

**SECTION 02514**  
**WATER LINES - VALVES**

**PART 1. GENERAL**

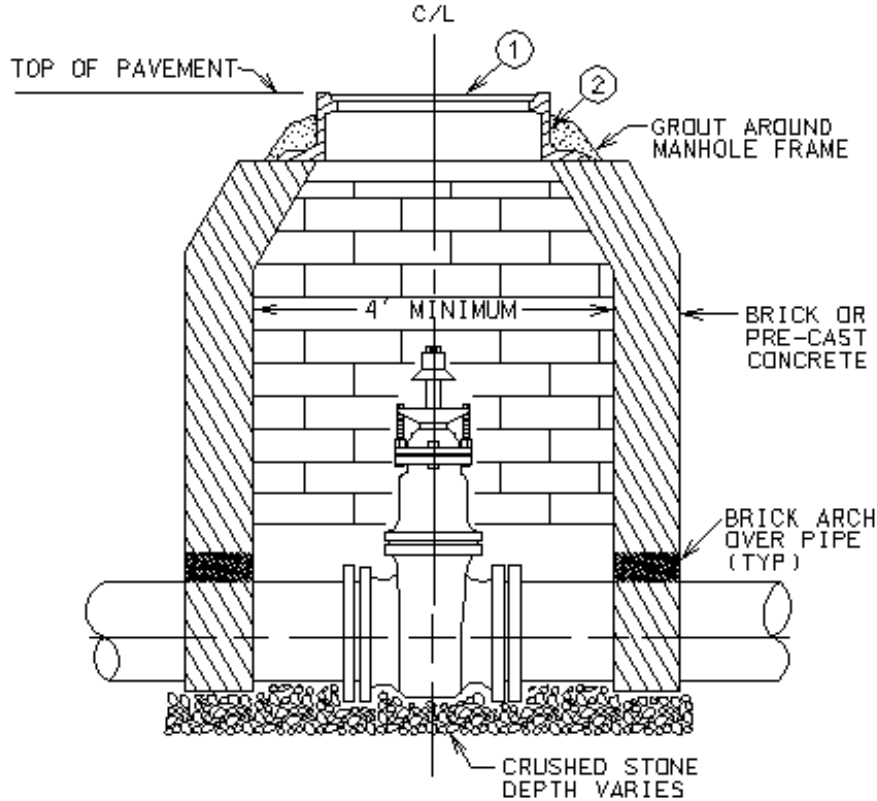
- 1.1 This section covers valves for water lines specified under Sections 2512, 2513, 2515 and 2518.
- 1.2 Valves in water mains shall, where possible, be located on the street property lines extended, unless otherwise directed by the OWNER.
- 1.3 The direction of opening for all valves larger than 2-inch shall be clockwise (open right) as viewed from the top. Valves 2 inch and smaller shall open counter clockwise (open left).
- 1.4 The operating nut shall be maximum 48 inches below the finished grade. Valve extensions shall be used if the operating nut is over 4 feet below the finished grade.
- 1.5 Tracer wire shall be installed within the valve box or manhole, bring up tracer wire in 1/2 inch IPS PE pipe inside the valve box; tracer wire shall looped and extend a minimum of 3 feet above the street or ground level or as approved by the OWNER.
- 1.6 Disposal of all valves shall be at the discretion of the OWNER.
- 1.7 Valves shall be operated by the OWNER only.

**PART 2. PRODUCTS**

- 2.1 All products and materials utilized in the execution of the work described herein shall meet or exceed the specified characteristics provided herein. All products and materials must be equal to those specified in Section 02080, Water/Wastewater material available for review at [kub.org/standards](http://kub.org/standards) or available for review at KUB/Procurement 4505 Middlebrook Pike.

**PART 3. EXECUTION**

**3.0 GENERAL DRAWINGS (See Figure 1-02512-d)**



**Figure 1-02514-a: Manhole for Valve Installation**

Notes:

- I. Manhole used only when directed by OWNER.
- II. Tracer wire shall be installed within the valve box or manhole, bring up tracer wire in 1/2 inch IPS PE pipe inside the valve box; tracer wire shall looped and extend a minimum of 3 feet above the street or ground level or as approved by the OWNER.

**Material List for Manhole Valve Installation**

<u>Item</u>	<u>Quantity</u>	<u>KUB Item #</u>	<u>Description</u>
1	1	800020	Water Manhole Lid
2	1	800300	Manhole Ring
3			Manhole Cone Section
4			Manhole Riser Sections
5	1-Lot	383448	#12 Solid Cu. Insulated Tracer Wire (not shown)

### **3.1 GATE VALVES**

- A. Gate valves shall be installed on all fire lines and on distribution lines smaller than 16 inch, or as directed by the OWNER. Butterfly valves shall be installed on lines 16" and larger or as directed by OWNER.
- B. Gate valves larger than 2 inches shall be resilient seated, manufactured to meet or exceed the requirements of AWWA C509 of latest revision or AWWA C515 and in accordance with the materials specifications herein.
- C. Gate valves 2 inches or smaller shall be wedge-type brass gate valves in accordance with the Materials Specifications herein.
- D. Gate valves and HDPE valves shall be installed in valve boxes as shown on the Standard Drawings.

### **3.2 HDPE VALVES**

- A. Valves on 2 inch HDPE shall be AWWA approved, full open HDPE ball valves with blue 2 inch square operating nuts. Valves shall be ¼ turn, left open, in accordance with KUB material specifications.
- B. Valves on HDPE larger than 2 inch shall be approved gate valves.

### **3.3 BUTTERFLY VALVES**

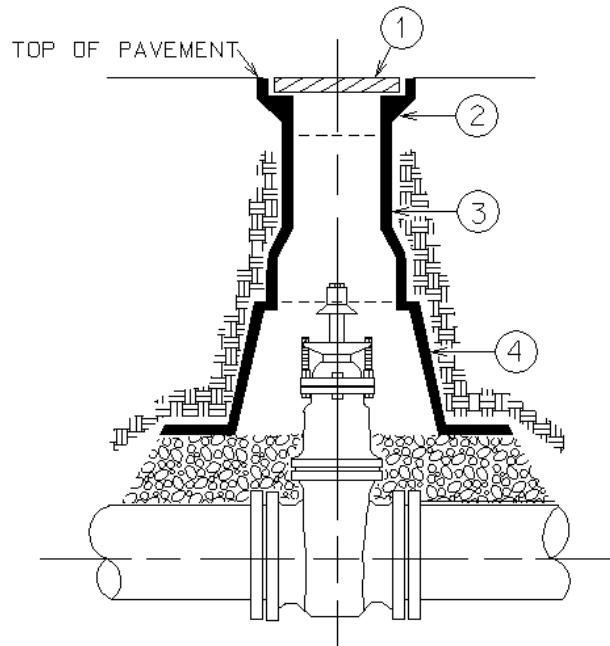
- A. Butterfly valves shall be installed on lines 16" and larger or as directed by the OWNER.
- B. Butterfly valves shall meet or exceed the requirements of AWWA C504 of latest revision and shall be in accordance with the Materials Specifications herein.
- C. Butterfly valves shall be installed in valve boxes as shown on the Standard Drawings.
- D. The CONTRACTOR will be responsible to ensure the MJ adapters used to connect the HDPE main to the butterfly valve are used. The MJ adapters are to be specifically designed for the type of Butterfly valve being installed and proper clearance of the butterfly valve disc shall be provided.

**3.4 TAPPING VALVES**

- A. Tapping valves 12 inches and smaller shall conform to AWWA C509 of latest revision or AWWA C515 and the Materials Specifications covering gate valves except as modified for passage and clearance of tapping machine cutters.
- B. Tapping valves larger than 12 inches shall conform to AWWA C500 of latest revision and the Material Specifications covering gate valves except as modified for passage and clearance of tapping machine cutters.
- C. Tapping sleeves and valves shall be subjected to a pressure test while in place on the existing water line, prior to the existing line being tapped. The tapping sleeve and valve shall be subjected to a hydrostatic pressure equal to the normal working pressure (but not less than 200 psi) for a period of 15 minutes. The connection being tested shall maintain 100 percent of the test pressure throughout the test period. The CONTRACTOR shall supply all necessary equipment for testing sleeves. Other details of the test shall be as directed by the OWNER.
- D. Taps shall be dry or under pressure as directed by the OWNER.

**3.5 VALVE BOXES**

- A. Valve boxes shall be in accordance with the Materials Specifications and as shown on the Standard Drawings.
- B. Valve boxes shall be installed with the opening centered over the valve-operating nut.
- C. The bottom of the base section of the valve box shall be at or below the bottom of the operating nut on the valve.
- D. Do not allow the valve box base to rest directly on the pipe or valve. Use blocks or brick to support the valve box base.
- E. Condemn valves by removing the top section of the valve jacket, filling with gravel and repairing asphalt.
- F. Tracer wire shall be installed within the valve box or manhole, bring up tracer wire in 1/2 inch IPS PE pipe inside the valve box; tracer wire shall looped and extend a minimum of 3 feet above the street or ground level or as approved by the OWNER.



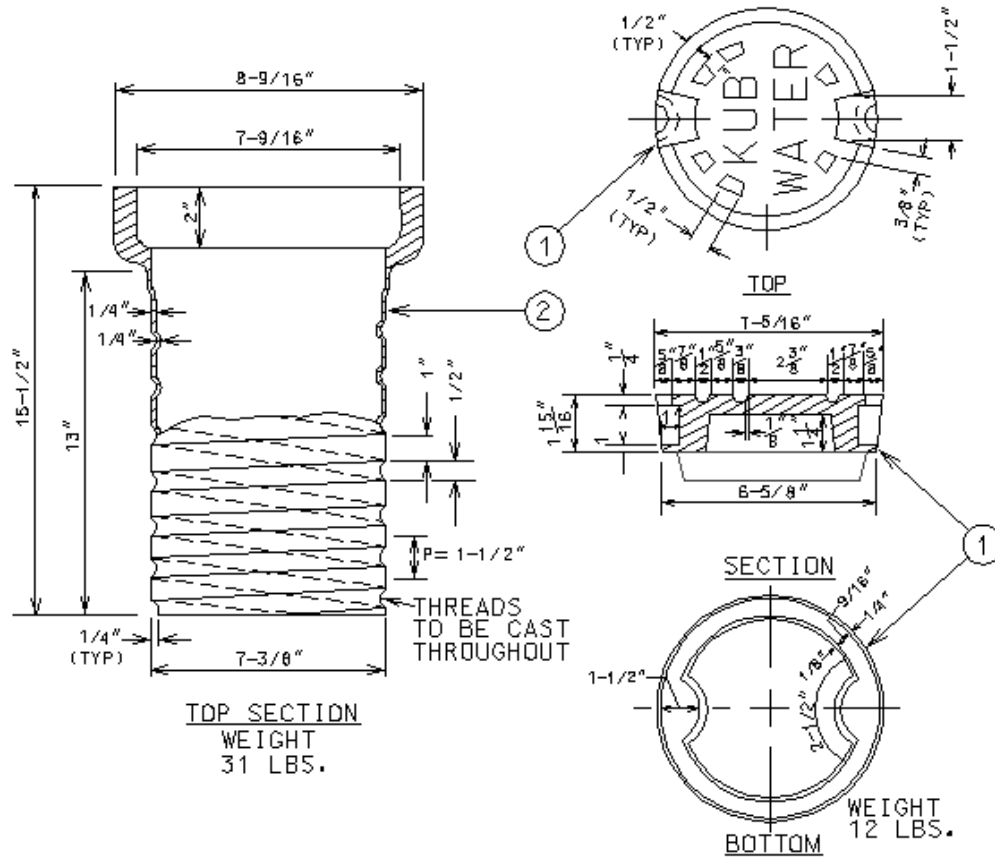
**Figure 2-02514-b: Valve Box for Valve Installation**

Notes:

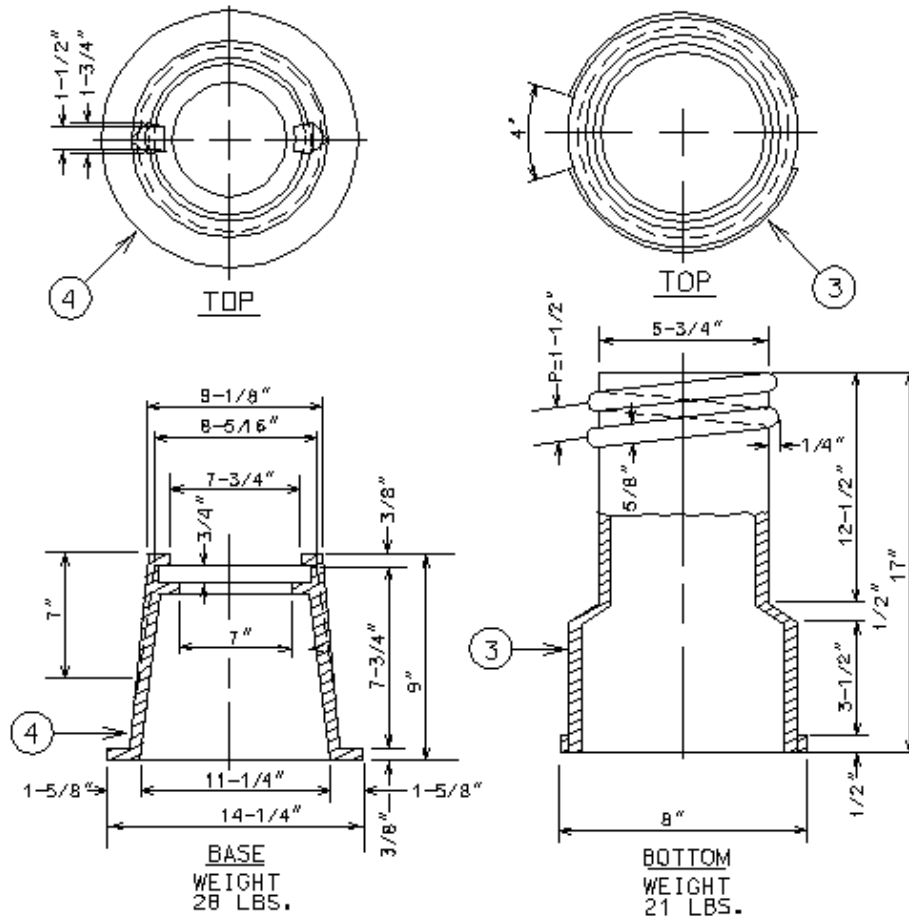
- I. Adjust top section of valve box to grade.
- II. Base section of valve box must rest on specified material.
- III. Valve box to be centered over valve operator and installed in vertical plane.
- IV. Do not allow the valve box base to rest directly on the pipe or valve. Use blocks or brick to support the valve box base.
- V. Tracer wire shall be installed within the valve box or manhole, bring up tracer wire in 1/2 inch IPS PE pipe inside the valve box; tracer wire shall be looped and extend a minimum of 3 feet above the street or ground level or as approved by the OWNER.

**Materials List Valve Box for Valve Installation**

<u>Item</u>	<u>Quantity</u>	<u>KUB Item #</u>	<u>Description</u>
1	1	294082	Water Valve Box Lid
2	1	294041	Water Valve Box Top Section
3	1	294058	Water Valve Box Bottom Section
4	1	294074	Valve Box Base
5	1-Lot	290783	Bricks to support valve box base (not shown)
6	1-Lot	383448	#12 Solid Cu. Insulated Tracer Wire (not shown)



**Figure 3-02514-b (Valve Box)**



**Figure 3-02514-c: Valve Box**

**Material List for Valve Box**

<u>Item</u>	<u>Quantity</u>	<u>KUB Item #</u>	<u>Description</u>
1	1	294082	Valve Box Water Lid
2	1	294041	Valve Box Top Section
3	1	294058	Valve Box Bottom Section
4	1	294074	Valve Box Base

END OF SECTION

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