

SECTION _____

Heavy Duty Cast Flap Gate

PART 1 GENERAL

1.01 SCOPE OF WORK

- A. The CONTRACTOR shall furnish all labor, materials, equipment and incidentals required to install and ready for operation the flap gate as shown on the Contract Drawings and as specified herein.

1.02 SUBMITTALS

- A. Provide the following information to confirm compliance with the specification in addition to the submittal requirements specified in Section _____.
 - 1. Complete description of all materials including all structural components of the frame, cover, lugs, hinge links, bushings and washers.
 - 2. Installation drawings showing all details of construction, details required for installation, dimensions and anchor bolt locations.
 - 3. The location of the company headquarters and the location of the principal manufacturing facility.

1.03 QUALITY ASSURANCE

- A. Qualifications
 - 1. All the equipment specified under this Section shall be furnished by a single manufacturer with a minimum of 20 years' experience designing and manufacturing flap gates. The manufacturer shall have manufactured flap gates for a minimum of 100 projects.
 - 2. The specification is based on the cast iron flap gate as manufactured by Waterman Valve, of Exeter, California.

PART 2 EQUIPMENT

2.01 GENERAL

- A. The flap gate shall be designed to allow free outflow and prevent backflow for a maximum seating head of 55 feet.
- B. When used for pump discharge, the unit shall be fitted with a Waterman-supplied leaf-spring bumper with rubber cushion block and neoprene seats

2.02 CONSTRUCTION

- A. Frame shall be cast of flatback design, with seating surface inclined from vertical at a minimum of 2.5 degrees to assure positive closure. For flatback gates mounted to thimbles or flanges, the gate flange shall be machined and drilled to match.
- B. Cover shall be cast ductile iron, cast in one piece, with reinforcing ribs, designed to withstand the seating head specified. An integral cast on lifting eye shall be provided for manual operation. All machined surfaces shall have a minimum 63 micro inch finish.
- C. Seating surfaces for frame and cover shall be machined ductile iron. A bronze inlay can be added for improved corrosion resistance, or a neoprene seat can be added for added to reduce wear on the machined surfaces during chatter in pump discharge applications.
- D. Gate shall be provided with an adjustable, double pivoted hinge linkage so designed to permit complete seating, full opening and with stops or other arrangement to prevent the cover from rotating sufficiently to become wedged in the open position. Pivot lugs mounted to the frame shall be adjustable to allow adjustment of hinge links without having to remove the cover from the gate. The hinge links shall be 304 stainless steel. Optional hinge links of 316 stainless steel may be specified. All assembly hardware shall be stainless steel, 316 or 304 as specified.
- E. Finish of all cast ductile iron shall be painted with manufacturer's standard shop coat paint or specified paint. Structural steel hinge links shall be 304 stainless steel or optional 316 stainless steel. All stainless steel parts do not require further finish.

2.03 MATERIALS

Frame, Cover, and Pivot Lug – Ductile Iron per ASTM- A-536, Grade 65-45-12

Seat - Ductile Iron per ASTM- A-536, Naval Bronze per ASTM B21 Alloy C48200, or Neoprene per ASTM D2000 BC 60 shore

Hinge Link, Hinge Pin – Stainless Steel per ASTM A-276, Type 304 Standard, Type 316 Optional

Hinge Bushing – 841 Bearing Bronze, SAE30 Oil-Embedded

Assembly Hardware – Stainless Steel per ASTM F-593, Type 304 Standard, Type 316 Optional

2.04 OPTIONAL SPRING BUMPER MATERIALS

Bumper – Reinforced Rubber

Spring – Painted Spring Steel, Type 5160H

Spring Bumper Assembly Hardware – Stainless Steel ASTM F-593, Type 304 Standard, Type 316 Optional

PART 3 EXECUTION

3.01 INSTALLATION

- A. Installation of the gates and appurtenances shall be done in a workmanlike manner. It shall be the responsibility of the CONTRACTOR to handle, store, and install the equipment specified in this Section in strict accordance with the Manufacturer's recommendations.
- B. The CONTRACTOR shall review the installation drawings and installation instructions prior to Installing the gates.
- C. The CONTRACTOR shall fill any void between the guide frames and the structure with non-shrink grout as shown on the installation drawing and in accordance with the grout manufacturer's recommendations.
- D. Waterman recommends a spring bumper for flap gates in a pump discharge application.

3.02 FIELD TESTING

- A. After installation, all gates will be field tested in the presence of the CONTRACTOR and THE OWNER to ensure that all items of equipment are in full compliance with this Section.

END OF SECTION
NOTHING FOLLOWS