

SECTION 02665

WATER SERVICE CONNECTIONS

PART 1 GENERAL

1.01 SCOPE OF WORK

WORK covered by this Section consists of furnishing all materials and installation of all service connections to the water system. Responsibilities for water service connections are as follows.

- A. For meters ¾" to 2" – Contractor installs tap and meter box and supplies ball valve box. Town supplies and installs meter and backflow preventer.
- B. For meters 3" and larger – Contractor supplies and installs.

1.02 RELATED WORK

Section 02660 - Water Distribution System

1.03 REFERENCES

- A. Polyethylene (PE) Pressure Pipe, Tubing, and Fittings, 1/2 inch through 3 inch, for Water (AWWA C901).
- B. "K" Soft Temper Copper Tubing (ASTM B88), if approved by TOWN.
- C. Cold Water Meters – Displacement Type (AWWA C700).
- D. Specifications for Gray-Iron Castings (ASTM A-48).

PART 2 PRODUCTS

2.01 SERVICE TUBING

- A. Up to 1" diameter shall be copper tubing conforming to ASTM designation B88 for Type "K". Soft temper or AWWA 78-CR Type "K". Tubing may be in 20-foot straight lengths or 60-100 foot coils.
- B. Services greater than 1" diameter may be either copper, as specified in Section A above, or polyethylene conforming to AWWA C901, SDR9, PC200.
- C. Tubing O.D. shall be compatible with accessories specified herein below.

2.02 WATER METERS

A. 5/8 x 3/4 Inch and 1 Inch Meters

1. Where indicated on the drawings, 5/8 x 3/4 inch and 1 inch meters shall be Neptune T-10, Proread, with E-Coder R900i encoder with bronze top and bottom, positive displacement type, magnetic drive, with sealed registers, totalizer, and straight reading dials in gallons, frost-proof design, meeting AWWA Standard C700 unless otherwise specified. Meters shall be compatible with meter yokes specified herein below.

B. 2" Meters

1. All meters greater than 1" shall be compound meters and shall be Neptune Tru/Flo Compound Meter Proread with R900 TR encoder. Compound meters shall consist of a combination of an AWWA Class II turbine meter for measuring high rates of flow and a piston type positive displacement measuring chamber for measuring low rates of flow enclosed in a single bronze housing. A bronze swing action valve shall direct flows through the measuring chamber.
2. The maincase and cover shall be cast of water works bronze containing not less than 75% copper. The size, model, and arrows indicating direction of flow shall be cast in raised characters on the maincase or cover. The cover shall contain a stainless steel calibration vane for the purpose of calibrating the turbine measuring element while the meter is in-line and under pressure. The calibration vane shall contain no gear reduction. A test plug shall be located in the maincase or the cover for the purpose of field testing the meter.
3. Casing bolts shall be made of Type 316 stainless steel.
4. Maincases shall be flanged. 2" meters shall be oval flanged and 3" through 6" sizes shall be round flanged per Table 4, AWWA C702.
5. The registers shall be permanently roll-sealed, straight reading indicating gallons. Register shall include a center-sweep test hand, a low flow indicator, and a glass lens. The register shall be serviceable without interruption of the meter's operation.
6. Register boxes and covers - none.
7. Registers shall be affixed to the cover by means of a plastic tamperproof seal pin that must be destroyed in order to remove the register.
8. The meter serial number shall be imprinted on the meter flange.
9. Registration accuracy over the normal operating range shall be 98.5% to 101.5%. Registration at the crossover shall not be less than 95%. Registration at the low flow rate shall not be less than 95%.

2.03 METER BOXES

- A. 5/8 x 3/4 inch and 1 inch meters:
 - 1. Shall be Carson Model 1015 Meter Box with AMR undercover hanger and drop in solid plastic locking cover.
 - 2. Dimensions shall be 17" L x 12" W x 12" deep.
 - 3. Box shall be set below grade, with top flush with ground surface.
- B. 2 inch meter and 2 inch backflow preventor:
 - 1. Shall be Carson Model 1730 18" Super Jumbo XL Meter Box with solid plastic, drop in, locking cover and AMR undercover hanger.
 - 2. Base dimensions shall be 30" L x 17" W x 18" deep.
 - 3. Box shall be set below grade, with top flush with ground surface.
- C. For meters 3-inch and larger, concrete vaults are required. Contractor shall provide shop drawings for approval by TOWN and ENGINEER at the pre-construction conference.

2.04 ACCESSORIES

- A. Shall be compatible with pipe and service tubing furnished.
- B. Service saddles shall be Smith-Blair, Inc. Model 313.
- C. Corporation stop shall be Ford Catalog Number F1000.
- D. Cut-off valve shall be a 3/4", 1" or 2" WATTS Series WBV brass ball valve.
- E. For 2" meters, backflow preventer shall be an Apollo 40-100 Series with isolation valves and test cocks.
- F. For 3/4" and 1" meters, dual check valve shall be an Apollo 40-300 Series.
- G. Valve box for cut-off valve shall be a Carson Industries Model 910.
- H. 3/4" and 1" curb stop shall be lockable FORD straight meter ball valve with pack-joint inlet and meter swivel nut outlet. 2" curb stop shall have a pack-joint inlet and meter flange outlet.

PART 3 EXECUTION

3.01 GENERAL

- A. Service connections shall be installed in the same manner as water distribution mains, and in accordance with Section 02660 of these Specifications, except for depth, which shall be 24 inches at the meter box.

- B. Each lot of a development shall have an individual service connection.
- C. Meter boxes shall be placed as shown on the construction drawings or as directed by TOWN REPRESENTATIVE.
- D. Service connections shall be made where directed by the TOWN REPRESENTATIVE.
- E. Jack and bore service tubing under pavement. No pavement cutting will be permitted.
- F. Any pipe, solder, or flux used in the installation or repair of water lines must be lead free. Pipes and fittings must not contain more than 8.0% lead, and solders and flux must not contain more than 0.2% lead.
- E. All plastic water pipes and service lines must bear the National Sanitation Foundation (NSF) seal of approval for potable water.

END OF SECTION