



## **Waterline Separation from Nonpotable Conveyance Systems**

These standards apply to water main lines, water services 3-inch and larger and nonpotable pipelines including sanitary sewer mains, sanitary side sewers, irrigation mains and storm sewer mains. The most common separation scenarios are addressed below. Consult the Water/Irrigation Division and Wastewater Division for guidance when other scenarios are encountered during design and construction. All deviations from the standard separation requirements shall be approved by the City. Additional standards and guidance can be found in the latest edition of the *DOH Water System Design Manual*, *DOE Criteria for Sewage Works Design*, and *DOH/DOE Pipeline Separation Design and Installation Reference Guide*. All horizontal separation measurements noted are from edge to edge of pipes and vertical separation from invert to crown of pipes.

### **Parallel Installation – New Waterlines / Existing Nonpotable Pipelines**

Waterlines shall be installed a minimum of 10 feet horizontally and 18 inches vertically above other nonpotable pipelines. Where this is not possible, a waterline may be installed a minimum of 5 feet horizontally and 18 inches vertically from other nonpotable pipelines, as long as the waterline is placed in a separate trench and on a bench of undisturbed earth.

### **Parallel Installation – New Nonpotable Pipelines / Existing Waterlines**

Nonpotable pipelines shall be installed a minimum of 10 feet horizontally and 18 inches vertically below existing waterlines. Where this is not possible, a nonpotable pipeline may be installed a minimum of 5 feet horizontally from an existing waterline, as long as the nonpotable pipeline is installed a minimum of 18 inches vertically below the waterline and the nonpotable pipeline is placed in a separate trench. If the vertical separation cannot be met, then the nonpotable pipeline shall be constructed of or encased in materials equal to waterline standards with a minimum pressure rating of 150psi (C-900 PVC, Ductile Iron).

### **Crossing Installation – New Waterlines / Existing Nonpotable Pipelines**

Waterlines shall be installed a minimum of 18 inches vertically above nonpotable pipelines. Where this is not possible, or the waterline passes under a nonpotable pipeline, the waterline shall be installed in a pressure rated pipe casing extending 10 feet each side of the crossing. In addition, where the waterline passes under an existing nonpotable pipeline, support shall be provided for the nonpotable pipeline by backfilling the nonpotable pipeline trench with controlled density backfill or other approved methods. A minimum of 6 inches of separation between the crossing pipelines must be maintained in all cases.

### **Crossing Installation – New Nonpotable Pipelines / Existing Waterlines**

Nonpotable pipelines shall be installed a minimum of 18 inches vertically below existing waterlines. Support shall be provided for the waterline by backfilling the nonpotable pipeline trench with controlled density backfill or other approved methods. Where the minimum clearance is not possible, or the nonpotable pipeline passes above a waterline, a full length of nonpotable pipeline shall be centered at the crossing. In addition, the nonpotable pipeline shall either be installed in a pressure rated pipe casing extending 10 feet each side of the crossing, or be constructed of one standard length of pipe material equal to waterline standards with a minimum pressure rating of 150psi (C-900 PVC, Ductile Iron). A minimum of 6 inches of separation between the crossing pipelines must be maintained in all cases.