



License No. C-0281

Project: R-4748 County: MACON

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 following provisions.

The Contractor shall be responsible for field verifying location, size, type and elevation of all underground utilities, as well as reconnecting any water and/or sanitary sewer services disturbed during construction, even if they are not shown on the plans. The water line shall be installed as to provide a minimum of 3 feet of cover above the top of pipe from finished grade, unless shown differently on plans. The Contractor shall verify that all new water and sanitary sewer lines have ten (10') feet horizontal clearance between each other.

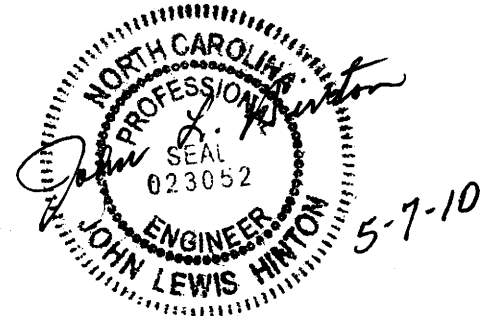
The Contractor is herein forewarned as to the possibility of having to vary the depth of the pipeline installation to achieve minimum clearance of existing or proposed utilities or storm drainage while maintaining minimum cover specified (whether existing or proposed pipelines, conduits, cables, mains,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

All gate valves shall be resilient-seat type valves conforming to ANSI/AWWA C-509. The direction of rotation of the handwheel or wrench nut to open the valve shall be to the left (counterclockwise) and be so marked.

Double strap tapping saddles shall be installed for all new/relocated service lines 2" and smaller in diameter. If any meters larger than 2" are discovered, please contact the Town of Franklin (Public Works Director) Jay Gibson at (828) 369-5228.

A single strand tracer wire shall be used on all water lines with #10 gage coated copper wire. All water lines and sewer lines shall have its location marked by using a detectable marking tape, installed 18" to 24" below finished grade. Such tape shall be approved by the Engineer.

The payment for the vault to house the air release valves shall be considered incidental to the price of the proposed 1" Air Release Valve.



All valve box covers and sanitary sewer manhole covers shall be cast to indicate "WATER" or "SEWER", as the case may be with the appropriate utility owner's special cover verbiage cast into the cover.

The Contractor shall submit his proposed method of anchoring to the Engineer for review and approval of restraining all pipe, pipe bends, valves and other related appurtenances. Anchoring will be the responsibility of the Contractor. Connecting to existing water mains may alter such lines to the extent that these pipelines with existing pipe bends, valves and other related appurtenances may also require reaction blocking; this is also the responsibility of the Contractor.

All existing water and sewer lines that are abandon shall be emptied of the pipeline contents and plugged with Portland cement grout or flowable fill. If it becomes necessary to remove the abandon pipe due to grading operations it shall be disposed of properly. Also, it shall be removed to a minimum depth of 12" below the subgrade elevation of the proposed roadbed.

Water lines and Valves:

The existing water lines belong to the Town of Franklin. The Contractor shall provide access for the Owner's representatives to all phases of construction. Notify the Owners two weeks before commencement of any work and one week before service interruption. Interruption of water service on main lines shall be limited to a maximum of four (4) hours. Individual service connection interruptions shall be scheduled between regular working hours. Water services shall be restored within the same working day.

All valves shall be Resilient-Seat Gate Valves unless otherwise indicated herein. All valves shall meet the specification as shown in the NCDOT Standard Specifications for Roads and Structures. All service lines shall be PE (Polyethylene), SDR 9.

Disinfecting and pressure testing shall be done in accordance with the current Authority's requirements and specifications.

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 a period of 2 hours, by pumping the section full of clean water using an approved pressure pump.

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 and be approved by Owners. 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 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 a certified testing laboratory and tested for chlorine residual and coliform bacteria.

Gravity Sewer:

The existing sewer lines belong to Macon County. The County shall be notified two weeks in advance before the Contractor begins work and one week in advance of any interruptions of sewer service with ample time to make arrangements. Contractor shall be aware that the sewer lines being relocated are active at this time.

All lines and manholes shall be installed at proper grade, alignment and location. All gravity sewer lines regardless of material will be tested by low pressure air test and/or vacuum test. Services will be installed prior to the test and they will be tested along with the line. After stabilization the pressure will be lowered to 3.5psi and the inspector will determine the time it takes for the pressure to drop to 2.5psi. The allowable time of drop for a 12" diameter line is 1.8min/100ft of pipe. If the pressure remains between 3.5psi and 2.5psi for the test time, the lines are acceptable. If the line does not pass, check the installation of the lines and run the test again. All service laterals shall be water dropped tested and videotaped.

All new manholes shall be coated inside with epoxy coating. All manholes shall be tested after assembly and prior to backfilling using a vacuum tester. All lift holes shall be plugged with non-shrink grout. All pipes entering the manhole shall be plugged. All plugs shall be braced to keep plug from being drawn into manhole. The inside of the manhole shall be wet down with a soap and water solution which will visibly indicate areas of leakage after the test is performed. Test head shall be placed on or in the cone section and the seal inflated as per the manufacturer's specifications. A vacuum of 10 inches of mercury shall be drawn and the vacuum pump shut off. With the valve closed, the time it takes for the vacuum to drop to 9 inches shall be measured. The manhole shall pass if the time is greater than the values below:

Manhole Depth	Manhole Diameter		
	48"	60"	72"
10' or less	60sec	75sec	90sec
10' – 15'	75sec	90sec	105sec

Over 15'

90sec

105sec

120sec

If the manhole fails, necessary repairs shall be made using non-shrink grout and recovered with epoxy and cured to manufactures specifications before retesting shall be allowed. Then re-test until manhole is acceptable.

Sewer service shall be maintained at all times and shall not be interrupted. Bypass pumping will be necessary and details for bypass pumping shall be provided to the County for review.

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.

Owners and Owner's Requirements:

The existing water utilities belong to the Town of Franklin. The existing sewer lines belong to Macon County. 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.

The owners shall be notified in advance of any interruptions of water service with ample time to make arrangements. Interruption of water service on main lines shall be limited to a maximum of 4 hours unless approved by the Engineer.

Contacts:

Franklin-Town Manager : Sam Greenwood (828) 524-2516

Franklin- Public Works Director: Jay Gibson (828) 524-2516

Macon County-County Manager : Jack Horton (828) 349-2025

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 - Power Distribution

Mr. Bob Mabry (828) 698-2055

B) Duke Energy - Power Transmission

Ms. Clare Hayes (704) 382-4595

C) Frontier Communications – Telephone

Ms. Tina Rutherford – Office: (828) 631-4058, Cell: (828) 421-2475

D) Toccoa Natural Gas – Gas

Ms. Brenda Burgess (828) 349-1222

E) Balsam West Fibernet – CATV

Mr. Danny Haines (828) 586-6141

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 and the R-4748 Traffic Control Plan (Step 4, Phase III).

Utilities Requiring Adjustment:

A) Duke Energy – Power Distribution

Duke Energy Distribution will relocate distribution lines as noted on the UbO plans as directed by the Resident Engineer. Relocations inside the area defined in Step 4, Phase III of the TCP will be accomplished toward the end of construction of the project.

B) Duke Energy – Power Transmission

Duke Energy Transmission will relocate outside the project limits by the date of availability.

C) Frontier Communications – Telephone

Frontier Communications will place temporary cable as noted on the UbO plans as directed by the Resident Engineer. Permanent facilities located will be installed as shown on the UbO plans as directed by the Resident Engineer. Relocations inside the area defined in Step 4, Phase III of the TCP will be accomplished toward the end of construction of the project.

D) Toccoa Natural Gas – Gas

Toccoa Natural Gas will relocate the gas lines as directed by the Resident Engineer once the priority items noted above have been completed. Relocations inside the area defined in Step 4, Phase III of the TCP will be accomplished toward the end of construction of the project.

E) Balsam Fibernet – CATV

Balsam West Fibernet will relocate CATV at the direction of the Resident Engineer. Relocations inside the area defined in Step 4, Phase III of the TCP will be accomplished toward the end of construction of the project.

Note: Contractor shall allow utility companies access to the site to complete their various relocation work. Contractor shall provide notification to the various utility companies at the same time for all work outlined above.