

## **GATE VALVES**

### **PART 1 – GENERAL**

#### **1.01 SECTION COVERS**

- A. The design, manufacture, and testing of 4" through 54" gate valves of the resilient seated design, for the purpose of providing isolation as indicated.

#### **1.02 REFERENCES & STANDARDS**

- A. AWWA C515 "Resilient Seated Gate Valves for Water Supply Service"
- B. ASTM A536 "Standard Specification for Ductile Iron Castings"
- C. ANSI B16.1 "Pipe Flanges and Flanged Fittings"
- D. AWWA C111 "Rubber-Gasketed Joints for Ductile-Iron Pressure Pipe and Fittings"
- E. NSF 61/372 "Drinking Water System Components – Health Effects"

#### **1.03 QUALITY ASSURANCE**

- A. Valves shall be warranted by the manufacturer for defects in materials and workmanship for a period of one year (12 months) from date of shipment.
- B. Each valve and actuator shall be assembled, adjusted and tested as a unit by the valve manufacturer.

### **PART 2 – PRODUCTS**

#### **2.01 ACCEPTABLE MANUFACTURERS**

- A. McWane Plant & Industrial (MPI)
- B. M&H Valve Company
- C. Kennedy Valve
- D. Clow Valve

#### **2.02 RESILIENT SEATED GATE VALVES**

- A. Valve body and bonnet shall be ductile iron per ASTM A536. Waterway shall be smooth, unobstructed and free of all pockets, cavities and depressions in the seat area.
- B. Valve wedge shall be ductile iron per ASTM A536 and fully encapsulated with EPDM rubber. The sealing rubber shall be permanently bonded to the wedge per ASTM D429.
- C. Valve shall be either non-rising stem (NRS) or rising stem (OS&Y), open by turning left or right, and provided with a 2" operating nut or handwheel.
- D. Valve stems shall be cast copper alloy with integral collars in full compliance with AWWA. Stems shall have two EPDM O-rings located above thrust collar and one O-ring below. Stem O-rings shall be replaceable with the valve open during operating conditions. 4" through 20" valve stems shall be provided with two low torque thrust bearings located above and below the stem collar to reduce friction during operation.
- E. Non-rising stem valves shall operate with copper alloy stem nuts independent of wedge and stem.
- F. Valves shall be supplied with O-ring seals at all pressure retaining joints. No flat gaskets or conventional type packing shall be allowed on NRS valves.

- G. Valves 24" and larger shall be include CleanTrack Technology. CleanTrack shall consist of two bronze rollers and scrapers affixed to each side of the wedge and travel along a stainless-steel track.
- H. Valves 30" and larger shall be provided with a bevel gear for horizontal valve orientations or spur gear for vertical orientations.
- I. All valve fasteners shall be stainless steel.
- J. The interior and exterior of the valve shall be coated with either an NSF-61 approved fusion-bonded epoxy or NSF-61 approved two-part epoxy.
- K. Each valve shall have manufacturer's name, pressure rating, and year in which it was manufactured cast in the body.
- L. Valve sizes 4" through 48" shall be capable of accepting a full-size tapping cutter.

### **PART 3 – INSTALLATION**

- A. Vertical installation orientations are preferred whenever possible, allowing gravity to assist with valve closure, resulting in lower operating torque requirements.