ITEM 10602.2101 M - 750 MM DIAMETER STEEL JACKING PIPE

DESCRIPTION

This work shall consist of furnishing, delivering and preparing 750 mm Diameter steel pipe for jacking under roadway in accordance with the Plans and Specifications and as directed by the Engineer.

MATERIALS

Steel pipe for jacking under roadway shall conform to the requirements of ASTM A139, Grade B and AWWA C200. Pipe shall have a minimum wall thickness of 10mm. Ends shall be prepared for welded joints with stainless steel tips and/or prepared for flanged joints as shown on the drawings. The first pipe section to be jacked shall be beveled or equipped with an approved jacking shoe. Joints shall be welded inside jacking pits. Welded joints shall conform with AWWA C206 requirements and the NYS Steel Construction Manual.

The outside surfaces of the steel pipe shall be Type I galvanized in accordance with the requirements of Material Section 719-01, the inside surfaces of the steel pipe shall be polymer coated in accordance with the requirements of Material Section 707-02.

Flanges for flanged joints, where shown on the Contract Plans, shall be standard forged steel hub slip-on flanges in accordance with AWWA C207-86, Class "E". Flanges shall be attached to end of pipe by welding, after pipe has been jacked into place as shown on the drawings. Flanges shall be made from seamless forgings which meet the requirements of the Standard Specifications for Forgings, Carbon Steel for General-Purpose Piping, ASTM Designation A181, Class 70 or the Standard Specifications for Forgings, Carbon Steel for Piping Components, ASTM Designation A105.

Flanges shall be flat faced and shall be welded front and back with continuous fillet weld size of 10mm. Flanges shall be spot faced or back faced at the rear; such facing shall not reduce the minimum flange thickness by more than 2mm. Dimensions of flanges shall conform to Class E hub-type slip on flanges in accordance with ANSI/AWWA C207 **.** The bolt hole diameters shall be increased by 3mm.

Center gaskets shall be full faced rubber with cotton cloth insert of epoxy/glass, 3 mm thick, with bolt holes and bolt circle to match the AWWA Standard Class E type flanges. Material for gaskets shall be cotton cloth-reinforced SBR rubber, Style 159 with a min 21.65KV/mm dielectric strength and a min 344.8 MPa compressive strength.

Bolts, nuts and washers for flanged joints shall be high-strength steel and shall conform with the requirements of material Section 715-14.

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CONSTRUCTION DETAILS:

Verifying Pipe and Coating Thickness: Subsections 602-3.02(D) shall apply.

Damaged Pipe and Repair: Subsection 602-3.04(A) shall apply. Damage to exterior galvanized coating shall be repaired in the filed in accordance with the requirements of "Repair" of Section 719-01. Damage to interior polymer coating shall be repaired in the filed in accordance with the requirements of "Coating Repair" of Section 707-02.

Field Strutting: Field strutting of steel jacking pipe may be done at the Contractor's option and expense to afford added protection from construction equipment and other loads during and after jacking. The method and scheduling of installation and removal of strutting shall be as approved by the Engineer. Field strutting shall constitute installation of structurally sound timber sills, compressions caps and struts.

Joints: Joints for steel jacking pipe shall be field welded at jacking pits in accordance with the requirements of AWWA C206. At Control Structure "A", the contractor shall weld a flat face Class E flange after completion of jacking operation as shown on the drawings. Flange shall conform to the requirements of ANSI/AWWA C207.

METHOD OF MEASUREMENT:

The quantity to be measured will be the number of meters (laying length) of pipe furnished and incorporated into the work in accordance with the plans, specifications and as directed by the Engineer.

BASIS OF PAYMENT:

The unit price bid shall include the cost of furnishing all labor, materials and equipment necessary to complete the work including furnishing steel pipe complete with installing flanged joints where indicated, welded joints, center gaskets, high strength bolts and pipe coating. The cost of drainage structures, control valves, excavation, backfill, sheeting and pipe jacking will be paid for separately under their appropriate pay items.