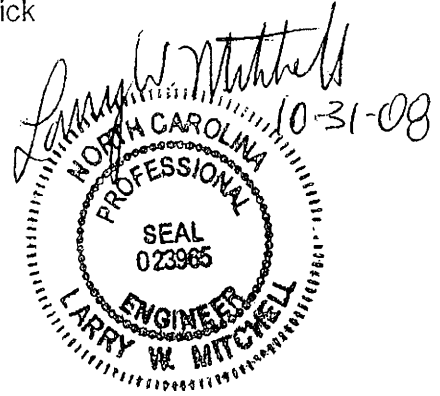


County: Brunswick
Project: U-3462

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 details as shown on the plans, as outlined in the following provisions, or as directed by the Engineer.

Force main shall be installed by trenchless method from -L- Sta. 32+21.71 to Sta. 34+16.44. The pipe material for trenchless installation inside dimension will be equivalent to 3-inches inside diameter.

Water main shall be installed by trenchless method from -L- Sta. 32+70.20 to Sta. 34+62.29. The pipe material for trenchless installation inside dimension will be equivalent to 12-inches inside diameter.

Water main installed at -L- Sta. 26+30 to Sta. 27+61 shall be no less than 3-feet deep below existing grade and must be no less than 5- feet from edge of right-of-way.

Water main shall be installed by trenchless method from -Y- Sta. 14+86.96 to Sta. 16+26.96. The pipe material for trenchless installation inside dimension will be equivalent to 8-inches inside diameter.

Water mains installed at -CONN- Sta. 23+80 to -DRIVE- Sta. 12+00 on sheet UC-7 and -CONN- Sta. 27+54 to Sta. 31+83 on UC-4 are owned by Brunswick County and shall not be SDR-21 PVC. AWWA C-900 PVC or DI are acceptable materials.

Water mains owned by Town of Shallotte shall be AWWA C900, or SDR21.

HDPE Piping shall be manufactured in accordance with ANSI/AWWA C901 for piping up to 3-inches diameter. HDPE piping 4-inch diameter and above shall be manufactured in accordance with ANSI/AWWA C906

Owner and Owner's Requirements:

The existing water and sewer utilities are owned by The Town of Shallotte and Brunswick County. The Contractor shall provide access for the owners'

representatives to all phases of construction. The owners shall be notified two weeks prior to commencement of any work and one week prior to service interruption. Only authorized personnel of the owners shall operate valves in the existing water or sewer systems.

Water Pipe Detection:

Provide plastic identification tape for all new water mains. Tape shall be three (3) inches wide, blue in color, bearing the continuous message "Caution – Water Main Buried Below". Tape shall be buried continuously directly above water main and eighteen (18) inches below finished grade. Twelve (12) gauge stranded or braided copper wire shall be used to mark all PVC and PE pipe. The wire shall be affixed to the pipe and tied off on valves and fire hydrant legs. Tracer wire shall be used on each individual service. Water main pipe shall be blue if PVC and black with a blue stripe if HDPE. Payment of water main detection will be incidental to water main installation.

Force Main Detection:

All PVC pipe installed shall be provided with detection tape and #12 gauge stranded green coated wire. The detection tape shall be buried in the trench approximately 1-1/2 feet below the ground surface directly above the centerline of the pipe. The detection tape shall be 6 inches wide; shall be an inert, bonded layer plastic with a metallized foil core; and shall be highly resistant to alkalis, acids, or other destructive chemical components likely to be encountered in soils. Twelve (12) gauge stranded or braided copper wire shall be used to mark all PVC and PE pipe. The wire shall be affixed to the pipe and tied off on valves. Tracer wire shall be used on each individual service. Force main pipe shall be green if PVC and black with a green stripe if HDPE. Payment of force main detection will be incidental to force main installation.

Reconnect Sewer Force Main Service

All pressure sewer service connections installed as identified in the construction plans shall be connected to the force mains with equal diameter or 1 ¼" SDR 9 PE or as indicated on the plans.

Testing of Polyethylene (PE) pipe:

The testing procedure consists of initial expansion and test phase. During the initial expansion phase, the test section is pressurized to the test pressure and enough make-up liquid is added each hour for three (3) hours to return to test pressure. The test phase follows immediately and may be one (1), two (2) or three (3) hours. At the end of the test time, the test section is returned to test pressure by adding a

measured amount of liquid. If the amount of make-up liquid added does not exceed the value below, leakage is not indicated.

Nominal PE Size (inches)	Make-Up Water Allowance (US Gallons/100 ft-pipe)		
	1-hour test	2-hour test	3-hour test
1 ¼	0.06	0.10	0.16
1 ½	0.07	0.10	0.17
2	0.07	0.11	0.19
3	0.10	0.15	0.25
4	0.13	0.25	0.40
5	0.19	0.38	0.58
5 3/8	0.21	0.41	0.62
6	0.3	0.6	0.9
7 1/8	0.4	0.7	1.0
8	0.5	1.0	1.5
10	0.8	1.3	2.1
12	1.1	2.3	3.4
13 3/8	1.2	2.5	3.7
14	1.4	2.8	4.2
16	1.7	3.3	5.0

II. COMPENSATION:

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 related incidental work unless as otherwise indicated below.

Reconnect Sewer Force Main Service 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 "Reconnect Sewer Force Main Service". Such prices and payments shall be full compensation for all materials, including all piping and the necessary pipe fittings, reducers and adapters, labor, equipment, excavation, installation, pressure testing, backfilling, and incidentals necessary to complete the work as required.

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) Atlantic Telephone Membership Corporation – Communications**
- B) Brunswick Electric Membership Corporation – Power**

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. All utility work listed herein will be done by the utility owner or his Contractor. 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) Atlantic Telephone Membership Corporation (TMC) – Communications

- See Utilities by Others Plans for Details.
- Contact Mr. Brent Brinson @ 910-755-1702

B) Brunswick Electric Membership Corporation - Power

- See Utilities by Others Plans for Details. All work to be started by February 1, 2009 and to be completed by March 31, 2009.
- Contact Mr. Josh Winslow @ 910-754-4391