1. SCOPE OF SUPPLY -

Furnish and install TSURUMI Model _________ Submersible Pump(s).
Each unit shall be capable of delivering _______ GPM (_______ m³/min) at _______ Feet (_______ m) TDH.
The pump(s) shall be designed to pump waste water or effluent 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. Pump(s) shall be of the top discharge,
flow through design.

2. MATERIALS OF CONSTRUCTION -

Construction of major parts of the pumping unit(s) shall be gray cast iron, ASTM A48 CLASS 35. Impellers and
field adjustable/replaceable wear plates shall be high chrome iron. Internal and external surfaces coming into
contact with the pumpage shall be protected by a fused polymer coating. All exposed fasteners shall be
stainless steel. All units up to 75 HP and LH875/890/8110 shall be furnished with 150 lb. (10 kg/cm²) flat face
flange and NPT companion flange. LH675/690/6110 shall be furnished with 300 lb. (20 kg/cm²) flat face flange
and NPT companion flange. Impellers shall be of the multi-vane enclosed solids handling design equipped
with back pump out vanes and shall be slip fit to the shaft and key driven. The unit(s) shall include built in
cathodic protection.

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. The oil chamber shall be fitted with a device that shall provide
positive lubrication of the top mechanical seal, (down to one third of the standard oil level). The device shall not
consume any additional electrical power. Mechanical seals shall be rated to preclude the incursion of water up to
42.6 PSI (98.4 Ft.) submergence. Units shall have silicon carbide mechanical seal faces. Mechanical seal
hardware shall be stainless steel. Unit(s) shall incorporate seal pressure relief ports. Units 75 HP and above
shall be supplied with electrode type seal sensor. All unit(s) shall be fitted with a replaceable shaft sleeve.

4. MOTOR-

The pump motor(s) shall be ______ H P., ______ kW., ______ V., 60 Hz. 3 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 20 starts per hour. Motor(s) shall be air filled, copper wound, class F or B (up to 30 HP)
insulated with built in thermal protection for each winding. Motor shaft shall be 420 stainless steel and shall be
supported by two high temperature bearings, with a B-10 life rating at best efficiency point of 60,000 hours.
On units up to 60 HP, the bottom bearing shall be two row, double shielded, C3, deep groove type ball bearing,
and the top bearing shall be single row, double shielded, C3, deep groove type ball bearing. On units 75 HP
and above, the bottom bearing shall be re-greaseable, two row, C3, angular contact type ball bearing, and the
top bearing shall be re-greaseable, single row, C3, cylindrical roller bearing. Motors shall be D.O.L. or star-
delta start (40 HP and above), and shall be suitable for across the line start or variable speed applications,
utilizing a properly sized variable frequency drive.

5. POWER CABLE AND CABLE ENTRANCE -

The pump power cable shall be suitable for submersible pump applications and shall be field replaceable utilizing
standard submersible pump cable. The cable entrance shall incorporate built in strain relief and a combination
three way mechanical compression sealing. The cable entrance assembly shall contain a anti-wicking block to
eliminate water incursion into the motor due to capillary wicking should the power cable be accidentally damaged.