



PROJECT SPECIAL PROVISIONS
Utility Construction

GENERAL CONSTRUCTION REQUIREMENTS:

Specifications:

The proposed utility construction shall meet the applicable requirements of the NC Department of Transportation "Standard Specifications for Roads and Structures" dated January 2002 and the provisions outlined below.

Owner and Owner's Requirements:

The existing water and all sanitary sewer belong to the Public Works Commission of Fayetteville (PWC). The contact person for PWC is Mr. Joseph Glass, PE. Mr. Glass can be reached by telephone at (910) 223-4740. 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. Interruption of water service or force main sewer service on main lines shall be limited to a maximum of 4 hours unless approved by the Engineer. All water meters and meter boxes will be provided by PWC.

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 1.38 MPa for a period of 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. Cross connection and blowoff piping shall be 50mm in diameter for mains 200mm in diameter and smaller, and 100mm in diameter for mains greater than 200mm but less than 400mm in diameter. 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, 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 1.38 MPa.

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 chlorinating period. The pipeline shall then be flushed with clean water until the residual chlorine is reduced to less than 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 Public Works Commission of the City of Fayetteville (PWC).

All fittings on ductile iron water pipe shall be restrained by using restrained retainer glands. Restrained retainer glands will not be allowed on PVC water pipe. The Contractor shall restrain PVC pipelines by using concrete thrust blocking. Catalog cut sheets for the restrained retainer glands the Contractor proposes to use shall be provided for the Engineer's review. No additional payment will be made for restrained retainer glands. The cost of the restrained retainer glands shall be incidental to installation of water pipe.

Fittings for PVC pipe less than 75mm in diameter (3") shall be considered incidental to the cost of the PVC pipe. Measurement and payment for PVC pipe is covered in Section 1510 of the Standard Specifications.

Utility Locations Shown on the Plans:

The locations, sizes, 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 necessary for the construction of the proposed utilities and to avoid damage to existing facilities.

The existing manhole located left (south) of Drive 1 at approximate Station 10+80 is shown on the Utility Construction plan sheets as "Breakdown & Rebuild Existing Manhole". The upper cone section of the manhole shall be rotated to avoid conflict with the proposed guardrail and provide maintenance access.

Dewatering will not be measured and paid for as a separate bid item. All costs involved in dewatering shall be included in the applicable bid item for the various forms of work, i.e. pipe, structures, etc.

Sterilization will not be measured and paid for as a separate bid item. All costs including chlorinating equipment, materials, excavation, barricades, backfilling, and any taps and corporations and re-sterilization shall be included in the applicable bid price for piping and other forms of work.

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. 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 six meters. 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 joints shall be coated with ceramic epoxy to produce a minimum dry film thickness of 40 mils. Calcium aluminate mortar lining of the ductile iron pipe shall also be acceptable.

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 meter for "____ mm 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. POLYETHYLENE PLASTIC WATER TUBING:

Polyethylene plastic water tubing shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

PE water tubing shall conform to ASTM D2737 or AWWA C901. PE tubing materials shall be PE 2406, PE 3406 or PE 3408 depending upon the required pressure class and dimension ratio (SDR) specified on the utility plans. Polyethylene plastic water tubing shall meet the requirements of the National Sanitation Seal of Approval for potable water.

The ends of the plastic water tubing shall be connected using approved compression type couplings and/or compression type fittings. The Engineer shall approve all couplings and fittings.

Polyethylene plastic water tubing, 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 linear meter for "_____mm PE Water Tubing, SDR ____, _____MPa WP". Such prices and payments will be full compensation for furnishing all labor, equipment, materials, compression couplings and fittings, excavation, chlorinating, testing, 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 PWC and arrange for PWC maintenance forces to receive and remove the water meters from the jobsite.

The quantity of existing 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. RELOCATE EXISTING 50MM WATER METER:

All existing 50mm water meters that are to be permanently relocated shall be relocated as shown on the utility construction plans or as directed by the Engineer.

Relocation of existing 50mm water meters shall consist of removing the existing water meter and associated piping, to include the existing vault or meter box/vault, and reinstalling the water meter at the new location shown on the Utility Construction Plans. The relocated 50mm water meter shall be installed in a new precast concrete box/vault, and connected to new piping from the water main. The new piping shall include necessary fittings, corporation stop (if required), and associated service piping (PVC or copper), all of which will be paid for elsewhere in the contract. The new box/vault shall be rated for HS-20 loading and will be approved by the Engineer.

The quantity of 50mm water meters relocated and accepted will be measured and paid for at the contract unit price each for "Relocate Existing 50MM Water Meter". Such price and payment will be full compensation for all labor and materials, new box/vault, excavation, removal and relocation of the assembly, removal and disposal of the existing box/vault, backfilling, and incidentals necessary to complete the work as required.

6. RELOCATE EXISTING WATER METER AND BACKFLOW PREVENTER:

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

Relocation of water meters and backflow preventers shall consist of the removal and installation at the appropriate location of the water meter, coppersetter (if applicable), backflow preventer, and/or meter valves (if applicable), and boxes. All water meters 25mm and smaller that are to be relocated shall be provided with angle meter valves in accordance with the detail shown on the applicable utility construction plan sheets. Water meters 50mm and larger will require relocation of the existing coppersetter, which has an existing angle ball valve as shown on the utility construction plan sheets. Any fittings necessary to reconnect the relocated meter to the water line will be considered incidental. Any pipe necessary to complete the relocation will be paid for as provided elsewhere in these provisions and/or in the Standard Specification.

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

All boxes shall be placed with the top of the box flush with finish grade of the project, as shown on the plans and/or as directed by the Engineer.

The quantity of existing water meters relocated and accepted will be measured and paid for at the contract unit price each for "Relocate Existing Water Meter with Backflow Preventer". Such price and payment will be full compensation for all materials, labor, removing, installing and reconnecting the existing meter with backflow preventer and box, excavation, backfilling, and incidentals necessary to complete the work as required excavation

END OF SECTION

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 - Power (Distribution)
- B) Progress Energy - Power (Transmission)
- C) Fayetteville Public Works Commission – Power (Distribution)
- D) Time Warner- CATV
- E) Sprint
- F) A T & T
- G) NC Natural Gas Corporation – 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) Progress Energy - Power (Distribution)
 - 1) Progress Energy - Power (Distribution) will complete their relocation by January 31, 2005.
 - 2) See Utilities by Others Plans.
- B) Progress Energy - Power (Transmission)
 - 1) Progress Energy - Power (Transmission) will complete their relocation by January 31, 2005.
 - 2) See Utilities by Others Plans.

C) Fayetteville Public Works Commission Power (Distribution)

- 1) Fayetteville PWC will relocate their buried power line after rough grading is completed. Upon completion of rough grading the Contractor will give PWC two (2) weeks notice and allow one (1) week for PWC to complete their relocation. Fayetteville PWC will complete their aerial relocation by April 1, 2005. PWC contact is Mr. Keith Reid at (910) 223-4523.
- 2) See Utilities by Others Plans.

D) Time-Warner –CATV

- 1) Time-Warner will relocate their aerial CATV lines to relocated power poles after power pole relocation is completed. Upon completion of rough grading the Contractor will give Time-Warner two (2) weeks notice and allow two (2) weeks for Time-Warner to complete their relocation. Time-Warner contact is Mr. Wallace Frazee at (910) 401-9050.
- 2) See Utilities by Others Plans

E) Sprint

- 1) Sprint will complete their relocation by April 1, 2005.
- 2) See Utilities by Others Plans.

F) A T & T

- 1) A T & T will complete their relocation by April 1, 2005.
- 2) See Utilities by Others Plans.

G) NC Natural Gas Corporation – Natural Gas

- 1) NC Natural Gas Corporation will relocate their buried gas line after completion of rough grading. The Contractor will give NC Natural Gas Corporation one (1) weeks notice and allow one (1) week for NCNG to complete their relocation. NC Natural Gas Corporation contact is Mr. Paul Johnson at (910) 321-2914.
- 2) See Utilities by Others Plans.