

**DELHI DEVELOPMENT AUTHORITY
SPORTS DIVISION-1
SIRIFORT SPORTS COMPLEX
NEW DELHI-110049**

No. F2(7)Sports Divn.-1/DDA/A/DWK/2021-22/ 471

Date: 09/11/2021

To

M/s Bimal Water Solutions Pvt. Ltd.,
D-63-64, Sector-10,
NOIDA-201301.

- Name of Work : Development of Golf Course at Sector- 24, Dwarka, New Delhi.
- Sub- Head : Design, Supply, Construction, Installation, Testing & Commissioning of Sewage Treatment Plant (STP) based on MBR Technology, 1000 KLD capacity at Golf Course Road, Sector-24, Dwarka, New Delhi-110075 (Specialized work).
- Ref :- Performance Guarantee in the form of Bank Guarantee No:- 6284NDDG00015322 dated 27.10.2021 for Rs. 16,35,000/- of ICICI Bank Limited, B1/43, NOIDA, 201301.

D/Sir,

Your Percentage rate tender for the above mentioned work has been accepted on behalf of Delhi Development Authority at the rates, terms and conditions given below:-

1. Estimated Cost. : Rs. 7,48,54,527/- (Rs. Seven Crore forty eight lakh fifty four thousand five hundred twenty seven only.)
2. Tendered Amount: Rs. 5,44,56,668/- (Rs Five Crore forty four lakh fifty six thousand six hundred sixty eight only.)
3. Percentage : 27.25% Below (Twenty Seven point two the Estt. Cost. five Percent Below)

You are requested to attend the office of the undersigned along with the non-Judicial stamp paper worth Rs.100/-(One hundred) only to sign the formal agreement within seven days from the date of issue of this letter failing which acceptance of tender is likely to be withdrawn and entire amount of earnest money shall be forfeited absolutely.

Please note that the date of start of the work shall be reckoned from the 10th days after issue of this letter.

(Cont.....P-2-....)

Time allowed for execution of the work shall be 365 Days.

You are requested to contact AE-II/Sports and start the work once.

GST, Cess & other statutory taxes shall be deducted as applicable from time to time.

Executive Engineer
Sports Division-1/DDA

Copy to:-

1. Chief Engineer (Sports)/DDA.
2. Project Director (Sports)/DDA for information pl.
3. Secretary, DWK.
4. All EEs/DDA.
5. EE/QAC-I
6. Sr. A.O./CAU(Sports)DDA.
7. Dy. Director(System)DDA, with the request to kindly E-Mail the same in the DDA website.
8. Sr. A.O.(Works)-I/DDA.
9. All AEs, AE(P) & AAO/Sports Division-1/DDA.
10. AE-II/Sports Division-1/DDA along with schedule of quantity of accepted rates.
11. Income Tax Officer, I.T.O Bldg. Room No.225, 2nd Floor, New Delhi.
12. Labour Commissioner, 15 Rajpura Road, New Delhi.
13. Asstt. Commissioner, Work Contract Cell, Room No.501, Bikrikar Bhawan, N.D.
14. Delhi Contractor Welfare Association, 306, Masjid Moth, NDSE, Part-II, N.D.
15. Head Clerk/Sports Division-1/DDA is requested to please issue one MAS register for the above said work/ agency.
- ✓ 16. Guard file.
17. Copy for Agreement.

la
9/11/24
Executive Engineer
Sports Division-1/DDA

SCHEDULE OF QUANTITY

Name of Work :- Development of Golf Course at Sector- 24, Dwarka, New Delhi.

Sub Head :- Design, Supply, Construction, Installation, Testing & Commissioning of Sewage Treatment Plant (STP) based on MBR Technology, 1000 KLD capacity at Golf Course Road, Sector-24, Dwarka, New Delhi-110075 (Specialized work).

Sl. No	Description of Item	Qty	Unit	Rate	Amount
(A). CIVIL WORK					
1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. (No extra lift is payable if work is done mechanically.) a) All kind of Soil	3678.00	cum	181.85	6,68,844.30
2	Filling available excavated earth (excluding rock/ordinary rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	866.00	cum	219.65	1,90,216.90
3	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials. A) All kinds of soil	1464.00	cum	90.40	1,32,345.60
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level a) 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	123.00	cum	5789.60	7,12,120.80
5	Centering & shuttering including strutting, propping etc. and removal of form work for: a) Foundations, footings, bases of columns etc. for mass concrete.	16.00	sqm	284.85	4,557.60
5.1	b) Walls (any thickness) including attached pilasters, buttresses, plinth beams and string courses etc. Upto plinth level	2235.00	sqm	609.30	13,61,785.50
5.2	c) Suspended floors, roofs, landings, balconies and access platform.	570.00	sqm	693.05	3,95,038.50
5.3	d) Lintels, beams, plinth beams, girders, bressomers and cantilevers.	559.00	sqm	552.05	3,08,595.95
6	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. A) Thermo-Mechanically Treated bars of grade Fe-500 D or more.	149700.00	Kg	83.50	1,24,99,950.00
7	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work, including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement, including cost of admixtures in recommended proportions as per IS 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Less cement used as per design mix is recoverable separately) a) All works above plinth level upto floor V level	998.00	cum	9802.20	97,82,595.60

(Cont.....P-2-....)

8	Brick work with F.P.S. bricks of class designation 75 in super structure above plinth level up to floor level in all shapes and sizes in.a) Cement mortar 1:4 (1 cement :4coarse sand)	20.00	Cum	7809.25	1,56,185.00
9	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	836.00	sqm	1238.20	10,35,135.20
10	Providing and fixing precoated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	212.00	sqm	627.55	1,33,040.60
11	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50 mm (+0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete : a) Ridges plain (500 - 600mm)	22.00	meter	416.30	9,158.60
12	CEMENT PLASTER (IN FINE SAND) 15 mm cement plaster on the rough side of single or half brick wall of mix : a) 1:4 (1 cement : 4 coarse sand)	617.00	sqm	307.90	1,89,974.30
13	Finishing walls with Acrylic Smooth exterior paint of required shade : a) New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	617.00	sqm	164.70	1,01,619.90
14	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : (i) 1st layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the levelling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. (ii) 2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. (iii) Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cum/m/sqm thoroughly embedded in the 2nd layer. a) Using Kota Stone	1213.00	sqm	1353.70	16,42,038.10

(Cont.....P-3-....)

15	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :a) Using Kota Stone	1223.00	sqm	1738.00	21,25,574.00
Amount of CIVIL WORK					3,14,48,776.45
(B). MECHANICAL EQUIPMENTS FOR STP					
16	Fabrication and SITC of two numbers of Manual Bar Screen , made out of 5 mm thick 40 mm SS Flat Bar, 20 mm Clear gap between two bars. Frame of screen to be made SS equal angle of 50 mm and support in middle of screen, Side Channel to install in Bar Screen Chamber with accessories, arrangement for removal and cleaning that is require to smooth working complete in all respect. Size: 800x1000	2.00	No.	174608.00	3,49,216.00
17	SITC of Mechanical arrangements for removal of grit from Grit Chamber with all accessories complete in all respect	1.00	No.	558793.76	5,58,793.76
18	Supply of MS hot dip galvanized puddle flanges in accordance to BS:10 table D as required to be provided (in the structural slab and wall) of various diameters. Puddle flanges shall be provided for all the structural component of the STP. The installation of the puddle flanges shall be carried out by the Civil contractor in accordance to the Civil GA drawing (to be prepared by the STP contractor) at the required levels & position; under the supervision of the STP contractor	1.00	Lot	349246.24	3,49,246.24
19	Supply of plastic encapsulated step/foot rest (@ 300 mm c/c) with polypropylene compound injection molded around 12 mm dia (Fe-415) steel reinforcing bar. Provision of the foot rest is envisaged in various tanks/ components of the STP for the purpose of accessibility. The installation of the foot rest shall be done by the civil contractor as per civil GA drawing	1.00	Lot	104773.76	1,04,773.76
20	Supply, installation, testing & commissioning of CI medium duty manhole cover with frame for the feasibility of access in the tank. Size : 600 x 900 (150 kg)	4.00	set	48893.60	1,95,574.40
21	Supply of vent pipes of 100 mm dia with mosquito proof grating suitable for the ventilation purpose of the various tanks	1.00	Lot	209547.52	2,09,547.52
22	SITC of Floating Aerator for Equalization Tank for equalizing and mixing of feed sewage BWS Make, Statically Balanced, Directly coupled three blade SS Impeller, with FRP constructed Float capable to handle motor, shaft and impeller Complete in all respect. Mixing dia approx 8 Meter, 5 HP 1440 RPM Motor.	5.00	No.	1047737.60	52,38,688.00
23	SITC of Non clogging type submersible Sewage Feed Pump to feed raw sewage to Anoxic Tank Solid Handling 35 mm minimum, in CI casing and impeller, SS shaft, mechanical seal complete with all accessories, motor of required capacity, Pressure gauge on delivery line with isolation valve, level controller (with wiring) to control the level of Equalization Tank automatically. Flow rate: 42 Cu M / Hr at 10 meter head. Qty : 2 nos (1W+1S)	2.00	No.	447036.80	8,94,073.60

24	SITC of Non clogging type submersible Plant Room Sump Pump, Solid Handling 10 mm minimum, in CI casing and impeller, 'SS shaft, mechanical seal complete with all accessories, motor of required capacity, Pressure gauge on delivery line with isolation valve, level controller (with wiring) to control the level of Sump automatically. Flow rate: 40 Cu M / Hr at 10 meter head. Qty : 2 nos (1W+1S)	2.00	No.	391155.52	7,82,311.04
25	SITC of Rotary Drum type Fine Screen, mechanically brush type auto cleaning, Punch hole size of 2 mm for screening sewage. Drum MOC SS, with accessories, arrangement for removal and cleaning that is require complete in all respect capable to handle the sewage flow 50-60 CUM/hr	1.00	No.	1047738.72	10,47,738.72
26	SITC of Agitator for Anoxic Tank complete with motor, gear and Mixer blade made of SS. suitable HP motor and gear to mix the sewage at the speed of 60 to 90 RPM with all fittings i.e. channel angle motor and gear platform that is require for its functioning complete in all respect Capable to mix 75 to 60-70 Cum sewage in anoxic tank and 40-50 cum/hr incoming and outgoing flow,	1.00	No.	314321.28	3,14,321.28
27	SITC of Twin Lobe type rotary air blowers for aeration tank and Sludge Holding Tank, driven through "V" belt or directly coupled through flexible coupling to a TEFC motor of suitable HP Suitable for 415 + 10% volts, 3 phase, 50 cycles A/C supply 1 working and 1 Standby with all fitting and accessories require for its functioning complete in all respect. Capable of delivering min. 1000 cum/hr (each) of free air at 0.5 kg/cm ²	2.00	No.	1117587.52	22,35,175.04
28	SITC of Header Piping for Aeration Blower 'GI Heavy' with all require Valves, NRV, header for aeration tank and sub header upto Sludge Holding Tank, Complete in all respect	1.00	Lot	419095.04	4,19,095.04
29	SITC of Aeration Tank Air Grid 'GI Heavy' with Valves on Each branch the size of branch pipe should capable to supply sufficient air to each diffuser to be install on that branch, sufficient gap, capable to supply air uniformly in aeration tank, arrangement to removal of each branch for maintenance purpose, TEE, Elbow, Socket, nipple whatever require to adapt Fine diffuser thread complete in all respect	1.00	Lot	698492.48	6,98,492.48
30	SITC of Fine Bubble Diffusers Tubular type for Aeration Tank with EPDM/Silicon Membrane 63 mm dia 1000 mm long capable of delivering 8-10 cum air per diffuser quantity as require to deliver diffused air into the complete aeration tank	1.00	Lot	349246.24	3,49,246.24
31	SITC of Flat sheet MBR Membrane capable to handle 42-45 cum/hr sewage at a flux rate less than 20 LPM ² . with all arrangement for air scouring and permeate connections complete in all respect. PVDF membrane film area of each membrane shall be 210 m ²	3.00	No.	3073366.24	92,20,098.72
32	SITC of Electrical Hoist for MBR Membrane Removal for maintenance purpose, capable of handling the weight of upto 5 ton with all fitting, pully, Shell, Hook, Push Button, angle, Channel, MS Joist/garter whatever require for an interrupted functioning, complete in all respect.	1.00	Set	628643.68	6,28,643.68
33	SITC of Twin Lobe type rotary air blowers for MBR membrane scouring, driven through "V" belt or directly coupled through flexible coupling to a TEFC motor of suitable HP Suitable for 415 + 10% volts, 3 phase, 50 cycles A/C supply 1 working and 1 Standby with all fitting and accessories require for its functioning complete in all respect. capable of delivering min. 1250 cum/hr (each) of free air at 0.5 kg/cm ²	2.00	No.	1536683.68	30,73,367.36

34	SITC of Header Piping for MBR Blower 'GI Heavy' with all require Valves, NRV, header for aeration tank and sub header upto Sludge Holding Tank, Complete in all respect	1.00	Lot	838191.20	8,38,191.20
35	SITC of MBR Tank Air Grid 'GI Heavy' with Valves on Each branch the size of branch pipe should capable to supply sufficient air for scouring to each MBR Membrane, arrangement to removal of each branch for maintenance purpose, TEE, Elbow, Socket, nipple whatever require to connect with MBR Membranes complete in all respect	1.00	Lot	698492.48	6,98,492.48
36	SITC of MBR Permeate Pump Horizontal centrifugal water pumps, CI Body & Impeller along with motor, pressure gauge with isolation cock, Isolation valve, NRV on delivery line, Isolation valve. Mechanical seal drain pipe with valve for the pump. The pump shall be suitable for 415±10% volts 3 phase AC supply capable to handle negative suction 1 working + 1 Standby complete in all respect. Flow rate: 45-48 Cu M / Hr at 10-12 meter head.	2.00	No.	419095.04	8,38,190.08
37	SITC of CIP Chemical Preparation Tank of 5000 litres capacity with ss agitator mixer with 1440 RPM motor and gear ratio 1:15, complete with MS Channel/angle for support and platform/frame for Gear and motor complete in all respect	1.00	No.	251456.80	2,51,456.80
38	SITC of one number of CIP Chemical Solution Transfer Pump, Horizontal, monoblock, with mechanical seal with all wetted parts made SS 316, with all necessary fittings valve uPVC Header and Valves complete in all respect. Flow of 5 m3/hr at 10-12 meter head	2.00	No.	111759.20	2,23,518.40
39	SITC of CIP Gravity Tank for receiving prepared solution and deliver to membrane for CIP through gravity, MOC: HDPE, Capacity: 2000 litres with tank nipple valve. Complete in all respect	1.00	No.	22351.84	22,351.84
40	SITC of CIP Piping made uPVC Schedule 40 pipe from transfer pump to overhead Gravity CIP Tank, from overhead Gravity CIP Tank to all MBR Membranes with uPVC Valve for each Membrane connection complete in all respect	1.00	Lot	251456.80	2,51,456.80
41	SITC of Non clogging type submersible Sludge Re-circulation/Sludge Transfer Pump, CI casing and impeller, SS shaft, mechanical seal complete with all accessories, motor of required capacity, Pressure gauge on delivery line with isolation valve, 10-15 mm solid handling, Flow rate: 50 Cu M / Hr at 10-12 meter head. Qty : 2 nos (1W+1S)	2.00	No.	391155.52	7,82,311.04
42	SITC of Sludge Recirculation / Transfer Piping with Valves, MS Heavy with all necessary fittings i.e. Flanges, TEE, elbow, all pipe support etc. complete in all respect	1.00	Lot	349246.24	3,49,246.24
43	Supply, installation, testing & commissioning of High Flow UV system for tertiary water treatment. The UV chamber shall be internally & externally electro polished with double side flange, drain part & probe bar. The unit shall use quartz glass technology for superior UV transmission and specialized high intensity UV lamp rated for 16000 hour operation. The UV dosage shall be greater than 60,000 uW-Sec / sq.cm. Unit Flow 55 CUM/hr.	1.00	No.	1187437.44	11,87,437.44
44	SITC of 200 gm capacity of Ozonator for the flow of 50 Cum/hr. of STP Treated Flow, with venturi, recirculation pumps and all necessary fittings, complete in all respect.	1.00	No.	908040.00	9,08,040.00
45	SITC of Sludge Holding Tank Air Grid 'GI Heavy' with Valves on Each branch the size of branch pipe should capable to supply sufficient air to each diffuser to be install on that branch, sufficient gap, capable to supply air uniformly in aeration tank, arrangement to removal of each branch for maintenance purpose, TEE, Elbow, Socket, nipple whatever require to adapt Coarse diffuser thread complete in all respect.	1.00	Lot	139698.72	1,39,698.72

46	SITC of Coarse Bubble Diffusers Disc type for Sludge Holding Tank with EPDM 300 mm Dia capable of delivering 4-6 cum air per diffuser quantity as require to deliver diffused air into the complete Sludge Holding Tank	1.00	Lot	111759.20	1,11,759.20
47	Supply and fixing of Screw Type Sludge Feed pump from Sludge holding tank to Sludge Decanter. The pumps shall have CI casing, CI/bronze Impeller & SS shaft & sleeve with TEFC induction motor suitable for 415+10% Volts, 3 Phase, 50Hz, AC Power Supply mounted on a common channel base-plate with coupling guard, including all necessary piping, valves and other accessories complete as required. Capacity: 5 M3/Hr at 40-50 Meter Head	2.00	No.	174623.68	3,49,247.36
48	Supply, installation, testing & commissioning of poly electro type dosing system comprising of 500 ltrs HDPE/FRP tank with 0-300 lph electronic metering type pump and SS agitator complete with motor and Gear.	1.00	Set	349246.24	3,49,246.24
49	Supply and fixing of Solid Bowl type centrifuge sludge Decanter Screw Conveyor type with gearbox centrifuge, Bowl Material SS316/SS304 start on DOL/Star Delta with VFD, Complete with all connections for dry sludge removal filtrate discharge in drain channel complete in all respect for the flow capacity of 5 cum/hr of thickened sludge	1.00	No.	3073367.36	30,73,367.36
50	Providing and fixing all piping (as described below) and isolation control valves for making the system complete. GI: Submerged and non submerge air piping uPVC piping: Tank overflow pipe line MS/uPVC: Sludge Piping MS: All Sewage piping upto MBR tank GI/uPVC: All Clear Water Pipe from MBR Permeate Onwards	1.00	Lot	642613.44	6,42,613.44
Instruments					
51	SITC of DO Sensor for measuring the dissolved oxygen in the Aeration Tank for the range of 0-40 PPM	1.00	No.	488944.96	4,88,944.96
52	SITC of Turbidity analyser for measuring the Turbidity in MBR permeate for the Range 0-20 NTU	1.00	No.	628643.68	6,28,643.68
53	SITC of pH Meter for measuring the pH in MBR permeate. Range 2-12 pH Unit	1.00	No.	169023.68	1,69,023.68
54	SITC of Pressure Differential meter which show cross membrane differential pressure and send alert in PLC & HMI in case of the rise of the differential pressure. Range 0-4 bar	1.00	No.	125795.04	1,25,795.04
55	SITC of Electro-Magnetic Flow meter with totalizer one for measuring the feed water into STP, another one for MBR permeate pump. The flow meter which installed at MBR permeate shall work with VFD and control the out put flow from MBR. Range 0-90000 LPH	1.00	No.	203947.52	2,03,947.52
56	SITC of Pressure gauge of 150 mm dia dial, SS Casing, with syphon isolation Valve wherever require as per engineer-in-charge.	2.00	No.	215147.52	4,30,295.04
57	SITC of Level Sensor/ Level Float switches in all tanks or wherever require, connected with all pumps for protecting pumps from dry running and making the STP plant completely over flow free with all require accessories/wiring etc. complete in all respect	1.00	Lot	111759.20	1,11,759.20
Amount of MECHANICAL WORKS					3,98,43,436.64

(Cont.....P-7-....)

(C) ELECTRICAL WORKS				
58	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. Galvanised hardware with zinc passivation shall be used in fabrication of panels.			
	Incoming: with suitable amps 4P ATS			
	suitable amps TPN MCCB with the following accessories:			
a.	0-500 volts 96 x 96 mm square digital/Analog electronic voltmeter with selector switch shall be protected by 2 amps 3nos. SP MCB. 1 Set			
b.	At least 20% extra calculated ampere load rated 96 x 96 mm square digital/Analog electronic ammeter with selector switch and suitable amps 5VA CL: 1 CTs. 1 Set			
c.	Phase indicating lamps shall be protected by 2 amp SP MCB 3 Sets			
	Bus Bar Bus Bar At least 20% extra calculated ampere load rated amperes TPN aluminium bus bar with heat shrinkable PVC insulation sleeves.	1.00	EACH 1106388.64	11,06,388.64
	Out Going: All required DOL/Star Delta Starter for all motors connected to pumps, blowers, agitators/mixers. Floating aerators, UV Lamps, Ozonator, Chemical dosing pumps and all other equipment's as given in above BOQ required to running the STP Plant trouble free with suitable rating TP MCB, Contactor, Relay, Phase preventor, cycling timer wherever require, auto/manual selector switch wherever require and indicating lamp with MCB's and 'ON/OFF/TRIP' status of motor.			
	1 No. 32 amps 4 Pole MCB (10kA) for LPDB (STP)			
i.	Spare of following capacities: 16 amps 4 Pole MPCB (10kA)			
ii.	32 amps 4 Pole MPCB (10kA)			
iii.	63 amps 4 Pole MPCB (10kA)			
	Necessary cable alleys, internal wiring, and interlocking, earthing for all equipment shall also included			
a.	Notes: All MCBs/MPCBs shall be of 10 KA breaking capacity and suitable for motor duty application.			
b.	All motor starter shall be provided with Automatic level controller.			
c.	Provision shall be made for providing potential free contacts to all pumps starters for connection to BAS			

59	Suitable rating PLC for programming of MBR Permeate pump with VFD and flow meter and turbidity meter. permeate pump to work on variable frequency based on permeate flow alert indication on high cross membrane pressure difference and stop after a certain limit, alert on high turbidity of permeate water, at least 7" size HMI to indicate status of all motors and pumps, Analog cards to receive signals from all field instruments, i.e. Electromagnetic flow meters, Pressure differential transmitter, DO Meter, pH meter, turbidity meter	1.00	Each	477744.96	4,77,744.96
60	Supplying & laying of 1100 volt grade PVC sheathed aluminium/ copper conductor armoured cables suitable rating from MCC to all motors connected to pumps, blowers, agitators/mixers, Floating aerators, UV Lamps, Ozonator, Chemical dosing pumps and all other equipments as given in above BOQ required to running the STP Plant trouble free, in existing trenches, cable trays, ducts over bed of sand, clamped to wall with suitable clamps, saddles fixing bolts including connecting testing and commissioning. with end terminations and lugs at both end in MCC and field equipments.	1.00	Each	1128788.64	11,28,788.64
61	Providing and fixing of suitable size GI perforated cable tray/ PVC conduit/ flexible conduit as require as per site requirement and the wiring layout should not create any obstructions, all cable tray duly supported with MS angle, channel, GI hanging rod whatever require for aesthetic layout complete in all respect	1.00	Each	500144.96	5,00,144.96
62	Providing and fixing the STP Plant earthing from all field equipments to MCC and MCC to earthing pit which includes GI strip or wire and earthing pit of required size and quantities as per CPWD specifications, the layout of earthing shall be obstruction free and aesthetic, with all required fittings making the system complete in all respect.	1.00	Each	349246.24	3,49,246.24
Amount of Electrical Work					35,62,313.44
Grand TOTAL(CIVIL + MECHANICAL + ELECTRICAL)					7,48,54,526.53
					Less (-)27.25%
					2,03,97,858.47
					Tendered Amount
					5,44,56,668.05
					Says
					5,44,56,668.00

(Rs. Five Crore forty four lakh fifty six thousand six hundred sixty eight only).

6/9/11/21
Executive Engineer
Sports Division-1/DDA