

**SECTION 22 13 23  
SANITARY WASTE INTERCEPTORS**

SPEC WRITER NOTES:

1. Use this section only for NCA projects.
2. Delete between //----// if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
3. Coordinate electrical requirements with the Electrical Engineer.
4. Coordinate details with the Structural Engineer for waste interceptors installed inside concrete pits.
5. This section covers sanitary waste interceptors within building envelope. Concrete interceptors constructed outside of the five-foot building line are covered in Section 33 30 00, SANITARY SEWERAGE UTILITIES.

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. This section pertains to metal sanitary waste interceptors used for the removal of hair, oil, grease, and sediment from waste streams for installations within the building envelope. Pre-cast concrete interceptors are covered in Section 33 30 00, SANITARY SEWERAGE UTILITIES.
- B. A complete listing of all acronyms and abbreviations are included in Section 22 05 11, COMMON WORK RESULTS FOR PLUMBING.

**1.2 RELATED WORK**

- A. //Section 01 00 01, GENERAL REQUIREMENTS (Major NCA Projects).//
- B. //Section 01 00 02, GENERAL REQUIREMENTS (Minor NCA Projects).//
- C. Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- D. Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS.
- E. //Section 01 91 00, GENERAL COMMISSIONING REQUIREMENTS.//
- F. Section 22 05 11, COMMON WORK RESULTS FOR PLUMBING.
- G. //Section 22 08 00, COMMISSIONING OF PLUMBING SYSTEMS: Requirements for commissioning, systems readiness checklist, and training.//
- H. Section 22 13 00, FACILITY SANITARY AND VENT PIPING.
- I. Section 33 30 00, SANITARY SEWERAGE UTILITIES.

**1.3 APPLICABLE PUBLICATIONS**

SPEC WRITER NOTE: Make material requirements agree with applicable requirements specified in the referenced Applicable Publications. Verify and update the publication list to that which applies to the project, unless the reference applies to all plumbing systems. Publications that apply to all plumbing systems may not be specifically referenced in the body of the specification, but, shall form a part of this specification.

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):
  - C891-11.....Standard Practice for Installation of  
Underground Precast Concrete Utility Structures
  - C890-13.....Standard Practice for Minimum Structural Design  
Loading for Monolithic or Sectional Precast  
Concrete Water and Wastewater Structures
  - C923-08(2013)e1.....Standard Specification for Resilient Connectors  
Between Reinforced Concrete Manhole Structures,  
Pipes, and Laterals
- C. International Code Council (ICC):
  - IPC-2015.....International Plumbing Code

**1.4 SUBMITTALS**

- A. Submittals, including number of required copies, shall be submitted in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Information and material submitted under this section shall be marked "SUBMITTED UNDER SECTION 22 13 23, SANITARY WASTE INTERCEPTORS", with applicable paragraph identification.
- C. Manufacturer's Literature and Data: For each type of interceptor indicated, the submittal shall include materials of fabrication, dimensions, rated capacities, retention capacities, operating characteristics, size and location of each pipe connection, furnished specialties, and accessories.

- D. Detailed shop drawing of clamping device and extensions when required in connection with the waterproofing membrane or the floor drain shall be submitted.

SPEC WRITER NOTE: Coordinate O&M data requirements with Section 01 00 00, GENERAL REQUIREMENTS and Section 01 91 00, GENERAL COMMISSIONING REQUIREMENTS.

- E. Complete operating and maintenance manuals including wiring diagrams, technical data sheets and information for ordering replaceable parts:
1. Include complete list indicating all components of the systems.
  2. Include complete diagrams of the internal wiring for each item of equipment.
  3. Diagrams shall have their terminals identified to facilitate installation, operation and maintenance.
- F. //Completed System Readiness Checklist provided by the Commissioning Agent and completed by the contractor, signed by a qualified technician and dated on the date of completion, in accordance with the requirements of Section 22 08 00, COMMISSIONING OF PLUMBING SYSTEMS.//
- G. //Submit training plans and instructor qualifications in accordance with the requirements of Section 22 08 00, COMMISSIONING OF PLUMBING SYSTEMS.//

#### **1.5 QUALITY ASSURANCE**

- A. Bio-Based Materials: For products designated by the USDA's Bio-Preferred Program, provide products that meet or exceed USDA recommendations for bio-based content, so long as products meet all performance requirements in this specifications section. For more information regarding the product categories covered by the Bio-Preferred Program, visit <http://www.biopreferred.gov>.
- B. Guaranty: Warranty of Construction, FAR clause 52.246-21.

#### **1.6 AS-BUILT DOCUMENTATION**

- A. Submit manufacturer's literature and data updated to include submittal review comments, construction revisions and any equipment substitutions.
- B. Submit operation and maintenance data updated to include submittal review comments, substitutions and construction revisions shall be inserted into a three ring binder. All aspects of system operation and maintenance procedures, including piping isometrics, wiring diagrams of all circuits, a written description of system design, control logic,

and sequence of operation shall be included in the operation and maintenance manual. The operations and maintenance manual shall include troubleshooting techniques and procedures for emergency situations. Notes on all special systems or devices such as damper and door closure interlocks shall be included. A List of recommended spare parts (manufacturer, model number, and quantity) shall be furnished. Information explaining any special knowledge or tools the owner will be required to employ shall be inserted into the As-Built documentation.

- C. The installing contractor shall maintain as-built drawings of each completed phase for verification; and, shall provide the complete set at the time of final systems certification testing. As-built drawings are to be provided, and a copy of them on Auto-Cad version //\_\_\_\_// provided on compact disk or DVD. Should the installing contractor engage the testing company to provide as-built or any portion thereof, it shall not be deemed a conflict of interest or breach of the 'third party testing company' requirement.
- D. Certification documentation shall be provided prior to submitting the request for final inspection. The documentation shall include all test results, the names of individuals performing work for the testing agency on this project, detailed procedures followed for all tests, and a certification that all results of tests were within limits specified.
- E. Guaranty: Warranty of Construction, FAR clause 52.246-21.

## **PART 2 - PRODUCTS**

### **2.1 GREASE/OIL REMOVAL UNIT**

#### **SPEC WRITER NOTE:**

1. Modify Specification when point of use application is required.
  2. Coordinate and assure that the electrical characteristics specified below are clearly shown on the appropriate drawings. Coordinate with Electrical Engineer.
- A. The grease/oil removal unit shall be welded stainless steel, automatic self-cleaning interceptor with a rotating gear wheel assembly for automatic grease/oil removal.
  - B. The grease/oil removal unit shall have a flow control device.

- C. The grease/oil removal unit shall include the following electrical components:
1. Self-regulating electric immersion heater.
  2. A programmable 24-hour time control.
- D. The grease/oil removal unit shall have quick release, stainless steel lid clamps, a gasketed and fully removable stainless steel lid, a separate grease/oil collection container and an internal stainless steel strainer basket for collection of solids and sediment.
1. Heavy-Traffic Load: Comply with ASTM C 890.
  2. Resilient Pipe Connectors: ASTM C 923, cast or fitted into interceptor walls, for each pipe connection.
  3. Individual steps wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 300- to 400-mm (12- to 16-inch) intervals. Omit steps if total depth from floor of interceptor to finished grade is less than 1500 mm (60 inches).
- E. The grease/oil removal unit shall have a high level alarm probe and light. The alarm probe shall be constructed of corrosion-resistant material and utilize 120 VAC radio frequency and shall be provided fully calibrated and ready to use. The alarm light shall operate on 120 VAC and shall be actuated by the output relay on the alarm probe. The alarm light shall be located as shown on drawing. The alarm shall be tied to the building automation system (BAS) panel for monitoring.

SPEC WRITER NOTE:

1. Pump and heater below may be necessary depending on the distance between the discharging fixtures and the grease/oil removal unit. Coordinate with the Electrical Engineer if required.
  2. Coordinate location of grease/oil removal unit with Architect to ensure area is designed for a vacuum truck for pumping unit.
- F. //An internal Pump and Heater Hose shall be capable of pumping grease/oils to 4.6 m (15 feet) head with a hose length of 15 m (50 feet). The integral pump drive shall have sprocket mating with the unit gear wheel. Heated hose assembly shall have an I.D. of 15 mm (1/2 inch) Teflon pipe, a 120 VAC self-regulating heating element, fibrous glass thermal insulation and black PVC jacket.//

- G. //Pit Sump Pump shall be constructed of an epoxy coated cast iron housing, polypropylene base and polycarbonate cover. The Pump shall be controlled automatically with a float switch. The Pump shall be provided with 3 m (10 feet) long power cord, thermal overheat protection, screened intake, non-clog pumping head and impeller and //40 mm (1-1/2 inch)// // mm ( inch) // FNPT discharge pipe. The pump capacity shall be //2.84 L/s (45 gallons per minute)// // L/s ( gpm) // at //14 kPa (5 feet)// // kPa ( feet)// at 120 VAC.//
- H. //Grease/Oil Collection Container shall be constructed of corrosive resistant materials, with lid, and minimum //208L (55 gallons)// // L ( gallons)//capacity.//

## 2.2 SAND INTERCEPTOR

SPEC WRITER NOTE: Where sand, grit or sediment may enter the wastewater stream, sand interceptors should be provided. Otherwise, delete this paragraph.

- A. Factory-fabricated, cast-iron or steel body and cast-iron or steel inlet grate; with settlement chamber and removable basket or strainer.
- B. Outlet piping connection to be hub, hubless, or threaded, unless otherwise indicated.

## PART 3 - EXECUTION

### PART 1 -

### PART 2 -

### PART 3 -

#### 3.1 INSTALLATION

- A. Interceptors shall be set level and plumb.
- B. Metal interceptors covers shall be set flush with finished surface in pavements and the tops shall be traffic-rated. Set tops 75 mm (3 inches) above finished surface elsewhere unless otherwise indicated.
- C. If an installation is unsatisfactory to the COR, the Contractor shall correct the installation at no additional cost or time to the Government.

#### 3.2 CONNECTIONS

- A. Pipe installation requirements are specified in Section 22 13 00, FACILITY SANITARY AND VENT PIPING.

- B. Piping connections shall be made between interceptors and piping systems in accordance with interceptor manufacturer's written guidelines.

**3.3 WARNING TAPE**

- A. Warning tape shall be placed over ferrous piping.
- B. Detectable warning tape shall be used over nonferrous pipe and over the edges of underground structures.

**3.4 STARTUP AND TESTING**

- A. As recommended by product manufacturer and listed standards and under actual or simulated operating conditions, tests shall be conducted to prove full compliance with design and specified requirements. Tests of the various items of equipment shall be performed simultaneously with each integrated system.
- B. The tests shall include system capacity, control function, and alarm functions.
- C. When any defects are detected, correct defects and repeat test at no additional costs to the Government.
- D. //The commissioning Agent will observe startup and contractor testing of selected equipment. Coordinate the startup and contractor testing schedules with the Contracting Officer's Representative and Commissioning Agent. Provide a minimum of 7 days prior notice. //

**3.5 //COMMISSIONING**

- A. Provide commissioning documentation in accordance with the requirements of Section 22 08 00, COMMISSIONING OF PLUMBING SYSTEMS.
- B. Components provided under this section of the specification will be tested as part of a larger system.//

**3.6 DEMONSTRATION AND TRAINING**

- A. Provide services of manufacturer's technical representative for //four// // // hours to instruct VA Personnel in operation and maintenance of the system.
- B. //Submit training plans and instructor qualifications in accordance with the requirements of Section 22 08 00, COMMISSIONING OF PLUMBING SYSTEMS.//

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