SECTION 50 03 01

FLOATING DECANTER

PART 1. GENERAL

1.1 SCOPE OF WORK

Furnish all labor, equipment, materials, and incidentals to install one floating decanter system (FD-xx) for decanting the Backwash Waste Storage Tank T-xx contents. The system supplier shall provide materials and equipment which are as specified below, as shown on the design drawings, and are suitable for the service intended.

The unit shall be furnished and installed with equipment for mooring the decanter inside the tank from three cables and compression springs attached near the top lip of the open tank.

The decanter system shall be designed to cause minimal disturbance of the sludge blanket. Decanter shall discharge by gravity through a 4" flexible hose with flange connection, cam and groove fittings. Hose shall connect to the tank nozzle fitting inside the tank.

All equipment shall be Type 316L Stainless Steel.

1.2 RELATED SECTIONS

Section 01 01 00 Scope of Work

Section 01 33 00 Submittals Procedures

Section 01 78 00 Closeout Submittals

Section 01 78 23 Operation and Maintenance (O&M) Data

1.3 REFERENCES

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

<u>AMERICAN IRON & STEEL INSTITUTE (AISI)</u>

AISI 1045 Steel

<u>AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)</u>

ASTM A 240 316/316L Stainless Steel

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO 9001 Quality Systems

1.4 SUBMITTALS

The following shall be submitted in accordance with Section 01 33 00 Submittals:

Pre-construction submittal:

1. Product Data: Manufacturer's descriptive data and technical literature and engineering data sheets for the equipment. Product data shall include selected model number, rated flow capacity, dimensions, weights, accessories, and warranty coverage.

2. Shop Drawings, including:

   a. General arrangement drawings and manufacturer's data covering installation instructions, dimensions, weight, detailed specifications, materials of construction, parts, devices, and other information required to verifycompliance with these specifications.

   b. Proposed layout and anchorage requirements.

   c. Clearances for maintenance and operation.

3. Manufacturer's certificates, including the name and address of the production facility. Provide manufacturer’s certification in writing, that the equipment and materials of construction will meet or exceed minimum requirements as specified.

Operation and Maintenance Manual

1. Submit the operation and maintenance (O&M) manual and required number of copies in accordance with Section 01 78 23.

1.5 DELIVERY AND STORAGE

Protect all equipment, delivered, and designated for storage, from the weather, humidity and temperature variations, dirt and dust, and other contaminants.

1.6 EQUAL PRODUCTS

Should the Contractor propose to furnish an equivalent system of a different configuration, the Contractor shall be responsible for all revisions necessary to incorporate the proposed floating decanter into the design and submit the necessary revised Contract Drawings and Technical Specifications for review and approval.

1.7 QUALIFICATION AND WARRANTY

Manufacturer Qualification:

1. The decanter shall be supplied by a reputable Manufacturer having at least ten (10) years' experience.

Warranty

2. Manufacturer shall provide warranty in accordance with Section 01 78 00 of the specifications.

PART 2. PRODUCTS

2.1 MATERIALS AND EQUIPMENT

The floating decanter shall be compatible with installation on a rail system as identified in Drawing M-505."

The floating decanter and components shall be assembled, piped, and tested in the shop prior to shipment. Field assembly shall be minimized.

The manufacturer shall furnish all tools, materials, labor, and appurtenances necessary for the complete fabrication, testing and shipment of the floating decanter system.

The decanter and connecting hose shall be new and unused.

2.2 SYSTEM REQUIREMENTS

Service: The floating decanter shall be designed to remove decant water inside the Backwash Waste Storage Tank (T-xx) with the rise and fall of the water surface. The decant will discharge by gravity to sanitary sewer manhole. On and Off control of decant water will be provided by BFV-xx.

Maximum Flow rate: 220 gpm

2.3 EQUIPMENT DESCRIPTION

The floating decanter shall be constructed of 316 stainless steel. The decanter shall have a ring design that is filled with suitable material to allow the decanter to float on the water surface and support its own weight.

2.4 EQUIPMENT APPURTENANCES

Lifting Lugs: Individual equipment and or each field assembled part over 100 pounds in weight shall be provided with lifting lugs for ease of handling.

Equipment Identification Plate: A stainless steel identification plate shall be securely mounted on the floating decanter in a location that visible is at eye level. The plate shall bear the Manufacturer’s name, address, phone number, equipment model number (according to P&IDs), and serial number.

2.5 SPARE PARTS & TOOLS

Contractor shall provide one set of recommended spare parts for floating decanter and related accessories.

Contractor shall supply one set of any special tools required for assembly, disassembly, or for adjustment of the equipment supplied.

PART 3. EXECUTION

3.1 INSTALLATION

Verify all dimensions in the field and advise COR of any discrepancy before performing the work. All products shall be carefully inspected for defects in workmanship and material.

Prior to installation, the Contractor shall submit a lifting and installation plan for this decanter.

Installation shall be in accordance with manufacturer's printed instructions and in the presence of the manufacturer’s field representative.

The Contractor or installer shall provide certification from the manufacturer that the equipment has been properly installed.

3.2 FIELD TESTS

Functional Testing: Prior to startup, all equipment components shall be inspected by the Contractor for proper setting, connections, and satisfactory installation. Testing shall be coordinated with that of the Backwash Waste Storage Tank (T-xx).

Test Report: Contractor shall provide a test report that shall include as a minimum a description of the test, methodology used, data and time when test was performed and the results of the testing. All testing results shall be reported, including test results that failed to meet the requirements. Should test runs fail to meet the requirements, an explanation shall be provided with the rationale for failure of the test.

3.3 REMEDY

If the Installation, Inspection or Field Tests reveals deficiencies, corrective measures shall be taken until the System satisfies all of the specified requirements. Remedies shall be completed at no additional cost to the Owner.

3.4 MANUFACTURER SERVICES

Contractor shall provide equipment manufacturer's field representative during the installation, adjustment, and operation of the equipment specified. The representative shall supervise the installing, adjusting, and testing of equipment. The representative shall also conduct a field training course for the designated operating and maintenance staff members. Training shall be coordinated with the onsite Owner's Representative. The field instructions shall cover the items contained in the Operating and Maintenance Instructions, as well as demonstrations of routine maintenance operations. Prepare a video of the field training course for a permanent record for future training use.

END OF SECTION