all Sewer Units are transferred from the Secondary Parcel, the following conditions shall apply:
 - 1) *Removal of Sewer Lateral.* The lateral sewer connection(s) of the Secondary Parcel shall be removed, plugged and sealed by

the District at the District's expense. If the owner of the Secondary Parcel subsequently purchases Sewer Units for the use on the Secondary Parcel, a new sewer lateral must be installed in a manner satisfactory to the District at the owner's expense. Physical inspection of the sewer lateral shall be made by the District.

- 2) *Disconnection of Water Utilities.* All Water service utilities for the Secondary Parcel shall be capped and disconnected from the District Water System to the satisfaction of the District. Physical inspection of the property capped water connection(s) shall be made by the District.
- h) *Remaining Use on Secondary Parcel.* Any use which remains on the Secondary Parcel shall have sufficient Sewer Units to accommodate such use as determined by the District. Physical inspection of the remaining use on the Secondary Parcel shall be made by the District.
- i) *District Approval.* The Board authorizes the General Manager of his/her designee to approve the transfer the Excess Sewer Units from the Secondary Parcel to the Primary Parcel and issuance of a Sewer Permit for the Primary Parcel upon satisfaction of all of the above conditions.

4.8.15 Additional Procedures. The District's Board may from time to time adopt, by Board action, additional procedures relating to the issuance of sewer capacity.

APPENDIX D: STANDARD DETAILS

REQUIREMENTS FOR SEWER HOOKUP:

(PAGE 1)

- 1) Obtain a permit from the South Tahoe Public Utility District (District) for each connection to the system. No work is to be performed until a permit has been obtained. It is your responsibility to contact USA North (1-800-227-2600) to mark utilities prior to digging. You must call the CUSTOMER SERVICE OFFICE to schedule an inspection – please have your APN and/or Sewer Permit number when calling. No inspection will be scheduled without this information. DO NOT cover any work until it has been inspected and approved by a District Inspector.
- 2) The building sewer line shall be constructed of cast iron soil pipe, vitrified clay, SDR-26, ABS or other suitable material approved by the District.
- 3) The size of the building sewer line shall be a minimum four inches (4"). A sewer lateral larger than four inches, will require the installation of a manhole. When saddling a sewer main a "Romac" brand saddle will be required.
- 4) Joints between all approved types of pipe shall be made by means of an adapter coupling approved for this purpose. UPC 2003, Section 705.0
- 5) The slope of the sewer line shall not be less than one-quarter inch per foot (1/4"/foot). The minimum under a driveway shall be thirty inches (30"). If it less than thirty inches (30") in depth, the pipe shall be cast iron.
- 6) No building sewer line shall be laid parallel to and within three feet (3') of a bearing wall foundation unless the foundation footing extends below the sewer line.
- 7) The sewer line shall be placed on a bed of sand or compacted rock free earth. The backfill around the sewer line shall be free of rock.
- 8) After lateral has been inspected and backfilled, lateral shall be air tested. (See Requirements For Air Testing Sewer Laterals)
- 9) A CLEAN OUT shall be installed at the sewer system lateral connection (See Building Sewer Installation Detail). The clean out riser shall the same size as the lateral. The clean out closest to the District's sewer main is to be in a concrete box with a metal lid marked "SEWER".
- 10) Cleanouts shall be placed in every building sewer line at the junction of the soil pipe stub out and at intervals not to exceed one hundred feet (100') in straight runs.
- 11) If total change of horizontal lateral direction exceeds 135 degrees (135°), an extra clean out shall be required. Ninety degree (90°) elbows shall not be permitted.

DATE: JUL 2016	SCALE: NO SCALE	DRAWN: MAM	FILE: STANDARDS	SHEET: G11
-------------------	--------------------	---------------	--------------------	---------------

GENERAL NOTES



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
1275 Meadow Crest Drive South Lake Tahoe, California 96150
Phone (530) 544-6474 Fax (530) 541-4319
WWW.STPUD.US

REQUIREMENTS FOR SEWER HOOKUP:

(PAGE 2)

- 12) Shoring or sloping shall be required per the current Cal-OSHA standards, for any sewer line trench.
- 13) All cleanouts shall be brought to within ten inches (10") of finished grade and shall be installed in an approved box set to finish grade.
- 14) Drainage piping serving fixtures which have flood level rims located below the elevation of the next upstream manhole cover of the public sewer serving such piping shall be protected from back flow of sewage by installing an approved type of back water valve. Fixtures above such elevation shall not discharge through the back water valve. UPC 2003, section 710.1
- 15) If a backwater valve is required, it shall be located between the building stub out and the house clean out. The backwater valve shall be accessible for inspection and repair at all times. The backwater valve shall be enclosed in a masonry pit, fitted with an adequately sized, removable cover marked "SEWER". Back water valves shall comply with UPC 2003, Section 710.6
- 16) If work is approved, the inspector will notify you verbally or an Acceptance Notice will be left at the jobsite. If work is not approved, a Correction notice will be left at the jobsite. Please call for re-inspection. Excessive re-inspection may be subject to additional inspection fees.
- 17) Abandoned septic tanks, cesspools or dry wells MUST be pumped and limed by a Licensed Pumper, tagged and then backfilled with clean material at the time of sewer hookup. California Health and safety Code Section 14-1000
- 18) If you have any questions regarding your sewer hookup, call the District Inspectors at: (530) 544-6474.
- 19) A dye test shall be performed at the final inspection after the installation of a grease trap or interceptor.
- 20) IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER, DEVELOPER AND/OR GENERAL CONTRACTOR TO ENSURE THAT ALL WORK IS PERFORMED BY AN APPROPRIATELY LICENSED CONTRACTOR.

GENERAL NOTES



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
1275 Meadow Crest Drive South Lake Tahoe, California 96150
Phone (530) 544-6474 Fax (530) 541-4319
WWW.STPUD.US

DATE: JUL 2016	SCALE: NO SCALE	DRAWN: MAM	FILE: STANDARDS	SHEET: G12
-------------------	--------------------	---------------	--------------------	---------------

REQUIREMENTS FOR AIR TESTING SEWER LATERALS:

- 1) Please call the CUSTOMER SERVICE OFFICE to schedule an inspection—PLEASE HAVE YOUR APN AND\OR SEWER PERMIT NUMBER WHEN CALLING. No inspection will be scheduled without this information. In order to pass, a South Tahoe Public Utility District (District) Inspector must witness the air test.
- 2) If buried, the clean out at the building and at the property line shall be installed in an approved box (see clean out detail) and set to finish grade.
- 3) Sewer lateral shall be completely backfilled at time of test.
- 4) Insert inflatable plug into the building clean out and position it immediately downstream of the clean out "Y". Inflate the plug.
- 5) Insert another inflatable plug through the property line clean out until reaches the sewer main. Inflate the plug.
- 6) Insert air test (pass through) plug into the property line clean out standpipe and inflate plug to form air seal in stand pipe.
- 7) Pressurize the line to three and a half pounds per square inch (3.5 PSI) through the air test plug. Remove filler hose from air test plug. The line shall be allowed a maximum loss in pressure of a half pound (0.5 PSI) in five (5) minutes. If the loss exceeds a half pound (0.5 PSI), the test may be attempted one additional time. A second loss of pressure constitutes failure of the line. The pressure gauge shall read in one pound (1 PSI) increments and be clearly readable in the three to four pound (3.0 to 4.0 PSI) range.
- 8) Sewer laterals that fail the air pressure test shall be repaired or replaced at the property owner's expense. All repairs or replacements shall be inspected by a District Inspector prior to backfilling. An air test will be required after repair of the sewer lateral.
- 9) If faulty installation is suspected on an existing sewer lateral from the property line to the main and will be required to be repaired or replaced, the District SHALL be notified prior to removal so that a District Inspector may document the faulty work.
- 10) If you have any questions regarding your sewer hookup, call the District Inspectors at: (530) 544-6474.

DATE: JUL 2016	SCALE: NO SCALE	DRAWN: MAM	FILE: STANDARDS	SHEET: G13
-------------------	--------------------	---------------	--------------------	---------------

GENERAL NOTES



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
1275 Meadow Crest Drive South Lake Tahoe, California 96150
Phone (530) 544-6474 Fax (530) 541-4319
WWW.STPUD.US

GREASE INTERCEPTOR SIZING POLICY

ADMINISTRATIVE CODE SECTION 4.6.11(b):
TYPES OF WASTE PROHIBITED:

Except as hereinafter provided, no person shall discharge or cause to be discharged any of the following described waters to any public sewer:

Any water or waste which contains more than 250 parts per million, by weight, of fat, oil or grease.

ADMINISTRATIVE CODE SECTION 4.6.13:
GREASE INTERCEPTORS/TRAPS REQUIRED:

Grease, oil and sand interceptors/traps shall be provided when they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, any flammable waste, sands and other harmful ingredients; except that such interceptors shall not be required for buildings used exclusively for residential purposes. All interceptors/traps shall be of a type and capacity approved by the District and shall be located as to be readily and easily accessible for cleaning and inspection. Sizing of grease interceptors/traps shall be in accordance with current District policy.

POLICY:

To determine the appropriate size grease interceptor to be installed at new installations and for remodel or retrofit of existing equipment, the business operator or his agent shall abide by the following table:

UPC TABLE H-1	
GRAVITY GREASE INTERCEPTOR SIZING	
DFU's (1)	INTERCEPTOR VOLUME
8	500 gallons
21	750 gallons
35	1,000 gallons
90	1,250 gallons
172	1,500 gallons
216	2,000 gallons
307	2,500 gallons
342	3,000 gallons
428	4,000 gallons
576	5,000 gallons
720	7,500 gallons
2112	10,000 gallons
2640	15,000 gallons

(1) The maximum allowable DFU's plumbed to the kitchen drain lines that will be connected to the grease interceptor.

DATE: JUL 2016
 SCALE: NO SCALE
 DRAWN: MAM
 FILE: STANDARDS
 SHEET: G14

GENERAL NOTES



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US

MANHOLE TESTING

SPECIFICATION SECTION: GRAVITY SEWER AND MANHOLE TESTING 33 01 30 3.04:

A. VACUUM TEST

1. Procedures outlined in ASTM C1244 should be followed while completing the vacuum test.
2. Use acceptable equipment approved by the District. Vacuum test equipment shall be used per manufacturer's specifications.
3. A vacuum of ten inches (10") mercury shall be drawn on the manhole. (10" mercury equals 5 PSI). The drop to nine inches (9") mercury shall be measured and shall not be less than the times listed in the table below. (9" mercury equals 4.4 PSI)
4. Manholes showing leakage in excess of that allowed (times less than that indicated in the table) shall be repaired or reconstructed as necessary to reduce the leakage to that specified. All failures shall be retested after the necessary repairs have been completed.

MANHOLE TESTING REQUIREMENTS	
VACUUM TEST MEASURE TIME FROM 10" MERCURY TO 9" MERCURY	
NOTE: 1" OF MERCURY = .49 PSI	
TIME (SECONDS)	MANHOLE DIAMETER (INCHES)
60	48
75	60
90	72

GENERAL NOTES

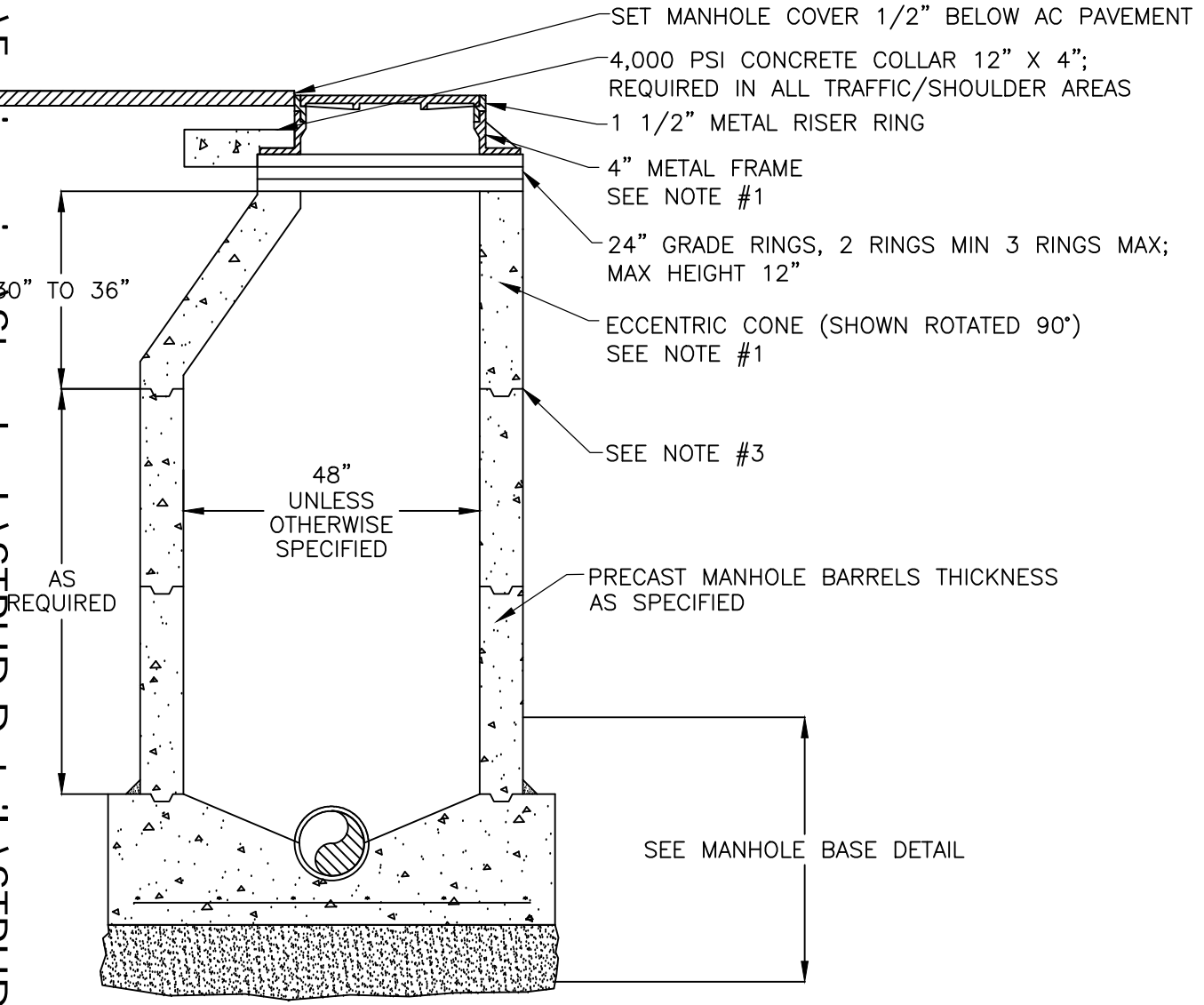


SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US

DATE: JUL 2016
 SCALE: NO SCALE
 DRAWN: MAM
 FILE: STANDARDS
 SHEET: G15

MYAK\Engineering\Standards\STPUD Details\STPUD Standards\STPUD NOTES AND DETAILS



NOTES:

- INSTALL MANHOLE COVER ON DOWNSTREAM SIDE OF MANHOLE. TWENTY FOUR INCH (24") MANHOLE FRAME AND COVER TO BE SUPPLIED BY DISTRICT.
- CONTRACTOR MAY INSTALL A 3" MAX, NON SHRINK GROUT LEVELING COURSE; UNDER FRAME TO MATCH PAVEMENT GRADE.
- ALL JOINTS SHALL BE GROUTED INSIDE AND OUT; CONTRACTOR SHALL INSTALL JOINT SEALING COMPOUND AT ALL JOINTS AND UNDER FRAME COMPOUND SHALL BE: "RAM-NEK" BY K.T. SNYDER COMPANY; OR APPROVED EQUAL
- FOR SHALLOW MANHOLES, THE CONTRACTOR SHALL SUBSTITUTE A PRE CAST CONCRETE MANHOLE CAP, DESIGNED FOR H-20 TRAFFIC LOADING, IN LIEU OF THE ECCENTRIC CONE. THE TWENTY FOUR INCH (24") OPENING SHALL BE LOCATED IN THE CENTER OF THE MANHOLE CAP. PROVIDE A DESIGN SUBMITTAL, PREPARED AND SEALED BY A QUALIFIED REGISTERED ENGINEER, DEMONSTRATING COMPLIANCE WITH REQUIRED LOADING CRITERIA.

A
1

MANHOLE HEAVY TRAFFIC

NO SCALE

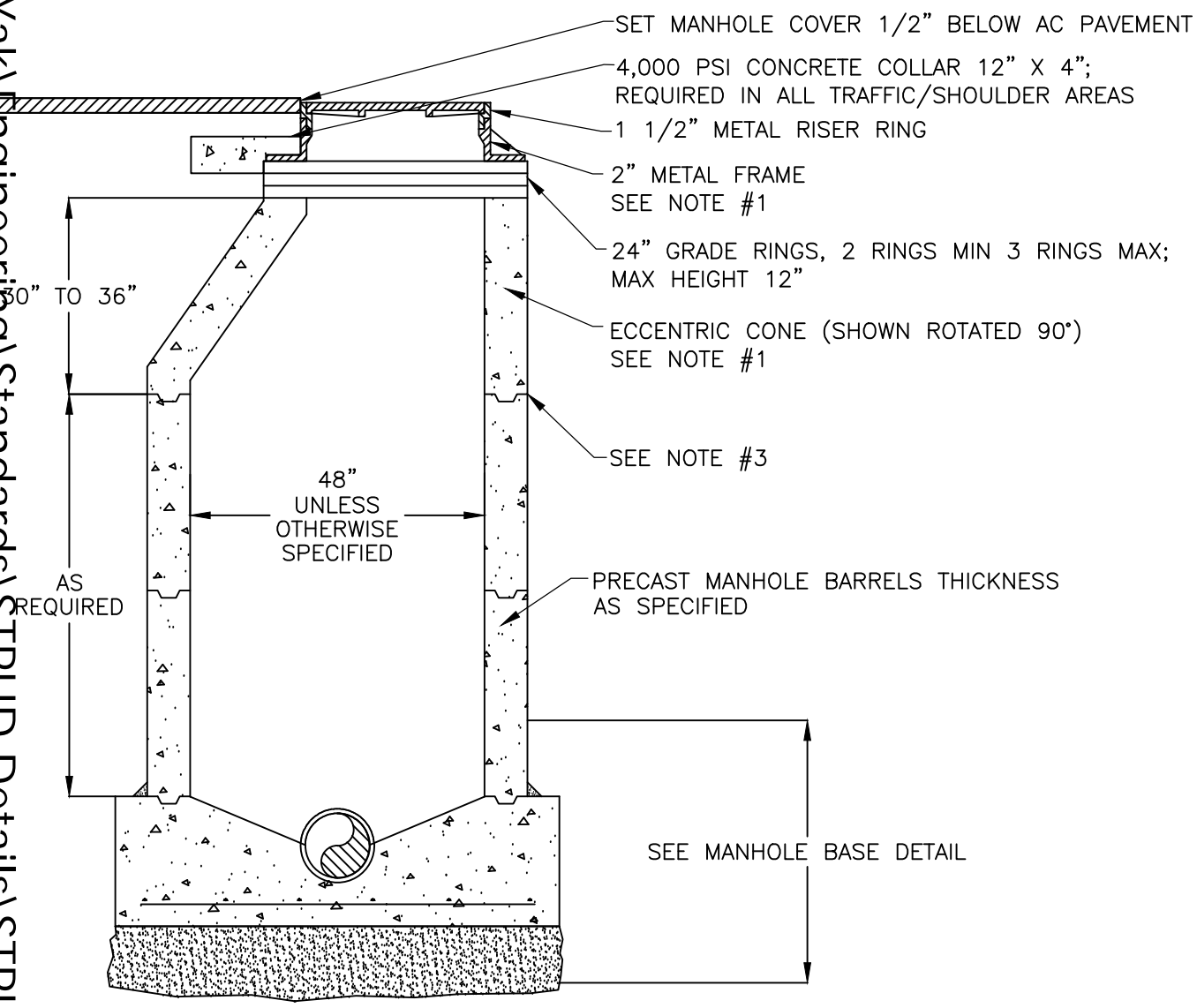
SEWER DETAILS

DATE:	JUL 2016
SCALE:	NO SCALE
DRAWN:	MAM
FILE:	STPUD NOTES AND DETAILS



SOUTH TAHOE PUBLIC UTILITY DISTRICT
Sewer . 1950 . Water *A PUBLIC AGENCY*
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US

MYAK Engineering\Standards\STPUD Details\STPUD STANDARD NOTES AND DETAILS
 STANDARD NOTES AND DETAILS
 7/21



- NOTES:
- INSTALL MANHOLE COVER ON DOWNSTREAM SIDE OF MANHOLE. TWENTY FOUR INCH (24") MANHOLE FRAME AND COVER TO BE SUPPLIED BY DISTRICT.
 - CONTRACTOR MAY INSTALL A 3" MAX, NON SHRINK GROUT LEVELING COURSE; UNDER FRAME TO MATCH PAVEMENT GRADE.
 - ALL JOINTS SHALL BE GROUTED INSIDE AND OUT; CONTRACTOR SHALL INSTALL JOINT SEALING COMPOUND AT ALL JOINTS AND UNDER FRAME COMPOUND SHALL BE: "RAM-NEK" BY K.T. SNYDER COMPANY; OR APPROVED EQUAL
 - FOR SHALLOW MANHOLES, THE CONTRACTOR SHALL SUBSTITUTE A PRE CAST CONCRETE MANHOLE CAP, DESIGNED FOR H-20 TRAFFIC LOADING, IN LIEU OF THE ECCENTRIC CONE. THE TWENTY FOUR INCH (24") OPENING SHALL BE LOCATED IN THE CENTER OF THE MANHOLE CAP. PROVIDE A DESIGN SUBMITTAL, PREPARED AND SEALED BY A QUALIFIED REGISTERED ENGINEER, DEMONSTRATING COMPLIANCE WITH REQUIRED LOADING CRITERIA.

A
1

MANHOLE LIGHT TRAFFIC

NO SCALE

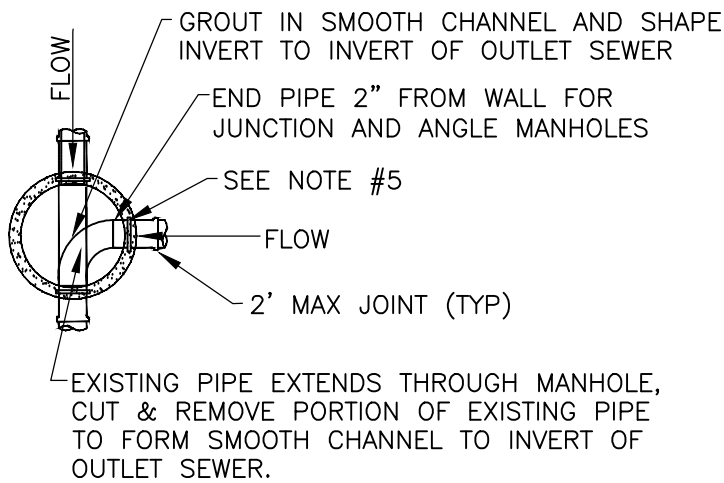
SEWER DETAILS



SOUTH TAHOE PUBLIC UTILITY DISTRICT

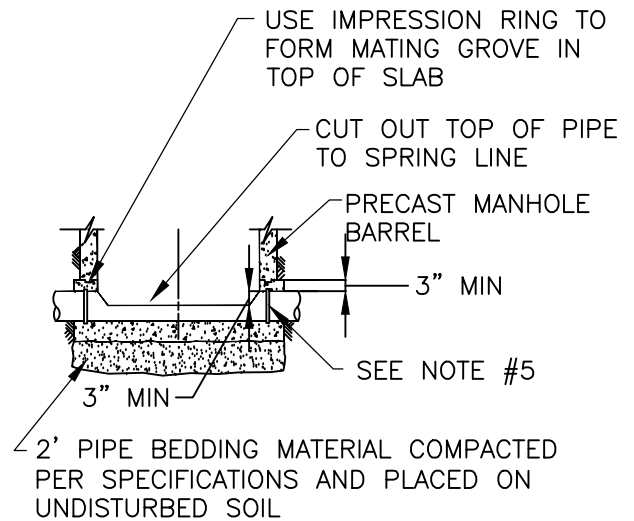
Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US

DATE:	JUL 2016
SCALE:	NO SCALE
DRAWN:	MAM
FILE:	STANDARDS



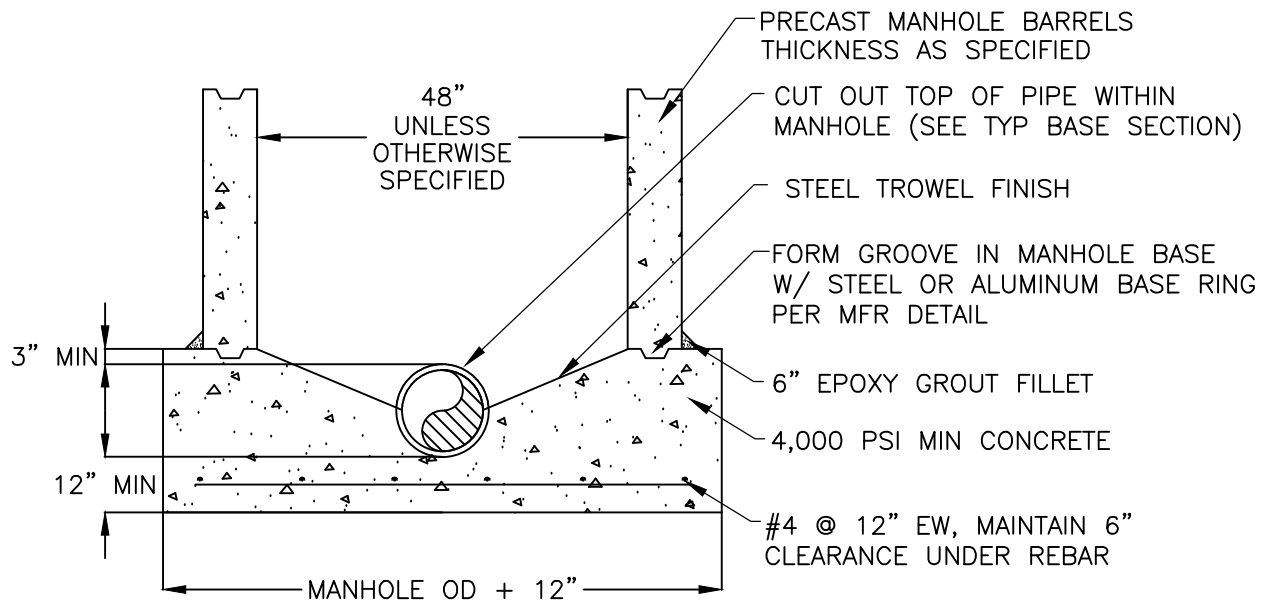
BRANCH INLET – TYPICAL SECTION

NO SCALE



MANHOLE BASE – TYPICAL SECTION

NO SCALE



NOTES:

- 1) MANHOLE PENETRATIONS THAT MAKE TRANSITION FROM DIFFERING PIPE MATERIALS AT THE CENTER OF THE MANHOLE, INSTALL A TWELVE INCH (12") LONG "U" SHAPED OPEN CHANNEL TRANSITION SECTION OF HAND FORMED CONCRETE TO PROVIDE A UNIFORM TRANSITION BETWEEN THE TWO PIPE MATERIALS.
- 2) ALL MANHOLE PIPE PENETRATIONS SHALL BE PROVIDED WITH A FLANGE OR OTHER SUBSTANTIAL DEVICE WELDED ONTO OR CAST INTEGRALLY WITH THE PIPE. SUCH DEVICE SHALL BE SUBJECT TO THE ENGINEER'S REVIEW AND SHALL BE ADEQUATE TO RESTRAIN LATERAL MOVEMENT DUE TO TEMPERATURE DIFFERENTIALS IN THE PIPE. FOR MANHOLES WITH PVC PIPE CONNECTIONS, FOR A WATERTIGHT SEAL TO BE ACHIEVED THE CONTRACTOR SHALL UTILIZE A FLEXIBLE ELASTOMERIC GASKET MATERIAL CAPABLE OF ACCOMMODATING THE DIFFERENTIAL THERMAL EXPANSION AND CONTRACTION BETWEEN THE CONCRETE AND PVC PIPE.
- 3) BASE OF MANHOLE SHOULD BE SMOOTH AND CONTOURED TO SLOPE TOWARDS PIPE.

A
1

MANHOLE BASE

NO SCALE

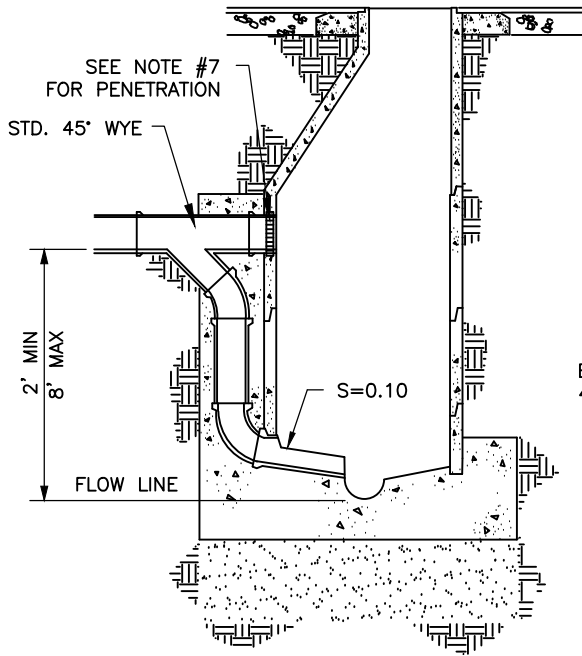
DATE: JUL 2016
 SCALE: NO SCALE
 DRAWN: MAM
 FILE: STANDARDS
 SHEET: S7-DC3

SEWER DETAILS

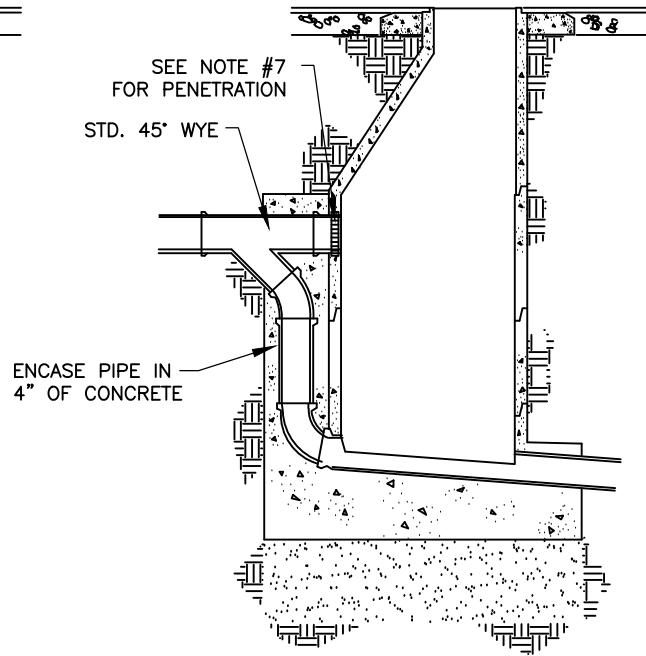


SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US



LATERAL TO MAIN



MAIN TO MAIN

NOTES:

- 1) DROP MANHOLES ARE TO BE USED ON ALL SANITARY SEWERS WITH MORE THAN TWO FEET (2') VERTICAL DROP AT MANHOLE. DROP SHALL NOT EXCEED EIGHT FEET (8') AT ANY MANHOLE.
- 2) MAINS SHALL BE SLOPED TO FALL AT LEAST ONE TENTH OF A FOOT (0.1') ACROSS MANHOLE SECTIONS.
- 3) ALL OTHER DIMENSIONS, NOTES AND REQUIREMENTS AS SHOWN ON STANDARD MANHOLE DETAIL SHALL APPLY TO DROP MANHOLES.
- 4) DIMENSIONS NOT SHOWN ARE GIVEN ON STANDARD MANHOLE DETAIL.
- 5) ALL JOINTS AND CONNECTIONS TO NEW OR EXISTING MANHOLES SHALL BE WATERTIGHT.
- 6) ALL JOINTS SHALL BE SEALED WITH: "RAM-NEK" BY K.T. SNYDER COMPANY OR APPROVED EQUAL.
- 7) PENETRATIONS AT WYE SHALL HAVE LINKSEAL OR APPROVED EQUAL; PENETRATION SHALL BE TROWEL SMOOTH INSIDE AND OUT WITH NON-SHRINK GROUT OVER LINKSEAL.



DROP MANHOLE

NO SCALE

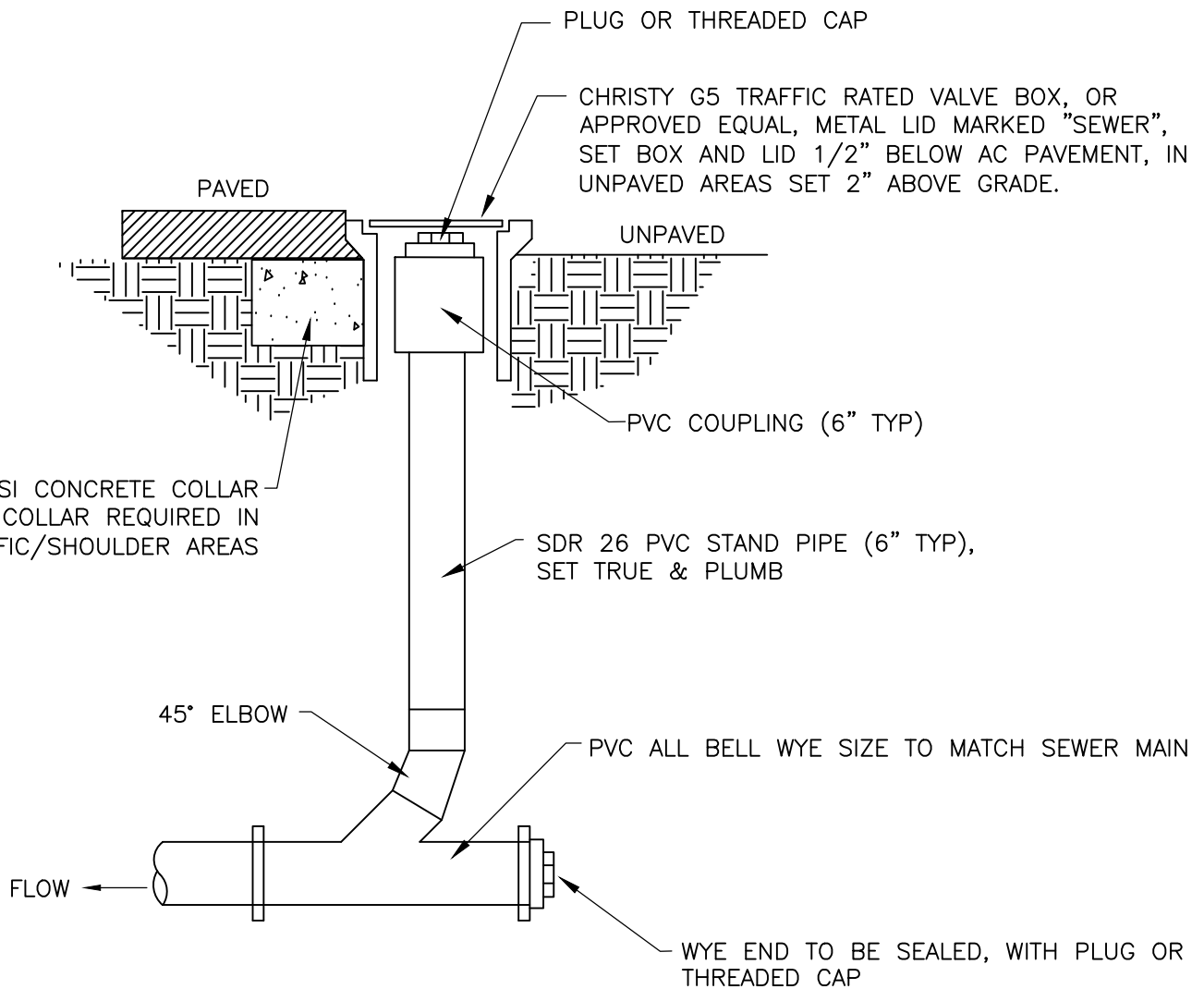
DATE: JUL 2016
 SCALE: NO SCALE
 DRAWN: MAM
 FILE: STANDARDS
 SHEET: S7-D4

SEWER DETAILS



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer - 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US



NOTES:

- 1) FLUSH INSTALLED ON SEWER MAINS LARGER THAN SIX INCH (6") SHALL BE APPROVED BY THE DISTRICT.
- 2) ALL PLUGS SHALL BE T-CONE OR APPROVED EQUAL.

A
1

SEWER MAIN FLUSH INLET

NO SCALE

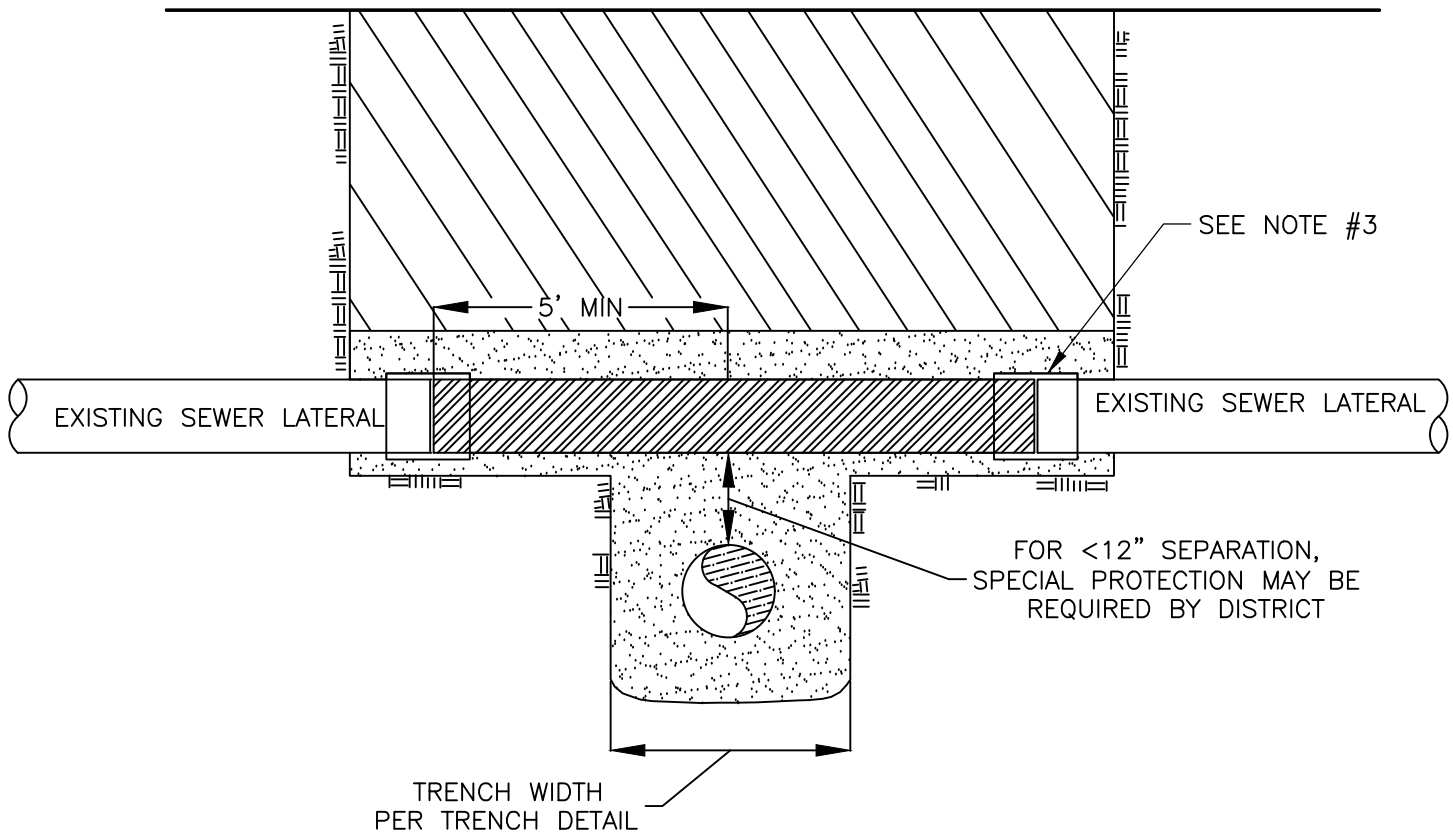
SEWER DETAILS

DATE: JUL 2016
 SCALE: NO SCALE
 DRAWN: MAM
 FILE: STANDARDS
 SHEET: S7-D5



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US



NOTES:

- 1) WHERE SEWER LATERAL IS DAMAGED DURING CONSTRUCTION, THE LATERAL SHALL BE CUT AND REPLACED FOR A DISTANCE OF AT LEAST FIVE FEET (5') ON EACH SIDE OF THE POINT OF CROSSING.
- 2) ALL SEWER LATERAL REPLACEMENT PIPING SHALL BE PVC SDR 26 UNLESS NOTED OR APPROVED BY THE DISTRICT
- 3) ALL COUPLING, ADAPTERS AND MATERIALS USED TO CONNECT PVC SDR 26 PIPING TO OTHER PIPE MATERIALS SHALL BE APPROVED BY THE DISTRICT.
- 4) ALL SEWER LATERAL REPAIRS SHALL BE BACKFILLED WITH COMPACTED OR JETTED CLASS 2 AGGREGATE BASE MATERIAL AS REQUIRED BY THE DISTRICT PER TRENCH DETAIL.

SEWER LATERAL REPLACEMENT AT
CROSSING OF PIPE TRENCH

A
1

NO SCALE

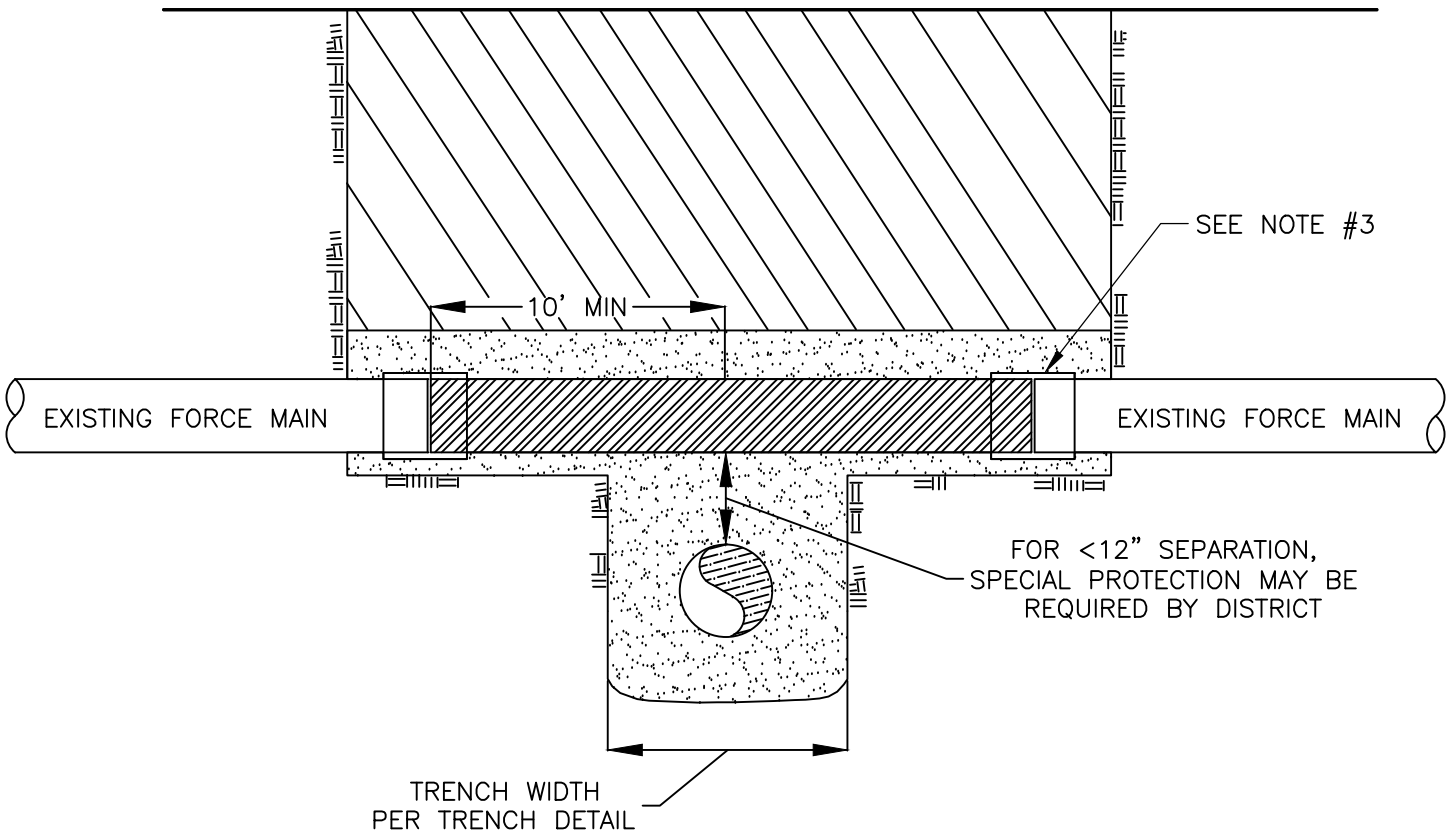
DATE:	JUL 2016
SCALE:	NO SCALE
DRAWN:	MAM
FILE:	STANDARDS
SHEET:	S7-D6

SEWER DETAILS



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
1275 Meadow Crest Drive South Lake Tahoe, California 96150
Phone (530) 544-6474 Fax (530) 541-4319
WWW.STPUD.US



NOTES:

- 1) WHEN A FORCE MAIN IS DAMAGED DURING CONSTRUCTION, THE FORCE MAIN SHALL BE CUT AND REPLACED FOR A DISTANCE OF AT LEAST TEN FEET (10') ON EACH SIDE OF THE POINT OF CROSSING.
- 2) FORCE MAIN REPLACEMENT PIPING SHALL BE PVC C900/C905 SIZED TO MATCH OR APPROVED EQUAL.
- 3) ALL COUPLING, FITTINGS AND MATERIALS USED TO CONNECT PVC C900/C905 PIPING SHALL BE RESTRAINED AND APPROVED BY THE DISTRICT.
- 4) ON CONDUCTIVE FORCE MAIN PIPE INSTALL SOLID COPPER 10 GA. PIPE TRACER WIRE ACROSS REPAIR SECTION AND ATTACH TO EXISTING PIPE ON BOTH SIDES.
- 5) ALL FORCE MAIN REPAIRS SHALL BE BACKFILL WITH CLASS 2 AGGREGATE BASE MATERIAL AS REQUIRED BY THE DISTRICT PER TRENCH DETAIL.

SEWER FORCE MAIN REPLACEMENT
AT CROSSING OF PIPE TRENCH

A
1

NO SCALE

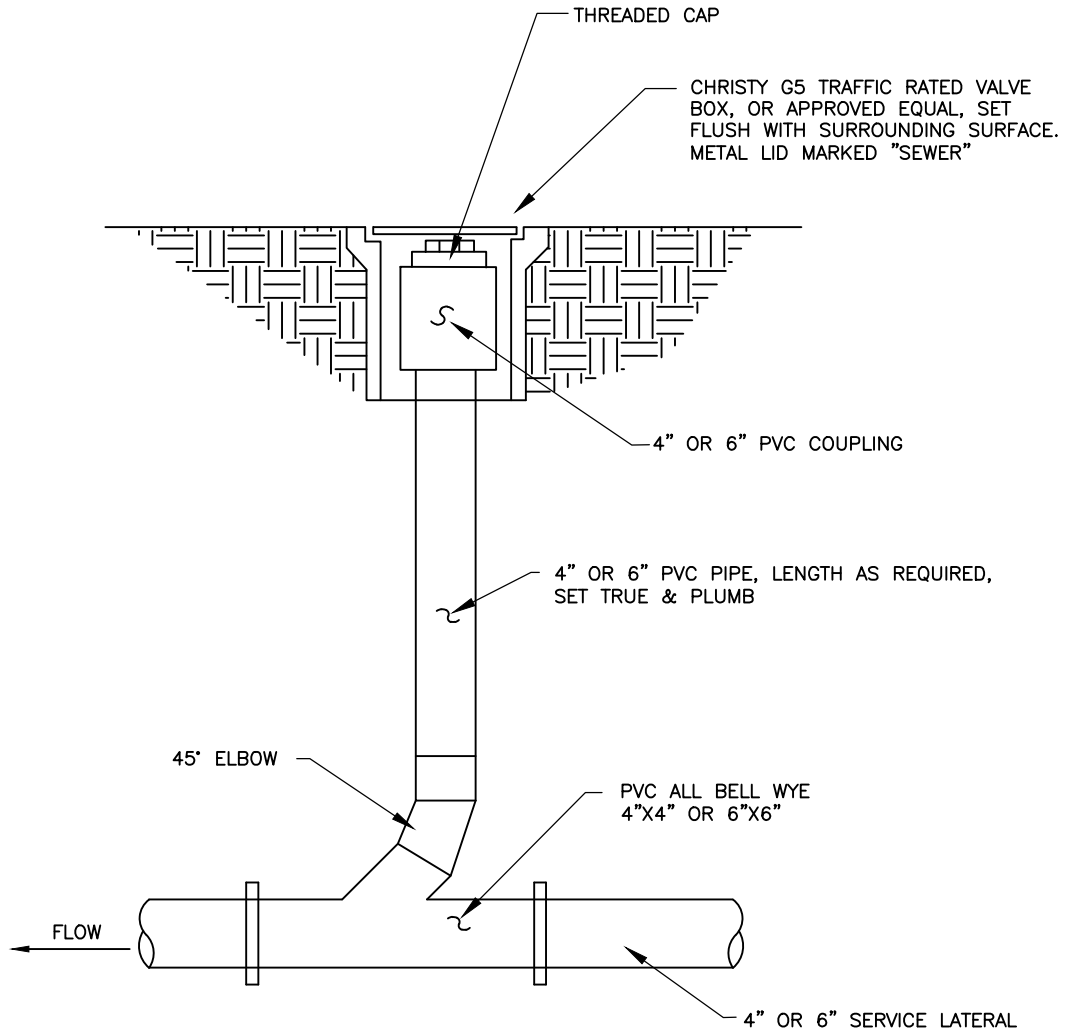
DATE: JUL 2016
SCALE: NO SCALE
DRAWN: MAM
FILE: STANDARDS
SHEET: S7-D7

SEWER DETAILS



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
1275 Meadow Crest Drive South Lake Tahoe, California 96150
Phone (530) 544-6474 Fax (530) 541-4319
WWW.STPUD.US



A
1

SEWER CLEAN OUT

NO SCALE

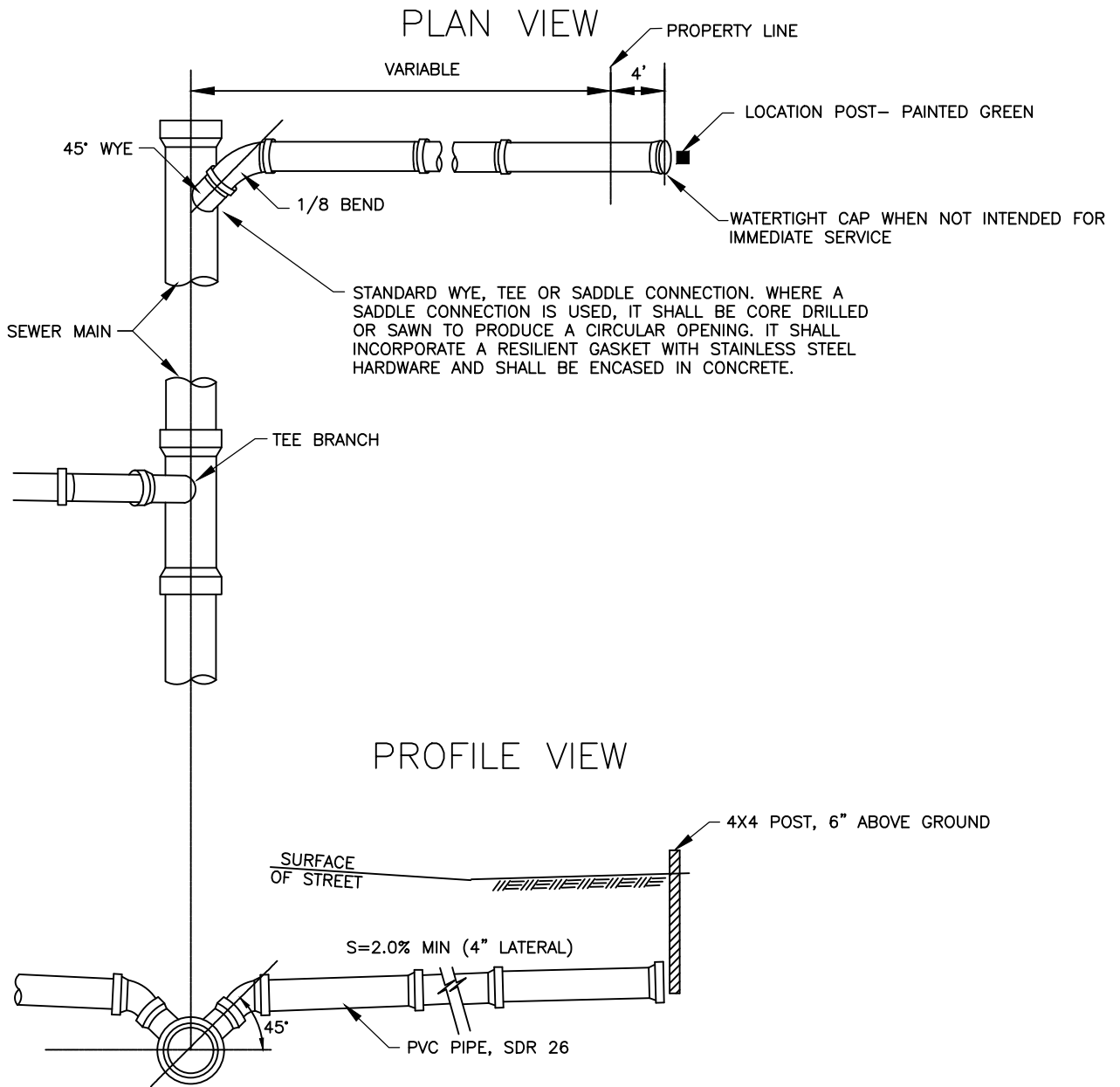
DATE: JUL 2016
 SCALE: NO SCALE
 DRAWN: MAM
 FILE: STANDARDS
 SHEET: S7-D8

SEWER DETAILS



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US



NOTES:

- 1) ALL JOINTS AND CONNECTIONS SHALL BE WATERTIGHT.
- 2) ALL BUILDING SEWERS SHALL HAVE A MINIMUM GROUND COVER OF THREE FEET (3') OVER THE TOP OF PIPE.
- 3) ALL LATERALS SIX INCHES (6") AND LARGER SHALL BE CONNECTED TO SEWER MAIN USING A STANDARD MANHOLE.

A
1

SEWER LATERAL CONNECTION

NO SCALE

DATE: JUL 2016
 SCALE: NO SCALE
 DRAWN: MAM
 FILE: STANDARDS
 SHEET: S7-D9

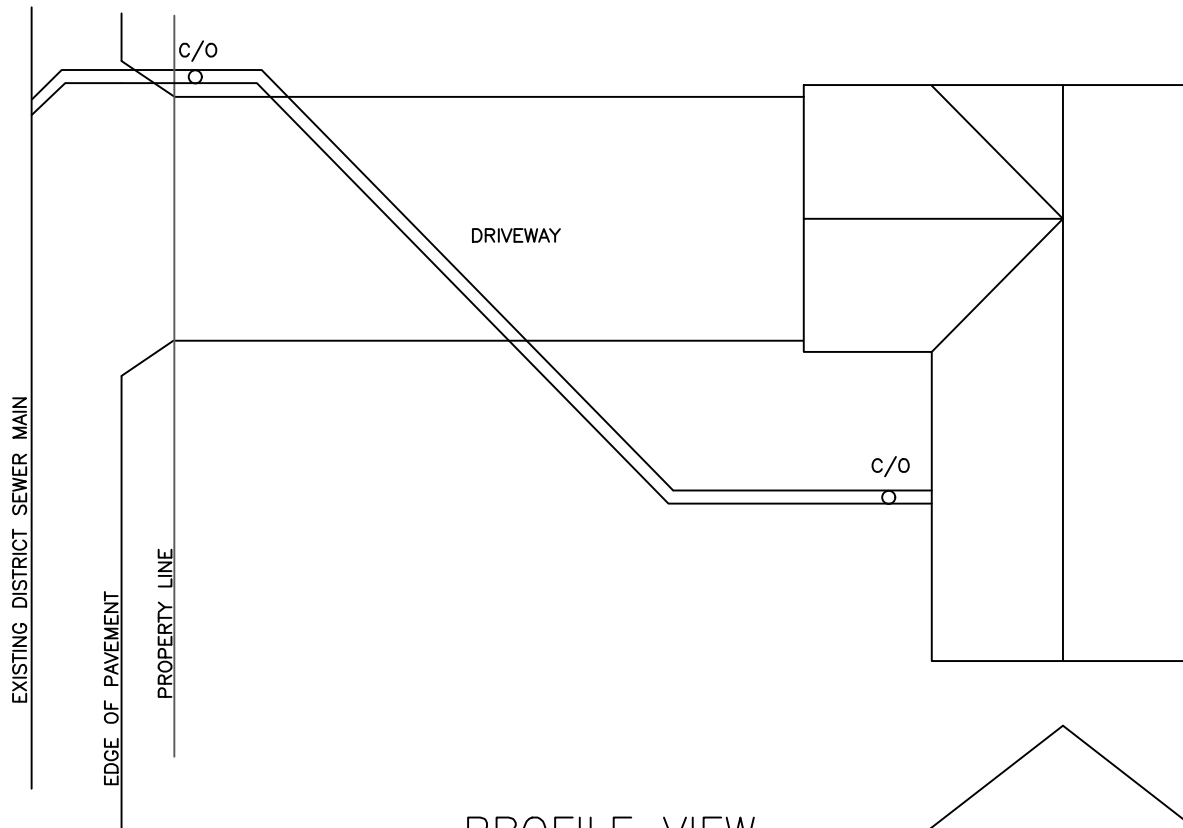
SEWER DETAILS



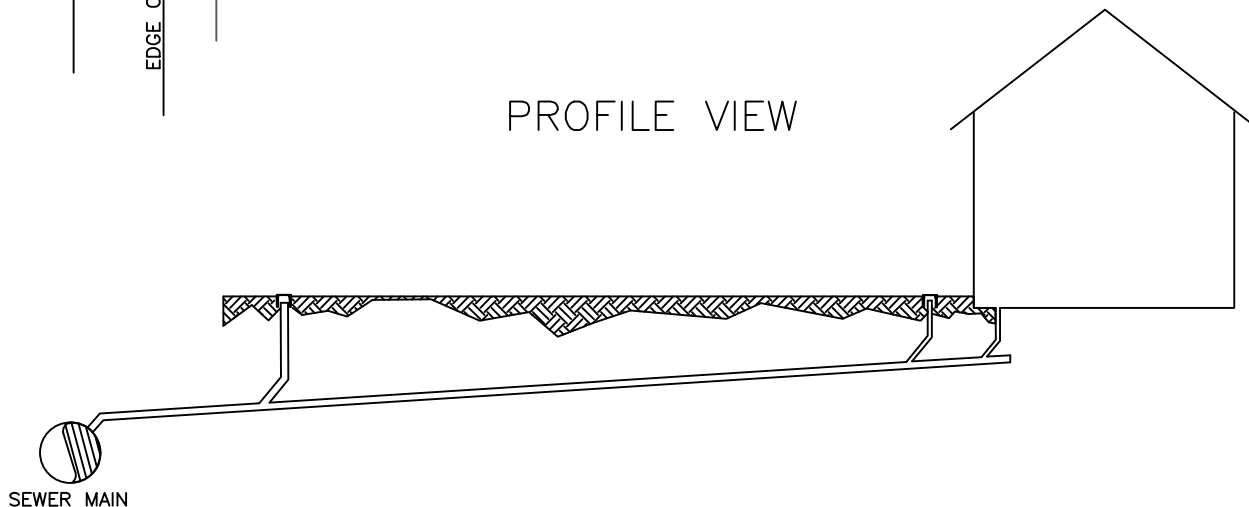
SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US

PLAN VIEW



PROFILE VIEW



NOTE:

- 1) ALL CLEANOUTS (C/O) AT THE PROPERTY LINE TO BE BROUGHT TO GRADE AND SET IN CHRISTY G5 TRAFFIC RATED VALVE BOX, OR APPROVED EQUAL, SET FLUSH WITH SURROUNDING SURFACE. METAL LID MARKED "SEWER".



SEWER LATERAL INSTALLATION

NO SCALE

DATE:	JUL 2016
SCALE:	NO SCALE
DRAWN:	MAM
FILE:	STANDARDS
SHEET:	S7-D10

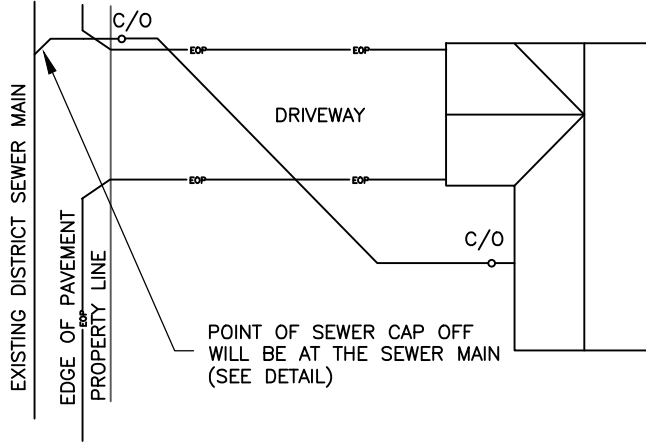
SEWER DETAILS



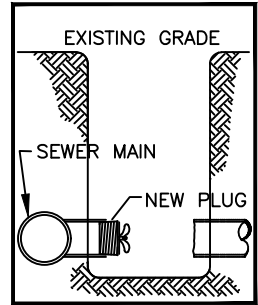
SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US

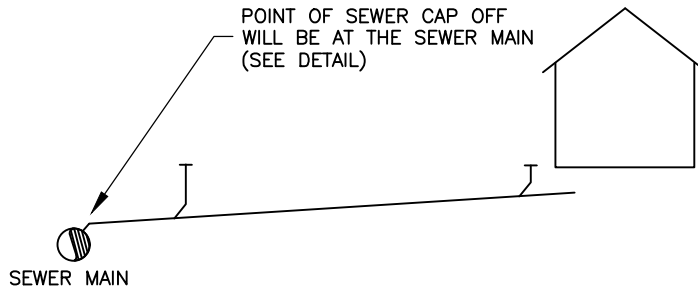
PLAN VIEW



DETAIL



PROFILE VIEW



NOTES:

- 1) UNDERGROUND SERVICE ALERT (USA) 811 TO BE NOTIFIED A MINIMUM OF 48 HOURS BEFORE ANY EXCAVATION.
- 2) ALL LATERAL(S) TO BE ABANDONED SHALL BE FIELD MARKED BY DISTRICT INSPECTORS.
- 3) DO NOT DEMOLISH ANY BUILDING UNTIL LATERAL ABANDONMENT LOCATION FOR THAT BUILDING IS EXCAVATED AND CONFIRMED.
- 4) LATERAL(S) WILL BE CAPPED AT THE COLLECTION SYSTEM MAIN. FINAL CAP OFF LOCATION SHALL BE FIELD VERIFIED AND APPROVED BY THE DISTRICT.
- 5) LATERAL(S) MUST BE SEVERED AT THE ABANDONMENT POINT IN A WORKMANSHIP LIKE MANNER APPROPRIATE FOR THE TYPE OF PIPE TO BE CAPPED. A MINIMUM OF SIX FEET (6') OF PIPING UPSTREAM OF THE ABANDONMENT POINT SHALL BE REMOVED.
- 6) THE PLUGGING OF SEVERED LATERAL(S) MUST BE MADE WITH A NEW T-CONE TEST PLUG APPROPRIATE FOR THAT SIZE LATERAL.
- 7) NO WORK SHALL BE COVERED UNTIL INSPECTED AND APPROVED BY THE DISTRICT.
- 8) THE DISTRICT SHALL BE GIVEN A MINIMUM OF A ONE WORKING DAY NOTICE TO INSPECT ALL WORK ASSOCIATED WITH THE CAPPING OF LATERAL(S).

A
1

SEWER LATERAL ABANDONMENT

NO SCALE

DATE: JUL 2016
 SCALE: NO SCALE
 DRAWN: MAM
 FILE: STANDARDS
 SHEET: S7-D11

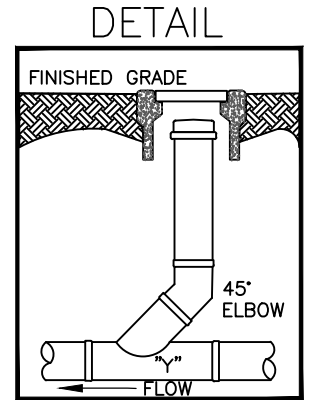
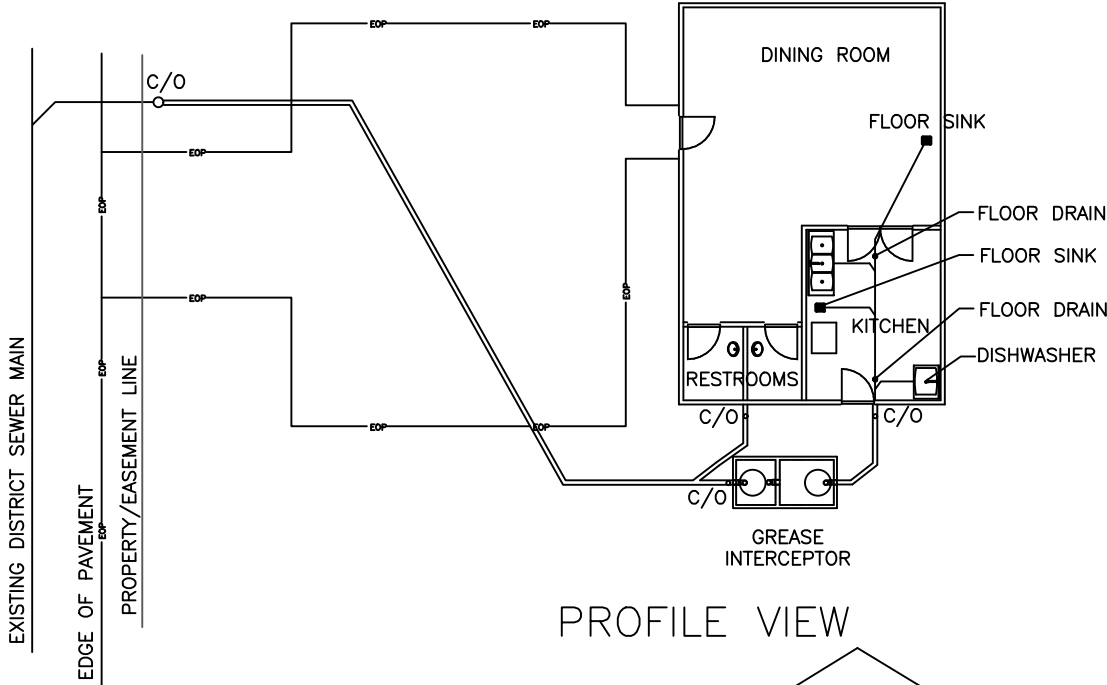
SEWER DETAILS



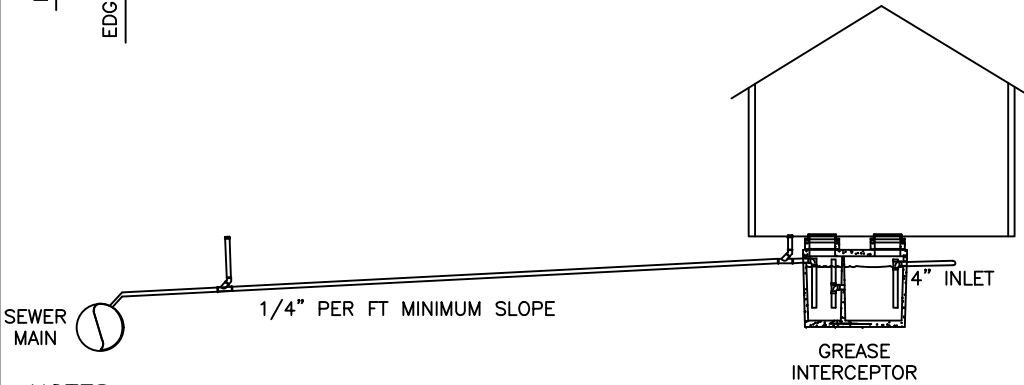
SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
 1275 Meadow Crest Drive South Lake Tahoe, California 96150
 Phone (530) 544-6474 Fax (530) 541-4319
 WWW.STPUD.US

PLAN VIEW



PROFILE VIEW



NOTES:

- 1) GREASE INTERCEPTOR SHOULD BE LOCATED NEAR WASTE SOURCE AND SHALL BE EASILY ACCESSIBLE FOR INSPECTION AND CLEANING.
- 2) MANHOLE COVER SHALL BE METAL MARKED "INTERCEPTOR".
- 3) MANHOLE COVERS SHALL BE SET TO FINISH GRADE USING PRECAST GRADE RINGS. A JOINTING COMPOUND "RAM-NEK" OR APPROVED EQUAL WITH A PRIMER AS RECOMMENDED BY THE MANUFACTURER SHALL BE USED TO CREATE A WATER TIGHT SEAL AT JOINTS TO PRECAST COMPONENTS.
- 4) ALL PIPING IMMEDIATELY OUTSIDE OF THE BUILDING SHALL NOT BE LESS THAN FOUR INCHES (4").
- 5) CLEANOUTS ARE REQUIRED AT BUILDING STUB OUT AND IMMEDIATELY DOWNSTREAM OF THE INTERCEPTOR.
- 6) ALL PIPING INSTALLATION MUST MEET THE CURRENT DISTRICT REQUIREMENT FOR BUILDING SEWER HOOKUP.
- 7) INTERCEPTOR SHALL BE PLACED ON A COMPACTED BASE IF DETERMINED BY THE DISTRICT, FIRM DRY MATERIAL WILL BE REQUIRED.

A
1

GREASE INTERCEPTOR INSTALLATION

NO SCALE

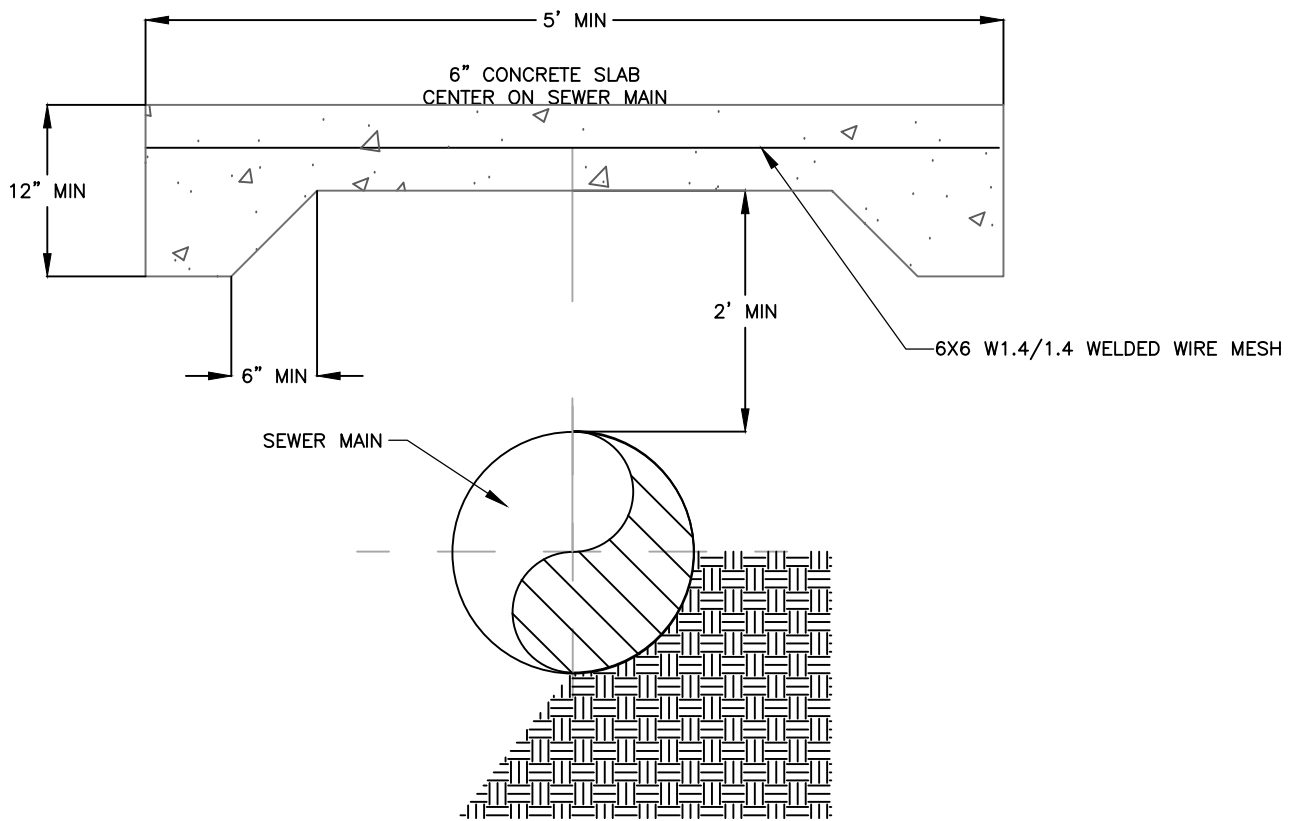
DATE:	JUL 2016
SCALE:	NO SCALE
DRAWN:	MAM
FILE:	STANDARDS
SHEET:	S7-D12

SEWER DETAILS



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
1275 Meadow Crest Drive South Lake Tahoe, California 96150
Phone (530) 544-6474 Fax (530) 541-4319
WWW.STPUD.US



NOTES:

- 1) CONCRETE SHALL BE 5000 PSI MIN, PLACE CONCRETE ON UNDISTURBED NATIVE MATERIAL.
- 2) WELDED WIRE MESH SHALL BE SUPPORTED TO BE PLACED APPROXIMATELY IN THE MIDDLE OF THE SLAB. OVERLAP WIRE MESH PANELS A MINIMUM OF SIX INCHES (6") AND CONNECT WITH TIE WIRE.
- 3) NO REQUIREMENT TO USE FORMS IF NATIVE MATERIAL IS STABLE AND HOLDS THE VERTICAL EDGES.
- 4) ROUGH FINISH ALL CONCRETE: CHIP OFF FINIS EXCEEDING A QUARTER INCH (1/4") IN HEIGHT PATCH ANY DEFECTS. OTHERWISE, SURFACES SHALL BE LEFT WITH TEXTURE IMPARTED BY FORMS.
- 5) NO REQUIREMENT FOR CONCRETE CAP AT ABUTMENTS.
- 6) NO REQUIREMENT FOR CAP TO BE TIED TO ABUTMENT OR POURED AT THE SAME TIME.

CONCRETE CAP FOR SEWER
IN STREAM BED



NO SCALE

SEWER DETAILS

DATE: JUL 2016	SCALE: NO SCALE	DRAWN: MAM	FILE: STANDARDS	SHEET: S7-D13
-------------------	--------------------	---------------	--------------------	------------------



SOUTH TAHOE PUBLIC UTILITY DISTRICT

Sewer . 1950 . Water A PUBLIC AGENCY
1275 Meadow Crest Drive South Lake Tahoe, California 96150
Phone (530) 544-6474 Fax (530) 541-4319
WWW.STPUD.US



APPENDIX E: CURRENT DISTRICT STAFF CONTACT INFORMATION

Role	District Contact
General Manger	John Thiel: W: (530) 543-6201 C:(530) 545-3521
Assistant General Manager	Shannon Cotulla: W: (530) 543-6206 C: (530) 208-8939
Public Affairs Manager	Shelly Thomson: W: (530) 543-6208
Manager of Field Operations	Chris Stanley: W: (530) 543-6251 C: (530) 721-1659
Underground Repair Sewer Supervisor	Doug Van Gorden: W: (530) 543-6253 C: (626) 253-5481
Pumps Supervisor	Jeremy Rutherford: W: (530) 543-6237 C: (775) 901-1067
Customer Service Manager	Tim Bledsoe: W: (530) 543-6221 C: (865) 635-6069
Asset Management Analyst	Ryan Lee: W: (530) 543-6234 C: (530) 318-8391
Laboratory Director	Dan Arce: W: (530) 543.6231 C: (530) 318-1477
Manager of Plant Operations	Jeff Lee: W: (530) 543-6241 C: (530) 318-2305
Water Reuse Operations Manager	Jim Hilton: W: (530) 543-6286 C: (530) 919-0540