Golden Harvest, Inc.
Golden Gates™

TYPICAL SPECIFICATION
MODEL GH-35 SELF-REGULATING TIDE GATES

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. Publications are referred to in the text by their basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A 276	**(1995) Standard Specification for Stainless Steel Bars and Shapes**
ASTM B 209	**(1993) Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate**
ASTM B 221	**Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rod, Wires, Shapes and Tubes**
ASTM B 308	**Standard Specifications for Aluminum-Alloy 6061-T6 Standard Structural Shapes**
ASTM F 593	**(1995) Standard Specification for Stainless Steel Bolts, Hexcap Screws and Studs**
ASTM F 594	**(1991) Standard Specification for Stainless Steel Nuts**

PART 2 PRODUCTS

2.1 SELF-REGULATING TIDE GATES

The self-regulating tide gates shall be the model GH-35 as manufactured by Golden Harvest, Inc., Burlington Washington telephone number 1-800-338-6238, and no other will be acceptable.

2.1.1 GENERAL

The intent of the self-regulating tide gate is to allow for tidal flushing of salt marshes during normal tide cycles while providing flood protection for upland areas. These are utilized where traditional flapper-style tide gates, electrically operated sluice gates or other electrically powered devices will not be accepted.

Each self-regulating tide gate shall be installed such that the tide gate flap floats on the surface of the rising and falling tide water, allowing flow through the existing culverts during normal tidal cycles.

Each gate shall be designed with adjustable floats and float support arms to allow field adjustment of the high-water closing elevation through the maximum feasible range.

The supplied self-regulating tide gate be designed to close at the pre-designated high-water elevation of **(Project Specified) (NAVD88).**

The tide gate shall be provided with an appropriately sized vacuum relief vent and bypass doors to relieve air and water trapped behind the gate when the main tide gate flap closes.

During a storm the tide gate shall remain in the closed position after automatically closing on the high set point when the tide recedes and resumes normal tidal action the tide gate shall automatically reopen to allow free passage of water into and out of the salt marsh area.

Each self-regulating tide gate shall be fabricated so that it may be adjusted utilizing normal hand tools. They shall be designed such that they can be converted to the operation mode of a standard flap-type gate.

2.1.2 MATERIALS AND FINISH

The Contractor shall furnish and install Golden Harvest, Inc. self-regulating tide gates of the size indicated on the plans, at the locations indicated on the plans.

The body and flap(s) of the self-regulating tide gate shall be fabricated marine grade aluminum plate and shapes conforming to ASTM B 209 alloy 6061-T6 or alloy 5052, with external reinforcement of like material as required to provide structural rigidity.

The bottom interior segment of the tubular body shall be reinforced with a wear plate formed to match the bottom of the tubular body. The wear plate shall be permanently attached to the interior main body of the tide gate structure.

The body of the tide gate shall include a mounting flange, with factory drilled bolt holes. The tide gate shall be provided with a neoprene rubber gasket with factory drilled holes corresponding to the mounting flange.

The tide gate shall be provided with a neoprene molded door gasket.

The lateral bypass doors shall be hinged to open outward from the body of the tide gate.

The high-water closure floats shall consist of a polyurethane foam ball float (foam density to be determined by manufacture, sufficient to ensure proper operation of the tide gate closure mechanism) enclosed in linear low-density polyethylene or polyvinyl chloride outer casing.

The vacuum relief vent shall be fabricated form a segment of high-density polyethylene tubing of circular cross-section, or aluminum conforming to ASTM B-209 alloy 6061-T6 and shall be secured to the main body of the tide gate structure.

The tide gates shall be provided with stainless steel mounting bolts conforming to ASTM F593 Type 316.

Miscellaneous hardware shall conform to ASTM F593 Type 316 SS, ASTM F-594 Type 316 SS, or other approved materials suitable for use in salt water.

Coating System: Tide moving components of the SRT tide gate shall have a factory applied coating of primer and 6-8 mils anti-fouling paint.

Other components and hardware materials not specifically designated above shall be suitable for use in salt water.

PART 3- EXECUTION

3.1 FIELD QUALITY CONTROL

The contractor shall provide the services of a qualified manufacturer's factory employed field service engineer to: check the installation before the gate is placed into operation; perform field tests; assist in the start-up of the equipment; and train the plant operations and maintenance staff in the care, operation, and maintenance of the equipment.

The manufacturer's field service engineer shall be a direct employee of the equipment manufacturer, with at least five (5) years experience in the installation, testing and startup of equipment of the type provided under this specification. The manufacturer's agent or other sales and marketing personnel will not be accepted as the manufacturer's field service engineer. Manufacturer shall submit a resume for approval prior to performing field service work.

3.2 FIELD ADJUSTMENTS & TESTING

A functional test shall be completed by means of varying flow to each gate from minimum to full plant flow. Upstream water levels shall be recorded and if necessary, each gate shall be adjusted to satisfactory performance.

Installation Check & Testing: 2 **Trip** of **2 days** per trip

END OF SECTION