Section 02525

TAPPING SLEEVES AND VALVES

PART 1 G E N E R A L

1.01 SECTION INCLUDES

A. Tapping sleeves and valves for connections to existing water system.

1.02 MEASUREMENT AND PAYMENT

A. Unit Prices.

1. Payment is on unit price basis for each tap installed.

2. Refer to Section 01270 - Measurement and Payment for unit price procedures.

3. For water lines 4-inches and greater, no payment will be made until coupon (cut out portion of pipe tapped) is delivered to City.

B. Stipulated Price (Lump Sum). If Contract is Stipulated Price Contract, payment for work in this Section is included in total Stipulated Price.

1.03 REFERENCES

A. AWWA C 110 - Standard for Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water and other Liquids.

B. AWWA C 200 - Standard for Steel Water Pipe - 6 in. and Larger.

C. AWWA C 207 - Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 in. through 144 in.

D. AWWA C 500 - Standard for Metal Seated Gate Valves, for Water Supply Service.

1.04 SUBMITTALS

A. Conform to requirements of Section 01330 - Submittal Procedures.

B. Submit results of tapping sleeves NPT test opening.
C. Submit manufacturer's affidavit as required in Section 02521 - Gate Valves.

1.05 DELIVERY, STORAGE AND HANDLING

A. Ship steel sleeves in wooden crates that provide protection from damage to epoxy coating during transport and storage.

PART 2 P R O D U C T S

2.01 MATERIALS

A. Tapping Sleeves:

1. Tapping Sleeve Bodies: AWWA C 110 cast or ductile iron or AWWA C 200 carbon steel in two sections to be bolted together with high-strength, corrosion-resistant, low-alloy steel bolts with mechanical joint ends.

2. Branch Outlet of Tapping Sleeve:

   a. Flanged, machined recess, AWWA C 207, Class D, ANSI 150 pound drilling.

   b. Gasket: Affixed around recess of tap opening to prevent rolling or binding during installation.

3. Use cast iron split sleeve where fire service from 6-inch water line is approved.

B. Welded-steel tapping-sleeve bodies may be used in lieu of cast or ductile iron bodies for following sizes and with following restrictions:

1. Flange: AWWA C 207, Class D, ANSI 150 pound drilling.

2. Gasket: Affixed around recess of tap opening to prevent rolling or binding during installation.

3. Steel sleeves are restricted to use on pipe sizes 6 inches and larger.

4. Body: Heavy, welded-steel construction; top half grooved to retain neoprene O-ring seal permanently against outside diameter of pipe.

5. Bolts: AWWA C 500 Section 3.5; coated with 100 percent vinyl resin or corrosive resistant material.

6. Steel Sleeves Finish: Fusion-bonded epoxy coated to minimum 12-mil thickness.

7. Finished Epoxy Coat: Free of laminations and blisters; and remain pliant and resistant to impact with non-peel finish.

8. Steel tapping sleeves shall be Smith Blair No. 622, JCM No. 412, or approved equal.

9. Tapping Sleeves: Provide with 3/4-inch NPT test opening for testing prior to tapping. Provide 3/4-inch bronze plug for opening.

10. Do not use steel sleeves for taps greater than 75 percent of pipe diameter.

C. Tapping Valves: Meet requirements of Section 02521 - Gate Valves with following exceptions:

1. Inlet Flanges:

a. AWWA C 110; Class 125.

b. AWWA C 110; Class 150 and higher: Minimum 8-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 contact with valve body; double disc.

D. Valve Boxes: Standard Type AA@ valve boxes conforming to requirements of Section 02085 - Valve Boxes, Meter Boxes, and Meter Vaults.

PART 3 E X E C U T I O N

3.01 APPLICATION

A. Install tapping sleeves and valves at locations and of sizes shown on Drawings. Install sleeve so valve is in horizontally level position unless otherwise indicated on Drawings.

B. 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 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 water line being tapped.

E. Do not use Large End Bell (LEB) increasers with next size tap unless existing pipe is asbestos-cement.

3.02 INSTALLATION

A. Verify outside diameter of pipe to be tapped prior to ordering sleeve.

B. Tighten bolts in proper sequence so that undue stress is not placed on pipe.

C. Align tapping valve properly and attach to tapping sleeve. Insert insulation sleeves into flange holes of tapping valve and pipe. Make insertions of sleeves on pipe side of tapping valve. Do not damage insulation sleeves during bolt tightening process.

D. 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.

E. Withdraw coupon and flush cuttings from newly-made tap.

F. Wrap:

1. For 12-inch and smaller tap, wrap completed tapping sleeve and valve in accordance with Section 02528 - Polyethylene Wrap.

2. For 16-inch and larger tap, apply coal tar epoxy around completed tapping sleeve and valve. The coal tar epoxy shall be applied with minimum of two (2) coats. Each coat of coal tar epoxy shall have minimum dry film thickness of 16 mils.

G. Place concrete thrust block behind tapping sleeve (not over tapping sleeve and valve).

H. Request inspection of installation prior to backfilling.

I. Backfill in accordance with Section 02317 - Excavation and Backfill for Utilities.

END OF SECTION