



# ecoStop® Spill Control Technology Standard Specification

## PART 1.00 - GENERAL

### 1.01 SUMMARY:

- A. This Section includes the following utility materials and methods to complement other Division \_\_ Sections:
  - 1. Concrete tank requirements.
  - 2. Method and materials.
  - 3. Controls and alarm systems.
- B. Exterior Pipe and pipe fitting materials are specified in Division \_\_ piping Sections.
- C. Related Sections include the following:
  - 1. Division \_\_\_\_ Section "Earthwork" for excavating, trenching, and backfilling.
  - 2. Division \_\_\_\_ Section "Sewerage and Drainage" for pre-cast manhole construction.
  - 3. Division \_\_\_\_ Section "Utility Materials" for nameplate installation requirements.
  - 4. Division \_\_\_\_ sections for Electrical for establish of electrical controls to the oil/water separator.

### 1.02 SUBMITTALS:

- A. Product Data: Catalog Cuts with dimensions, specifications and installation instructions. Include one copy of manufacture's, contractor installation, operations and maintenance manual for informational purposes.
- B. Performance: "EN858 and DIN 1999" certified for valve testing regarding total dynamic head tests for watertight seal
- C. Accessory sensors and alarms: Schematic wiring diagrams and bill materials for each component of each sensor/alarm system.
- D. Project Closeout Submittals: Provide two additional copies of manufacture's, contractor installation, operations, and maintenance manual with log.

### 1.03 QUALITY ASSURANCE:

- A. The spill control valve system shall be designed to perform as specified for variable and continuous flow rates up to \_\_ gallons per minute (\_\_ liters per second) and also include peak, intermittent flow rates up to and including \_\_ gallons per minute (\_\_ liters per second).

- B. The central portion of the unit shall enable the removal of fine and widely dispersed oil droplets by means of gravity displacement to a “dead” water layer in the unit itself and withstand subsequent detachment and re-entrainment into the flowing water by controlling the flow of influent into the vessel.
- C. Accepted Manufacturers:
  - 1. ecoStop Spill Control Technology as designed by Royal Environmental Systems, Stacy, Minnesota 800-817-3240.
  - 2. Royal Environmental reserves the right to oversee and select a certified National Precast Concrete Association manufacturer (<http://www.precast.org/certification/index.htm>).
  - 3. Pamrex 24” diameter, ductile iron frame and cover (no strut).
  - 4. GSE, “StudLiner”, H.D.P.E. concrete embedment lining system.
- D. Governing Standards for Concrete Tank:
  - 1. ASTM C478-93 for precast water and wastewater structures
  - 2. ACI 318-89 Building code requirements for reinforced structural concrete.
  - 3. Tank shall meet AASHTO HS-20-44 vehicle loading.

#### 1.04 SEQUENCING AND SCHEDULING:

- A. Coordinate equipment installation with other components.
- B. Coordinate installation of required supporting devices and set sleeves in poured-in-place concrete and other structural components as they are constructed.
- C. Sequence, coordinate, and integrate installations of materials and equipment for efficient flow of the Work.
- D. Coordinate connection of piping systems with other exterior underground utilities and services. Comply with requirements of authorities having jurisdiction, franchised service companies, and controlling agencies.

## PART 2 - PRODUCTS

#### 2.01 SPILL CONTROL SYSTEM:

- A. HS-20 traffic loading underground precast concrete tank.
- B. Standards: The valve shall be tested in accordance with “DIN 1999”.
- C. Design standards:
  - 1. Industrial coupled inlet and outlet connections pipe connectors (specified by owner).
  - 2. Floatable “stand pipe baffle configuration” at outlet.
  - 3. The spill control valve shall be, non-electrical, mechanical automatic shutoff device to protect against a spill event or an oil buildup caused by a lack of routine maintenance. When shut, the device shall be certified to close against a head pressure to 16 feet of total dynamic head and remain liquid tight at 60 feet of total static head.

4. All internal parts shall be manufactured from pickled stainless steel, PVC, and high-density polyethylene.
5. The interior of the separators base section shall be sealed with GSE, "StudLiner", H.D.P.E. concrete embedment lining system.

## 2.02 JOINING MATERIALS:

- A. Refer to individual Division 2 piping Sections for special joining materials not specified otherwise.

## 2.03 ACCESSORIES:

- A. Interface and level sensor: Intrinsically safe oil level controls to activate high-level alarm at a predetermined oil level as manufactured by ecoTECHNIC, GmbH.
- B. Alarm/Control panel (per manufacturer's recommendation): To monitor level sensor and trip a remote mounted visual and audible alarm configured to the system as manufactured by ecoTECHNIC, GmbH.
  1. Remote mounted audible alarm to have alarm silence switch but leave alarm light lit until problem has been corrected.
  2. Separate alarm light for high oil level (red) self-test button.
  3. Labeled identification for each light, switch, etc.
  4. Nameplate identification for the alarm panel as follows, "ecoStop - OIL LEVEL."

## PART 3 - EXECUTION

### 3.01 INSTALLATION:

- A. Perform test as per manufacturer's recommendations.
- B. Excavate and install tank in accordance with manufacturer's recommendations and specifications found elsewhere within this document.
- C. Backfill per manufacturer's recommendations and specifications found elsewhere within this document.
- D. Connect tank sensors to the control panel. Field locate the control panel in the area where directed. Provide new electrical service to the new control panel as directed. Electrical work to conform to the requirements of the National Electrical Code (NEC) and specifications found elsewhere in this document. The contract owner's representative will be the sole judge of the interpretation of these rules and requirements.
- E. Install remote alarm panel where directed by the contract owner's representative. Provide one set of dry contacts connected to the "High Water Alarm" for connection to the Building Automation System (BAS).

END OF SECTION