



## Water Main Specifications

1. All water main construction to be in accordance with City of Columbia City standards and specifications for water main installation, material and workmanship.
2. The contractor shall notify the Water Department at least 24 hours in advance before starting construction to make arrangements for inspection and shut down existing water mains where required. All utilities shall be notified prior to start of construction for actual field location of any underground line.
3. Water main pipe shall be: (minimum class 350)
  - a. Ductile Iron Pipe (DIP) shall conform in all respects to ANSI A21.50 (AWWA C113), ANSI 21.5 (AWWA C151), ASTM A-339; joint shall be mechanical or push on as defined by ANSI A21.11 (AWWA). Minimum wall thickness shall be class 350 as defined by ANSI A21 (AWWA C51), or as determined by City.
  - b. The following products are acceptable: Clow, U.S. Pipe, Griffin and other approved equals as approved by the Utility or its engineer.
  - c. Ductile iron pipe must be polywrapped when requested by the City due to soil conditions.
  - d. Insulating flanges must be used on the new main installation where corrosion protection is already in place.
4. A minimum of 60 inches cover shall be provided for all water mains, 48 inches on 12 inch main or larger.
5. Hydrants shall be left hand opening and conformed to AWWA C-502 for 5-foot burial and be located on the property side of the main and shall be; Clow Medallion, Waterous WB-67, or Mueller A423 with stainless steel bolts and red in color within City Limits and yellow in color outside City Limits.
6. Granular backfill shall consist of dry compacted #73 or #53 aggregate compacted to 95% dry density and shall be used for all road crossing pipes and gravel driveways unless otherwise specified by the City of Columbia City.
7. All water mains shall be installed conforming to ASTM-12 with Class "B" bedding.

8. Gate valves shall conform to AWWA Standards and be mechanical joint left-hand opening, have a cast iron or ductile iron body, resilient wedge, epoxy coated with stainless steel bolts.
9. Valve boxes shall be provided for all water valves and shall be screwing type #564 or #664 cast iron, with removable cast iron lid and be marked "WATER".
10. Unless otherwise approved in writing, all tees, plugs, dead-ends, and bends exceeding 11 1/4 degrees shall be restrained with mega lug glands and field lock gaskets.
11. Water main and sewer lines shall have a minimum horizontal separation of 10 feet. Whenever sewer line must cross under the water main, a minimum separation of 18 inches is required between the top of the sewer and the bottom of the water main. If the above criteria cannot be met, then the sewer shall be reconstructed with mechanical joint ductile iron pipe, for a distance of 10 feet on each side of the water main. One full length water main shall be centered over the sewer so that both joints will be as far from the sewer as possible.
12. All water main shall be disinfected, and pressure tested in accordance with Indiana State Board Standards, or as determined by City.
13. All service lines shall be 60 inches deep.