

7-12 VALVES FOR WATER MAINS

7-12.1 Description

Valves for water mains shall be suitable for ordinary waterworks service, intended to be installed in a normal position on buried pipelines for water distribution systems.

Valves shall open counterclockwise and shall be equipped with a 2-inch square AWWA standard operating nut. Unless otherwise specified, all valves shall be the nonrising stem type.

7-12.2 Materials

Materials shall meet the requirements of the following sections:

Gate Valves (3-inches to 16-inches)	9-30.3(1)
Butterfly Valves	9-30.3(3)
Valve Boxes	9-30.3(4)
Valve Marker Posts	9-30.3(5)
Combination Air Release/Air Vacuum Valves	9-30.3(7)
End Connections	9-30.5(1)
Tapping Sleeve and Valve Assembly	9-30.3(8)

The valves shall be standard pattern of a manufacturer whose products are approved by the Engineer and shall have the name or mark of the manufacturer, year valve casting was made, size and working pressure plainly cast in raised letters on the valve body.

The valve bodies shall be cast iron, ductile iron, or other approved material mounted with approved noncorrosive metals. All wearing surfaces shall be bronze or other approved noncorrosive material, and there shall be no moving bearing or contact surfaces of iron in contact with iron. Contact surfaces shall be machined and finished in the best workmanlike manner, and all wearing surfaces shall be easily renewable.

7-12.3 Construction Requirements

All valves shall be inspected upon delivery in the field to ensure proper working order before installation. They shall be set and jointed to the pipe in the manner as set forth in the AWWA Standards for the type of connecting ends furnished. The valves shall also be carefully inspected for injury to the outer protective coatings. At all places where the coating has been ruptured or scraped off, the damaged area shall be cleaned to expose the iron base installation, and the cleaned area shall then be recoated with 2 or more field coats of approved protective coating.

Upon delivery at the work site, all valves shall be opened to prevent the collection of water in the valve. Valves shall have the interiors cleaned of all foreign matter and shall be inspected both in open and closed position prior to installation. Valves and valve boxes shall be set plumb and valve boxes shall be placed over the valve or valve operator in a manner that the valve box does not transmit shock or stress to the valve. The lower casting of the unit is installed first, in a manner as to be supported by a minimum backfill or by a Styrofoam collar not less than 2-inches in thickness. The casting shall not rest directly upon the body of the valve or upon the water main. Backfill shall be carefully tamped around the valve box to a distance of 3-feet on all sides or to the undisturbed face of the trench if it is closer. The cast iron valve box cover shall be set flush with the Roadbed or finished paved surface.

The combination air release/air vacuum valves shall be installed as shown in the Plans. All piping shall be sloped to permit escape of any entrapped air. Backfilling and compaction shall be as specified in Section 7-09.

After installation, all valves shall be subjected to field testing and disinfected as outlined in Section 7-09. Should any defects in design, materials, or workmanship appear during these tests, the Contractor shall correct such defects with the least possible delay and to the satisfaction of the Engineer.

7-12.3(1) Installation of Valve Marker Post

Where required, a valve marker post shall be furnished and installed with each valve. Valve marker posts shall be placed at the edge of the Right of Way opposite the valve and be set with 18-inches of the post exposed above grade. The exposed portion of the valve marker posts shall be painted with 2 coats of concrete paint in a color selected by the Engineer, and then the size of the valve and the distance in feet and inches to the valve shall be stenciled with black paint on the face of the post, using a stencil which will produce letters 2-inches high.

7-12.4 Measurement

Measurement of valves shall be per each for each type and size actually installed.

7-12.5 Payment

Payment will be made in accordance with Section 1-04.1, for each of the following Bid items that are included in the Proposal:

“Gate Valve ____ In.”, per each.

“Butterfly Valve ____ In.”, per each.

“Comb. Air Release/Air Vacuum Valve Assembly ____ In.”, per each.

“Tapping Sleeve and Valve Assembly ____ In.”, per each.

The unit Contract price per each for the valve specified shall be full pay for all Work to furnish and install the valve complete in place on the water main, including trenching, jointing, blocking of valve, painting, disinfecting, hydrostatic testing, valve box, and marker post.