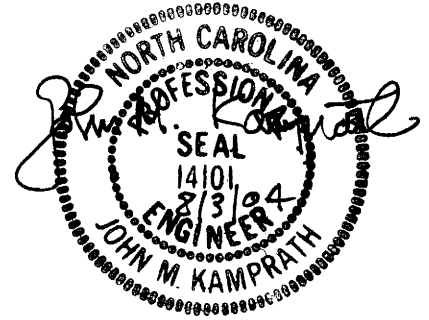


PROJECT SPECIAL PROVISIONS
Utility Construction



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

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).

On new water mains and tie in sections of existing water mains, the method of anchoring pipe bends, valves, and related appurtenances will be the responsibility of the Contractor. Tying in to existing water mains may alter such lines to the extent that these pipelines with existing pipe bends, valves and related appurtenances may also require reaction backing; this work shall also be the responsibility of the Contractor.

The Contractor shall submit his proposed method of anchoring to the Engineer for review and approval prior to any applicable water main construction. Such approval will not relieve the Contractor of his responsibility of properly anchoring water mains.

Pipe joint deflections shall not exceed 75% of the manufacturer's recommended maximum deflection.

Owner and Owner's Requirements:

The existing water mains are owned by Robeson County. The Contractor shall provide access for the owner's representatives to all phases of construction. The owner shall be notified two weeks prior to commencement of any work and one week prior to service interruption.

Utility Locations Shown on the Plans:

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

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.

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 metric 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. 20MM PE WATER TUBING, SDR 7, 1.38 MPA WP

All meters installed to serve customers of Robeson County Public Works identified in the construction plans shall be connected to the water mains with standard polyethylene water tubing manufactured from high-density molecular polyethylene resin designated PE 3408. Tubing shall be manufactured according to ASTM D2737 with outside diameter equal to copper tubing (CTS). Tubing shall have a wall thickness as computed by SDR 7. Pressure rating shall be 1.38 MPa minimum. A 14-gauge stranded copper tracer wire with blue insulation shall be taped securely to all polyethylene water service tubing.

The quantity of PE water tubing to be installed as provided above will be paid for at the contract unit price per meter for "20 MM PE Water Tubing, SDR 7, 1.38 MPA WP." Such prices and payments shall be full compensation for all materials, including but not limited to, tubing and copper tracer wire, labor, equipment, compaction and incidentals necessary to complete the work as required.

3. 50MM BLOW OFF ASSEMBLY

Install blow off assemblies in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

Blow off assemblies shall include mechanical joint plug with 50mm tap, 50mm gate valve, 50mm piping, valve boxes, concrete blocking, concrete pads for valve boxes, and the necessary pipe fittings and adapters.

Gate valves shall be of all bronze construction with iron pipe thread, screw ends, wedge gates and non-rising stem. Gate valve shall open by turning to the right or clockwise using a tee head operating nut and shall be in accordance with the most recent edition of AWWA C-500 and such ASTM designations as apply with reference to chemical requirements as set forth in Table I of ASTM B-62. The working pressure of all valves shall be 1.38 MPa.

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 cast iron conforming to ASTM A48, Class 30, unless otherwise shown on the utility plans and/or as directed by the Engineer.

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 "50MM Blow Off Assembly". Such prices and payments shall be full compensation for all materials, including mechanical joint plug with tap, gate valve, piping, valve boxes, concrete blocking, concrete pads for valve boxes, and the necessary pipe fittings and adapters, labor, equipment, excavation, installation, sterilization, pressure testing, valve box installation with the necessary extension pieces, backfilling, and incidentals necessary to complete the work as required.

4. REMOVE EXISTING WATER METER

The existing water meters to be removed at the connection to the existing service piping and stockpiled in an area accessible by truck or as directed by the Engineer.

After the water meters are removed and stockpiled, the Contractor shall contact the owner and arrange for county maintenance forces to receive and remove the water meters from the jobsite.

The quantity of water meters removed, stockpiled, and accepted, will be measured and paid for at the contract unit price per each for "Remove Existing Water Meter". Such price and payment will be full compensation for all labor, excavation, removal, stockpiling, and incidentals necessary to complete the work as required.

5. STEEL ENCASEMENT PIPE

Steel encasement pipe shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer. Steel encasement pipe may be of the following types: - spiral welded steel pipe in accordance with ASTM A211; circular black or galvanized steel pipe in accordance with ASTM A53 or A589; high strength smooth wall steel casing in accordance with API-5L, Grade B, or

other grades; or other steel pipe of acceptable quality and meeting the approval of the Engineer.

Steel encasement pipe shall be installed with leak proof joints. The joints shall be butt-welded by a certified welder using approved techniques and materials.

The carrier pipe shall be installed inside the encasement pipe by use of skids or spiders appropriately spaced to support the carrier pipe from deflection. Skids or spiders shall be sized to raise the carrier pipe bells above the encasement pipe and to restrict excessive radial movement. Skids or spiders shall be securely attached to the carrier pipe and shall be approved by the Engineer.

After the carrier pipe is installed and tested, the ends of the encasement pipe shall be plugged or capped with concrete, brick or other approved materials. The plug or cap shall have a one-inch diameter weep hole at the bottom to facilitate drainage of the encasement pipe.

Steel encasement pipe, installed in accordance with the plans and provisions herein and accepted, will be measured along the pipe from end to end and paid for at the contract unit price per meter for "_____mm Steel Encasement Pipe, _____mm Thick, By Boring & Jacking" or "_____mm Steel Encasement Pipe, _____mm Thick, By Open Cut". Such prices and payments will be full compensation for all materials, excavation, equipment, labor, installation, grouting, backfilling, and incidentals necessary to complete the work as required.

6. 250MM HDPE WATER PIPE, DR 9, 1.38MPA WP

250mm High Density Polyethylene (HDPE) Water Pipe shall be installed by directional boring in the location shown on the plans. Install water pipe in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

HDPE Water Pipe to be 250mm, DR 9, 1.38 MPa, manufactured in accordance with ANSI/AWWA C906-90. HDPE Pipe materials shall be either PE 2406, PE 3406 or PE 3408 depending upon the required pressure class and dimension ratio (SDR) specified on the plans.

Drilling fluid to be bentonite slurry. Use admixtures suitable to the site conditions.

HDPE water pipe is to be fused and tested prior to placement. Join pipe segments by cutting the ends square, heating and fusing under sufficient pressure to create a single length of pipe sufficient to complete installation in one continuous pulling operation. The pipe manufacturers listing of fusion parameters validated by appropriate testing and the parameters of the contractor's fusion system shall be submitted to the Resident Engineer prior to fusing of segments of HDPE water pipe into the pipe string. Furnish connector assemblies to connect to PVC water pipe and fuse onto each end of the HDPE water pipe.

HDPE water pipe string shall be tested to a hydrostatic pressure of 1.38 MPa in accordance with testing procedure outlined in section 1510 of the standard specifications prior to being placed.

HDPE water pipe is to be installed by boring or drilling a small pilot hole along a parabolic arc beneath the installation location. Enlarge the pilot hole by use of a reamer or reamers to the desired diameter. When the bored hole is of the diameter recommended by the pipe manufacturer for the 250mm HDPE water pipe, the contractor will pull the pipe string through the hole by the drill string. Cap the pipe string during the pulling operation. Pulling operation to incorporate a swivel connection to minimize torsional stress imposed upon the pipe string. Fully support the pipe string before and during pull back so that the pipe string will move freely without damage.

Locator Wire: A 14 gauge stranded copper tracer wire with blue insulation shall be taped securely to the 250mm HDPE water main pipe.

Contractor may elect to conduct reaming and pulling of the pipe string as one operation at the discretion of the engineer.

Drilling fluid to be re-circulated through use of a solids control system to remove spoil from drilling fluid surface returns. After cleaning, return the drilling fluid surface returns to the active system.

HDPE Water Pipe, installed in accordance with the plans and provisions herein and accepted, will be measured along the pipe from end to end, with no deductions for fittings or couplings, and paid for at the contract unit price per meter for "250MM HDPE Water Pipe, DR 9, 1.38MPA WP by Directional Bore". Such prices and payments will be full compensation for furnishing all labor, equipment, material, couplings, mechanical joint adapters and fittings, connector assemblies, reducers, excavation, installation, locator wires, testing, backfilling, 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. PROGRESS ENERGY (DISTRIBUTION)
- B. PROGRESS ENERGY (TRANSMISSION)
- C. LUMBEE RIVER EMC
- D. BELLSOUTH
- E. MCI WORLDCOM
- F. CAROLINA CABLE PARTNERS

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 OWNERS. 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.

- A. PROGRESS ENERGY (DISTRIBUTION)
 - 1. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.
- B. PROGRESS ENERGY (TRANSMISSION)
 - 1. PROGRESS ENERGY WILL RELOCATE THEIR TRANSMISSION LINE AFTER LUMBEE RIVER EMC RELOCATES THEIR FACILITIES. THEY WILL REQUIRE TWO WEEKS NOTICE AND 4 WEEKS CONSTRUCTION.
 - 2. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.
- C. LUMBEE RIVER EMC
 - 1. LUMBEE RIVER WILL COMPLETE THEIR RELOCATIONS BY FEBRUARY 1, 2005.
 - 2. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.

D. BELLSOUTH

1. BELLSOUTH WILL RELOCATE THEIR BURIED TELEPHONE CABLE AND CONDUIT LEFT OF LINE -Y1- AFTER CLEARING AND GRUBBING. THEY WILL REQUIRE TWO WEEKS NOTICE AND THREE WEEKS TO COMPLETE THEIR RELOCATION.
2. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.

E. MCI WORLDCOM

1. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.

E. CAROLINA CABLE PARTNERS

1. CAROLINA CABLE PARTNERS WILL RELOCATE THEIR FACILITIES ON -Y1- (NC 710) AFTER LUMBEE RIVER EMC HAS RELOCATED THEIR FACILITIES. THEY WILL REQUIRE TWO WEEKS NOTICE AND ONE WEEK TO COMPLETE THEIR RELOCATION
2. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.

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. PROGRESS ENERGY (DISTRIBUTION)
- B. PROGRESS ENERGY (TRANSMISSION)
- C. LUMBEE RIVER EMC
- D. SPRINT
- E. BELLSOUTH
- F. CAROLINA CABLE PARTNERS

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 OWNERS. 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.

- A. PROGRESS ENERGY (DISTRIBUTION)
 - 1. PROGRESS ENERGY WILL COMPLETE THEIR RELOCATIONS PRIOR TO MARCH 1, 2005.
 - 2. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.
- B. PROGRESS ENERGY (TRANSMISSION)
 - 1. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.
- C. LUMBEE RIVER EMC
 - 1. LUMBEE RIVER EMC WILL COMPLETE THEIR RELOCATIONS BY FEBRUARY 1, 2005.
 - 2. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.
- D. SPRINT
 - 1. SPRINT WILL COMPLETE THEIR RELOCATIONS ON -SR1- AFTER CLEARING AND GRUBBING. THEY WILL REQUIRE TWO WEEKS

NOTICE AND THREE WEEKS CONSTRUCTION TO COMPLETE THEIR RELOCATION.

2. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.

E. BELLSOUTH

1. BELLSOUTH WILL RELOCATE THEIR FACILITIES AFTER CLEARING AND GRUBBING. THEY WILL REQUIRE 2 WEEKS NOTICE AND 4 WEEKS TO COMPLETE THEIR CONSTRUCTION.
2. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.

F. CAROLINA CABLE PARTNERS

1. CAROLINA CABLE PARTNERS WILL RELOCATE THEIR FACILITIES TO PROGRESS ENERGY POWER POLES AFTER POLES HAVE BEEN RELOCATED.
2. CAROLINA CABLE PARTNERS WILL ADJUST THEIR CABLE LOCATED AT RIGHT OF -Y2- STATION 17+30 FOR DRAINAGE CONSTRUCTION AND WILL REQUIRE ONE WEEKS NOTICE AND ONE WEEK TO COMPLETE THEIR RELOCATION.
3. CAROLINA CABLE PARTNERS WILL ADJUST THEIR CABLE LOCATED RIGHT OF -Y2- STATION 18+80 AFTER CLEARING AND GRUBBING AND WILL REQUIRE TWO WEEKS NOTICE AND ONE WEEK TO COMPLETE THEIR RELOCATION.
4. SEE UTILITIES BY OTHERS PLANS FOR DETAILS.