Pollution Control Systems, Inc

5827 Happy Hollow Rd. Suite 1-B
Milford, OH 45150-1830
Tel: (513) 831-1165 Fax: (513) 965-4812
E-mail: Polconsys@aol.com
www.PollutionControlSystem.com

PRE-FABRICATED FIBERGLASS PUMP STATION / LIFT STATION SPECIFICATIONS

Pollution Control Systems, Inc. (PCS) is pleased to provide the following equipment specifications for your consideration.

One (1) prefabricated fiberglass packaged pump station and related equipment constructed in accordance with the plans and specifications stated herein. The pump station will be Model _____.

A. General Specifications

Pump Station Diameter:	_____ ft.
Pump Station Height:	_____ ft.
Valve Box Size (if included):	_____ ft. x _____ ft.
Overall Length/Width/Height:	_____ ft. x _____ ft. x _____ ft.
Shipping Weight: (approximate)	_____ #

B. Materials of Construction

Unless otherwise indicated, the plastics terminology used in this standard shall be in accordance with the ASTM designations D3753-99.

The resin shall be of commercial grade and shall either be evaluated as a laminate by test or determined by previous service to be acceptable for the environment.

The reinforcing material shall be a commercial grade of glass fiber having a coupling agent which will provide a suitable bond between the glass reinforcement and the resin.

The laminate shall consist of an inner surface, an interior layer, and an exterior layer of laminate body.

The inner surface shall be free of cracks and crazing with a smooth finish using gelcoat or reinforced with glass surface veil.

The interior layer will have a minimum of 0.100 inch of the laminate next to the inner surface and shall be reinforced with no less than 20 percent nor more than 30 percent by weight of non-continuous glass strands having fiber lengths from 0.5 to 2.0 inches.

The exterior layer of body of laminate shall be of construction suitable for the service intended and contain sufficient glass by weight to provide the aggregate strength necessary to meet the tensile and flexural requirements. The exterior surface shall be relatively smooth, with no exposed fibers or sharp projections. Hand work finish is acceptable but enough resin shall be present to prevent fiber show.

The tank walls will be designed to withstand wall collapse based on the assumption that saturated soil exerts hydrostatic pressure of 120 pounds per cubic foot. The tank wall laminate will be constructed to withstand or exceed two (2x) times the actual imposed loading on any depth of basin. Depth of bury to be specified with wall thickness calculated and guaranteed by the manufacturer.

The tank bottom will be constructed suitable for he service designated. Under totally water submerged conditions, the center deflection of any empty tank bottom will be less than 3/8" as not to interfere with the bottom pump mounting requirements and rail systems. All basins over 10' in depth will have a steel insert.

The finished laminate shall be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, air bubbles, pinholes, dimples, and delaminations.

The pump basin shall be constructed of fiberglass in any standard diameter up to and including 120" and specified depth. The bottom of the basin shall be reinforced with a fiberglass plate extending beyond the basin for anchoring the unit to the foundation pad.

Basin extensions can be provided in increments of 6" and up to 36" in length to accommodate height requirements over 240" . '

C. Basin Covers

The fiberglass basin covers shall be either epoxy coated steel, galvanized steel, or aluminum with stainless steel mounting hardware and components. The cover will include a hinged access door with a handle and lock, and will include a vent coupling.

D. Pumps

A duplex set of solids handling pumps or grinder pumps will be provided complete with a disconnect elbow and galvanized / stainless steel guide rails. The pumps shall be a model _____, ___ horsepower, _____volt, ___ phase, ___ 60 hz. as manufactured by _____. The pumps shall be supplied with lift out chains.

E. Lift Out Rail System/ Slide Rail Assemblies

A guide rail system will be provided for each pump. The system will consist of a cast base unit, a pump adapter assembly, upper guide rail bracket and galvanized or stainless steel guide rails. On deeper units, an intermediate support is necessary to stabilize the rail system. Pump rails will be sized based on discharge piping size and base elbow type used.

Stainless steel lifting chains will be provided for each pump for pump removal.

F. Piping

A___ diameter inlet to the basin shall utilize an adaptaflex coupling or cast iron hub.
The discharge piping through the wall will include either a stainless steel coupling, environboot, or sleeve link.

The station discharge piping will be schedule 40 steel and will terminate with a 125# flange for 3" and larger, or an NPT coupling for 2-1/2" diameter or smaller. Each pump discharge line will have a check valve and a gate valve. The common discharge pipe will exit the station through an adaptaflex coupling or a cast iron hub. Discharge piping connected to the fitting will be supplied and installed by the contractor.

G. Central Control Panel

A central control system installed within a weatherproof enclosure will be provided. The fiberglass enclosure will be NEMA 4X rated and mounted on top of the station lid. The panel will contain a magnetic starter or contactor and an H-O-A selector switch for each pump. It will alternate the pumps on successive cycles and turn on the second pump if the first pump fails or if the inflow exceeds the capacity of one pump. Properly sized circuit breakers or fuses will protect all pumps and controls. All pump and level control wiring will pass through the top of the wet well and into the bottom of the control panel.

H. Junction Box

When the control panel is remotely located from the station, a weatherproof junction box will be provided near the top of the station to accept the equipment control cables. A conduit connection will be provided for connecting field installed conduit and wiring to the control panel.

I. Four (4) Float Level Controls

Three (3) float switches will be suspended from a bracket mounted inside the station. These float switches will be suspended at proper depths to control the pump off, lead pump on, and lag pump on signal to the control panel.

A fourth (4th) float switch for “Emergency High Water Alarm” will be provided. A red flashing warning light will be mounted in the control panel to indicate a high water condition.

J. Lifting Hoist (Optional)

A lifting hoist can be supplied to ease pump removal from the basin. The hoist will be a Model _____ manufactured by _____ or approved equal. The hoist assembly will include an embedded socket for hoist placement in the top of the concrete cover.

K. Exterior Valve Box (Optional)

An exterior valve box can be provided containing a gate valve and a 125 # check valve for each pump. These valves and fittings will be factory installed in the valve box and connect to the pump discharge pipes that will extend through the station wall. This valve box will be integrally molded to the fiberglass lift station. The pipe discharge connection will include a sleeve and link seal sized for the discharge connection. The valve box will include a hinged cover with provisions for padlocking.

L. Exterior Detached Valve Box (Optional)

A detached fiberglass valve box is also an available option. The detached valve box is 36" long x 40" wide x 36" high and in available with either an epoxy coated steel or aluminum cover. the cover will include la lockable hinged door for access to the valves. The box should be mounted adjacent to the lift station and includes the piping between the lift station and valve box. The rectangular valve box can be fitted with either an adaptaflex fitting, cast iron hub, or stainless steel coupling connection.

M Guarantee

PCS will guarantee for one (1) year from the scheduled ship date that the vessel and all component equipment will be free from defective materials and workmanship. PCS will furnish replacement parts for any component considered in the opinion of PCS to be defective, whether of his or other manufacturer during the guarantee period.