SECTION 462543 - TIPPING TROUGH SCUM SKIMMING AND REMOVAL EQUIPMENT

Note that this section has only been edited for NYSOGS standardization and has not been technically edited. The designer shall make all technical edits specific to the project for this section.

This Section includes tipping (rotating) trough scum skimmers for use in primary and secondary clarifiers at wastewater treatment plants. Scum skimmers also may be used in oil-water separators as specified in Sections 462513 and 462516.

Tipping trough (rotating) scum skimmers are designed for rectangular basins. Typical lengths range from 6 to 8 feet and diameters from 6 to 18 inches, although some manufacturers offer troughs up to 42 inches in diameter. Tipping is usually manually actuated with a lever (although handwheels or electric operators are also available), which rotates open slots below the water surface such that the top layer of water and debris flows into the skimmer.

1. GENERAL
   * + 1. SUMMARY
          1. Section Includes: Tipping trough scum skimming and removal equipment and accessories.
          2. Related Requirements:

List other Sections directly related to or affecting Work of this Section. Include Sections specifying information expected to be found in this Section as well as Sections required to describe complete system or assembly requirements.

Section 055000 - Metal Fabrications: Fasteners, brackets, and other miscellaneous metal fabrications as required by this Section.

Section 400551 - Common Requirements for Process Valves: Electric actuators as required by this Section.

Section 460553 - Identification for Water and Wastewater Equipment: Nameplates.

* + - 1. DEFINITIONS

Limit list of definitions to terms unique to this Section and not provided elsewhere.

* + - * 1. FRP: Fiberglass-reinforced plastic.
        2. UHMWPE: Ultra-high molecular weight polyethylene.
      1. COORDINATION
         1. Coordinate Work of this Section with Work of other Sections.
      2. PREINSTALLATION MEETINGS
         1. Convene minimum [**one week**] [**<\_\_\_\_\_\_\_\_> weeks**] prior to commencing Work of this Section.
      3. SUBMITTALS

Only request submittals needed to verify compliance with Project requirements.

* + - * 1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
        2. Manufacturer’s installation instructions shall be provided along with product data.
        3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
        4. Product Data: Submit manufacturer's product data for system materials and component equipment, including performance characteristics.
        5. Shop Drawings:

Indicate size and configuration of assembly, mountings, weights, and accessory connections.

Indicate system materials and component equipment.

* + - * 1. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

Include separate Paragraphs for additional certifications.

* + - * 1. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.
        2. Source Quality-Control Submittals: Indicate results of [**shop**] [**factory**] inspections.
        3. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections.
        4. Manufacturer Reports: Certify that equipment has been installed according to manufacturer instructions.
        5. Qualifications Statement:

Coordinate following Subparagraph with requirements specified in QUALIFICATIONS Article.

Submit qualifications for manufacturer.

* + - 1. CLOSEOUT SUBMITTALS
         1. Project Record Documents: Record actual locations of scum troughs.
      2. MAINTENANCE MATERIAL SUBMITTALS
         1. Spare Parts:

Furnish [**one set**] [**two sets**] of manufacturer's recommended spare parts.

* + - * 1. Tools: Furnish special [**wrenches**] <**\_\_\_\_\_\_\_\_**> and other devices required for Director’s Representative to maintain scum troughs.
      1. QUALITY ASSURANCE

Include this Article to specify compliance with overall reference standards affecting products and installation included in this Section.

In following Paragraph insert "State of New York Department of Transportation," "Municipality of \_\_\_\_\_\_\_\_ Department of Public Works," or other agency as appropriate.

* + - * 1. Perform Work according to <**\_\_\_\_\_\_\_\_**> standards.
      1. QUALIFICATIONS

Coordinate following Paragraph with requirements specified in SUBMITTALS Article.

* + - * 1. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum [**three**] <**\_\_\_\_\_\_\_\_**> years' [**documented**] experience.
      1. DELIVERY, STORAGE, AND HANDLING
         1. Inspection: Accept equipment on Site in manufacturer's original packaging and inspect for damage.
         2. Store skimmer equipment according to manufacturer instructions.
         3. Protection:

Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.

Provide additional protection according to manufacturer instructions.

* + - 1. EXISTING CONDITIONS
         1. Field Measurements:

Verify field measurements prior to fabrication.

Indicate field measurements on Shop Drawings.

* + - 1. WARRANTY

This Article extends warranty period beyond one year. Extended warranties may increase construction costs and Director’s Representative enforcement responsibilities. Specify warranties with caution.

* + - * 1. Furnish [**five**] <**\_\_\_\_\_\_\_\_**>-year manufacturer's warranty for [**corrosion of**] tipping trough scum skimming and removal equipment.

1. PRODUCTS
   * + 1. TIPPING TROUGH SCUM SKIMMERS
          1. [Manufacturers](http://www.specagent.com/LookUp/?ulid=12280&mf=04&src=wd):

Designer to provide two manufacturers and approved equivalent for all listed products.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

In following Subparagraph insert "State of New York Department of Transportation," "Municipality of \_\_\_\_\_\_\_\_ Department of Public Works," or other agency as appropriate.

Furnish materials according to <**\_\_\_\_\_\_\_\_**> standards.

Insert descriptive specifications below to identify Project requirements and to eliminate conflicts with products specified above.

* + - * 1. Description:

Length: [**6**] [**10**] [**20**] <**\_\_\_\_\_\_\_\_**> feet.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

Length: As indicated on Drawings.

Diameter: [**6**] [**8**] <**\_\_\_\_\_\_\_\_**> inches.

Collar Seals: Adjustable.

Bearings:

Lubrication: [**Water**] [**Grease**].

Housing: One piece.

Metallic Components: Encapsulated in laminate.

Operation: [**Manual lever**] [**Manual handwheel**] [**Electric actuator as specified in Section 400551 - Common Requirements for Process Valves**].

* + - * 1. Performance and Design Criteria:

Total Span: <**\_\_\_\_\_\_\_\_**> feet

Maximum Vertical Deflection: [**1/4**] <**\_\_\_\_\_\_\_\_**> inch measured at midpoint between supports.

Operating Temperature Range: [**minus 10**] <**\_\_\_\_\_\_\_\_**> to [**plus 100**] <**\_\_\_\_\_\_\_\_**> degrees F

Degree of Rotation: [**75**] <**\_\_\_\_\_\_\_\_**> degrees.

Water Level Variation: [**6**] <**\_\_\_\_\_\_\_\_**> inches

UV Protection: Pigmented resin or gel coats.

* + - * 1. Materials:

Skimmer and Collar: [**FRP**] <**\_\_\_\_\_\_\_\_**>.

Wear Strips and Bearings: [**UHMWPE**] <**\_\_\_\_\_\_\_\_**>.

* + - * 1. Accessories:

Wall thimble waterstop.

* + - 1. SOURCE QUALITY CONTROL
         1. Provide shop inspection and testing of completed assembly.

Include one or both of following Paragraphs to require Director’s Representative's inspection or witnessing of test at factory.

* + - * 1. Director’s Inspection:

Make completed unit assembly available for inspection at manufacturer's factory prior to packaging for shipment.

Notify Director’s Representative at least [**seven**] <**\_\_\_\_\_\_\_\_**> days before inspection is allowed.

* + - * 1. Director’s Witnessing:

Allow witnessing of factory inspections and test at manufacturer's test facility.

Notify Director’s Representative at least [**seven**] <**\_\_\_\_\_\_\_\_**> days before inspections and tests are scheduled.

Include following Paragraph if reliance on fabricator's approved quality-control program is sufficient for Project requirements.

* + - * 1. Certificate of Compliance:

If fabricator is approved by authorities having jurisdiction, submit certificate of compliance indicating Work performed at fabricator's facility conforms to Contract Documents.

Specified shop tests are not required for Work performed by approved fabricator.

1. EXECUTION
   * + 1. EXAMINATION
          1. Verify that designated areas, clearances, structural requirements, piping, utility connections, and electronic signals are ready to receive equipment.
       2. INSTALLATION
          1. According to manufacturer instructions.

\*\*\*\*\*\* [OR] \*\*\*\*\*\*

In following Paragraph insert "State of New York Department of Transportation," "Municipality of \_\_\_\_\_\_\_\_ Department of Public Works," or other agency as appropriate.

* + - * 1. Installation Standards: Install Work according to <**\_\_\_\_\_\_\_\_**> standards.
      1. FIELD QUALITY CONTROL
         1. Start up, inspect, and operate unit.
         2. Test for proper alignment.
         3. Manufacturer Services: Furnish services of manufacturer's representative experienced in installation of products furnished under this Section for not less than <**\_\_\_\_\_\_\_\_**> days on Site for installation, inspection, startup, field testing, and instructing Director’s Representative in maintenance of equipment.
         4. Equipment Acceptance:

Adjust, repair, modify, or replace components failing to perform as specified and rerun tests.

Make final adjustments to equipment under direction of manufacturer's representative.

* + - * 1. Furnish installation certificate from equipment manufacturer's representative attesting that equipment has been properly installed and is ready for startup and testing.
      1. DEMONSTRATION
         1. Demonstrate equipment startup, shutdown, routine maintenance, alarm condition responses, and emergency repair procedures to Director’s Representative.

END OF SECTION 462543