TSURUMI PUMP	HS - SERIES SEMI-VORTEX - WASTEWATER PUMP	SAMPLE SPECIFICATIONS

1. SCOPE OF SUPPLY -

Furnish and install TSURUMI Model _____ Submersible Pump(s). Each unit shall be capable of delivering _____GPM(_____m^3/min) at _____Feet (_____m) TDH. The pump(s) shall be designed to pump wastewater, or effluent containing debris and solids without damage during operation. The pump(s) shall be designed so that the shaft power required (BHP)/(kW) shall not exceed the motor rated output throughout the entire operating range of the pump performance curve. The pump discharge size shall be____inch, (____mm).

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) shall be as follows: Pump casing shall be gray cast Iron, ASTM A48M CLASS 30B or Ductile Cast Iron, A536 65-45-12. Motor frame shall be aluminum alloy die casting. Impeller shall be urethane rubber and shall incorporate an agitating device in order to disperse debris and suspend particles. A fused polymer coating shall protect Internal and external surfaces coming into contact with the pumpage. All exposed fasteners shall be stainless steel. All units shall be furnished with a 2" or 3" NPT discharge connection. Impellers shall be of the multi-vane, semi-vortex, solids handling design and shall be slip fit to the shaft and positively driven. The suction strainer shall be manufactured from ABS high impact resin and shall incorporate flow-reversing vanes.

3. MECHANICAL SEAL -

All units shall be furnished with a dual inside mechanical shaft seal located completely out of the pumpage, running in a separate oil filled chamber and further protected by an exclusionary oil seal located between the bottom seal faces and the fluid being pumped. Mechanical seals shall be rated to preclude the incursion of water up to 13.9 PSI. (32 Ft.) submergence. Units shall have silicon carbide mechanical seal faces. Mechanical seal hardware shall be stainless steel.

4. MOTOR -

The pump motor(s) shall be _____Hp., _____ kW., 115 / 230V.,60 Hz., 1 Phase and shall be NEMA MG-1, Design Type B equivalent. Motor(s) shall be rated at _____ full load amps. Motor(s) shall have a 1.15 service factor and shall be rated for 10 starts per hour. Motor(s)shall be air filled, copper wound, class E insulated with built in thermal protection in the winding. Motor shaft shall be 403 stainless steel and shall be supported by two permanently lubricated, high temperature ball bearings with a B-10 life rating at best efficiency point of 60,000 hours. The bearings shall be single row, double shielded, C3, deep groove type ball bearings.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications. The cable entrance shall incorporate built in strain relief and a one piece, three way mechanical compression seal with fatigue reducing cable boot. The cable entrance assembly shall contain an anti-wicking block to eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally damaged.