

Section 15030

LIFT STATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Electric Submersible Sewage Pumps and Motors

1. Acceptable manufacturers: Flygt and ABS. See specification Section 15032 Submersible Wastewater Pumps.
2. Pump Data Plate:
 - a. Stainless steel, mechanically attached to pump containing manufacturer's name, pump size and type, serial number, speed, impeller diameter, capacity and head rating, and other pertinent data
3. Access Frame and Cover:
 - a. Designed and installed to allow removal or installation of each pump unit to discharge connection in simple linear downward motion without interference
 - b. As designed by manufacturer
 - c. Covers:
 - 1) Lift station: Aluminum, diamond patterned wet well entry door, aluminum or stainless steel hinges provided with lifting handle, safety latch to hold door in open position and locking hasp
 - 2) Valve pit: Aluminum, diamond patterned valve pit entry door

B. Hydraulic Submersible Wastewater Pumps and Diesel Power Units.

1. Acceptable manufacturers: Selwood and Godwin. See specification Section 15033 Hydraulic Submersible Pump with Automatically Controlled Diesel Hydraulic Power Unit.
 - a. Pump Data Plate
Stainless steel, mechanically attached to pump containing manufacturer's name, pump size and type, serial number, speed, impeller diameter, capacity and head rating, and other pertinent data.
 - b. Access Frame and Cover:
 - c. Designed and installed to allow removal or installation of each pump unit to discharge connection in simple linear downward motion without interference
 - d. As designed by manufacturer
 - e. Covers:

- 1) Lift station: Aluminum, diamond patterned wet well entry door, aluminum or stainless steel hinges provided with lifting handle, safety latch to hold door in open position and locking hasp

C. Piping and Valves

1. Well Piping. See Specifications Section 15053 Lift Station Piping.
 - a. Wet Well penetrations shall be made with Link Seal Model S-316 with EPDM rubber, or approved equal. Bolts shall be ANSI Type = 316, Per ASTM F593-95 Tensile Strength = 85,000 psi, average.
 - 1) For cast in place penetrations of diameters up to 24.81" install molded non-metallic high density polyethylene sleeves (HDPE) with integral hollow, molded water-stop ring four inches larger than the outside diameter of the sleeve itself.
 - 2) For cast in place penetrations of diameters from 29.25" to 64.74" in diameter, use a modular hole-forming system consisting of interlocking HDPE plastic disc.
 - 3) For core drilled holes without sleeve consult manufacturer.
2. Control Panel and Electrical Equipment. See specifications in Division 16 of this Contract.
 - a. House controls in NEMA 3R stainless steel weatherproof enclosure with gasketed door
 - b. Equipped for 240 or 480 volts, as shown on electrical drawings, three-phase supply required
 - c. Provide painted steel dead front inner door
 - d. Provide modular subpanel with the following equipment:
 - 1) One main circuit breaker
 - 2) Heavy-duty molded case motor circuit breakers for each pump
 - 3) Across-line magnetic motor starters with individual thermal overloads for each pump
 - 4) One 120 volts control system
 - 5) Heavy duty hand/off/automatic selector switches for each pump
 - 6) One heavy duty control circuit breaker
 - 7) One solid-state pump alternator with test switch
 - 8) One duplex receptacle with breaker
 - 9) Pump run indicator lights for each pump
 - 10) One lighting arrestor system

- 11) One phase monitor system
 - 12) Run time meters for each pump
 - 13) One high level and one low level alarm light with test switches
 - 14) One manual transfer switch with provision for a generator receptacle to be installed by others
 - 15) Pedestal mounting kit
 - 16) Space heater with humidistat control
 - 17) Provisions for SCADA System
3. Liquid Level Sensors. See specifications in Division 16 of this Contract.
 - a. Liquid level sensors with length of electrical cables, adjustable for future liquid level sensing requirements
 - b. Non-floating displacement type, rated for operation of milliwatt levels
 4. Pump Motor Cables, Float Control Cables. See specifications in Division 16 of this Contract. Any electrical wiring to be terminated outside of wet well in junction box or in control panel
 5. Materials. See specifications in Division 16 of this Contract.
 6. Wiring. See specifications in Division 16 of this Contract.
 - a. Copper
 - b. Conduit: Rigid steel
 7. Coatings. See specifications Section 15053 Lift Station Piping and Section 02629 Poly urethane Coatings on Steel and Ductile Iron Pipe.
 8. Emergency Call-Out Equipment. See specifications in Division 16 of this Contract.
 - a. "RACO" Verbatim Autodialer
 9. Intruder-Resistant Fencing
 - a. Six-foot high, 2 inch pattern, zinc chromate conversion galvanized hot dip coated chain link fence. PVC coated after weaving with colored PVC slats and 3-strand barbed wire on top.
 - b. (or) Eight-foot cedar fence, if shown on drawings, supported on galvanized steel posts, braces and rails, all secured by screws and bolts.
 - c. Gates: Two six-foot or eight-foot tall, as shown on drawings, gates minimum of six feet wide sliding or hinged on 4" inch galvanized schedule 40 steel posts. Materials to match fencing.

END OF SECTION