|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
|  | Anoxic tank (MS tank to be Placed after EQT. Tank ) |  |  |  |
|  | MBBR Reactor |  |  |  |
|  | Secondary Tube Settler Tank |  |  |  |
|  | Sludge Holding Tank |  |  |  |
|  | UV System |  |  |  |
|  | Air Blowers, Pumps & equipment |  |  |  |
|  | Piping, valves etc |  |  |  |
|  | Irrigation / Flushing Water tank |  |  |  |
|  | Electrical Panel & Cabling |  |  |  |
|  | Centrifuge system |  |  |  |
|  |  |  |  |  |
|  | **Note :-** |  |  |  |
|  | Contractor shall ensure submission of detailed GA drawings (Plan & Section), P&I diagram, schematic diagram for the above said component and additional component if so required for the complete working of the STP. The following list of civil units shall be Client's Scope. |  |  |  |
|  |  |  |  |  |
|  | Bar screen pit |  |  |  |
|  | Oil & Grease Chamber |  |  |  |
|  | Equalization Tank |  |  |  |
|  | Anoxic Tank |  |  |  |
|  | Reactor Tank |  |  |  |
|  | Tube Settler System |  |  |  |
|  | Filter Feed Tank |  |  |  |
|  | Main Sludge Holding Tank. |  |  |  |
|  | Treated Water Tank |  |  |  |
|  | Drain Sump for STP room |  |  |  |
|  | Foundations for all the units |  |  |  |
|  | Centrifuge System |  |  |  |
|  |  |  |  |  |
| **1** | Supply, installation, testing & commissioning of 2 Nos, (SS 304) Stainless Steel fine Screen having 6-8mm bar spacing and coarse screen having 20-30mm bar spscing welded to a angle frame with suitable lifting arrangement. | Nos. | 2 | 45,000 |
|  |  |  |  |  |
| **2** | Supply, installation, testing & commissioning of 2 nos. twin-type air blowers for Air diffuser system of capacity suitable for 70 m3/day @ 5000 - 5500mmwg at the pressure of 0.50 kg/cm2, complete as required. (One set consists of 2 nos. of  blower (1 working+ 1 standby) | Set | 1 | 1,48,000 |
|  |  |  |  |  |
| **3** | Supply, installation, testing & commissioning of diffusers to be installed in Tanks making the system complete. ( Fine bubble diffusers with silicon seat in MBBR tank and Course bubble diffusers with EPDM seat in EQT. and Tube settler tank) (Spacing between two diffusers should not more than 500mm) | Lot | 1 | 1,36,000 |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
|  | Anoxic tank (MS tank to be Placed after EQT. Tank ) |  |  |  |
|  | MBBR Reactor |  |  |  |
|  | Secondary Tube Settler Tank |  |  |  |
|  | Sludge Holding Tank |  |  |  |
|  | UV System |  |  |  |
|  | Air Blowers, Pumps & equipment |  |  |  |
|  | Piping, valves etc |  |  |  |
|  | Irrigation / Flushing Water tank |  |  |  |
|  | Electrical Panel & Cabling |  |  |  |
|  | Centrifuge system |  |  |  |
|  |  |  |  |  |
|  | **Note :-** |  |  |  |
|  | Contractor shall ensure submission of detailed GA drawings (Plan & Section), P&I diagram, schematic diagram for the above said component and additional component if so required for the complete working of the STP. The following list of civil units shall be Client's Scope. |  |  |  |
|  |  |  |  |  |
|  | Bar screen pit |  |  |  |
|  | Oil & Grease Chamber |  |  |  |
|  | Equalization Tank |  |  |  |
|  | Anoxic Tank |  |  |  |
|  | Reactor Tank |  |  |  |
|  | Tube Settler System |  |  |  |
|  | Filter Feed Tank |  |  |  |
|  | Main Sludge Holding Tank. |  |  |  |
|  | Treated Water Tank |  |  |  |
|  | Drain Sump for STP room |  |  |  |
|  | Foundations for all the units |  |  |  |
|  | Centrifuge System |  |  |  |
|  |  |  |  |  |
| **1** | Supply, installation, testing & commissioning of 2 Nos, (SS 304) Stainless Steel fine Screen having 6-8mm bar spacing and coarse screen having 20-30mm bar spscing welded to a angle frame with suitable lifting arrangement. | Nos. | 2 | 45,000 |
|  |  |  |  |  |
| **2** | Supply, installation, testing & commissioning of 2 nos. twin-type air blowers for Air diffuser system of capacity suitable for 70 m3/day @ 5000 - 5500mmwg at the pressure of 0.50 kg/cm2, complete as required. (One set consists of 2 nos. of  blower (1 working+ 1 standby) | Set | 1 | 1,48,000 |
|  |  |  |  |  |
| **3** | Supply, installation, testing & commissioning of diffusers to be installed in Tanks making the system complete. ( Fine bubble diffusers with silicon seat in MBBR tank and Course bubble diffusers with EPDM seat in EQT. and Tube settler tank) (Spacing between two diffusers should not more than 500mm) | Lot | 1 | 1,36,000 |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
|  | Anoxic tank (MS tank to be Placed after EQT. Tank ) |  |  |  |
|  | MBBR Reactor |  |  |  |
|  | Secondary Tube Settler Tank |  |  |  |
|  | Sludge Holding Tank |  |  |  |
|  | UV System |  |  |  |
|  | Air Blowers, Pumps & equipment |  |  |  |
|  | Piping, valves etc |  |  |  |
|  | Irrigation / Flushing Water tank |  |  |  |
|  | Electrical Panel & Cabling |  |  |  |
|  | Centrifuge system |  |  |  |
|  |  |  |  |  |
|  | **Note :-** |  |  |  |
|  | Contractor shall ensure submission of detailed GA drawings (Plan & Section), P&I diagram, schematic diagram for the above said component and additional component if so required for the complete working of the STP. The following list of civil units shall be Client's Scope. |  |  |  |
|  |  |  |  |  |
|  | Bar screen pit |  |  |  |
|  | Oil & Grease Chamber |  |  |  |
|  | Equalization Tank |  |  |  |
|  | Anoxic Tank |  |  |  |
|  | Reactor Tank |  |  |  |
|  | Tube Settler System |  |  |  |
|  | Filter Feed Tank |  |  |  |
|  | Main Sludge Holding Tank. |  |  |  |
|  | Treated Water Tank |  |  |  |
|  | Drain Sump for STP room |  |  |  |
|  | Foundations for all the units |  |  |  |
|  | Centrifuge System |  |  |  |
|  |  |  |  |  |
| **1** | Supply, installation, testing & commissioning of 2 Nos, (SS 304) Stainless Steel fine Screen having 6-8mm bar spacing and coarse screen having 20-30mm bar spscing welded to a angle frame with suitable lifting arrangement. | Nos. | 2 | 45,000 |
|  |  |  |  |  |
| **2** | Supply, installation, testing & commissioning of 2 nos. twin-type air blowers for Air diffuser system of capacity suitable for 70 m3/day @ 5000 - 5500mmwg at the pressure of 0.50 kg/cm2, complete as required. (One set consists of 2 nos. of  blower (1 working+ 1 standby) | Set | 1 | 1,48,000 |
|  |  |  |  |  |
| **3** | Supply, installation, testing & commissioning of diffusers to be installed in Tanks making the system complete. ( Fine bubble diffusers with silicon seat in MBBR tank and Course bubble diffusers with EPDM seat in EQT. and Tube settler tank) (Spacing between two diffusers should not more than 500mm) | Lot | 1 | 1,36,000 |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
| **4** | Supply, installation, testing & commissioning of Air piping comprise of pipes droppers/ laterals. Header from Air blower to the tank to be of MS (Heavy Class) and droppers and submerged pipes to be of SS 304, including all fittings such as tees, crosses, plugs, sockets, elbows, reducers, supports & clamps, etc cutting chases in walls/Floor and making the system complete. | Lot | 1 | 187,000 |
|  |  |  |  |  |
| **5** | Supply, installation, testing & commissioning of PVC MBBR media, (minimum surface area 400 Cum./m2/hr) Capacity (Approx.) 2-3 cum. to be installed in  MBBR Tanks. | Lot | 1 | 60,000 |
|  |  |  |  |  |
| **6** | Supply, installation, testing & commissioning of PVC tube deck settling media,  Capacity (Approx.) 1.0 cum. to be installed in secondary tube settler tank alongwith suitable sludge removal arranagement by pump | Lot | 1 | 45,000 |
|  |  |  |  |  |
| **7** | Providing, installation, testing and commissioning of all instrumentation i.e isolation control valves, strainer, valves, NRV, pressure gauges, level controllers and electromegtiic flow meter etc. for making the system complete. ( ISI Marked) ( All instrumentation controls shall be provided as per STP scheme) | Lot | 1 | 87,000 |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
| **8** | **EQUALIZED WASTE WATER TRANSFER PUMPS :** |  |  |  |
|  | Providing, installation, testing and commissioning of fully submersible sewage handling type pump for raw sewage transfer . The pump shall have complete SS construction, TEFC induction motor, lifting arrangement for the pump, all necessary piping, cable etc. and other accessories as required Solid handling shall be 25-30 mm. |  |  |  |
|  |  |  |  |  |
|  | Capacity : 4.25 M3/hr |  |  |  |
|  | Discharge Head 8 - 12 M head |  |  |  |
|  | Operation Time - 20 Hrs |  |  |  |
|  | Motor HP : As per Manufacture recommendation |  |  |  |
|  | Type of pump : Sewage handling type pump |  |  |  |
|  | 1 Set - (2 Nos. 1 Working + 1 Standby) | Set | 1 | 69,000 |
|  | MAKE –KIRLOSKAR/CORE/EQVT |  |  |  |
| **9** | **FILTER FEED PUMPS :** |  |  |  |
|  | Providing, installation, testing and commissioning of Horizontal centrifugal pumps for filtration. The pumps shall be made of CI casing, SS Impeller, SS shaft & sleeve, Mechanical Seal are connected to a TEFC induction motor mounted on a common channel base frame with coupling guard, suitable vibration eliminator pads of approved design. Motor to be suitable for 400/440 V, 3 Phase, 50 cycles AC power supply, including all necessary piping and other accessories and concrete foundation complete as required. |  |  |  |
|  |  |  |  |  |
|  | Capacity - 4.5 M3/Hr. |  |  |  |
|  | Discharge Head - 30 - 35 M head |  |  |  |
|  | Operation Time - 16 Hrs |  |  |  |
|  | Motor HP : As per Manufacture recommendation |  |  |  |
|  | Type of pump : Horizontal centrifugal pump |  |  |  |
|  | 1 Set - (2 Nos. 1 Working + 1 Standby) | Set | 1 | 78,000 |
|  | MAKE –KIRLOSKAR/CORE/EQVT |  |  |  |
| **10** | **SLUDGE TRANSFER / RECIRCULATION PUMP :** |  |  |  |
|  | Providing, installation, testing and commissioning of sludge transfer pumps for the transfer of sludge to Sludge holding tank. The pumps shall have CI casing, SS Impeller & SS shaft & sleeve with mechanical rotary shaft seal, suitable vibration eliminator pads of approved design. Motor to be suitable for including all necessary piping, valves and other accessories and concrete foundation complete as required. (1 Working + 1 Stand-by) |  |  |  |
|  | Capacity - 1.0 M3/Hr. |  |  |  |
|  | Discharge Head - 10 - 15 M head |  |  |  |
|  | Motor HP : As per Manufacture recommendation |  |  |  |
|  | Type of pump : Horizontal centrifugal pump |  |  |  |
|  | 1 Set - (2 Nos. 1 Working + 1 Standby) | Set | 1 | 69,000 |
|  | Make Rotomake |  |  |  |
| **11** | **MULTIGRADE SAND FILTER :** |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
|  | Providing, installation, testing and commissioning of vertical self supporting Dual Media Filter (DMF) fabricated from FRP, complete with pressure gauges at inlet & outlet, sample cock, multiport valves, PVC face piping with ABS multiport valves and all accessories, with initial charge of filter media for Dual media filter with multi grade quartz sand & anthracite, lining inside with PP and FRP wounded outside, testing and commissioning complete. |  |  |  |
|  |  |  |  |  |
|  | Capacity : 4.5 M3/hr |  |  |  |
|  | Filtration rate : 18-20 M3/M2/hr |  |  |  |
|  | Max. operating pressure : 3.5 kg/sq.cm |  |  |  |
|  | Test pressure : 5.5 Kg/Sq.cm | Set | 1 | 52,000 |
|  | Make -pentair /eqvt |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
| **12** | **ACTIVATED CARBON FILTER :** |  |  |  |
|  | Providing, installation, testing and commissioning of vertical self supporting Activated Carbon Filter (ACF) fabricated from FRP, complete with pressure gauges at inlet & outlet, sample cock, PVC face piping with ABS multiport valves and all accessories, with initial charge of filter media for activated carbon filter, lining inside with PP and FRP wounded outside, testing and commissioning complete. |  |  |  |
|  |  |  |  |  |
|  | Capacity : 4.5 M3/hr |  |  |  |
|  | Filtration rate : 18-20 M3/M2/hr |  |  |  |
|  | Max. operating pressure : 3.5 kg/Sq.cm |  |  |  |
|  | Test pressure : 5.5 Kg/Sq.cm | Set | 1 | 59,000 |
|  | Make –Pentair/equvt |  |  |  |
| **13** | **SOFTNER FILTER ( OPTIONAL ONLY)** |  |  |  |
|  | Supply, installation, testing and commissioning of Water Softening Plant. The Water softener vessel shall be constructed of FRP/composite material with inner shell of integrated Polyethylene with Fiber Reinforced Plastic as per manufacturer standard. The inner distribution system and the under bed draw off system shall be of Hub & Lateral type / Riser tube with top & bottom strainers of Polypropylene material. Softener shall be supplied with initial charge of cationic resin with supporting media like silex, gravel etc. The softener shall be complete with pressure gauge, sample cock, PVC face piping / interconnected piping, butterfly valve. |  |  |  |
|  | overflow & drain, outlet fitting complete regeneration assembly comprising of power valve, ejector, brine suction valve and all associated pipe work. A density  meter for brine shall be included. |  |  |  |
|  | Salt Saturation Arrangement: |  |  |  |
|  | The brine tank shall be provided with salt saturation arrangement (with air agitation) comprising of CPVC. Perforated (Min. 1 inch.) pipe grid laid in the bottom of brine tank, one no. positive discharge air blower of required capacity, valve & NRV on blower and CPVC pipe interconnection from blower to grid complete. |  |  |  |
|  |  |  |  |  |
|  | Plant Sizes: |  |  |  |
|  | Input hardness : 400 PPM |  |  |  |
|  | Output hardness : < 50 PPM |  |  |  |
|  | OBR : 130 M3 |  |  |  |
|  | Capacity/Flow rate : 4.5 M3/hr |  |  |  |
|  | Operating Pressure Maximum : 3.5 Kg/Sq.cm |  |  |  |
|  | Test pressure : 5.5 Kg/Sq.cm | Set | 1 | 95,000 |
|  | Make Pentair vessel/eqvt |  |  |  |
| **14** | **SCREW PUMPS** |  |  |  |
|  | Providing, fixing, testing & commissioning of Screw pumps for sludge to Filter press complete with all accessories, motor of required capacity. The pumps shall be completed with base frame, delivery header, suitable vibration eliminator pads of approved design. Motor to be suitable for including all necessary piping, valves and other accessories and concrete foundation complete as required. (1 Working + 1 Stand-by) |  |  |  |
| S.No. | Description of items | Unit | Qty. | Rate  (INR) |
|  | Capacity : 0.5 To 1.0 M3/hr |  |  |  |
|  | Discharge Head - 35 - 40 M head |  |  |  |
|  | Motor HP : As per Manufacture recommendation |  |  |  |
|  | Type of pump : Horizontal centrifugal pump |  |  |  |
|  | 1 Set - (2 Nos. 1 Working + 1 Standby) | Set | 1 | 97,000 |
|  | Make –Rotomake/eqvt |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
| **15** | **CHLORINE DOSING** |  |  |  |
|  | Supplying, Installation, testing and commissioning of Chemical dosing system compromising of Sintex Tank of capcity 100 lts., with inlet/ outlet connection, piping and valves along with metering pump of 0-6 LPH for dosing. | Set | 1 | 5,500 |
|  | Make- E dose /eqvt |  |  |  |
| **16** | **Ultra Violet Disinfection System** |  |  |  |
|  | Supply, installing, testing & commissioning of ultraviolet dis-infection unit. The unit shall have over 99.9 % bacterial reduction from inlet to outlet. The dis-infection chamber shall be constructed of SS 316L on all welted parts. The UV lamp shall be of low pressure mercury vapour type with hard glass enclosure, the sockets shall be water tight & vibration resistant. The lamp life shall be rated for 6000 hours. The unit shall be complete with temperature safety control, lamp out alert circuit & UV radiometer with 4 – 20 mA output. |  |  |  |
|  |  |  |  |  |
|  | The UV unit shall have with reactor, cabinet housing, cabinet cooling, treatment chamber, electrical panel, temperature safety control, lamp out alert, UV radiometer along with UV monitoring system and UV monitoring readout panel. The UV Dosage should be > 60,000 uW – Sec / sq.cm. The lamps should be selected based upon the flow requirement of respective unit.Location after ACF. |  |  |  |
|  | Flow - 4.5 M3/hr | Nos | 1 | 45,000 |
|  |  |  |  |  |
| **17** | Providing, Erection & commissioning of PP plate, CI base frame Filter Press with manual operation mechanism. The Filter press should be complete with frame , filter cloth, handle, effluent water tray & sludge disposal tray. |  |  |  |
|  | No of Plates ( Size: 18" x 18" ) : 17 Nos. | Set | 1 | 48,000 |
| **18** | **Flushing water transfer Pump** |  |  |  |
|  | Providing, installation, testing and commissioning of Horizontal centrifugal pumps made of CI casing, SS Impeller, SS shaft & sleeve, Mechanical Seal are connected to a TEFC induction motor mounted on a common channel base frame with coupling guard, suitable vibration eliminator pads of approved design. Motor to be suitable for 400/440 V, 3 Phase, 50 cycles AC power supply, including all necessary piping, valves and other accessories and concrete foundation complete as required. |  |  |  |
|  |  |  |  |  |
|  | Capacity - 4.0 M3/Hr. |  |  |  |
|  | Discharge Head - 60 - 65 M head |  |  |  |
|  | Operation Time - 6 Hrs |  |  |  |
|  | Motor HP : As per Manufacture recommendation |  |  |  |
|  | Type of pump : Horizontal centrifugal pump |  |  |  |
|  | 1 Set - (2 Nos. 1 Working + 1 Standby) | Set | 1 | Not required |
| **19** | **Submersible Sump Pump (STP Plant Room)** |  |  |  |
|  | Providing, installation, testing and commissioning of fully submersible drainage pump for sump dewatering including pressure gauge, lifting arrangement for the pump, all necessary piping, valves, level controller for their automatic operation, cable etc. and other accessories as required. Solid handling shall be 12 mm.(1  Working + 1 Stand-by) |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
|  |  |  |  |  |
|  | Capacity- 10.80 M3/hr |  |  |  |
|  | Discharge Head - 10 - 15 M head |  |  |  |
|  | Operation Time - 15 min. |  |  |  |
|  | 1 Set - (2 Nos. 1 Working + 1 Standby) | Set |  | Not required |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
| **20** | **Ultra filration ( Optional)** |  |  |  |
|  | Providing, installation, testing and commissioning of 2.8m3/hr capacity UF with 2 No feed pump and 2 No back wash pump. SS skid seprate Panel mwith PLC, brine solution equipment and solonoid valve. | No. | RO | 1,99,000 |
|  | Optional |  |  |  |
| **21** | **ELECTRICAL CONTROL PANEL** |  |  |  |
|  | Design, fabrication, assembling, wiring, supply, installation, testing and commissioning of motor control centre shall be fabricated out of 14 gauge CRCA sheet steel in form in 3b formation with reinforcement of suitable size angle iron, channel ‘T’ sections irons and /or flats wherever necessary. Cable gland plates shall be provided on top as well as at the bottom of the panels. Panels shall be treated with all anticorrosive process before painting as per specifications with 2 coats of red oxide primer and final approved shade of powder coated paint. 2 Nos. earthing terminals shall be provided for 3 phase, 4 wire, 50 Hz supply system.  Lifting hooks shall also be provided in case of large panels. Approval shall be taken for each panel before fabrication. Cadmium Plated hardware shall be used in fabrication of panels. Quoted rates shall inclusive of cables, cable trays, control cabling, earthing (in accordance to specification) with earthing from panel to each motor / equipment. |  |  |  |
|  |  |  |  |  |
| **a)** | MCC –1 (Sewage Treatment Plant) |  |  |  |
|  |  |  |  |  |
| **i** | **Incoming** |  |  |  |
|  | 100 amps TPN MCCB with the following accessories: |  |  |  |
|  |  |  |  |  |
|  | a. 0-150 volts 96 x 96 mm square voltmeter with selector switch shall be protected  by 2 amps TP MCB 1 Set |  |  |  |
|  |  |  |  |  |
|  | b. 0-100 amps 96 x 96 mm square ammeter with selector switch and 100/5 amps  10 VA CL:1 CTs. 1 Set |  |  |  |
|  |  |  |  |  |
|  | c. Phase indicating lamps shall be protected by 2 amp SP MCB 3 Sets |  |  |  |
|  |  |  |  |  |
|  | Bus Bar |  |  |  |
|  | 125 amps TPN (25 KA) aluminium bus bar with heat shrinkable insulation sleeves |  |  |  |
|  |  |  |  |  |
| **ii** | **Outgoings** |  |  |  |
|  | a. 2 Nos. suitable rating MPCB for 1.0 KW DOL starter and outgoing feeder to EQT sewage transfer pumps motor - Main (including 1nos. standby). Each compartment shall contain auto / manual selector swtich and indicating /  pushbutton lamps with MCB for ON / OFF / TRIP of motor. |  |  |  |
|  |  |  |  |  |
|  | b. 2 Nos. suitable rating MPCB for 2.5 KW direct on line starter and outgoing feeder to air blowers (including 1 no. standby). Each compartment shall contain auto/manual selector switch and indicating lamps with MCB’s for ‘ON/OFF/TRIP'  status of motor |  |  |  |
|  |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
|  | c. 2 Nos. suitable rating MPCB for 1.0 KW direct on line starter and outgoing feeders to sludge disposal pump (including 1 no. standby). Compartment shall contain auto/manual selector switch and indicating lamps with MCB’s for ‘ON/OFF/TRIP’ status of motor |  |  |  |
|  |  |  |  |  |
|  | d. 2 Nos. suitable rating MPCB for 1.0 KW direct on line starter and outgoing feeders to Sump pump (including 1 no. standby). Compartment shall contain auto/manual selector switch and indicating lamps with MCB’s for ‘ON/OFF/TRIP’  status of motor |  |  |  |
|  |  |  |  |  |
|  | e. 2 Nos. suitable rating MPCB for Nos. 2.0 KW direct on line starter and outgoing feeders to filter feed pump including future (including 1 no. standby). Each compartment shall contain auto/manual selector switch and indicating lamps with  MCB for ‘ON/OFF/TRIP’ status of motor |  |  |  |
|  |  |  |  |  |
|  | f. 2 Nos. suitable rating MPCB for 1.5 KW DOL starter and outgoing feeder to Flushing Water transfer pumps motor - Main (including 1nos. standby). Each compartment shall contain auto / manual selector swtich and indicating /  pushbutton lamps with MCB for ON / OFF / TRIP of motor. |  |  |  |
|  |  |  |  |  |
|  | g. 2 Nos. suitable rating MPCB for 2.0 KW direct on line starter and outgoing feeders to Filter press. Compartment shall contain auto/manual selector switch and indicating lamps with MCB’s for ‘ON/OFF/TRIP’ status of motor. |  |  |  |
|  |  |  |  |  |
|  | h. 1 Nos. suitable rating MPCB for 0.5 KW DOL starter and outgoing feeder to Dosing pumps motor - Main. Each compartment shall contain auto / manual selector swtich and indicating / pushbutton lamps with MCB for ON / OFF / TRIP of motor. |  |  |  |
|  |  |  |  |  |
|  | i.1 Nos. suitable rating MPCB for 1.0 KW or as per vendor recommendation, DOL starter and outgoing feeder to UV. Each compartment shall contain auto / manual selector swtich and indicating / pushbutton lamps with MCB for ON / OFF / TRIP of motor. |  |  |  |
|  |  |  |  |  |
|  | Spare MCB’s of following capacities: |  |  |  |
|  |  |  |  |  |
|  | i. 20 amps TPN MCB’s 2 Nos. |  |  |  |
|  | ii 32 amps TPN MCB’s 2 Nos. |  |  |  |
|  |  |  |  |  |
|  | Note: |  |  |  |
|  |  |  |  |  |
|  | All MCCB's to be suitable for motor duty and shall be of 25 KA breaking capacity. |  |  |  |
|  |  |  |  |  |
|  | Provision shall be made for providing potential free contacts to all pumps starters  for connection to building automation system. |  |  |  |
|  | All motor starter shall be provided with Automatic level controller. |  |  |  |

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| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
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|  | Overflow alarm must be provided at the plant room |  |  |  |
|  |  |  |  |  |
|  | Electrical panel must have the Auto announciator to indicate the system failure if  any |  |  |  |
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|  | MCC –1 for STP as described above | Set | 1 | 1,60,000 |
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|  | **TOTAL** |  |  |  |

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| **S.No.** | **Description of items** | **Unit** | **Qty.** | **Rate**  **(INR)** |
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| **Note : The contractor's scope of work shall also include ;** | |  |  |  |
|  |  |  |  |  |
| a) | Basic and detailed Engineering including:- |  |  |  |
|  | i) Process Flow Sheet |  |  |  |
|  | ii) Hydraulic profile |  |  |  |
|  | iii) Layout of plant within given space ( refer attached drawing ) |  |  |  |
|  | iv) Basic and detailed drawings of Civil Structures. |  |  |  |
|  | v) Equipment piping and electrical specifications |  |  |  |
|  | vi) Piping and electrical & Instrumentation drawings |  |  |  |
|  |  |  |  |  |
| b) | Preparation of project report for submission to Pollution Control Board and statutory authority and obtaining approvals. |  |  |  |
| c) | All civil works (including GA and RCC details) as per scope. |  |  |  |
| d) | Fabrication required in plant |  |  |  |
| e) | Supply and installation of all electro-mechanicals as per the scope. |  |  |  |
| f) | Erection and commissioning of plant |  |  |  |
| g) | Performance Guarantee & Warrantees. |  |  |  |
| h) | Training of employer’s personnel for operation of the plant. |  |  |  |
| i) | Manual on operation and maintenance of the plant. |  |  |  |
| j) | Operation and maintenance of STP for two years after successful commissioning of the plant. |  |  |  |
| k) | Bypass arrangement shall be provided such that equalization tank pump can be used to pump out sewage to external manhole incase of maintenance of STP. |  |  |  |
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