

WATER AGENCIES' STANDARDS

Design Guidelines for Water and Sewer Facilities

SECTION 6.3 SEWER LATERALS

6.3.1 PURPOSE

The purpose of this section is to provide guidelines for the use and placement of sewer laterals in gravity sewer collection pipelines.

6.3.2 STANDARD TERMS AND DEFINITIONS

Wherever technical terms occur in these guidelines or in related documents, the intent and meaning shall be interpreted as described in Standard Terms and Definitions.

6.3.3 GENERAL

It is the responsibility of the user of these documents to make reference to and/or utilize industry standards not otherwise directly referenced within this document. The Engineer of Work may not deviate from the criteria presented in this section without prior written approval of the Agency Engineer.

- A. Design for gravity sewer mains shall be in accordance with Section 6.1.
- B. Use and placement of manholes and cleanouts shall be in accordance with Section 6.2.

6.3.4 GUIDELINE

- A. Requirements: Sewer laterals shall be used primarily for gravity applications of conveying raw sewage collected from properties to the agency's sewage collection system.
 - 1. Each parcel or lot shall have a separate connection to the public sewer main. Laterals may not cross more than one (1) property line.
 - 2. Sewer laterals shall be a minimum four inch (4") and a maximum of six inch (6"). Eight inch (8") laterals may be used only with prior approval of the Agency Engineer. Laterals shall be sized in accordance with the County or City of Jurisdiction building codes/requirements and these guidelines.
 - 3. Typically sewer laterals intercepting the main do not require a manhole, refer to WAS Standard Drawings SS-01 and SS-02. Laterals shall be connected to the sewer main at a manhole when the lateral serving a property has two (2) or more branches installed to serve more than one facility on the property. Residential lots with a second dwelling may be excluded from this requirement at the direction of the Agency Engineer.
 - 4. Laterals shall have a minimum slope of 2% ($\frac{1}{4}$ " per foot) and shall not exceed 100%.

5. Deep-cut laterals may be allowed when the vertical difference between the lateral and the sewer main is four feet (4') or more. Prior approval of the Agency Engineer is required. Deep-cut laterals shall be called out as such on the approved plans.
6. Parallel and perpendicular separations between water and sewer laterals shall be in accordance with WAS Standard Drawing WI-01 through WI-03.
7. Lateral connections to interceptor mains eighteen inches (18") and larger shall be made at a manhole. The lateral and interceptor main top of pipe elevations shall be matched such that the lateral will have free outflow into the interceptor main. If the top of the lateral cannot be matched to the top of the interceptor pipe because of elevation constraints with the lateral, then the minimum allowable conditions shall be as follows:
 - a. Match the invert elevation of the lateral to maximum D/d ratio of the interceptor pipe. If this cannot be achieved, then calculations shall be provided for a special manhole base design.
 - b. Special notes and details and approval of the Agency Engineer are required.
8. Private pumping units are allowed only in accordance with the County or City of Jurisdiction building codes/requirements. If allowed, pressurized laterals from private pumping units shall discharge at a vertical grade break to a standard sewer lateral with a cleanout at the property line, refer to Figure 1 below. The gravity sewer lateral shall be connected to the sewer main in accordance with WAS Standard Drawing SS-01 through SS-04.

Figure 1
Pressurized Sewer Lateral



9. Sewer laterals internal to the building and from the building to the property line are considered private. Private lateral installations are governed by the Uniform Building Code and enforced by the local building authority.
 10. Laterals shall be installed with a cleanout placed at the property line in accordance with Uniform Building Code and the local building authority.
- B. Locations: Laterals shall be located as described below:
1. Laterals shall run perpendicular from the sewer main to the property line, except in a cul-de-sac.

Laterals can connect directly into a manhole at the end of a main or in a cul-de-sac as described in Section 6.2.
 2. Laterals shall be a minimum of four feet (4') deep at the property line, unless otherwise approved by the Agency Engineer. Laterals with less than three feet (3') cover will require concrete encasement.
 3. Laterals shall have a four foot (4') minimum separation between successive laterals. Refer to WAS Standard Drawing SS-03.

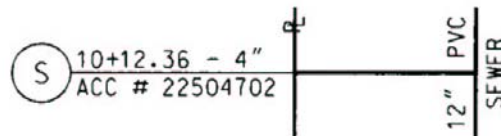
4. Laterals shall not be located in the following locations:
 - In driveways.
 - Parking areas (if possible).
 - Within five feet (5') of the property line between lots.
 - Within heavy landscape areas that receives more than just ground cover. Bushes, trees or brush should not be planted around the area of the lateral.
- C. Installation: Sewer Laterals shall be installed at locations shown on the approved plans in accordance with WAS Standard Specification 15065 and Standard Drawings SS-01 through SS-04.

6.3.5 NOTATIONS ON PLANS

Laterals shall be shown in the plan view portion of the sheet(s) only and include, but not be limited to, the following information:

- A. Standard symbols, stationing and plan callout notes in accordance with Section 1.1.
- B. Stationing of the lateral at the connection to the sewer main.
- C. Size of lateral.
- D. Account number (if applicable).
- E. Refer to Figure 2 below.

Figure 2
Sewer Lateral Plan Callouts



6.3.6 MATERIAL SELECTION

Sewer laterals and appurtenant components to be used with the installation of gravity sewers shall be in accordance with WAS Standard Specification 15065 and the Approved Materials List.

6.3.7 REFERENCE

- A. Should the reader have any suggestions or questions concerning the material in this section, please contact one of the agencies listed.
- B. The publications listed below form a part of this section to the extent referenced and are referred to in the text by the basic designation only. Reference shall be made to the latest edition of said publications unless otherwise called for. The following list of publications, as directly referenced within the body of this document, has been provided for the user's convenience. It is the responsibility of the user of these documents to make reference to and/or utilize industry standards not otherwise directly referenced within this document.

1. Water Agencies' Standards (WAS):
 - a. Design Guidelines
 1. Section 1.1, Drafting Guidelines
 2. Section 4.2, Sewer Planning
 3. Section 6.1, Sewer Pipeline Design
 4. Section 6.2, Sewer Manholes and Cleanouts
 - b. Standard Specifications
 1. Section 15065, Polyvinyl Chloride (PVC) Gravity Sewer Pipe
 - c. Standard Drawings
 1. WI-01 through WI-03
 2. SS-01 through SS-04
 - d. Approved Materials List for Sewer Facilities

END OF SECTION