

**NAME OF WORK : TENDER & SPECIFICATIONS OF MEP  
WORK FOR PROPOSED CONSTRUCTION OF MBBR BASED  
SEWAGE TREATMENT PLANT (STP) AT SBILD INDORE**

**CLIENT - SBI LHO BHOPAL**

<b>NO</b>	<b>PARTICULARS</b>	<b>COST</b>
<b>A</b>	<b>PLUMBING WORKS</b>	
<b>B</b>	<b>ELECTRICAL WORKS</b>	
<b>C</b>	<b>ELECTRO-MECHANICAL WORKS</b>	
	<b>GRAND TOTAL (A+B+C)</b>	

SIGNATURE OF CONTRACTOR

TENDER & SPECIFICATIONS OF MEP WORK FOR PROPOSED CONSTRUCTION OF MBBR BASED SEWAGE TREATMENT PLANT (STP) AT SBILD INDORE

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<b>CLIENT - SBI LHO BHOPAL</b>					
<b>A</b>		<b>PLUMBING</b>			
Item No.	Description of Item	Quantity	Unit	Rate	Amount
1	Providing and fixing on wall face Unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion. (i) Single socketed pipes				
	110 mm diameter OD	15	m		
2	Providing and laying below ground unplasticised PVC pipe to with stand working pressure of 4 kg/cm2 soild waste pipes confirming to IS:13592 and IS:4985 including jointing with seal ring confirming to IS :5282 leaving 10mm gap for thermal expansion all necessary fittings etc. complete. Excavation to be paid seperately.				
	160 mm diameter OD	10	m		
3	Providing and fixing on wall face Unplasticised - PVC moulded fittings/ accessories for Unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.				
a	Single tee without door				
b	110x110x110 mm (minimum wall thickness 2.2mm)	8	nos		
c	Coupler				
d	110 mm (minimum wall thickness 2.2mm)	4	nos		
e	Bend 87.50				
f	110 mm bend	1	nos		
4	Providing and fixing Unplasticised -PVC pipe clips of approved design to Unplasticised - PVC soil and waste pipes by means of bombay nail of required length including and making good the wall etc. complete.				
A	110 mm	4	nos		
5	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall				
A	25 mm nominal outer dia .Pipes.	20	m		
b	32 mm nominal outer dia .Pipes.	10	m		
c	40 mm nominal outer dia .Pipes.	40	m		
d	50 mm nominal outer dia .Pipes.	30	m		
6	Providing, installation, testing and commissioning of gun metal valves of following sizes as required.				
A	50 mm dia	2	nos		
7	Core Cutting in Concrete walls of sizes:				
8	for 160 mm pipe fitting through concrete wall, core cut size of 180 mm	10	nos		
9	for 110 mm pipe fitting through concrete wall, core cut size of 130 mm	20	nos		
<b>GRAND TOTAL OF A</b>					

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<b>B</b>	<b>ELECTRICAL</b>				
<b>Item No.</b>	<b>Description of Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
1	Supply and erection of hot dip G.I. cable tray perforation not more than 17.5% for specific dimensions along with tees, bends.. The cable tray shall be hang from ceiling/ fixed to wall with necessary angle/flat iron / hanging rod, for ceiling suspensions, clamps, anchor fastner, nuts, bolts, washers, not more than 1.5 mtr. apart complete as per specification to complete the job. The tray shall be as follows :-				
2	150 x 50 mm x 1.6mm thick	20	per Mtr		
	<b>Total (A)</b>				
3	Design, supply, erection, testing and commissioning of out door type control panel for STP, fabricated with 2mm thick CRCA sheet shall be dust proof, vermin proof. Painting shall be done with epoxy powder coat painting process of required shade. Internal wiring shall be done with required size of copper PVC insulated cable, lugs & busbar. The panel shall be comprising following items :-	1	each		
	<b>INCOMING -</b>				
	MCCB with Breaking Capacity 25 KA at 415 V				
	MCCB 25kA, 415V, Current Rating - 63 to100 Amps & adjustable overload setting 80% -100% of In, adjustable short circuit setting 6 - 10 In 4 Pole				
	LED INDICTOR RYB with fuse				
	Copper Bus Bar 63 A, 500 V, TPN				
	<b>OUTGOING</b>				
	1 no.- MCB DP 2 Amp 10KA Rating 'C' series , Timer, Selector Switch for Auto-Manual-Off, On-Off LED Indicator, Including wiring, ferrul, lugs, etc				
	5 Nos. - MCB DP 16 Amp 10KA Rating 'C' series I/c starter DOL, Timer, Autoswitch 16 A, Selector Switch for Auto-Manual-Off, On-Off LED Indicator, Including wiring, ferrul, lugs, etc				
	4 Nos. - MCB TP 16 Amp 10KA Rating 'C' series I/c starter DOL, Timer, Autoswitch 16 A, Selector Switch for Auto-Manual-Off, Selector Switch for Pump Selection & PLC for Auto-cutoff, On-Off LED Indicator, Including wiring, ferrul, lugs, Single phasing preventer, Dry run Protection, etc.				
	<b>Total (B)</b>				
4	Supply & fixing of XLPE Insulated power cable (conforming IS-7098 ) 1100 Volt grade/Heavy duty power cable 2 / 3 / 4 core ISI MARKED with copper Stranded /solid conductor on wall, cable tray etc including connection, testing to complete the job as required.				
a	2 Core 1.5 sq mm	10	metres		
B	3 Core 1.5 sq mm	102	metres		
c	4 Core 2.5 sq mm	120	metres		
d	4 Core 4 sq mm	20	metres		
	<b>Total ( C)</b>				
	<b>GRAND TOTAL OF B</b>				

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<b>C</b>	<b>ELECTRO-MECHANICAL</b>				
<b>Item No.</b>	<b>Description of Item</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate</b>	<b>Amount</b>
1	Supply, Installation, Testing and Commissioning of Submersible Sludge Lifting Pump in Balancing Tank of the Specification: 1.6 m <sup>3</sup> /hr @ 12 m head, 3 phase, 0.5 HP, Sludge handling capacity: 15 mm; Lubi LBP 2035 OR Eq; Make: Kirloskar / Lubi / Texmo / Crompton	2	no.		
2	Supply, Installation, Testing and Commissioning of Twin Lobe Rotary Air Blowers of the Specification: 30 m <sup>3</sup> /hr @ .3 kg/cm <sup>2</sup> pressure to be coupled with a 1.5 hp 3 phase 1440 RPM motor base with all accessories including common Motor & Compressor base frame with motor plate and belt tightening arrangement, Suction and discharge companion flanges, Suction Silencer with suitable flanges, Suction Air Filter, Pressure Gauge, Pressure Relief Valves Compressor & Motor Pulley/ Coupling with Guard, Foundation bolts, Interconnect line with flanges, Operation & Maintenance Manual, Make: Everest Blowers, Model : Super 50	2	no.		
3	Supply, Installation, Testing and Commissioning of motor for operation of Blower of specifications 1.5 hp 3 phase 1440 RPM, Make- Kirloskar	2	no.		
4	Supply, Installation, Testing and Commissioning of Sludge Recycle and Discard pump from Tube Settler to Sludge Holding Tank including transportation to site of the Specification: 3.2 m <sup>3</sup> /hr @ 6 m head, 3 phase, 0.5 HP, Self Priming Monobloc Pumpset type, Sludge handling capacity: 15 mm; Kirloskar SP0.5M 3PH	1	no.		
5	Supply, Installation, Testing and Commissioning of Silicon Tube Diffusers of the following specifications: 65 mm diameter and 1000 mm length, air delivery capacity 5 to 10 m <sup>3</sup> /hr; Make: Bharat Industries OR Eq.	12	no.		
6	Supply, Installation, Testing and Commissioning of MBBR Biomedia of the following specifications: Virgin plastic White media, Specific Surface area 300 m <sup>2</sup> /m <sup>3</sup> , minimum 60000 pieces per m <sup>3</sup> ; Make: Bharat Industries BioRex Media OR Eq.	10	cubic metre		
7	Supply, Installation, Testing and Commissioning of Pressure Sand Filter including all pipes and valves interconnecting PSF and ACF of the following specifications: MOC = FRP; Filtration rate: 12 m <sup>3</sup> /hr/m <sup>2</sup> ; Height of Structure = 1800 mm; filtration capacity: 1.6 m <sup>3</sup> /hr; including 1000mm height of quartz sand and 300 mm of supporting pebbles of increasing gradient sizes; Make: MLK, Tata, Pentaires OR EQ.	1	no.		
8	Supply, Installation, Testing and Commissioning of Activated Charcoal Filter including all pipes and valves interconnecting PSF and ACF of the following specifications: MOC = FRP; Filtration rate: 12 m <sup>3</sup> /hr/m <sup>2</sup> ; Height of Structure = 1800 mm; filtration capacity: 1.6 m <sup>3</sup> /hr; including 1000mm height of 8/16 sieve size activated charcoal and 300 mm of supporting pebbles of increasing gradient sizes; Make: MLK Waste Management	1	no.		
9	Supply, Installation, Testing and Commissioning of Filter Feed pump/Backwash pump including transportation to site of the Specification: 1.6 m <sup>3</sup> /hr @ 24 m head, 3 phase, 1 HP, Monobloc pumpset: Kirloskar KDS/GMC 134	2	no.		
10	Supply, Installation, Testing and Commissioning of Filter Bag Centrifuge type including transportation to site of the Specification: 0.5 m <sup>3</sup> /hr @ 360 RPM & .5 kg/cm <sup>2</sup> pressure, with 1 hp 3 phase coupled motor	1	no.		

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Item No.	Description of Item	Quantity	Unit	Rate	Amount
11	Supply, Installation, Testing and Commissioning of Chemical Dosing Pump of the Specification: 4 to 20 Litres per hour, Suction / Discharge tubing: 4/6 mm; Diaphragm: Teflon (PTFE) faced Hypalon; Valves and fittings: PP; Make: E-doze / I-doze	1	no.		
12	Supply, Installation, Testing and Commissioning of Treated Water Transfer Pump including transportation to site of the Specification: 5 m <sup>3</sup> /hr @ 24 m head, 3 phase, 2 HP, Horizontal Displacement Openwell Submersible Type, Sludge handling capacity: 6 mm; Kirloskar KOSM series 235M OR Eq; Make: Kirloskar/Dharani/Texmo/Crompton	2	no.		
13	Supply, Installation Testing and Commissioning of Chlorine Storage Tank of specification: 100 Litres capacity; MOC : HDPE tanks with air tight lid; Make: Syntex / Ferrotech Engineers / Supremo (taxes and transportation included)	1	no.		
14	Supply, Installation Testing and Commissioning of Online Water Rotameters as per specifications in drawing; MOC : Acrylic; Make: Transformium Engineers / Water Care	2	no.		
15	Supply, Installation Testing and Commissioning of Mechanical Screen as per specifications in drawing; MOC : SS 304; Make: MLK Waste Management / Ferrotech Engineers	1	no.		
<b>GRAND TOTAL OF C</b>					

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