SECTION 11207

PARSHALL FLUMES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Parshall flumes.

1.2 RELATED SECTIONS

A. Section 03300 - Cast-In-Place Concrete.

B. Section 08342 - Fiberglass Doors and Frames.

C. Section 11201 - Wash Troughs.

D. Section 11202 - Effluent (Collection) Troughs (Launders).

E. Section 11203 - Finger Weir Pans.

F. Section 11204 - Weir Plates, Scum Baffles, and Brackets.

G. Section 11205 - Density Current Baffle System.

H. Section 11206 - Palmer-Bowlus Flumes.

I. Section 11208 - Metering Manholes.

J. Section 11286 - Slide Gates and Guides.

K. Section 11305 - Odor Control System.

L. Section 13122 - Pre-Engineered Fiberglass Buildings.

M. Section 13411 - Instrument Consoles.

1.3 REFERENCES

A. ANSI/AWWA F101 - Contact Molded, Fiberglass-Reinforced Plastic Wash Water Troughs and Launders; American Water Works Association.

B. ASTM D 256 - Standard Test Methods for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.

C. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.

D. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.

E. ASTM D 2583 - Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Test results of fiberglass reinforced plastic laminate.

C. Shop Drawings: Show:
1. Critical dimensions, jointing and connections, fasteners and anchors.
2. Materials of construction.
3. Sizes, spacing, and locations of structural members, connections, attachments, openings, fasteners, and loads.

D. Samples: 8-inch square sample of fiberglass reinforced plastic laminate.

E. Manufacturer's installation instructions.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store products indoors and protect from construction traffic and damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Provide products manufactured by Warminster Fiberglass Company; P.O Box 188, Southampton PA 18966-0188; ASD. Tel. (215) 953-1260, Fax. (215) 357-7893.
B. Requests for substitution will be considered in accordance with provisions of Section 01600.

C. Substitutions: Not permitted.

2.2 PARSHALL FLUMES

A. Material: Fiberglass reinforced plastic:
   1. Tensile strength (ASTM D 638): 14,000 psi.
   2. Flexural strength (ASTM D 790): 25,000 psi.
   3. Flexural modulus (ASTM D 790): 1,000,000 psi.
   4. Impact, notched, Izod (ASTM D 256): 10 ft-lb/in.
   5. Barcol hardness (resin-rich surface) (ASTM D 2583): 40, minimum, average.
   6. Temperature limit: 150 degrees F.
   7. Temperature limit: 200 degrees F.
   8. Chemical resistance: Comply with ANSI/AWWA F101, Type II classification.

B. Construction: One-piece, fiberglass reinforced plastic, with integral stiffening ribs to make unit self-supporting and eliminate external bracing.
   1. For flumes to be embedded in concrete, provide temporary internal bracing.
   2. Make sizes 8-foot, 10-foot and 12-foot in two pieces for shipping.
   3. Size(s): Indicated on the drawings.
   4. Provide dual range (nested) flumes where indicated.
   5. Provide factory assembled inner flume for field nesting in existing flume where indicated.
   6. Provide custom height of flume where indicated.

C. Accessories:
   1. Bushing for ultrasonic transponder mounting stand.
   2. Integral stilling well, 8 inches diameter.
   3. Integral stilling well, 10 inches diameter.
   4. Integral stilling well, 12 inches diameter.
   5. Integral stilling well, 14 inches diameter.
   6. Staff gauge graduated in inches attached to inside wall of flume.
   7. Staff gauge graduated in feet with 50 divisions per foot; attached to inside wall of flume.
   8. Staff gauge graduated in feet, with 1-inch divisions per foot.
   9. Staff gauge graduated in meters, with 1-millimeter divisions per meter.
   10. Staff gauge graduated in gallons per minute.
   11. Staff gauge graduated in MGD.
   12. Inlet and outlet transition pieces, caulking collars, and stubs flanges.
   13. Bubbler tube, molded in.
   14. Drexelbrook track, molded in.

15. Special resin for temperature above 170 degrees F or chemical resistant service.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that dimensions are correct and project conditions are suitable for installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Ensure that products are installed plumb and true, free of warp or twist, within tolerances specified by the manufacturer and as indicated in the contract documents.

C. Set flume at proper elevation in accordance with drawings.

D. Set floor of flume at inlet end level with flow and across flow. Set side walls plumb. Set top flanges level, each side.

E. Fasten flume securely to prevent flotation or twisting during placement of concrete.

F. Place concrete along sides and bottom of flume to ensure complete filling without voids and displacement of flume. Stage placement in alternating lifts, 1/3 height on each side of flume.

3.3 ADJUST AND CLEAN

A. Clean surfaces in accordance with manufacturer's instructions.

B. Remove trash and debris, and leave the site in a clean condition.

END OF SECTION