

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

6  
6

LAKE COUNTY  
LAK.-1-12.89  
PART II

# SPECIFICATIONS FOR 10" WATER LINE

The proposed 10" asbestos-cement pressure pipe water line shall be installed in accordance with the following specifications:

The work required in the installation of the 10" asbestos-cement pipe water line includes furnishing and installing all pipe, fittings, valves, joint wrappings, concrete and other appurtenances required. Details and location of such work are shown on the plans or are otherwise shown on these specifications.

The Contractor shall notify the Painesville City Engineer at least 48 hours in advance before making the connection between the new and old lines, the changeover to be made preferably on a weekend, and to be completed within four (4) hours.

To maintain pressure for fire flow and domestic service between the pump station on S.R. 44 and the Project during the connection of the new line, the Contractor will be required to install a relief regulator on the nearest hydrant north of the Project and have the City Water Department observe the pump station operation. The installation of this relief regulator shall be included in the unit price bid for Item I-124 10" Asbestos-Cement Water Line.

The water hydrant located on the Project will be removed by the Painesville Water Department and will not be replaced.

The removal and disposal of existing 10" water line shall be included in bid item "E-1 Roadway Excavation."

Material furnished for the new water line shall be 10" Class 150 Johns-Manville "Transite" pipe w/ "Ringtite" couplings provided; however, asbestos-cement pipe and couplings of equal quality may be substituted if approved by the Engineer.

Excavation for new water line shall be performed in accordance with Sec. I-124.03(a). Where rock or shale is encountered, the trench shall be excavated to an additional depth of 6" below the excavation for the bottom of the pipe. This additional material so removed shall be replaced with

coarse sand or bank gravel in a satisfactory manner to provide the proper bedding for the water line. This sand backfilling is to rise to a minimum of 6" above top of pipe.

Handling and laying of asbestos-cement pipe shall be in accordance with recommendations of the manufacturer unless otherwise stated in specifications.

The coarse sand or bank gravel shall be furnished by the Contractor. All backfilling not otherwise specified shall be in accordance with Sec. I-124.03(d).

Fittings for asbestos-cement pipe shall be cast iron and shall be connected to the pipe by means of an adaptor designed for this purpose.

The fittings shall have mechanical joints and the bolts used shall be basically composed of cast iron.

Testing: All pipe lines when completed shall be tested by filling with water under a hydrostatic pressure of 150 pounds per square inch, except as otherwise noted on the contract drawings. Testing shall be done by sections of pipe not to exceed 2000 feet in length.

The Contractor shall, at his own expense, furnish all apparatus and appliances necessary or proper for all tests.

Taps for release of air shall be made where required, and securely plugged after testing of pipe.

Any leaks or defects found in the joints shall be promptly repaired, and any cracked or broken pipes or valves shall be removed and replaced with sound pieces at the expense of the Contractor

Wherever conditions will, in the opinion of the Engineer, permit, the pipe shall be tested before the trench is backfilled. All joints shall be examined during the open trench test and all leaks stopped. If testing must be performed after backfilling, wherever leakage rate exceeds a 24-hour rate equal to 200 gals. per inch of diameter per mile of pipe, the joints shall be dug up and repaired until the leakage is within the limits specified in the case of lead joints. If lead substitute joints are used, the filled line may be allowed to stand 4 or 5 days

before making a final test, which shall fulfill the preceding requirements.

Sterilizing: During the laying of the main, the Contractor shall place a sterilizing powder such as H.T.H., Perchlora, Moxochlor, or equal, as approved by the Engineer, into the main in the following minimum amounts per hundred feet of main: 8 inch pipe - 3 oz., 10 inch pipe - 5 oz. When pipe laying is completed, the Contractor will fill the line for sterilizing the pipe and appurtenances, and shall make adequate and satisfactory provision for disposing of the sterilizing water.

As an alternate to the above method, any section of pipe to be tested shall be filled slowly from one end of the section with water to which has been added  $\frac{3}{4}$  pound of H.T.H. (or other sterilizing agent of equivalent active chlorine content) per 1,000 gal. of water. When pipe is filled, let stand for at least 12 hours, draw off, rinse with fresh water, and test. The Contractor shall furnish all labor and materials for chlorination, which shall be done in the presence of, and to the satisfaction of the Engineer.

The quantities to be paid for shall be the actual quantities, measured in place, completed and accepted. The quantities shall be measured as follows: Per linear foot for the number of linear feet of new water line laid, exclusive of fittings; per each for the number of bends and adaptors installed on new water line.

The quantities as above provided shall be paid for at the contract unit price bid: Per linear foot for Item I-124 10" asbestos-cement pressure pipe, Class 150 Transite w/ Ringtite couplings or approved equal; per each for Item I-124 10" adaptors for asbestos-cement pressure pipe, Class 150 Transite w/ Ringtite couplings, or approved equal; per each for Item I-124 10" cast iron bends, 22 $\frac{1}{2}$ ", Class 150, Clow Cat. N<sup>o</sup> F-935, or approved equal. These prices and payments shall constitute full compensation for necessary excavation and backfill, the disposal of all surplus excavation and discarded material, the furnishing, preparing, and placing of all material including couplings, sealing joints, reaction backings, relief regulator, hydrostatic testing, and sterilizing, and for all labor, materials, equipment, tools, and incidentals necessary to complete the items.