

GENERAL:

The scope of this document is to provide instruction for the installation and testing of buried chilled water valves and vents.

DESIGN GUIDELINES:

1. Material**1.1. Valves**

- 1.1.1. All valves shall open counterclockwise.
- 1.1.2. Butterfly Valves: AWWA C504, Class 150B service, with cast iron body, cast iron disc with stainless steel seating edge, BUNA-N seal retained in body of valve, 304 stainless steel valve shaft, self-lubricating valve bearings, fully grease packed actuator with stops in the open/close position. The actuator shall have a traveling nut which shall engage alignment grooves in the housing and shall have a built-in packing leak bypass to eliminate possible packing leakage into the actuator. Valve interior and exterior surfaces except for seating shall be coated with two coats of asphalt varnish. Valves shall have mechanical joint ends. Valves shall be Pratt Groundhog, Mueller Lineseal III or approved equal.
- 1.1.3. Bronze Angle Ball Valves: Valve shall be 1" brass angle ball valve with 1" FIPxFIP connections. Valve shall have fluorocarbon-coated brass ball and integral stops that allow 90 degree motion. Valve shall have solid one piece tee-head and stem. Valve shall be rated for 300 psi working pressure. Valve shall be brass and conform to AWWA C800. Valve shall be certified to NSF 61. Valve shall be Ford BA11-444WR-NL or engineer approved equivalent.
- 1.1.4. Ball Valves: Threaded bronze, 125 lb., 2-piece design, full port. Valves shall be Nibco T-580 or approved equal.

- 1.2 Valve Boxes: Valve box shall be 6" PVC pipe, ASTM D3034, SDR 35, with cast iron cover. Clay and Bailey No. 2194 or approved equal. Lid shall be marked "CW" or CHILLED WATER". Provide below grade concrete collar in planted and asphalt areas. Base covering shall be Multi-Fit Adaptor #90004 by Adaptor Co. or approved equal.

1.3 Chilled Water Vent Boxes

- 1.3.1 Minimum internal dimensions shall be 24" x 13" x 18" (L x W x D). Box shall be 4,000 PSI concrete with a galvanized steel cover and frame with open bottom. H-20 load rating. Cover shall be for the entire opening with a slotted pick hole and two recessed flat head galvanized screws with anchors. Concrete shall contain polymesh fibers. Box shall be TB – 1627 by Precision Precast or equivalent.

2. Installation

- 2.1. Valve Storage: Use the following precautions for valves during storage:

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- 2.1.1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
- 2.1.2. Protect valves from weather. Store valves indoors. Maintain valve temperature higher than the ambient dew point temperature. If outdoor storage is necessary, support valves off the ground or pavement in watertight enclosures.
- 2.1.3. Handling: Use a sling to handle valves whose size requires handling by crane or lift. Rig valves to avoid damage to exposed valve parts. Do not use hand wheels or stems as lifting or rigging points.
- 2.2. Valve Installation
 - 2.2.1. Chilled Water service and mains: Install butterfly valves. Comply with AWWA C600. Install buried valves with stem pointing up and with valve box.
 - 2.2.2. Buried taps for vents: Bronze Angle Ball Valves.
 - 2.2.3. Indoor vents and drains: Ball valves.
 - 2.2.4. Valve boxes and vent boxes shall be installed vertically with top of box even with final grade.
3. Testing
 - 3.1. All valves shall be pressure tested in accordance with standards set forth in the Chilled Water Piping.

REFERENCES

336113 Butterfly Valve.dwg
336113 CW Vent Box Detail.dwg