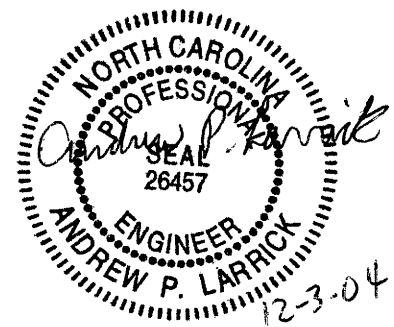


PROJECT SPECIAL PROVISIONS  
Utility Construction



I. GENERAL CONSTRUCTION REQUIREMENTS

Specifications:

The proposed utility construction shall meet the applicable requirements of the North Carolina Department of Transportation's "Standard Specifications for Roads and Structures" dated January 2002, and the following provisions.

The Contractor is herein forewarned as to the possibility of having to vary the depth of pipeline installation to achieve minimum clearance of existing or proposed utilities or storm drainage while maintaining minimum cover specified (whether existing or proposed pipelines, conduits, cables, mains, and storm drainage are shown on the plans or not).

"Gate Valves" as noted on the plans shall be resilient-seat type valves conforming to ANSI/AWWA C509.

Water mains shall be laid at least 10 feet laterally from existing or proposed sanitary sewers. Minimum separation between proposed water mains and existing or proposed storm sewers shall be 12 inches.

The Contractor shall locate all existing water services and relocate, connect, or reconnect as directed by the Engineer. New water services shall be installed as indicated on the plans and/or as directed by the Engineer.

Payment for the cutting and plugging of existing water and sewer lines to be abandoned shall be considered incidental to other pay items in the contract.

Owner and Owner's Requirements:

The existing utilities belong to the Winston-Salem/Forsyth County Utility Commission. The contractor shall provide access for the owner's 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. Contact Winston-Salem/Forsyth Utilities Construction Maintenance at (336) 650-7650.

After the installed pipe, fittings, valves, hydrants, corporation stops, and end plugs are inserted and secured, the pipeline shall be subjected to a hydrostatic pressure of 200 PSI for 2 hours by pumping the section full of clean water using an approved pressure pump. Cross connection for flushing and chlorination shall be made by means of a temporary connection from the supply pipe with an approved backflow prevention device. Taps for the cross connection piping shall be made to the portion of the existing water main that will be removed from service. The proposed water main shall be laid to within one pipe length of the point of final connection prior to flushing and testing. All flushing and chlorination work shall be performed in accordance with AWWA C651-99. All fittings, valves, and backflow prevention devices required for chlorination and testing shall be incidental to the cost of the proposed pipe being tested.

Any cracked, damaged, or defective pipe, fittings, valves, hydrants, or other attachments discovered as a result of the pressure test, shall be removed and replaced with sound material. The tests shall be repeated until test results are satisfactory.

After the pressure test is complete, the Contractor shall make a leakage test. Such leakage test shall last at least 2 hours at a pressure of 200 PSI.

The pressure test and leakage test may be performed concurrently.

All valves on the lines being sterilized shall be opened and closed several times during the chlorination period. The pipeline shall then be flushed with clean water until the residual chlorine is reduced to 1.0 ppm or at the same level as in the existing water mains. Samples of water shall be taken at representative points along the pipeline by the Contractor in approved containers and submitted to a certified testing laboratory for bacterial and chlorine content. Test results shall be provided to the Winston-Salem/Forsyth County Utility Commission.

The Winston-Salem/Forsyth County Utility Commission will identify existing fire hydrants in poor condition and will provide new fire hydrants to the contractor to be installed in the proposed locations as shown on the plans. The existing fire hydrants which are removed shall be disposed of by the contractor. This shall be considered incidental to the pay item "Relocate Existing Fire Hydrant".

The owners shall be notified in advance of any interruption of water service with ample time to make arrangements. Interruption of water service on main lines shall be limited to a maximum of four (4) hours or as approved by the Engineer.

#### Utility Locations Shown on the Plans:

The location, size, and type of material of the existing utilities shown on the plans are from the best available information. The Contractor will be responsible for determining the exact location, size, and type of material of the existing facilities necessary for the construction of the proposed utilities and to avoid damage to existing utilities.

## 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 incidental work, paid for at the contract unit prices of the various utility items included in the contract.

### 1. BEDDING MATERIAL

Bedding material for utility lines shall be installed in accordance with the applicable utility provisions herein, as shown on the utility construction plans, and/or as directed by the Engineer.

Bedding material shall meet the requirements of Article 1016-3 of the Standard Specifications. Bedding material shall be installed in accordance with Articles 300-6 and 300-7 of the Standard Specifications and the detail sheets which are part of the Utility Construction Plans.

Bedding material installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per ton for "Bedding Material, Utilities Class \_\_\_\_". Such prices and payments shall be full compensation for all materials, labor, equipment, compaction and shaping the bedding material in accordance with Article 300-4 of the Standard Specifications, and incidentals necessary to complete the work as required.

### 2. DUCTILE IRON SEWER PIPE

Ductile iron sewer pipe shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, or as directed by the Engineer.

Ductile iron sewer pipe shall meet the requirements of ANSI A21.51/AWWA C151. Nominal pipe laying length shall be from eighteen to twenty feet (depending on manufacturer). Joints shall be mechanical joint or rubber ring gasket slip joint, each conforming to ANSI A21.11/AWWA C-111. The pipe and fittings shall have an asphaltic exterior coating as specified in AWWA C151. Interior of the pipe shall be coated with ceramic epoxy to produce a minimum dry film thickness of 40 mils.

Calcium aluminate mortar lining of the ductile iron sewer pipe is not acceptable on this project.

All ductile iron sewer pipe shall be installed in accordance with laying condition Type 2 as stated in ANSI A21.51/AWWA C151, unless otherwise shown on the plans.

Ductile iron sewer pipe shall be furnished and installed as required, and accepted will be measured and paid for at the contract unit price per linear foot for "\_\_\_\_" DI Sewer Pipe, Class \_\_\_\_". Such price and payments will be compensation in full for all materials, labor, equipment and incidentals necessary to complete the work.

### 3. RE-BED EXISTING SEWER LINE

Bedding material required for re-bedding existing sewer lines shall be installed in accordance with the applicable utility provisions herein, as shown on the utility construction plans, and/or as directed by the Engineer.

Bedding material shall meet the requirements of Article 1016-3 of the Standard Specifications. Bedding material shall be installed in accordance with Articles 300-6 and 300-7 of the Standard Specifications and the detail sheets which are part of the Utility Construction Plans.

Bedding material installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per ton for "Re-Bed Existing Sewer Line". Such prices and payments shall be full compensation for all materials, labor, equipment, compaction and shaping the bedding material in accordance with Article 300-4 of the Standard Specifications, and incidentals necessary to complete the work as required.

PROJECT SPECIAL PROVISIONS  
Utility

UTILITIES BY OTHERS

General:

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

- A) Duke Energy (Distribution)
- B) Bell South - Telephone
- C) Time Warner – CATV
- D) Piedmont Natural Gas

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. 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) Duke Energy (Distribution)
  - 1) See Utilities by Others Plans.

NOTE: Duke Energy will complete relocations of their existing power distribution facilities to the new locations as shown on the utilities by others plans from station 31+85 -L- to station 56+45 -L-, the end of the project by the date of availability.

Duke Energy will relocate their existing power distribution facilities to temporary locations from station 13+20 -L- to 31+85 -L- as shown on the utilities by others plans by July 30, 2005. After completion of the project the temporary power distribution facilities will be relocated to their permanent location.

B) Bell South - Telephone

- 1) See Utilities by Others Plans.

NOTE: Bell South will relocate aerial telephone lines in joint use with proposed power and CATV from station 31+85 -L- to station 56+45 -L-, the contractor shall give Bell South one month to install their new telephone facilities after Duke Energy has completed the relocations of their power pole lines in this area.

Bell South will install buried fiber optic cable from station 10+00 -L-, the beginning of the project to station 31+85 -L-. This work shall be completed by the date of availability.

C) Time Warner – CATV

- 1) See Utilities by Others Plans.

NOTE: Time Warner will relocate aerial CATV lines in joint use with proposed power and telephone throughout the project.

Time Warner will complete all of the relocation work on the project described above two weeks after Bell South has completed their aerial relocations.

D) Piedmont Natural Gas

- 1) See Utilities by Others Plans.

NOTE: The existing Gas line throughout the project will be adjusted as necessary as shown on the utilities by others plans.

NOTE: All other utilities will remain in place and will be adjusted as necessary.