

**Section 02540****TAPPING SLEEVES & VALVES****1.0 GENERAL****1.01 SECTION INCLUDES**

- A Tapping sleeves and valves for connections to existing water system.
- B References to Technical Specifications:
  - 1. Section 01200 – Measurement & Payment Procedures
  - 2. Section 01350 – Submittals
  - 3. Section 02541 – Water & Wastewater Line Valves
  - 4. Section 02520 – Valve Boxes, Meter Boxes, & Meter Vaults
  - 5. Section 02512 – Polyethylene Wrap
  - 6. Section 02318 – Excavation & Backfill for Utilities
- C Referenced Standards:
  - 1. American Water Works Association (AWWA)
    - a. AWWA C500 Gate Valves, 3 Through 48 in. NPS, for Water and Sewage Systems.
    - b. AWWA C110 Ductile-Iron and Gray Iron Fittings for Water
    - c. AWWA C207 Steel Pipe Flanges for Waterworks Service – Sizes 4 In. Through 144 In.

**1.02 MEASUREMENT AND PAYMENT**

- A Measurement for installation of tapping sleeves and valves is on a per each basis. Payment includes all labor and materials required for installation as indicated on Plans.
- B Refer to Section 01200 – Measurement & Payment Procedures.

**1.03 SUBMITTALS**

- A Make Submittals required by this Section under the provisions of Section 01350 – Submittals.

**1.04 QUALITY CONTROL**

- A Provide manufacturer's affidavit that all valves purchased for tapping of existing waterlines conform to Section 02541 – Water & Wastewater Line Valves and to applicable requirements of AWWA C500 and that they have been satisfactorily tested in accordance with AWWA C500.

## 2.0 PRODUCTS

### 2.01 MATERIALS

- A Tapping Sleeves:
1. Tapping Sleeve Bodies: Stainless steel; in two sections to be bolted together with high-strength, corrosion-resistant, low-alloy, steel bolts; mechanical joint ends.
    - a. 12 inch and smaller: stainless steel; JCM 432, Romac, or approved equal.
    - b. 16 inch and larger: epoxy coated ductile iron; JCM, or approved equal.
  2. Branch Outlet of Tapping Sleeve: Flanged; machined recess; AWWA C207, Class D, ANSI 150 lb drilling. Gasket: Affixed around recess of tap opening to preclude rolling or binding during installation.
  3. Where fire service from 6-inch main is approved, use cast iron split sleeve.
- B Tapping Valves: Meet all requirements of Section 02541 – Water & Wastewater Line Valves with following exceptions:
1. Inlet Flanges:
    - a. AWWA C110; Class 125.
    - b. AWWA C110; Class 150 and higher: Minimum eight hole flange.
  2. Outlet: Standard mechanical or push-on joint; to fit any standard tapping machine.
  3. Valve Seat Opening: Accommodate full-size shell cutter for nominal size tap without any contact with valve body; double disc.
  4. Open Left operation only.
- C Valve Boxes: Furnish and install according to Section 02520 – Valve Boxes, Meter Boxes, & Meter Vaults.

## 3.0 EXECUTION

### 3.01 GENERAL

- A Install tapping sleeves and valves at locations and of sizes as shown on Drawings.
- B Thoroughly clean tapping sleeve, tapping valve and pipe prior to installation and in accordance with manufacturer's instructions.
- C Hydrostatically test installed tapping sleeve to 150 psig for a minimum of 15 minutes. Inspect sleeve for leaks, and remedy leaks prior to tapping operation.
- D When tapping concrete pressure pipe, size on size, use shell cutter one standard size smaller than waterline being tapped.
- E Do not use Large End Bell (LEB) increasers with a next size tap unless existing pipe is asbestos-cement.

**3.02 INSTALLATION**

- A Tighten bolts in proper sequence so that undue stress is not placed on pipe.
- B Align tapping valve properly and attach it to tapping sleeve.
- C Make tap with sharp, shell cutter:
  - 1. For 12-inch and smaller tap, use minimum cutter diameter one-half inch less than nominal tap size.
  - 2. For 16-inch and larger tap, use manufacturer's recommended cutter diameter.
- D Withdraw coupon and flush all cuttings from newly-made tap.
- E Wrap completed tapping sleeve and valve in accordance with Section 02512 – Polyethylene Wrap.
- F Place concrete thrust block behind tapping sleeve (NOT over tapping sleeve and valve).
- G Block under valve using concrete blocks.
- H Request inspection of installation prior to backfilling.
- I Backfill in accordance with Section 02318 – Excavation & Backfill for Utilities.

END OF SECTION