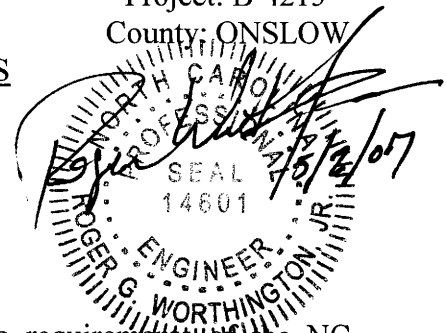


PROJECT SPECIAL PROVISIONS
Utility Construction



I. GENERAL CONSTRUCTION REQUIREMENTS:

Specifications:

The proposed utility construction shall meet the applicable requirements of the NC Department of Transportation's "Standard Specifications for Roads and Structures" dated July 2006, and the following provisions.

The existing utilities belong to the Onslow Water and Sewer Authority and North Topsail Utilities, Inc.. The Contractor shall provide access for the owner's representatives to all phases of construction. Notify the owner two weeks before commencement of any work and one week before service interruption.

North Topsail Utilities, Inc. request that any shut downs for pressure testing or installation of the force main sewer to be done between the hours of 5:00 PM and 5:00 AM to avoid disrupting their major users (a high school and a middle school).

Note: Onslow Water and Sewer Authority request that any shut downs of their 12" water lines between May 30th and September 5th be accomplished only on weekdays during daylight hours. Outside these dates there should be no restrictions for shut down times for the water lines.

If the contractor discharges chlorinated water through the proposed 6" blow-off during the flushing and testing of the proposed water mains, the water shall be de-chlorinated or discharged in a manner not to adversely affect any surrounding creeks or wetlands. This shall be considered incidental.

HDPE Water Pipe is to be SDR 9, 200 # WP and manufactured in accordance with ANSI /AWWA C906 (Polyethylene Pressure Pipe and Fittings, 4" through 64", For Water Distribution, Ductile Iron Pipe Size (DIPS)). HDPE Pipe materials shall be either PE 3406 or PE 3408 depending upon the required pressure class and dimension ratio (SDR) specified on the plans. Polyethylene plastic water pipe shall meet the requirements of the National Sanitation Foundation Seal of Approval for potable water.

No direct payment will be made for utility construction work required by the preceding provisions, which are general requirements applying to utility construction, and all of the requirements stated will be considered incidental work, paid for at the contract unit prices of the various utility items included in the contract.

1. **STEEL PILE PIERS:**

Steel pile piers shall be furnished and installed as shown on the plan, as described in the provisions herein, and in the contract and/or as directed by the Engineer.

Pier locations as shown on the plan shall be considered a guide only, with the final determination made at the time of construction by the Engineer. Pier spacing center to center will be shown on the plan, but all pier locations may be adjusted by the Engineer due to field conditions.

Piers will be placed parallel to the flow of the creek unless otherwise directed by the Engineer.

1. The work covered by this section consists of furnishing and driving piles, as indicated on the plan, the standard details, and as approved by the Engineer, in conformity with the specifications and to the bearing and penetration required.

a. Installation: General - The W 8x35 pilings shall be driven to obtain an allowable bearing capacity of 3 tons based on the Standard Specifications. Pile lengths are expected to be approximately 25 feet. Tip elevations for all bents shall not be higher than -15.0'.

b. Piles Lengths: Full length piles shall be used where practicable and not more than 2 pieces (1 splice) of steel pile will be permitted in making up one full length pile unless approved by the Engineer. Splices, where necessary and approved by the Engineer, shall be made as to maintain the true alignment and position of the pile sections. Both pieces of a spliced pile shall be the same shape (W 8x35).

Splices should develop not less than 100 percent of the bending strength of the pile and not less than 100 percent of the axial load strength of the pile. All welded splices will be of butt weld type with back-up plates welded to the flanges and web of the steel piles. All welding of structural steel in the shop or in the field shall meet the requirements of the AWS and be done by qualified welders. Certification of welders and welds will be required by the Engineer in accordance with the AWS Code.

c. Galvanized Steel Piers: Unless otherwise directed, all steel in the piers shall be galvanized as per NCDOT Standard Specifications, Section 1076.

d. Testing and Inspection: The Engineer will provide inspection and will determine bearing capacity of the driven piles. The Contractor shall submit the required hammer information as specified in the Standard Specifications to the Engineer.

e. Test piles which are not to be incorporated in the completed structure shall be removed to at least 2 feet below the surface of the ground or the stream bed, and the remaining hole backfilled with earth or other suitable material.

Pipe cradle shall be fabricated as indicated on the plan. All welds shall be in conformance with the applicable AWS Bridge Welding Code.

All steel components and hardware shall be galvanized as per NCDOT Standard Specifications, Section 1076. Straps shall be a 3" wide and ½" thick. Radius shall be ½ outside diameter of pipe, plus ½ inch.

The proposed 10" sewer pipe to be strapped as shown on pipe strap details.

Holes shall be drilled in strap, and shall be 1/8" larger than bolt diameter. Bolts shall be sized as indicated on the plan, with adequate length to fully engage the nut, and with flat washers top and bottom. All steel shall be ASTM A36 steel.

Removal of existing piers for existing sewer and water mains shall be done in accordance with Section 402 of Standard Specifications for Roads and Structures and shall be incidental to the construction of the proposed sewer line and the proposed water line. The existing piers for water and sewer pipes shall not be removed until the proposed water and sewer pipes are in service, as directed by the utility construction plans and the engineer.

Pipe cradles, straps, bolts, nuts and washers shall be considered incidental to W 8x35 steel pile piers.

Steel pile piers furnished and installed as required and accepted will be measured and paid for at the contract unit price per each for "Steel Pile Piers." Such price and payments will be compensation in full for all materials, labor, equipment and incidentals necessary to complete the work.

3. 6" BLOW OFF

Furnish and install a new blow off in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

The blow off consists of piping, fittings, valves, and concrete drop inlet box with frame and grate.

Use AWWA C-509 gate valve which open by turning counter clockwise.

All water pipe shall meet the requirements of the NC Department of Transportation's "Standard Specifications for Roads and Structures" dated July 2006.

Valve boxes shall be of the screw or slip type, with a base to fit the valve yoke and a removable plug cap with the word "WATER" cast therein. Valve boxes shall be of cast iron conforming to AASHTO M306, unless otherwise shown on the utility plans and/or as directed by the Engineer.

The concrete drop inlet box with frame and grate shall meet the requirements of section 840 of the standard specifications and as detailed on the plans.

Blow off assemblies installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "**6" Blow Off**". Such prices and payments shall be full compensation for all materials, labor, equipment, excavation, installation, sterilization, pressure testing, backfilling, and incidentals necessary to complete the work as required.

PROJECT: B-4215
COUNTY: ONSLOW

PROJECT SPECIAL PROVISIONS

UTILITIES BY OTHERS:

General:

The following utility companies have facilities that will be in conflict with the construction of this project:

A. SPRINT

The conflicting facilities of these concerns will be adjusted prior to the date of availability, unless otherwise noted and are therefore listed in these special provisions for the benefit of the Contractor. The utility owners will do all utility work listed herein. All utilities are shown on the plans from the best available information.

The Contractor's attention is directed to Article 105.8 of the Standard Specifications.

Utilities Requiring Adjustment:

A. SPRINT

The existing poles and overhead lines and underground cables and fiber optic cables will be removed and replaced with underground cables and fiber optic cable by directional bore and completed by September 1st 2007. See Utilities by Others Plans for details.