

SECTION 33 05 29.13**BRIDGE CROSSING****PART 1: GENERAL****1.01 SCOPE OF WORK**

- A. Certain information regarding the reputed presence, size, character, and location of existing above ground and underground facilities such as pipes, drains, sewers, electrical lines, telephone lines, cable TV lines, gas lines, and water lines has been shown on the Drawings and/or provided in the Contract Documents. This information with respect to underground facilities is provided by AW in accordance with conditions described in the General Conditions and for information purposes only. Contractor is responsible to determine actual location of all utilities in proximity to the Work for the purposes bidding and construction.

1.02 NOTIFICATION OF UTILITIES

- A. Notify the applicable State Agency with jurisdiction over the bridge facilities and all utility companies that construction work under this Contract will pass nearby their facilities. Notify these parties in advance to support the construction work (minimum 72 hours). All excavation in the vicinity of existing underground utilities shall be performed in accordance with applicable regulations. The Contractor is responsible for determining if additional notifications are required before commencement of work and notifying accordingly, at no cost to AW.

1.03 BRIDGE CROSSINGS

- A. Notify the applicable local or State Agency and Transportation Organization with jurisdiction over bridge facilities and/or all utility companies that construction work under this Contract will pass at or near the bridge structure. Notify these parties in advance to support the construction work (minimum 72 hours or as required by the organization with jurisdiction). All construction in the vicinity of existing bridge structures shall be performed in accordance with applicable regulations.

PART 2: PRODUCTS**2.01 MATERIALS**

- A. Furnish all materials for temporary support, adequate protection, and maintenance of all underground and surface utility structures, supports, drains, sewer and other obstructions encountered in the progress of the Work.
- B. The pipe material to be used for bridge crossings shall be steel or ductile iron as called out in the Drawings and approved by the AW.

- C. For bridge crossings using steel pipe, all steel pipe to be ASTM A53 Grade “B” submerged arc-welded black steel pipe with ½-inch wall thickness, beveled ends, 50 Mil Pritec (or approved equal) coated exterior, and unlined interior. All steel pipe to be cement-lined with 5/16-inch cement mortar lining in accordance with AWWA C602. If lining is not installed at factory, in place lining shall be performed by the Contractor and approved by AW.
- D. For bridge crossings using ductile iron pipe, all ductile iron pipe shall be fully restrained meeting requirements provided in Section - Ductile Iron Pipe & Fittings as applicable. All DIP to be cement lined at the factory in accordance with AWWA C110 or epoxy lining in accordance with AWWA C116.

PART 3: EXECUTION

3.01 OBSTRUCTIONS BY OTHER UTILITY STRUCTURES

- A. Support, relocate, remove, or reconstruct existing utility structures such as conduits, ducts, pipes, branch connections to main sewers, or drains. The obstruction shall be permanently supported, relocated, removed or reconstructed where they obstruct the grade or alignment of the pipe. Contractor must do so in cooperation with the AWs of such utility structures. Before proceeding, the Contractor must reach an agreement with AW on the method to work around the obstruction.
- B. No deviation shall be made from the required line or depth without the consent of AW Project Manager.

3.02 REPAIRS

- A. Repair or replace any damage to existing structures, work, materials, or equipment incurred by Contractor’s operations.
- B. Repair all damage to streets, roads, curbs sidewalks, highways, shoulders, ditches, embankments, culverts, bridges, trees, shrubs or other public or private property caused by transporting equipment, materials or personnel to or from the work site. Make satisfactory and acceptable arrangements with the persons or agencies having jurisdiction over the damaged property concerning repair or replacement
- C. Brace and support existing pipes or conduits crossing the trench, or otherwise exposed to prevent trench settlement from disrupting the line or grade of the pipe or conduit. Before proceeding, the Contractor must reach an agreement with the AW Project Manager on the method of bracing and support. Repair or replace all utility services broken or damaged at once to avoid inconvenience to customers. Storm sewers shall not be interrupted overnight. Use temporary arrangements, as approved by the AW Project Manager, until any damaged items can be permanently repaired. Maintain all items damaged or destroyed by construction and subsequently repaired.

3.03 RELOCATION

- A. Relocate existing utilities or structures, where necessary, and restore them to a condition equal to, or better than, that of the original facility. Obtain approval from AW of the utility or structure prior to relocating and/or restoring the facility.

3.04 BRIDGE CROSSINGS

- A. Supply cement-lined steel or ductile iron pipe, cement or epoxy lined ductile iron or steel pipe fittings, related hardware, equipment, and labor to install water main in a dedicated utility bay beneath the bridge deck. Supply and install all required steel or ductile iron bends from the bridge utility bay to meet required alignment of proposed buried pipe.
- B. For steel pipe installation, weld on steel pipe with 3 passes in accordance with AWWA Standard C206. Supply welded flanges at end(s) of steel pipe for transition from steel pipe to DIP, including all necessary nuts, bolts gaskets, and related hardware. Gaskets to be full-faced $\frac{1}{8}$ -inch thick.
- C. For ductile iron pipe installation, provide at least one support per length of pipe (unless "long span" pipe is utilized). Use the appropriate pressure class of pipe to support the weight of the pipe and its contents. Provide proper lateral and vertical support if needed to prevent "snaking."
- D. If construction of bridge is proposed at the same time as main installation, coordinate all activities with Bridge Contractor and Governing Agency.
- E. Size, supply, and install all required pipe roller supports for attachment to bridge. (Maximum spacing between supports is 10 feet.) Submit shop drawings to AW for approval. If construction of bridge is proposed at the same time as piping installation, coordinate installation of pipe roller supports with Bridge Contractor. Supply, install, and coordinate installation of steel sleeves in proposed abutment walls of bridge with Bridge Contractor.

END OF SECTION 33 05 29.13