

SECTION 02665

WATER TAP AND SERVICE LINE INSTALLATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Tapping existing mains and furnishing and installing new service lines for water.

1.02 UNIT PRICES

- A. Measurement for water taps and copper service lines 3/4 inch through 1 inch is on a lump sum basis for each installation. Separate measurements will be made for "Short Side" and "Long Side" connections as defined in Part 1.04 below.
- B. Measurement for water taps and service lines 1-1/2 inch through 2 inch is on a lump sum basis for each installation. Separate measurements will be made for "Short Side" and "Long Side" connections as defined in Part 1.04 below.
- C. Payment for "Short Side" and "Long Side" includes locating water main, tap installation and connection to meter and restoring site.
- D. No additional payment will be made for bedding, backfill, compaction, push-unders, etc.

1.03 DEFINITIONS

- A. Short Side Connection: Service line connecting proposed curb stop, located inside water meter box, to water main on same side of street.
- B. Long Side Connection: Service line connecting proposed curb stop, located inside water meter box, to water main on opposite side of street or from center of streets where supply main is located in street center such as boulevards and streets with esplanades.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Class 200, Polyethylene, Phillips Drisco pipe or equal.
- B. Corporation Stops: AWWA C800 as modified herein:
 - 1. Inlet End: AWWA standard thread.
 - 2. Valve Body: Tapered plug type, O-ring seat ball type, or rubber seat ball type.
 - 3. Outlet End: Compression type fitting for use with type-K, soft copper.

- C. Provide taps for various water main types and sizes in accordance with following schedule.

PIPE TAPPING SCHEDULE				
WATER MAIN TYPE AND DIAMETER	SERVICE SIZE			
	3/4"	1"	1-1/2"	2"
4" Cast Iron or Ductile Iron	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
4" Asbestos Cement	WBSS	WBSS	DSS, WBSS	DSS, WBSS
4" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" and 8" Cast Iron or Ductile Iron	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" and 8" Asbestos Cement	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" and 8" Cast Iron or Ductile Iron	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
6" and 8" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" Cast Iron or Ductile Iron	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" Asbestos Cement	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
12" PVC (AWWA C900)	DSS, WBSS	DSS, WBSS	DSS, WBSS	DSS, WBSS
16" and Up Cast Iron or Ductile Iron	DWBSS	DWBSS	DWBSS	DWBSS
16" and Up Asbestos Cement	DWBSS	DWBSS	DWBSS	DWBSS
16" and Up PVC (AWWA C900)	DWBSS	DWBSS	DWBSS	DWBSS

DSS - DUAL STRAP SADDLES

WBSS - WIDE BAND STRAP SADDLES

DWBSS - DUAL WIDE BAND STRAP SADDLES

*Mueller H-15092, or equal

- D. Dual Strap Saddles: Red brass body and straps; ductile-iron; vinyl-coated body and straps; or ductile-iron, vinyl-coated body and stainless-steel straps.
- E. Taps for PVC Water Mains: Use dual-strap or single, wide-band strap saddles which provide full support around circumference of pipe and bearing area of sufficient width

along axis of pipe, 2 inches minimum, ensuring that pipe will not be distorted when saddle is tightened. Romac Series 101N wide-band, stainless-steel tapping saddle with AWWA standard thread (Mueller thread) or equal.

- F. Taps for Steel Pipe: Not allowed, unless specifically approved by Owner's Representative. Use saddle only if tap is approved on steel pipe.
- G. Curb Stops and Brass Fittings: AWWA C800 as modified herein.
 - 1. Inlet End: Compression-type fitting.
 - 2. Valve Body: Straight-through or angled, meter-stop design equipped with the following:
 - a. O-Ring seal straight plug type.
 - b. Rubber seat ball type.
 - 3. Outlet End: Female, iron-pipe thread or swivel-nut, meter-spud thread on 3/4-inch and 1-inch stops and 2-hole flange on 1-1/2 and 2-inch sizes.
 - 4. Fittings: Ford or approved equal; use same size open end wrenches and tapping machines as used with respective Ford fittings.
 - 5. Factory Testing of Brass Fittings:
 - a. Submerge in water for 10 seconds at 85 psi with stop in both closed and open positions.
 - b. Reject any fitting that shows air leakage. Owner may confirm tests locally. Entire lot from which samples were taken will be rejected when random sampling discloses unsatisfactory fittings.
- H. Angle Stops: In accordance with AWWA C800; ground-key, stop type with bronze lock-wing head stop cap; inlet and outlet threads conform to application tables of AWWA C800; and inlets compression connection.
 - 1. Outlet for 3/4-inch and 1-inch size: Meter swivel nut with saddle support.
 - 2. Outlet for 1-1/2-inch through 2-inch size: O-ring sealed meter flange, iron pipe threads.
- I. Fittings: In accordance with AWWA C800 and:
 - 1. Castings: Smooth, free from burrs, scales, blisters, sand holes, and defects which would make them unfit for intended use.
 - 2. Nuts: Smooth cast and have symmetrical hexagonal wrench flats.

3. Thread fittings, of all types, shall have N.P.T. or AWWA threads, and male threaded ends shall be protected in shipment by plastic coating or other equally satisfactory means.
4. Compression tube fittings shall have Buna-N beveled gasket.
5. Stamp of manufacturer's name or trademark and size on body.

PART 3 EXECUTION

3.01 GENERAL

- A. Set service taps at right angles to proposed meter location and locate taps in upper pipe segment within 45 degrees of pipe springline unless otherwise approved by Owner's Representative.
- B. For service lines and lateral connections larger than those allowed in Part 2.01C, branch connections and multiple taps may be used. Corporation stops: spaced minimum 2 feet apart.
- C. Tapped collars of appropriate sizes: Approved in new construction only provided they are set at right angles to proposed meter location.
- D. All 2-inch and smaller service taps on pressurized water mains: Use tapping machine manufactured for pressure tapping purposes.
- E. Install service lines in open-cut trench in accordance with Section 02227 except service lines under all paved roadways, other paved areas and areas indicated on Drawings shall be installed in bored hole in accordance with paragraph 3.01F. If service line is installed under paved roadways or other paved areas, service lines shall be installed in PVC casings.
- F. Unless otherwise approved by Owner's Representative, lay service lines with minimum of 30 inches of cover as measured from top of curb or, in absence of curbs, from centerline elevation of crowned streets or roads. Provide minimum of 18 inches of cover below flow line of all ditches to service lines, unless otherwise approved by Owner's Representative.
- G. Service lines across existing street (push-unders): Pull service line through prepared hole under paving. Only full lengths of tubing will be used. Take care not to damage copper tubing when pulling it through hole. A compression-type union is only permitted if Contractor cannot span underneath pavement with a full length of tubing. Contractor is allowed one compression-type union for each full length of tubing, provided it is not under the pavement.
- H. Maintain service lines free of dirt and foreign matter at all times.
- I. Install service lines so that top of meter will be 4 to 6 inches below finished grade.

- J. Locate water meters one foot inside street right-of-way, or if this is not applicable, one foot on curb side of sidewalk. Contact Owner's Representative when major landscaping or trees conflict with service line and meter box location. No additional payment will be made for work on customer side of meter.

3.02 CURB STOP INSTALLATION

- A. Set curb stops or angle stops at outer end of service line inside of meter box. Secure opening in curb stop to prevent unwanted material from entering. In close quarters, make an "S" curve in the field. No flattening of tube. In all 3/4-inch and 1-inch services, install meter coupling, swivel-nut, or curb stop ahead of meter. Install straight meter coupling on outlet end of meter.

3.03 SEQUENCE OF OPERATIONS

- A. Open trench for proposed service line in accordance with Section 02227.
- B. Install curb stop on meter end of service line.
- C. With curb stop open and prior to connecting service line to meter in slack position, open corporation stop and flush service line thoroughly. Close curb stop, leaving corporation stop in full-open position.
- D. Check service line for apparent leaks. Repair any leaks before proceeding.
- E. Call to schedule inspection prior to backfilling. After inspection, backfill in accordance with Section 02227.
- F. Install meter box centered over meter with top of lid flush with finished grade. Meter box: Refer to Section 02604.

END OF SECTION