



PROJECT SPECIAL PROVISIONS
Utility Construction

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 January 2002, and the following provisions.

Lay water mains at least 10ft laterally from existing or proposed sanitary sewers.

The depth of pipeline installation may vary 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).

After the installed pipe, fittings, valves, hydrants, corporation stops and end plugs are inserted and secured, the pipe line shall be subjected to a hydrostatic pressure test of 200 psi for a period of 3 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.

Contractor shall make such arrangements, as the utility owner requires, for measuring and paying for water required to flush and test water mains.

The City of Durham's chemist shall do all bacteriological testing for new water lines. The contractor shall not activate new water mains until the City of Durham approves the bacteriological testing.

The contractor shall replace the existing fire hydrants that are relocated with a new fire hydrant supplied by City of Durham. The contractor shall stockpile the existing fire hydrant within the limits of the project and contact the City of Durham to have the fire hydrant removed.

The Contractor shall be required to install the proposed 16" water line crossing Line -L- at Station 56+40 in two phases. See plans for phasing. The final connection between the 16" water line on the right and left side of Line -L- at Station 56+40 shall be done at night to limit traffic congestion.

Owner and Owner's Requirements:

The existing utilities belong to The City of Durham. 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. The contractor shall provide the City of Durham with as built drawings for the proposed water mains installed.

The contractor shall provide a set of as built plans to the City of Durham after all the work shown on the Utility Construction Plans is completed.

Utility Locations Shown on the Plans:

The location, size, and type 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 material of the existing facilities.

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 that 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 IV". 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. RELOCATE EXISTING WATER METER ASSEMBLY WITH NEW VAULT:

The existing water meters with new vaults that are to be relocated shall be installed at the locations shown on the utility plans, and/or as directed by the Engineer.

The relocation of water meters shall consist of the removal and installation of the existing water meter, valves, and bypass at the appropriate location with a new vault. Any pipe or fittings necessary to complete the work will be considered incidental.

All work shall be in accordance with the applicable plumbing codes, as shown on the plans, and as directed by the Engineer.

The vault shall be precast concrete (36" x 48") and shall meet the requirements of Section 1077 of the Standard Specifications. The vault shall be HS-20 traffic bearing. Plans shall be submitted as required by Section 1077 with all calculations and drawings sign by a registered North Carolina Professional Engineer. If the contractor select a precast vault from NCDOT's approved list for precast reinforced concrete utility vaults, a North Carolina Professional Engineer's seal is not required. The access door and frame shall be aluminum with a neoprene gasket. The door leaf shall be diamond plate, HS-20 load rated, open to 90° and lock automatically in this position, and the door shall be equipped with recessed locking capability.

After the existing water meter assemblies are relocated to new vaults, the existing vaults to be abandoned shall be removed and disposed of properly.

The water meter assembly with new vault, installed in accordance with plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "Relocate Ext 2" Water Meter Assembly with New Vault". Such prices and payments will be full compensation for all materials, relocation of existing water meter, new vault, equipment, excavation, pressure testing, labor, installation, backfilling, and incidentals necessary to complete the work as required.

3. RELOCATE EXISTING BACKFLOW ASSEMBLY:

The existing backflow assembly to be relocated shall be installed at the locations shown on the utility plans, and/or as directed by the Engineer.

The relocation of backflow assembly shall consist of the removal and installation of the existing backflow device and valves at the appropriate location with the existing enclosure service box. Any pipe or fittings necessary to complete the work will be considered incidental.

Backflow assembly shall be tested by an individual certified in accordance with the City of Durham Cross Connection Control Section. The tester shall obtain and complete a "Cross Connection Control Device Permit" from the City of Durham Cross Connection Control Section.

All work shall be in accordance with the applicable plumbing codes, as shown on

the plans, and as directed by the Engineer.

The existing relocated service box enclosure shall be placed on a concrete pad 4" thick and 6" larger than the perimeter of the enclosure. The concrete pad shall be Class B in accordance to section 1000 of the Standard Specifications for Roads and Structures.

The backflow assembly, installed in accordance with plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "Relocate Ext 2" Backflow Assembly". Such prices and payments will be full compensation for all materials, relocation of existing backflow assembly, equipment, excavation, pressure testing, labor, installation, backfilling, and incidentals necessary to complete the work as required.

4. RELOCATE EXISTING BACKFLOW ASSEMBLY WITH NEW VAULT:

The existing backflow assembly with new vault that are to be relocated shall be installed at the locations shown on the utility plans, and/or as directed by the Engineer.

The relocation of backflow assembly shall consist of the removal and installation of the existing backflow device and valves at the appropriate location with a new vault. Any pipe or fittings necessary to complete the work will be considered incidental.

Backflow assembly shall be tested by an individual certified in accordance with the City of Durham Cross Connection Control Section. The tester shall obtain and complete a "Cross Connection Control Device Permit" from the City of Durham Cross Connection Control Section.

All work shall be in accordance with the applicable plumbing codes, as shown on the plans, and as directed by the Engineer.

The vault shall be precast concrete (36" x 48") and shall meet the requirements of Section 1077 of the Standard Specifications. The vault shall be HS-20 traffic bearing. Plans shall be submitted as required by Section 1077 with all calculations and drawings sign by a registered North Carolina Professional Engineer. If the contractor select a precast vault from NCDOT's approved list for precast reinforced concrete utility vaults, a North Carolina Professional Engineer's seal is not required. The access door and frame shall be aluminum with a neoprene gasket. The door leaf shall be diamond plate, HS-20 load rated, open to 90° and lock automatically in this position, and the door shall be equipped with recessed locking capability.

Vault shall be placed with the top flush with the finish grade of the project.

After the existing backflow assembly is relocated to the new vault, the existing backflow vault to be abandoned shall be removed and disposed of properly.

The backflow assembly with new vault, installed in accordance with plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "Relocate Ext 2" Backflow Assembly with New Vault". Such prices and payments will be full compensation for all materials, relocation of existing backflow assembly, new vault, equipment, excavation, pressure testing, labor, installation, backfilling, and incidentals necessary to complete the work as required.

5. GATE VALVE AND VALVE MANHOLE:

Gate valves and manholes shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

Gate valves shall be resilient seat types conforming to ANSI/AWWA C509. Gate valves shall have non-rising stems with a 2" square operating nut and O-ring seals, and shall open by turning counterclockwise. Gate valves shall have mechanical joint ends conforming to ANSI/AWWA C111/A21.11 unless otherwise shown on the plans or directed by the Engineer. Gate valves shall have a design working water pressure of 200 #WP.

Water valve doghouse type manholes shall be 5' diameter precast concrete, shall conform to ASTM C478 and shall be as shown on the plans.

Joints between precast manhole sections shall be O-ring rubber gaskets conforming to ASTM C-443 or butyl rubber gaskets conforming to AASHTO M198.

Manhole frames and covers shall be of cast iron conforming to ASTM A48 Class 30, shall be traffic bearing, and shall have machined contact surfaces. Manhole frames and covers shall be as shown on plans or an approved equal.

The quantity of gate valves and valve manholes, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each "16" Gate Valve 200#WP & 5' Dia. Manhole". Such prices and payments will be full compensation for all materials, excavation, labor, installation, sterilization, pressure testing, valve manhole, backfilling, and incidentals necessary to complete the work as required.

PROJECT: R-2904
 COUNTY: DURHAM

PROJECT SPECIAL PROVISIONS

Utility

UTILITY CONFLICTS:

General:

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

- A. DUKE POWER COMPANY
- B. VERIZON TELECOMUNICATION COMPANY
- C. TIME WARNER CABLE
- D. PSNC ENERGY GAS COMPANY
- E. BTI/ITC TELECOMUNICATION COMPANY
- F. TCG/AT&T TELEPHONE COMPANY

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. DUKE POWER COMPANY
 These facilities will be relocated and finished by date of availability.
- B. VERIZON TELECOMUNICATION COMPANY
 These facilities will be relocated and finished by March 31, 2005.
 See Utility Conflict Plan for details.
- C. TIME WARNER CABLE
 Time Warner Cable will relocate and finished by date of availability.
 Owner need 1 weeks notice and 2 weeks to complete from station
 49+00 to station 51+00.
 See Utility Conflict Plan for details.
- D. PSNC ENERGY GAS COMPANY
 Some part of existing facilities will remain in place and be adjusted as
 necessary with one-week notice and one week to complete at each

relocation. After rough grading is completed from Station 46+00 to end of project (Rail Road crossing) The Owner will need 2 weeks notice and will need 40 calendar days to complete the work. See Utility Conflict Plan for details.

- E. BTI/ITC TELECOMUNICATION COMPANY
BTI/ITC Company will relocate and finished by date of availability.
See Utility Conflict Plan for details.

- F. TCG/AT&T TELEPHONE COMPANY
TCG/ AT&T Company will relocate and finished by date of availability.
See Utility Conflict Plan for details.