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Submersible Wastewater Pump Association SWPA MEMBER

# RAIL SYSTEMS GUIDE SPECIFICATIONS
## Threaded Discharge Configuration

QUALITY MADE America's Pump Co. BY U.S. CRAFTSMEN

**1.01 GENERAL**

A. Contractor shall be responsible for all labor, materials, equipment and incidentals required to install a complete rail system for each pump as specified in the documents.
B. The rail system shall be furnished by the same manufacturer supplying the submersible pump so as to insure compatibility and assurance in matching the proper rail system with the pump being supplied and to assure single source responsibility.
C. The rail system shall consist of the components enabling the contractor to install the assembly in the basin. These components shall consist of the coupling base, the sealing plate with pump adapter, rail guide, and upper rail support. For basin depths greater than 12 feet, additional intermediate stabilizers shall be required. Each system will require two ¾" schedule 40 SS rails, which shall be furnished by the contractor.
D. The configuration of the rail system pump connection and discharge shall be:
_____1 1/4" male NPT pump connection / 2" male NPT discharge pipe connection
_____1 1/2" male NPT pump connection / 2" male NPT discharge pipe connection
_____2.0" male NPT pump connection / 2" male NPT discharge pipe connection
_____2.0" male NPT pump connection / 3" male NPT discharge pipe connection
_____3.0" male NPT pump connection / 3" male NPT discharge pipe connection
_____System furnished with material option for non-sparking Hazardous Location requirements.

**2.01 CONSTRUCTION**

A. The rail system shall be designed for concrete, steel, or fiberglass basins, which enable a pump with a threaded vertical discharge connection to adapt to an automatic, disconnect system. When the pump is engaged with the rail system, the base fitting in a suspended position shall support it. Rail system allowing the pump to rest on the basin floor or those that require special proprietary sealing or bracketing shall not be acceptable.
B. The coupling base shall consist of a cast iron stationary plate secured to the floor of the basin with four 1/2 inch bolts or rail studs (not included). The base fitting shall include a cast iron discharge connection, lower rail supports and steel pump sealing plate coupling.
C. The sealing plate with pump adapter shall include a cast iron pump connection and a steel seal plate containing an o-ring to ensure a positive seal. Rail systems having a metal to metal seating arrangement shall not be considered equal.
D. The rail guide, which enables to pump to slide up and down the rail pipes, shall be made of _____ Galvanized Steel or _____300 Series SS.
E. The upper rail support bracket shall be constructed of _____ Galvanized Steel or _____300 Series SS.
F. Pit depths greater than 12 feet will require an intermediate stabilizer for each additional 10 feet of rail pipe. The stabilizer shall be constructed of _____ Galvanized Steel or _____300 Series SS. Refer to drawing for basin dimensional information.

**3.01 ACCESSORY EQUIPMENT**

A. _____SS lifting cable shall be furnished. It shall be capable of supporting 5 times the weight of the pump. The cable shall be _____ permanently attached to / _____ removable from the pump. The cable length shall be _____ feet.
B. _____Basin cover shall be furnished. It shall be configured in a manner allowing the pump(s) to be removed from the basin via rail system with no interference from the cover. Refer to the attached drawing for additional details. The cover configuration shall be:
_____ Solid fiberglass
_____ ¼" epoxy coated steel with access hatch
_____ ¼" aluminum with access hatch rated at 300 psf
_____ H20 traffic rated

**4.01 PIPING**

A. Contractor is to furnish a pair of ¾ inch schedule 40 galvanized or SS rail pipes for each rail system. These pipes are to be cut to the proper length to interface with the coupling base and upper rail support. The system(s) shall be positioned in such a way as to enable the operator to automatically remove the pump, without entering the basin, as shown in the drawings.
B. Pump discharge piping shall include a suitable check valve and shut-off valve for each pump as shown in the drawing. All pipe and fittings shall be corrosion resistant. Where piping passes through the wall of the basin, it shall be sealed with a watertight joint or fitting.