

SECTION 02231 VALVES

A. General

Valves shall be R/S Gate Valves Tyton Joint with Field Lok Gaskets. Valves shall conform to ANSI/AWWA C509. Also, all valves shall have stainless steel nuts and bolts.

All valves shall be opened by turning counter clockwise and closed by turning clockwise. Parts of the valves of the same type and size shall be interchangeable.

All valves shall be carefully erected in their respective positions, free from all distortion and strain, and shall be packed and left in satisfactory operating condition. All valves shall have ends matching the joints in their connecting piping, except where otherwise shown, specified, or required.

Valves in water main, where practical, shall be located in unpaved areas unless shown otherwise on the plans.

Mains shall be drained through drainage branches or flushouts. Drainage branches, flushouts, air vents, and appurtenances shall be provided with valves and shall be located as shown on the plans. Drainage branches or flushout shall not be directly connected to any sewer, submerged in any stream, or be installed in any manner that will permit back siphonage into the distribution system. All dead end mains shall be equipped with suitable flushout and sample tap facilities, as shown in Figures 2 and 3 or, as directed by the Department Representative.

A valve box shall be installed for every valve that has no gearing or operating mechanism or in which the gearing or operating mechanism is fully protected with a gear case. The valve box shall not transmit shock or stress to the valve and shall be centered over the operating nut of the valve, with the box cover flush with the surface of the finished grade or such other level.

A valve vault designed to prevent settling on the pipe shall be provided for every valve that has exposed gearing or operating mechanisms. The operating nut shall be readily accessible for operation through the opening in the valve vault, which shall be set flush with the surface of the finished pavement or such other level as may be specified. Vaults shall be so constructed as to permit minor valve repairs and afford protection to the valve and pipe from impact where they pass through the vault walls.

In no case shall valves be used to bring misaligned pipe into alignment during installation. Pipe shall be supported in such a manner as to prevent stress on the valve.

B. Flanges

Flanges shall be cast solid and faced accurately at right angles to the axis of the casting. Flanges shall be faced and drilled and shop coated with a rust-preventive compound before shipment.

Dimensions and drillings of flanges shall meet the requirements of ANSI B16.1, 125 pounds. Special drilling shall be provided where required.

Flanges shall not be buried and can only be used in an area open to inspection.

C. Flushout Valve Assembly

Flushout valve assembly shall be constructed as shown and specified on Figure 3 — "Temporary Flushout Valve Assembly."

D. Valve and Curb Boxes

The valve boxes shall be adjustable, screw type, and made of cast iron. Valve boxes for 4-inch through 12-inch valves shall have a 5-1/4-inch diameter shaft and consist of a base, bottom section, top section and a lid marked "Water." Curb boxes for 1 inch curb stops shall consist of a bottom section, top section, and lid marked "Water". Curb boxes for curb stops 1-1/2 inch and 2 inch shall consist of a bottom section, top section, enlarged base, and lid marked "Water". Please refer to Section 02290 – Detail B for a Valve/Curb Box Detail.

E. Resilient Seated Gate Valves

Resilient seated gate valves shall conform to AWWA C509 and shall be furnished with push-on joints.

Valves shall be ductile iron and shall have a non-rising stem.

The gate valve bonnet shall be held together by stainless steel nuts and bolts.

Resilient seats shall be applied in accordance with AWWA C509.

Valve shall be designed for a working pressure of 200 psi.

F. Butterfly Valves

Butterfly valves shall conform to AWWA C504 and shall be furnished with mechanical joint connections.

Valve shall be ductile iron, valve shaft shall be stainless steel, valve discs shall be ductile iron, and valve seats shall be rubber.

Valve shall be designed for a working pressure of 150 psi, or 250 psi.

G. Mechanical Joint Valves for Use in Tapping

Valves shall conform to AWWA C509 and shall be furnished with mechanical joints.

Valves shall be ductile iron and shall have a non-rising stem.

The valve bonnet shall be held together by stainless steel nuts and bolts.

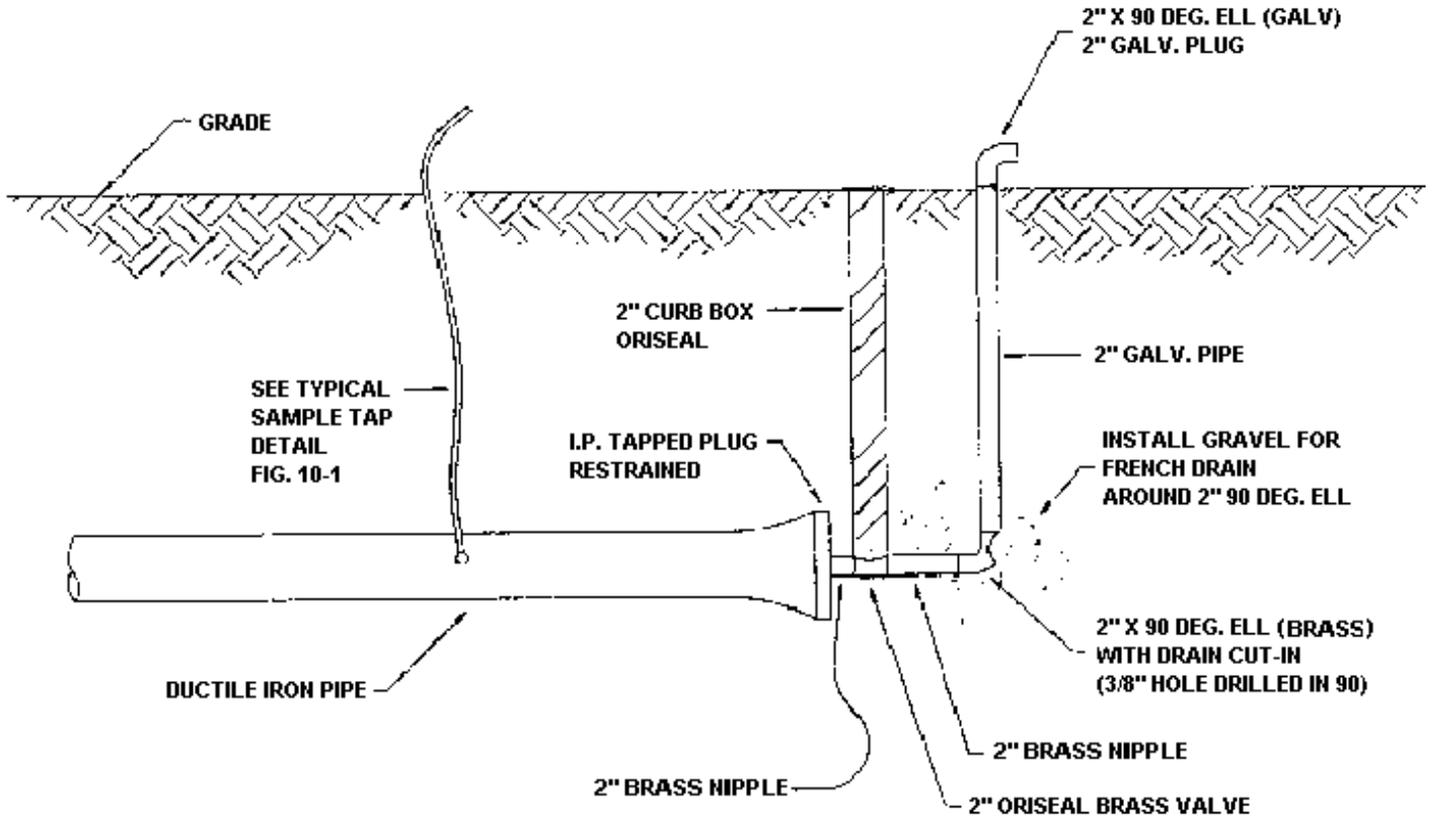
Valve shall be designed for a working pressure of 200 psi.

H. Painting and Coating

The outside of ferrous parts of valves shall be painted in accordance to AWWA C500 and AWWA C504. The inside of ferrous parts of valves shall be coated in accordance to AWWA C550.

END OF SECTION

CONSTRUCTION STANDARD



NOTE: 1-1/2" and 2" curb stops require an enlarged base, 95E curb box.

TEMPORARY FLUSH-OUT INSTALLATION

FIGURE 3