



Public Works Department
Engineering Division

VERIFICATION TESTING GUIDELINES FOR CONTRACTORS

CITY OF BERKELEY PRIVATE SEWER LATERAL ORDINANCE

BMC Chapter 17.24 – Effective November 3, 2014

A consent decree between federal authorities and government agencies in the East Bay requires all property owners to upgrade or verify the quality of private sewer laterals (PSL) when selling a property or obtaining a construction permit. A PSL is the pipe and associated fittings that connect the plumbing in a home or business to the sanitary sewer main, usually located in the street. The PSL carries sewage from a building to a public sanitary sewer. It is the responsibility of the property owner to maintain the sewer lateral.

For buildings connected to a City-owned sewer main in an easement on private property, the property owner is responsible for the upper lateral up to and including the connection to the main. If you are not sure where the sewer that serves your property is located, access the online City Sewer Maps at <http://bit.ly/1pi6WYf>, or contact Public Works at (510) 981-6423.

When is Verification Testing Required?

Verification Testing is required if you don't have proof that you completely replaced your PSL within the last 20 years, and is necessary in order to obtain a [Sewer Lateral Certificate](#) (SLC). In general, the City's Private Sewer Lateral ordinance requires that an SLC be obtained:

- ✓ Prior to an ownership transfer or sale of property; OR
- ✓ When obtaining a Building Permit for construction or remodel valued over \$60,000; OR
- ✓ Whenever repairs to the PSL are ordered by the City Engineer; OR
- ✓ Whenever any work is done on a PSL.

A property owner must maintain the PSL so it is watertight, free of roots, structural defects and inflow/infiltration. The SLC serves as evidence that a sewer is compliant with these standards.

The PSL must pass the Verification Test for a Sewer Lateral Certificate to be issued.

A Verification Test and Sewer Lateral Certificate are Required. What do I do next?

If you know the Private Sewer Lateral has structural problems or defects, or is an old clay pipe, then you can go ahead with replacement of the PSL. If you don't know the condition of the PSL, it should be assessed by a licensed sewer or plumbing contractor.* Contractors use CCTV (closed circuit television) to inspect the sewer line's condition, and examine it for defects, prohibited connections, and check for code-compliant cleanouts. The City no longer accepts CCTV submissions as proof for compliance. Once the assessment is complete, the contractor will advise whether repair or replacement is required.

* A Sewer Lateral Certificate is issued to the entire parcel, so multiple buildings or multiple sewers on a single lot will all need to be checked for compliance.

If remedial work is not necessary, then you must have the City witness a Verification Test, which is a pass/fail test determined on site by the inspector. You or your contractor needs to submit a PSL Permit Application and schedule an inspection and Verification Test. The contractor sets up and conducts the Verification Test and is present for the inspection.

If your PSL fails the test you will have to repair or replace the PSL. Your contractor must obtain a PSL permit from the City’s Permit Service Center to work on the sewer, and have a City of Berkeley business license. Repair or replacement work in the public right-of-way must be done by a Class A (C-42 license) California state licensed plumbing contractor or sanitation sewer contractor, or a general engineering contractor. Work on private property for 1- and 2-family residences may be done by C-36 or C-42 contractors, a general building contractor (Class B) or by the homeowner. Homeowners may perform work on their own property only if work is done in compliance with the owner-builder provisions of State law. The PSL permit will allow your contractor to test, and make all necessary repairs or alterations to the PSL and, when applicable, the storm drains system piping in order to achieve a compliant PSL. verification testing will be done as part of the inspection(s) necessary to approve the work performed under permit.

How is a Verification Testing Performed?

Depending on pipe material, a contractor will choose either a hydrostatic (water) test or a low-pressure air test on the entire PSL to demonstrate that it meets code requirements. For existing pipelines not requiring work, and for sewers that are installed trenchless, please have onsite a CCTV camera available to review the internal piping during inspection. A PSL meets code requirements when it satisfies the following criteria:

Test Type	Passing Criteria
Hydrostatic (Water) Test	There is no observable water level loss in a standpipe placed at the upstream end of the PSL after 5 minutes under 5 feet of head.
Low Pressure Air Test	Pressure cannot drop more than one psi in 5 minutes (the minimum starting pressure is 3.5 psi).

Once the Verification Test has been witnessed by the City Inspector, the permit can be finalized, and the property owner can apply for the SLC at Public Works Engineering, 1947 Center Street, 4th floor. The SLC will be emailed to the applicant, typically in about 5 City business days.

Verification Test Set-up

The contractor is responsible for providing all materials and equipment necessary to conduct Verification Test. The City Inspector will confirm that the Verification Test is properly set up. In some instances, it may be possible to test the sewer without excavation by using inflatable plugs at the upper and lower ends of the sewer. For sewer lines having multiple branch lines, or multiple buildings on a sewer, the contractor may need to dig and expose the line to properly cap off branch connections prior to pressure testing.

Hydrostatic (Water) Test

Figure 1 shows a simplified drawing of the Hydrostatic Test Setup. Each section of the PSL will be tested between cleanouts by closing its upper and lower ends using inflatable plugs. If there are existing branch connections, they will need to be tightly capped prior to testing. The testing procedures are:

- Connect a standpipe to the building cleanout riser to allow a pressure head of 5 feet (60 inches) above the highest point of the PSL section being tested. The diameter of the standpipe shall be no greater than 4 inches and no less than 2 inches.
- Fill the standpipe with water to the point of overflow and monitor level for at least 5 minutes or until the water level becomes stable. Add water as needed to maintain 5 feet of head in the standpipe. The water level is stable when there is no observed drop in the water level of the standpipe. Water must be kept in the system for not less than 15 minutes before inspection starts.
- Begin the test. No water may be added to the standpipe once the test has started. The lateral passes the test if there is no observable water loss at the top of the standpipe after 5 minutes.
- After completion of the test, the inspector will witness the removal of the pipe plug hose to confirm that the entire length of the PSL was tested.

Low Pressure Air Test

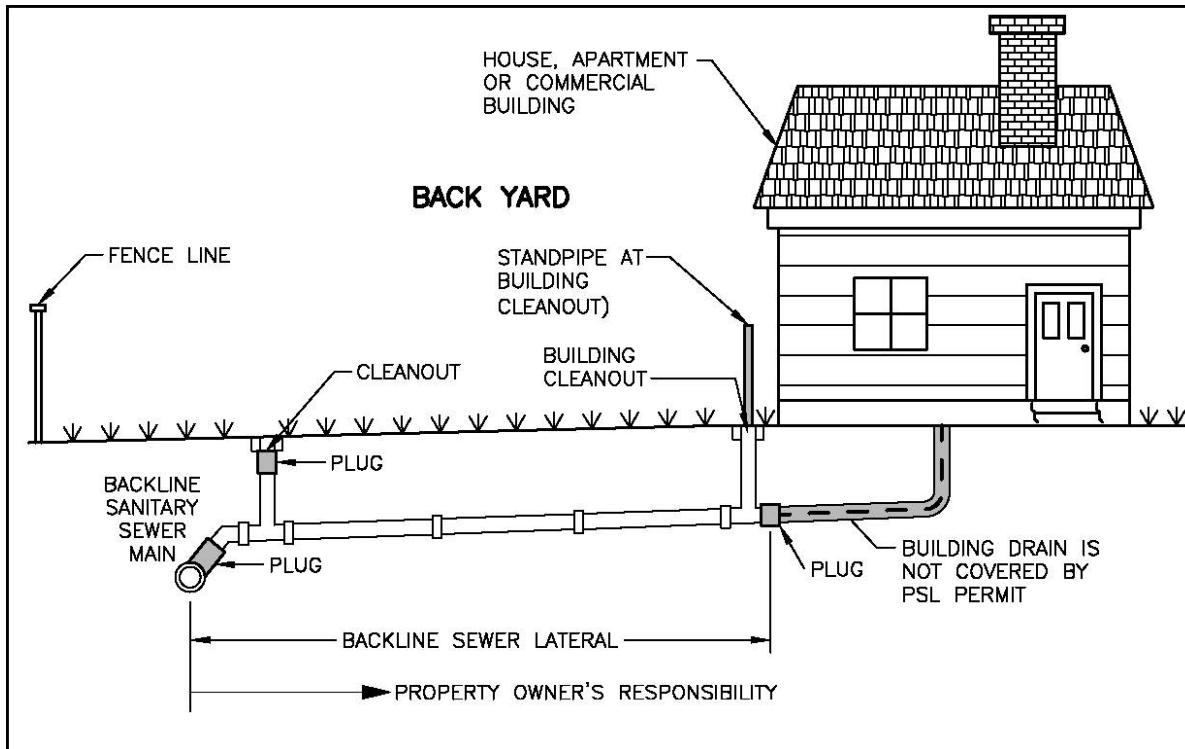
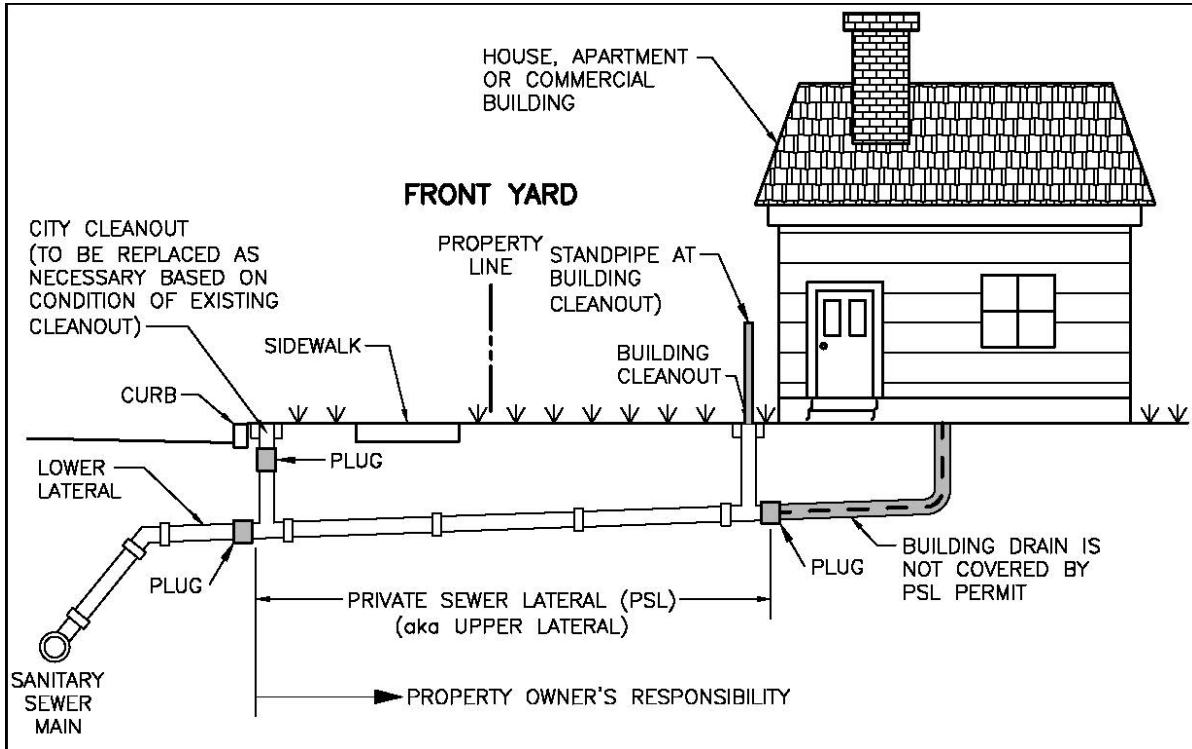
Figure 2 shows a simplified drawing of a Low Pressure Air test setup. ***Please note that the California Plumbing Code no longer allows air pressure testing on rigid plastic pipe.*** For VCP (clay), and cast iron piping, each section of the sewer must be tested between cleanouts by closing the upper and lower ends of the sewer to be tested using inflatable plugs; any branch connections shall be tightly capped prior to pressure testing. The pressure test gauge used for testing must be calibrated, and have a range from 0-10 psi that can be accurately read to 0.1 psi. The testing procedures are:

- Apply pressurized air to the test assembly and raise the internal pressure to approximately 4 psi. Pressure may be applied from either end of the lateral. If the pressure does not hold, pipe plugs shall be checked with a soap solution to detect any air leakage. Contractor has the option of wetting the interior of the pipe prior to test.
- Maintain the internal air pressure between 3.5 and 4.0 psi for at least two minutes to allow the air pressure and internal temperature to stabilize. The minimum starting pressure is 3.5 psi. Pressure in the lateral shall not be allowed to exceed 5 psi gage pressure.
- Inspector shall slowly release the pressure in the pipe until it drops to 2.5 psi gage pressure. The dial indicators should be monitored for visual confirmation that the pressure drop is indicated on the gauge. If the pressure does not drop after release of air, the test is invalid, and a new gauge will need to be installed. Once pressure is stabilized, the test may begin. No additional air may be added once the test has started.
- The lateral passes the test if the pressure does not drop more than one psi in 5 minutes.

How long is my Sewer Lateral Certificate good for?

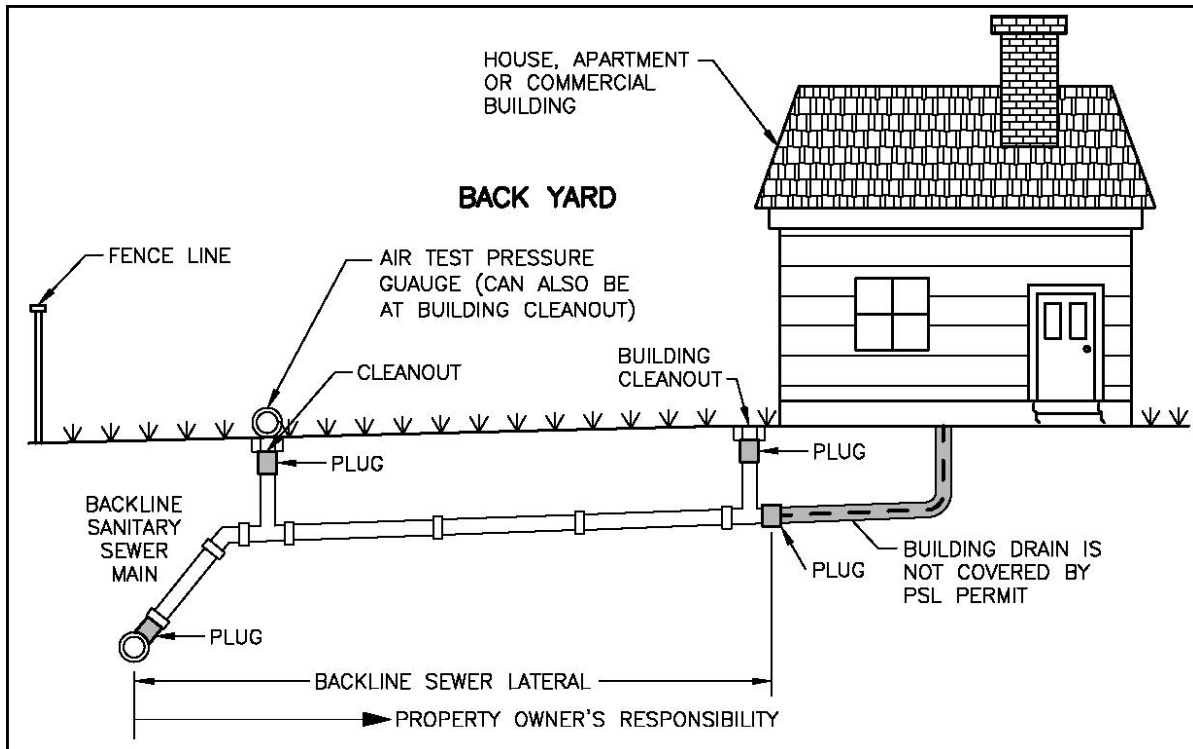
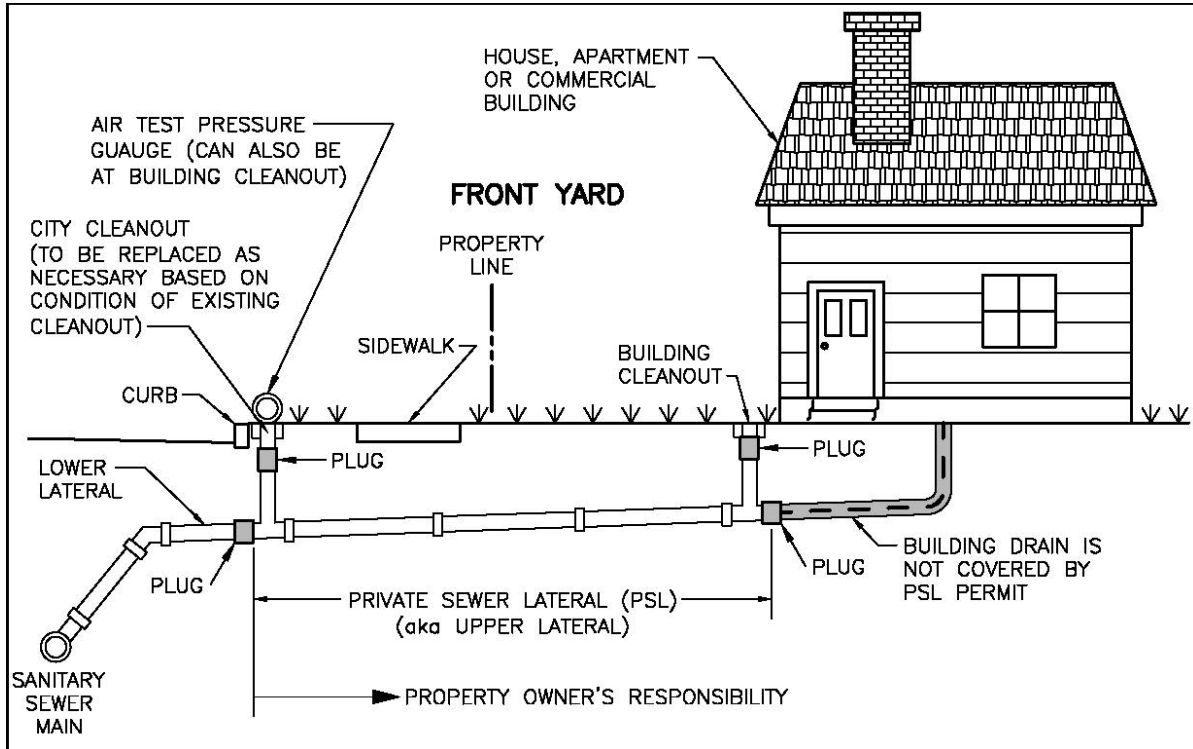
- A Sewer Lateral Certificate is good for 20 years for sanitary sewers that are completely replaced.
- A Sewer Lateral Certificate is good for 7 years for sewers that require only spot or partial repairs (rather than complete replacement) or do not require any remedial work prior to issuance of the SLC.

Figure 1: Hydrostatic (Water) Test Setup



NOTE: When a building is set to the lot line (zero set-back), contact PW Engineering by phone at 510-981-6423 or email to PSLProgram@CityofBerkeley.info.

Figure 2: Low Pressure Air Test Setup



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