



## CITY OF SAUSALITO SEWER EJECTION SYSTEM TESTING REQUIREMENTS AND CONSTRUCTION SPECIFICATIONS

Sewage Ejection System test results will need to be submitted to the City pursuant to Sausalito Municipal Code Section 18.12.100 which requires sewer lateral and sewer ejection system testing and construction requirements during \$50,000 upgrades to a property or prior to property sales. All sewer system construction in the City of Sausalito must be in compliance with the City of Sausalito Sewer System Construction Standard Specifications, per the City of Sausalito adoption of Resolution 5117 dated March 2, 2010.

Sewer ejection system inspections are required and to be performed in concert with the gravity flow sewer lateral inspections.

Existing sewer ejection system components required to be tested and new sewer ejection system construction required components include:

- Discharge line—if it is functioning as designed and has the appropriate utility box access point at final termination point for future maintenance and testing cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995).
- If the system is appropriately vented cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995).
- If the pump operation and sizing is appropriate for the demand.
- Float operation cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995).
- If the check and gate valve operation cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995).
- If the control panel operation cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995).
- If the electrical system is hard wired in accordance with NEC Class 1, Division 2 requirements cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995).
- If the control panel and high level alarm system are functioning as designed follow the electrical work and controls section cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995).
- If the tank sizing meets minimum sizing as cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995).
- If the tank access lid and riser are appropriately installed with City of Sausalito approved materials.
- If the dedicated high level alarm float activated by battery back-up power supply complies as cited under: (SMCSD/ County of Marin Sanitary Districts Residential Sewage Pumping System SD 17 circa 1995). **NOTE:** 9 volt battery backup systems are no longer allowed as of May 2, 2014. All battery backup high level alarm systems must be constructed to include a Class 2 battery charger fast charge / float AC 100-240V 50/60Hz plug-in charging system located inside the

weather tight NEMA 4x control panel. The battery must be a sealed lead battery, with quick connect or solder terminals, 12 volt, 5Amp Hours, CE approved system. The battery dimension sizing is 4"High x 3.5" Wide x 2.75: Deep. Typically installation is completed by utilizing the manufacturer recommended control panel interior 12 volt battery mounting bracket.

EXPLANATIONS OF SPECIFICATIONS CITED UNDER SMCSO/ COUNTY OF MARIN SANITARY DISTRICTS  
RESIDENTIAL PUMPING SYSTEMS STANDARD DRAWING circa 1995.

**Per County of Marin Specifications for Single Family Dwelling Sewage Pumping Systems and Sump Pumps:**

- Electrical Work and Controls:
- All electrical wiring and installed cabling, conduit and controls shall meet NEC Class 1, Division 2, Requirements and conform to the requirements of the City or County.
- Unless expressly provided otherwise, the power provided shall consist of a dedicated circuit of not less than 15 amps.
- Pumps rated to draw more than 7 amps require a minim 20 amp dedicated Ground-Fault Circuit Interrupt ("GFCI")-protected circuit.
- The Electrical controls shall provide adequate protection for motor and equipment.
- The electrical control panel shall meet NEC and UL Standards for safety, outdoor panels shall be weather tight NEMA 4x.
- Indoor panels shall be NME 1.

**Tank and Sump:**

The wastewater tank and sump unit shall be water-tight and constructed of non-corroding material of suitable strength to withstand the hydraulic and other loads associated with its installation in a residential setting. The sump shall be a minimum of 36-inches deep. The tank and sump shall have a minimum working capacity of 100 gallons (approximately 800 pounds of wastewater) and shall be provided with a waste plumbing inlet not less than a four-inches (4") in diameter and not less than the maximum diameter of the waste plumbing at any point. The sump's working capacity shall be calculated from the bottom of the lowest inlet to the bottom of the sump. No roof, gutter or other sources of stormwater, Bay water or any other liquid other than sewage may be connected to the sump. The top of the sump shall be securely anchored by bolts, and all joints between the component parts shall be sealed with waterproof mastic.

In compliance with the CPC, such sumps and receiving tanks shall be automatically discharged. The pumps shall have an audio and visual alarm, readily accessible, that signals pump failure or an overload condition. The lowest inlet shall have a clearance of not less than two (2) inches (51 mm) from the high-water or "starting" level of the sump. Sumps and receiving tanks shall be provided with substantial covers having a bolt-and-gasket- type manhole or equivalent opening to permit access for inspection, repairs, and cleaning. The top shall be provided with a vent pipe that shall extend separately a minimum of 6-inches above the roof. Such vent shall be large enough to maintain atmospheric pressure within the sump under normal operating conditions and in no case shall be smaller than two inches (2") in diameter.



**National Electrical Code (NEC) Per Class I Div II**

- Article 500, 501, 502, 503 and 504 is quite specific regarding water tight fittings and the use of raceways. In this setting the jacketed power supply cable on the pump and the jacketed power supply cable for the battery backup system are conveyed in a water tight raceway in accordance with the above cited provisions.
- Watertight conduit, watertight fittings, Liquid Tight material is most effective.

**Sewer Ejection System / Sump Pump Ejection Discharge Line System and valves**

- Plumb the final termination point of the 2" discharge line in compliance with Single Family Residential Spec Sheet SD 17 Marin County Sanitary Districts circa: 1995 Discharge Line requirement to terminate as a reverse installed 2x2 wye to a 4"x2" tee on a 4" verticle gravity flow riser and both cleanouts contained in an 18" x 19 1/2" precast concrete utility box. Christy B-24 Sewer Box.
- In-lieu of being installed inside the tank, both discharge line brass check valve and gate valve are to be installed outside the tank in a Christy B-09 sewer box.  
**Note:** When constructing sump pumps in certain instances (and with City of Sausalito Engineering Department approval 1.5" diameter PVC SCH 80 material may be used in lieu of 2" diameter for lower demand stormwater sump ejection and pool overflow sump ejection systems only. Never to be allowed for sewer ejection system discharge lines).
- **Special Note:** Replacement of an existing 2" discharge line if constructed with substandard material shall be replaced with 2-inch PVC SCH 80 pipe from the discharge side of the pump to the final discharge point at the 2-inch by 2-inch PVC SCH 80 reverse wye, and new construction 2-inch SCH 80 PVC shall be used. The 2-inch PVC SCH 80 pipe shall be buried with a minimum cover or 18-inches above crown, from the structure foundation to the final discharge point at the required 4-inch by 2-inch sanitary T inflow portion of the 4-inch gravity flow lower sewer lateral cleanout in Christy® B-24 sewer utility box. Existing 2-inch ABS sewer ejection lines are to be replaced when exposed above ground outside the foundation with PVC SCH 80. Glued fittings will be allowed only with the caveat that each male and female fitting have any exterior and interior burrs removed. Additionally each male and female fitting must be sanded and wiped clean as to remove oil, grease, dust and debris before applying Red Hot Blue/Low VOC plastic pipe glue when installing 2-inch PVC SCH 80 sewer ejection system discharge lines.

The SSC has included the City of Sausalito Sewer System Standard Construction Specifications that applies to the mechanical and plumbing features of sewer ejections systems.

Thank you for your dedication to thorough field work. If at any time you or your organization has questions regarding this information, please feel free to contact me at (415) 289-4192 or via email at [pguasco@sausalito.gov](mailto:pguasco@sausalito.gov) .

If you have any questions regarding this information, please contact me at your convenience.

Thank you,

Patrick A. Guasco  
Sewer System Coordinator  
City of Sausalito Department of Public Works

