PART 1 General

1.1 SHOP DRAWINGS AND PRODUCT DATA

.1 Submit product data in accordance Section 21 05 01 - Common Work Results - Mechanical. Indicate the following:

- .1 Equipment, including connections, fittings, control assemblies and ancillaries. Identify whether factory or field assembled.
- .2 Wiring and schematic diagrams.
- .3 Dimensions and recommended installation.
- .4 Pump performance and efficiency curves.

1.2 CLOSEOUT SUBMITTALS

.1 Provide maintenance data for incorporation into maintenance manual.

.2 Data to include:

- .1 Manufacturers name, type, model year, capacity and serial number.
- .2 Details of operation, servicing and maintenance.
- .3 Recommended spare parts list with names and addresses.

PART 2 Products

2.1 SEWAGE EJECTOR PUMP (PSK-1)

.1 Capacity: 2.37 L/s flow @ 59.72 Kpa head, 3450 RPM and ¼ Hp @ 115/1/60.

.2 Sewage ejector pump/basin package, pump and basin shall be as one package suitable and approved for Under the Sink installation.

.3 Tank: 25 liters in volume, 400mm high by 368mm diameter basin complete with 40mm dia top inlet hub, 40mm dia. top discharge and 50mm dia top plumbing vent connection. Sump shall be fiberglass construction.

.4 Pump shall be submersible sump pump, complete built-in thermal over load protection, 3m power cord, cast iron motor housing, thermoplastic handle, steel shaft, carbon / ceramic seal faces, thermoplastic impeller/ Pump Volute/ Motor Cap, stainless steel fasteners.

PART 3 Execution

3.1 INSTALLATION

.1 Make piping and electrical connections to pump and motor assembly and controls as indicated.

.2 Ensure pump and motor assembly do not support piping.

.3 Align vertical pit mounted pump assembly after mounting and securing cover plate.

3.2 FIELD QUALITY CONTROL

.1 Check power supply.

.2 Check starter protective devices.

.3 Start-up, check for proper and safe operation.

.4 Check settings and operation of hand-off-auto selector switch, operating, safety and limit controls, audible and visual alarms, over-temperature and other protective devices.

.5 Adjust flow from water-cooled bearings.

.6 Adjust impeller shaft stuffing boxes, packing glands.

3.3 START-UP

.1 General:

- .1 In accordance with Section 23 84 14 – Commissioning, as supplemented herein.
- .2 Procedures:
  - .1 Check power supply.
  - .2 Check starter O/L heater sizes.
  - .3 Start pumps, check impeller rotation.
  - .4 Check for safe and proper operation.
  - .5 Check settings, operation of operating, limit, safety controls, over-temperature, audible/visual alarms, other protective devices.
  - .6 Test operation of HOA switch.
  - .7 Test operation of alternator.
  - .8 Adjust leakage through water-cooled bearings.
  - .9 Adjust shaft stuffing boxes.
  - .10 Check base for free-floating, no obstructions under base.
  - .11 Check installation, operation of mechanical seals, packing gland type seals. Adjust as necessary.

.12 Adjust alignment of piping and conduit to ensure full flexibility at all times.

.13 Eliminate causes of cavitations, flashing, and air entrainment.

.14 Measure pressure drop across strainer when clean and with flow rates as finally set.

.15 Verify lubricating oil levels.

3.4 PV – SANITARY PUMPS

.1 Timing:

.1 After cleaning of the systems.

.2 PV Procedures:

.1 Fill sump at rate slower than capacity of pump

.2 Record levels at which pump starts and stops. Determine flow rate by observing time taken to down water level.

.3 Verify operation of alternator.

.4 Adjust water level controls as necessary.

.5 Fill sump at rate faster than capacities of pumps.

.6 Record levels at pump starts and stops - water level rising and falling.

.7 Check operation of alternator.

.8 Adjust level controls as necessary.

.9 Check level at which high water level alarm starts and stops. Adjust as necessary.

.3 Check removability of pumps for servicing without interfering with installation or operation of other equipment.

.4 Verify non-clog capability and maximum size of solids, using procedures recommended by manufacturer.

3.5 REPORTS

.1 In accordance with Section 23 84 14 – Mechanical Commissioning, supplemented as specified herein.

.2 Include

.1 PV results on approved PV Report Forms.

.2 Product Information report forms.

.3 Pump performance curves (family of curves) with final point of actual performance marked thereon.

END OF SECTION