

## 15 Utilities

### SECTION 15 12 13

#### WATER SERVICES

##### PART 1.00 - GENERAL

###### 1.01 Description

The Contractor shall furnish all materials and completely install the individual water services called for in this contract, as shown on the drawings and as designated by the Engineer.

###### 1.02 Submittals

Prior to the installation of any water services, submit in five (5) copies shop drawings of all materials to the Engineer for review and approval.

##### PART 2.00 - MATERIALS

###### 2.01 Corporation and Curb Stops/Angle Stops

Corporation and curb stops for the identified sizes shall be brass manufactured in accordance with AWWA C800. Direct tap shall be on 4" diameter or larger Ductile Iron Pipe or Cast Iron Pipe. Taps onto smaller mains or non ferrous pipe shall be made with a tapping saddle as specified herein.

A. Corporation Stops for ¾" and 1" services shall be Mueller H-15000 or A.Y. McDonald 4701T with CC threads.

Corporation Stops for 1.5" and 2" services shall be Mueller H-15013 with CC threads or approved equal. In addition, 1.5" and 2" services shall have a 2" Iron Body, Bronze Mounted Gate Valve with Iron Pipe Threads and Brass Fittings as manufactured by Mueller. Valve shall be immediately downstream of the tap.

B. Curb stops for ¾" and 1" services shall be Mueller H-15175 and located within the meter box assembly.

Curb stops/angle stops for 1.5" and 2" services shall be Mueller H-14277 and located within the meter box assembly.

###### 2.02 Tapping Saddles

###### A. General:

1. Use for 2" and smaller connections
2. Manufacture saddles with clamps for underground services
  - i. Rated for minimum service of 150 psi
  - ii. Provide full support around the circumference of the pipe without distorting, scratching or damaging the pipe when tightened.
  - iii. Contains a thick tapping boss which has been precision machined with full length thready for a watertight connection that resists pullout.

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iv. Threads shall be in accordance with AWWA C800 with a standard corporation stop thread.

v. Use watertight gaskets meeting ASTM D2000 around the tap hole.

B. Saddles for Cast Iron or DIP 4" and above shall be Ford Meter Box Company, Style No. 202B Double Strap or Mueller Company, Model BR2B Double Strap.

C. Saddles for PVC AWWA C900 and C905 Pipe shall be manufactured specifically for this application with stainless steel wide band straps, nuts and washers. Saddles shall be Ford Meter Box Company, Model 202BS or Mueller Company, Series DR2S.

### 2.03 Service Pipe and Fittings

Water service pipe to be copper, Type K, soft conforming to ASTM Specification B-88 (latest edition), or Class 200 SP Water Service Tubing (C.T.S. - O.D.) meeting the requirements of Type III, Grade 3, Class C material as described in Standard Specifications for Polyethylene (PE) Plastic Pipe (SDR-PR), ASTM Designation D-2239.

All Fittings, compression joints, end connectors and couplings shall be in accordance with AWWA C800.

### 2.04 Meter Box

All meter boxes shall be cast iron body, Ford Crescent Box (Model CB111-233 for 3/4" and Model CB111-444) or approved equal. Meter box shall include bituminous coated, cast iron base, inner barrel, and outer barrel with 1-7/8" touch-read hole in lid.

All meter boxes for 1.5" or "2" services shall have minimum dimensions of 24" wide x 36" long x 30" deep and shall be manufactured by CDR Systems Corporation or approved equal. Vault top and frame shall be made of 11,000 psi fiber and reinforced concrete and top shall have a meter lid with 1-7/8" touch-read hole.

Meters larger than 3" shall be installed within a vault per the Plans or Standard Details.

Meter boxes shall not be installed within paved or sidewalk area unless approved by the Engineer.

### 2.06 Meters

Shall be furnished and installed by City of Rocky Mount.

All meters three inches (3") or larger shall have a swinging dismantling joint on the upstream side in order to facilitate easy removal and maintenance. Fitting shall be the Romac DJ 400 Dismantling Joint or approved equal.

### 2.09 Pressure Reducing Valves

All pressure reducing valves shall meet the requirements of ASSE Standard 1003 (ANSI A112.26.2) listed by IAPMO. Pressure reducing valves shall have bronze body construction, renewable stainless steel seat, stainless steel integral strainer, reinforced EPDM diaphragm, and EPDM valve disc. Pressure reducing valves shall be Watts Series N35B or approved equal.

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### 2.10 Backflow Prevention Devices

Double check valves or Reduced Pressure Assemblies, their appurtenances and installation shall be in accordance with Section 15 12 13.13

## **PART 3.00 - EXECUTION**

### 3.01 Installation

- A. Install water house connections from main water line to property lines at elevations indicated on the Drawings, Standard Details or at the Engineer's discretion.
  - 1. When elevations are not shown, install water house connections with a minimum cover of 36 inches.
- B. Perform tapping of water main and insertion of corporation stop by qualified personnel.
  - 1. Maintain 60 psi pressure during service connection tapping process
  - 2. Tapping of PVC pipe shall be in accordance with AWWA C605 and pipe manufacturer's recommendations.
  - 3. Tap should be made at a 45 degree angle to perpendicular to the pipe.
  - 4. Use wrenches with smooth jaws of proper size to install corporation stops and connect pipes thereto. Do not use wrenches with jaws that will score brass or copper.
  - 5. Maintain minimum of 18 inches between taps, minimum 18 inches clear from DIP bells and minimum 24 inches clear from PVC bells.
  - 6. Install service saddle when tapping 3 or 4" diameter water main and for all taps larger than 1 inch on a 6 inch through 12 inch water main. Service saddles shall be used for all PVC taps
  - 7. After making tap and installing all required valves and curb stop, blow off at curb stop, pressurize, check for leaks to valving and curb stop and leave corporation stop in open position.
  - 8. Backfill excavated area around pipe per Section 15 11 13. Do not dry tap ductile iron mains without Engineer's approval. If permitted, keep trench open at tap until water main has been placed in service so that tap can be inspected for leakage.
  - 9. Install the water meter box as identified on the plans or at the property line/easement line.

## **PART 4.00 – MEASUREMENT AND PAYMENT**

### 4.01 Water Service Lines

- A. Measurement: By linear foot of various sizes(3/4"/1" or 1.5"/2") and types provided, measured horizontally along the centerline of the installed service from the centerline of the main to the property line(or directed location) as part of the completed and

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accepted work.

- B. Payment: At unit price for each size and type of pipe installed as listed in the Bid Schedule.
  - 1. Payment includes work for location of utilities, excavation, backfilling, bedding, service pipe, connection to new and existing mains, corporation stop, valve, valve boxes, curb stop and testing of service line.

### 4.02 Meter Box Assembly

- A. Measurement: By the each of various sizes (3/4"/1" or 1.5"/2") furnished and installed as part of the completed and accepted work.
- B. Payment: At unit price for each size meter box assembly installed as listed in the Bid Schedule.
  - 1. Payment includes work for location of utilities, excavation, backfilling, bedding, connection to new or existing service lines, meter setting, angle stops and meter boxes. Furnishing and installation of the meter will be by others unless directed by the Engineer.

**END OF SECTION**