



Project: W-4404
County: Wake

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.

Owner and Owner's Requirements:

The existing utilities belong to the City of Raleigh. 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 Contractor must call the Public Utilities Department at 857-4540 and Public Works at 890-3030 and give the location, project name, individual's name, company name, start date and indicate if it involves water relocations.

Interruption of water service on main lines shall be limited to a maximum of 4 hours unless approved by the Engineer.

Valve Operations:

No valve in the existing City of Raleigh system shall be operated without following the procedure outlined below. Failure to comply with these requirements shall be grounds for suspension of pipe-laying operations until written assurances can be obtained from a company official that such noncompliance will not occur again. The Contractor should be aware that the City of Raleigh regards violations of these requirements as justifying punitive measures.

Notification procedures are as follows:

- a. The Contractor shall notify the City of Raleigh Public Utilities Department's Maintenance Division at 250-2737 in order to request the operation of any valves. At least forty-eight hours notice should be given to the Public Utilities Department, and at least twenty-four hours notice must be given to each consumer affected by a water cut-off. The Contractor is responsible for notifying the affected consumers. All valve operations shall be done by a Public Utilities Department valve crew or by the City's inspector for a particular project.
- b. The Contractor shall provide the following information when calling the Water Distribution Division for valve operation:
 - (1) Name of person calling;
 - (2) Name of company;
 - (3) Telephone number of company;
 - (4) Location of valve and map number if available;
 - (5) Reason for requesting operating and whether to be closed or open;
 - (6) Time valve to be opened or closed, and
 - (7) Approximate time water line to be out of service.
- c. Each time a Contractor needs a valve operated, he/she shall again secure permission, following the steps outlined.
- d. System valves shall be defined as any valve, which has main pressure against either gate face. Newly installed tapping valves and control valves to networks not yet accepted for service are considered as system valves. Valves within a network still under construction are not considered as system valves.

In the case of an emergency, the Contractor shall be allowed to take such steps with the valves and hydrants as are necessary for the protection of life and property. Notification must be made after a break in a 4 inch or larger water main, or where ruptured smaller lines are

causing property damage. After an emergency valve operation, the Contractor shall notify the Maintenance Division and give the details for that operation.

Hydrants shall not be operated without following the above procedures relative to requesting operating permission and reporting emergency use of hydrant.

Construction Water:

The City of Raleigh Public Utilities Department does not provide free or otherwise unmetered construction water for any construction project. Hydrant meters may only be moved with express written permission of the Public Utilities Department. In residential areas hydrant meters may only be used for the filling of swimming pools unless prior approval of the Public Utilities Department. Contractors are responsible for adequate construction water for their job sites in one of the following approved manners:

- a. Apply for permanent water service connection at the Inspections Department Permit Office, 4th floor, Raleigh Municipal Building, 222 West Hargett Street, (890-3450). Sufficient lead-time (6 weeks) should be provided for all new service taps and all fees must be paid in full prior to the work order being authorized.
- b. Apply in person with the Public Utilities Meters Division Office, 3304 Lake Woodard Drive, for rental of a hydrant meter. There are a limited number of these meters and they are reserved in advance by contacting the Meter Division (250-2797). A deposit is required along with a per month rental fee per account plus the cost of the water used, at the outside City rate. Hydrant meters are read in 100 cubic feet (ccf). There is a minimum rental fee and an administration fee for billing and closing an account. A service charge is charged when accounts are closed. Customers are responsible for notifying the Meters Division if the meter is not registering usage. The following information is required:

- (1) Meter location;
 - (2) Billing address, telephone number, responsible party name, and federal tax id#;
 - (3) Location of hydrant;
 - (4) Water to be used for;
 - (5) Duration of use and frequency of meter reading,
 - (6) Meters must be brought to the Utilities Operations Center for monthly reading.
- C. Upon application approval, the City shall install Hydrant meters and approved backflow prevention Devices on the fire hydrant requested by the customer, but acceptable to the City, within three (3) business days of the application and deposit being received.
- d. Hydrant meters accounts are billed monthly. Failure To report usage in timely manner for billing or accounts that are not paid in full will result in the loss of water service and the closing of the account with the City.
- e. Hydrant meters will only be set when the temperature is over 35 degrees. Damage to meters from cold weather or abuse will be charged to the customers.
- f. Hydrant meters used for long term use shall be returned at the end of every one year block for inspection.
- g. Upon completion of hydrant usage, deposits shall be refunded to customers within 30 days provided the following has occurred:
1. Hydrant meter and backflow device have been returned in good condition, with no excessive wear nor damage.
 2. All outstanding water usage charges and rental charges for the meter and backflow device have been paid in full by the customer.

- h. The cut off to apply for new accounts is 3:00 PM each business day.
- i. It is a violation of the City Code to establish a direct connection to a fire hydrant to fill a tank or tank vehicle. It is also illegal to use a RP or Double detector check valve on a domestic or fireline service for temporary water service. Violations of the City Code will result in loss of service, fines, and other measures as specified by the Code.
- j. Continued use of a hydrant meter, when usage readings are not being registered is considered theft of City water and subject to civil penalties of \$500.00/day. It is the responsibility of the customer to notify the Meters Division at 250-2737 when the meter is not registering/recording the water usage properly.
- k. Hydrant meters and backflow assemblies approved for use in this program is the property of the City of Raleigh Utilities Department. Failure to return the hydrant meter and backflow preventer at the end of the rental period will be considered theft of City property and prosecuted to the fullest extent of the law.

Note: Individuals caught using water unmetered and/or unauthorized by the Public Utilities Department will be prosecuted to the fullest extent of the law.

Setting Hydrants:

Specific directions are required for the setting of all hydrants. In streets where paving is proposed in the near future, the Contractor will be given line and grade stakes for hydrants. It is mandatory for the Contractor to preserve these stakes for the inspector to verify that the hydrant was set correctly. In areas where paving is not anticipated in the near future, hydrants shall be set according to the inspector's directions. When fire hydrants are installed behind guard rails the breakaway flange will be flush with top of the guard rail. In general, hydrants

shall be located in a manner to provide complete accessibility and minimize possibility of damage from vehicles or injury to pedestrians.

Hydrant installation shall be as shown in details and will be rodded from the main to the hydrant with a maximum one rod coupling. If the distance is greater than 20 feet the hydrant shall be rodded to a thrust block as shown in details. When hydrants are used as blow-offs assemblies, the valves shall be rodded to a thrust block. Restraining rods and accessories shall be "hot dipped" galvanized.

Before a hydrant is set, all dirt and foreign matter shall be removed from the interior of the hydrant.

Hydrants shall be bagged, to indicate "out of service", until all testing is complete and the mains are placed in service. Bags shall be large enough to cover entire hydrant and shall be black in color. Bags shall be secured with duct tape at the base of the hydrant and shall be removed immediately after the hydrants are placed in service.

Sealed As Built Plans:

Certified surveyed "As built" plans and profiles, sealed by a Professional Land Surveyor, shall be furnished to the Public Utilities Department by the Engineer upon completion and acceptance of the public main by the City and completion of private systems. The surveyed "as built" plans shall have North Carolina Geodetic Survey grid coordinates to all meter boxes, valves, manholes, and mains along with the depth information. The water permit number information must also be included. Surveyed "As built" plans of installed utilities shall be furnished to the City prior to issuance of the letter of acceptance. All service stubs shall be shown on the surveyed "as built" plans.

Certified surveyed "As built" should be provided in a digital format. The digital file of utilities needs to show the overall water and sewer system layout along with the property or subdivision boundaries and connecting manhole. The water distribution system drawings should show mains sizes, material, hydrants, valves, blow-off assemblies, and any other relevant information (backflow preventers, air release valves, etc.). The digital file should be delivered

in DXF format. If this is not possible, then, DWG, DGN, and SHP are also acceptable formats.

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. RELOCATE EXISTING 4" WATER METER WITH NEW METER VAULT:

The existing 4" water meter shall be relocated and the new meter vault shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

Meter vaults shall be precast concrete and shall meet the requirements of Section 1077 of the Standard Specifications. The vault shall be H20 traffic bearing. The meter vaults and meter bypass shall be placed as shown on the utility plans and as directed by the Engineer. The vault shall be of a preapproved type or the Contractor shall submit signed and sealed drawings and calculations for review. Pipe and fittings for the bypass shall be ductile iron meeting the requirements of Section 1036 of the Standard Specifications. Gate valves shall meet the requirements of Article 1036-7 of the Standard Specifications. The access door shall be diamond plated aluminum and H20 traffic bearing. Access doors shall open to 90° and lock automatically in this position. The doors shall be equipped with a cylinder lock or bolt lock. The Engineer shall have approved such meter vaults, meter bypasses, and access doors.

Any electrical service connections and relocations, permits, licenses and inspections shall be the responsibility of the Contractor and will be considered incidental to this relocation.

The quantity of relocated water meters and new meter vaults, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price for each " Relocate Existing 4" Water Meter with new Meter Vault ". Such prices and payment will be full compensation for all materials, labor, installation, reconnecting the existing water meter, meter vault, meter bypass, water pipe, fittings, gate valves, bronze strainer, backfilling, removal and disposal of existing vault contents and water pipe, and incidentals necessary to complete the work as required.

2. COPPER WATER PIPE:

Copper water pipe will be measured along the pipe from end to end, with no deduction for fittings, and paid for at the contract unit price per linear foot for "_____" Copper Water Pipe, Type _____. Such prices and payments will be full compensation for all materials, excavation, labor, fittings, backfilling, and incidentals necessary to complete the work as required.

3. DUCTILE IRON WATER PIPE:

All Ductile Iron Water 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 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 and valves, and paid for at the contract unit price per linear foot for, "_____" DI Water Pipe, PC 350". Such prices and payments will be full compensation for all materials, including pipe accessories, excavation, labor, pressure testing, sterilization, backfilling, and incidentals necessary to complete the work as required.

4. DUCTILE IRON WATER PIPE FITTINGS:

The quantity of Ductile Iron Water Pipe Fittings will be measured and paid for at the contract unit price per pound for "DI Water Pipe Fittings, 250 PSI Min. WP". Such price and payment will be full compensation for all materials, including pipe accessories, labor, installation, backfilling, and incidentals necessary to complete the work as required.

5. FIRE HYDRANT:

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

Fire hydrants shall be iron body, fully bronze mounted, dry barrel type conforming to ANSI/AWWA C502 and shall be suitable for a working pressure of 150#. Hydrants shall be constructed to permit withdrawal of internal working parts without disturbing barrel or casing. Valves, when shut, shall be reasonably tight when upper portion of the barrel is broken off. All hydrants shall have a breakable safety flange located at the connection of the barrel of hydrant. Hydrants shall have a 6-inch inlet connection with mechanical joint, two 2-1/2 inch hose connections and one 4-1/2 inch pumper connection. Outlets shall have national standard fire hose coupling threads. Working parts shall be bronze. Hydrants shall be connected to the main with 6-inch diameter pipes. Design, materials, and workmanship shall be similar and equal to the latest stock pattern ordinarily produced by the manufacturer. Nipple caps shall be securely chained to the barrel. Valve opening shall be at least 4-1/2 inches in diameter. Barrel shall be of sufficient length to stand approximately thirty inches above ground and maintain a cover of 36" unless otherwise specified. Hydrants shall be painted with one coat of red lead paint and two coats of approved paint of the owner's standard color. Final coat shall be applied after hydrant installation.

Fire hydrants shall be located and installed as shown on the utility plans. Each hydrant shall be connected to the main with a 6-inch branch line having at least as much cover as

the distribution main. Hydrants shall be set plumb with the pumper nozzle facing the roadway and with the breakaway safety flange between 1 and 4 inches above the finished surrounding grade. Except where approved otherwise, the backfill around hydrants shall be thoroughly compacted to the finished grade line immediately after installation to obtain beneficial use of the hydrant as soon as possible. Not less than 7 cubic feet of clean crushed stone shall be placed around the base of the hydrant to insure drainage of hydrant barrel.

Fire hydrants, 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 "Fire Hydrant, 150# WP". Such prices and payments will be full compensation for all materials, labor, excavation, rods, reaction backing, stone, installation, backfilling, and incidentals necessary to complete the work as required.

6. RELOCATE EXISTING WATER METERS WITH NEW METER BOXES:

Relocated water meters and new meter boxes shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

All water meter boxes shall be constructed of cast iron. New meter boxes shall be placed with the top of the meter box flush with finish grade of the project. The Engineer shall approve such meter boxes.

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

The quantity of relocate existing water meter with new meter box and accepted will be measured and paid for at the contract unit price each for "Relocate Existing Water Meter With New Meter Box". Such price and payment will be full compensation for all materials, fittings, removing, installing and reconnecting the existing water meter, pipe, labor, and meter box, excavation, backfilling, and incidentals necessary to complete the work as required.

7. REMOVE EXISTING CHECK VALVE VAULT:

The existing check valve vaults that are required to be removed shall be removed as shown on the plans and/or as directed by the Engineer. All work shall meet the approval of the Engineer.

The removal of existing check valve vaults shall consist of the proper removal and disposal of the vaults and contents, as directed by the Engineer.

The quantity of check valve vaults removed and accepted will be measured and paid for at the contract unit price each for "Remove Existing Check Valve Vault". Such price and payment will be full compensation for all materials, labor, excavation, removal and disposal of vault and contents, backfilling, and incidentals necessary to complete the work as required.

8. ADJUST EXISTING 10" RPZ BACKFLOW PREVENTER:

The existing 10" RPZ backflow preventer right of Station 16+57 Line -L- shall be raised approximately 3'-6" vertically. This is due to the additional fill height that will be necessary for the road construction in this area. A new base slab will need to be poured at the new raised height. Also, new ductile iron pipe for the vertical runs will need to be installed. This additional pipe will need to be rodded for the entire length of the vertical pipes.

The existing RPZ backflow preventer contents can be reused and attached to the new pipes. The existing enclosure can be reused and placed on top of the new slab.

The backflow preventer must be adjusted and tested by persons that have completed the City of Raleigh Cross Connection School or other approved Cross Connection School.

The quantity of adjusted RPZ backflow preventers, installed in accordance with the plans and special provisions herein and accepted, will be measured and paid for at the contract unit price for each "Adjust Existing 10" RPZ Backflow

Preventer". Such prices and payment will be full compensation for all materials , labor, installation, testing, water pipe, water pipe fittings, rodding, concrete, backfilling, removal and disposing of any existing backflow preventer contents and water pipe, and incidentals necessary to complete the work as required.

PROJECT SPECIAL PROVISIONS

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)
- B. Time Warner (CATV)
- C. BellSouth (Telephone)
- D. PSNC Energy (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 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.

Utilities Requiring Adjustment:

- A. Progress Energy (Power)
 - 1. Station 15+00 to Station 21+00 Line -L-
At the proper stage of construction and after rough grading is completed, a new power pole line shall be installed further left of Line -L- between Station 15+00 and 21+00 and the existing power pole line between the same stations will be dismantled and removed. The Contractor shall give Progress Energy thirty (30) calendar days notice prior to when they can begin work and thirty (30) calendar days to complete their work in this area.
 - 2. Station 26+40 to Station 28+70 Line -L-
At the proper stage of construction and after the proposed soil nail wall is completed, the Contractor shall give Progress Energy thirty (30) calendar days notice prior to when they can begin work and sixty (60) calendar days to complete their work left of Line -L- between Station 26+40 and Station 28+70.
 - 3. All other power work within the limits of this project will be completed by the date of availability. See Utilities by Others plans for relocation details.
- B. Time Warner (CATV)
 - 1. Time Warner is attached to Progress Energy power poles and will be relocated with the power and telephone. All CATV work within the limits of this project will be completed by the date of availability.
 - 2. See Utilities by Others plans for relocation details.

- C. BellSouth (Telephone)
 - 1. BellSouth telephone is attached to Progress Energy power poles and will be relocated with the power and CATV. All telephone work within the limits of the project will be completed by the date of availability.
 - 2. See Utilities by Others plans for relocation details.

- D. PSNC Energy (Gas)
 - 1. All existing buried gas lines located within the limits of the project will remain in place and be adjusted if necessary.