SCOPE: Furnish and install_____ submersible effluent pump (s). Each pump shall be capable of delivering the following performance points,_____ U.S. GPM at_____ TDH ; _____U.S. GPM at_____TDH; _____U.S. GPM at _____TDH, with a shut off head of _____TDH (minimum). The pump motor speed shall be 1750 RPM, 1/3 HP (maximum) , 1 Phase, 60 Hertz , 115 Volts. The pump (s) shall be manufactured by a company regularly engaged in the manufacture and assembly of similar units. The pump (s) shall be Champion Pumps model_____.

PUMP DESIGN: Each pump shall be capable of handling septic tank screened effluent. The pump (s) shall be capable of handling liquids with temperatures to 140 degrees F intermittent, and shall be capable of running dry for extented periods.

PUMP CONSTRUCTION: The upper volute, seal plates, and motor housing shall be constructed of high quality ASTM A-48 class 20-30 cast iron. The pump (s) shall be painted with a water based air dry enamel of 2.0 mil minimum thickness. All exposed hardware shall be 300 series stainless steel. The pump construction shall contain no points of critical clearance nor require periodic adjustment or replacement to maintain operating efficiency. Discharge connection shall be a standard 1-1/2" inch NPT in the vertical position. All critical gaskets shall be of the point compression o-ring type eliminating critical slip fits and the possibility of damage during service associated with other sealing arrangements. This also ensures ease of procuring standard industry o-ring sizes.

The impeller shall be the vortex design of engineered plastic construction with a brass threaded insert.

The unit shall utilize a single mechanical shaft seal and a secondary oil lip seal which will operate in an oil atmosphere. This gives added motor protection and back-up motor oil containment. The materials of construction of the mechanical seal shall be carbon for the rotating face and ceramic for the stationary face, lapped and polished to a tolerance of one light band, 300 series stainless steel hardware, and all elastomer parts to be of Buna-N. The seal shall be commercially available and not a propriatary design of the manufacturer. Single mechanical shaft seal design shall not be acceptable.

The pump shall be designed to be non-overloading throughout the entire pump curve. The rotor and stator assembly shall be of the standard frame design and secured to the pump seal plate by four threaded fasteners allowing for easy serviceability. Motor designs incorporating shrink or press fit assembly between the stator and motor housing shall not be acceptable. The motor shall be constructed with the windings operating in a sealed environment containing clean dielectric oil, making it capable of operating in a totally, partially or non-submerged condition for extended periods of time without damage due to the heat being generated. Air-filled motors shall not be acceptable. The motor windings shall be of Class B insulation. The motor shaft shall be of 416 stainless steel. The upper and lower bearings shall be of the single ball type to accept radial and thrust loads. Bearings shall operate in an oil bath atmosphere for superior life. Permanently lubricated bearings or sleeve bearings are not acceptable.

Single phase shall have an overload switch on the motor windings and do not require any external protection. The pump shall be equipped with_____ft. of type SJTW power cable and connected to the motor via molded quick disconnect socket terminals. Crimp connected cords are not acceptable. A secondary molded rubber pressure flange shall be provided as an additional sealing point with stainless steel back plate that provides secure compression and strain relief at the point of cable entry. Cable entry designs utilizing compression grommets and terminal boards to connect power cord leads with motor leads shall not be acceptable. No exposure to the motor oil, motor chamber or motor winding leads, is acceptable when changing or servicing cord.

PUMP TEST: The pump manufacturer shall perform the following inspections and tests in accordance with SSPMA standards before shipment from the factory:

1. A check of the motor voltage and frequency shall be made as shown on the model tag.
2. A motor and cable insulation test for moisture content or insulation defects shall be made per UL/CSA criteria.
3. The pump shall be completely submerged and run.

START-UP: The pump(s) shall be tested at start-up by a qualified representative of the manufacturer. A start-up report as provided by the qualified representative shall be completed.

DOCUMENTATION: The manufacturer, if requested, will supply a minimum of_____sets of standard submittal data;
Standard submittal data consist of:

a. Pump catalog data;
b. Pump performance curve;
c. Break Away Fitting (BAF) data;
d. Typical installation drawing;
e. Control panel data
f. Panel wiring schematic;
g. Accessory data;
h. Installation & Operation Manuals.