

SECTION 22 14 29.16 – SUBMERSIBLE SUMP PUMPS

PART 1 - GENERAL

1.1 THE REQUIREMENT

- A. The CONTRACTOR shall provide submersible sump pumps and appurtenant work, complete and operable, in accordance with the Contract Documents.
- B. The requirements of MASS Section 10.04 Article 4.20 and MASS Section 10.05 Articles 5.6, 5.7 & 5.8, apply to the WORK of this Section.
- C. The Supplier shall examine the Site conditions, intended application, and operation of the pump system and recommend the pump which will satisfy the indicated requirements.
- D. The Supplier shall examine the Site conditions, intended application, and operation of the pump system, and ensure that the sump pump will fit in the existing sump.

1.2 SUBMITTALS

- A. The CONTRACTOR shall provide submittals in accordance with MASS Section 10.05 Article 5.6.
- B. Provide complete Manufacturer's information including dimensional drawings, parts list, material and operational specifications, wiring diagrams, installation requirements, and operation and maintenance information.

PART 2 - PRODUCTS

2.1 SUMP PUMP

- A. Provide the following sump pumps:

Facility	Number Required	Phase	Voltage

B. Operating Conditions: The WORK of this Section shall be suitable for long term operation under the following conditions:

Duty	Intermittent
Drive	Constant speed
Ambient environment	Indoors
Ambient temperature, degrees F	40 to 80
Ambient relative humidity, percent	40 to 90
Fluid service	Potable water with grit
Fluid temperature, degrees F	38 to 60
Maximum size of spheres to pass, in. dia	0.75

C. Performance Requirements:

Maximum shutoff head, ft	65
Design flow capacity, gpm	40
Design flow pump head, TDH ft	40
Maximum motor speed, rpm	3450
Minimum motor size, hp	3/4

D. Pump Dimensions: 2-inch NPT discharge size.

2.2 PUMP REQUIREMENTS

A. Construction: Construction of submersible sump pumps shall conform to the following requirements:

Pump casing	Cast iron
Impeller	Semi-open, non-clog cast iron
Bearings	Permanently lubricated ball and sleeve type
Shaft	Stainless steel
Seal	Mechanical seal
Mounting Method	As recommended by the Manufacturer
Pump Connection	Union

B. Drive: Enclosed, submerged, electric motor, 230-volt single-phase with capacitor start, or 208-volt three-phase, 60 Hz ac power supply, as required.

C. Control: Provide a sump pump controller in accordance with the Drawings and Specifications.

D. Electrical Connection: Twist-lock plug and receptacle in accordance with Division 26.

- E. Control: Provide a sump pump float switch independent of the pump.
- F. Electrical Connection: Twist-lock plug and receptacle in accordance with Division 26 and the Drawings.

2.3 AUTOMATIC FLOAT SWITCH ASSEMBLY

- A. Float Switch: Float switch shall be **Allen-Bradley 840-A7**, or equal.
- B. Float Operator Assembly: Provide stainless steel float operator assembly complete with rod (length as necessary for installation), float, adjustable start and stop collars, and mounting hardware. Float operator assembly shall be **Allen-Bradley 840-1AD**, or equal.

2.4 PROTECTIVE COATING

- A. Pumps shall have the Manufacturer's standard corrosion-resistant coating for submerged service.

2.5 MANUFACTURERS, OR EQUAL

- A. **Goulds WE series Model 3885.**

2.6 SPARE PARTS

- A. Provide two (2) sump pump repair kits with seals, o-rings, and bearings.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Pumping equipment shall be installed in existing sumps in accordance with the Shop Drawings and as indicated.
- B. The pump discharge shall be re-connected to the existing discharge piping as necessary. The CONTRACTOR shall provide all mechanical pipe fittings required for the connection.
- C. Install a locking receptacle near the sump pump in accordance with Division 26. Connect the twist-lock plug to the sump pump power cord and connect to the twist-lock receptacle.
- D. Install the float switch assembly as shown on the Drawings. Install sufficient rod guides to provide reliable switch operation.

END OF SECTION 22 14 29.16