

NAME OF THE WORK : BOQ FOR SUPPLYING, TESTING & COMMISSIONING OF STP OF 115 KLD AND RELATED CIVIL WORKS IN CHAKRATHIRTA BEACH AT PURI.					
A.i. 15 KLD STP :- CIVIL WORKS.					
Sl.no.	Description of Items	Quantity	Units	Rate In Rs.	Amount in Rs.
1	Earth work in ordinary soil with initial lead and lift including rough dressing in layers not exceeding 0.3m in depth and the Earth transported by transport vehicles as directed by the Engineer-in-charge.	95.400	Cum		
2	Filling at all depth with available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 15 cm in depth : consolidating each deposited layer by ramming and watering complete (lead upto 100m) as directed by the Engineer-In-charge.	63.918	Cum		
3	Supplying of filling sand in foundation and over areas including watering, ramming, consolidating and dressing, labours, tools, taxes etc. all complete as per the specification and direction of E.I.C.	3.600	Cum		
4	Providing and laying plain cement concrete 1:3:6 (1 cement: 3 sand : 6 stone aggregate 40mm nominal size) as levelling course in foundation and plinth etc. including tempering, curing, shuttering etc. complete all depth and height.	3.600	Cum		
5	Providing, lifting, hoisting and laying Reinforced cement concrete of M-30 grade as per approved designs and drawings having a minimum compressive strength (in work test) 30 Kg. / Square cm. in 15 cm. cubes at 28 days after mixing and test conducted in accordance with I.S. 516 using 12 mm. to 20 mm. size black hard crushed broken granite stone chips and screened and washed sharp sand for mortar of approved quality from approved quarry, washed and cleaned (20mm. size chips not to exceeds 25 %) to be mixed in concrete mixture with Portland slag cement (PSC) including hoisting, lowering, laying and compaction concrete by using vibrators, watering and curing for 28 days, centering and shuttering then after dismantling and removing debris from the work site and finishing the exposed surface smooth providing grooves or beads wherever necessary including cost, conveyance, loading, unloading, royalties and taxes of all materials and cost of all labours, sundries, T & P required of the work etc. complete in all respect as directed by the Engineer-in-Charge. But excluding cost and conveyance of M.S. rods or Tor steel and binding wires and labour charges for straightening, cutting, bending etc. of M.S. rods or tor steel tying the grills and placing in proper position.				
	a) Base	18.000	Cum		
	b) Wall	13.200	Cum		
	c) Slab	5.000	Cum		
6	Supplying, straightening, cutting, bending, placing in position and binding reinforcement steel work in RCC/reinforced brick works as per drawing and specification including preparation of respective bar bending schedule and binding (Binding wire to be used as per the IS code) etc. all complete as per direction of Engineer-In-Charge. Cold Twisted bars, Thermo-Mechanically-treated bars.	46.962	Qntl		
7	12mm cement plaster on internal smooth side of RCC/brick surfaces with cement mortar of mix 1:4 (1 cement : 4 fine sand) including neat cement punning & necessary scaffolding, curing etc. all complete at all floors and all heights.	105.000	Sqm		
A.ii. 15 KLD STP :- MECHANICAL WORKS.					
SEWAGE TREATMENT PLANT (MBBR PROCESS)					
	Design, supplying, installing, testing & commissioning of Sewage Treatment plant of capacity 15 KLD (excluding all Civil & construction work) for the following duty :				
	Nature of Sewage - Domestic Sewage, Daily average flow -15 cum/day, pH - 6.5 – 8.5, BOD5 - upto 100-200 Mg/L, S. Solids - 100-250 Mg/L, COD - upto 400 Mg/L, Oil & Grease - 30 Mg / L, Coliform - 106 - 107 MPN/100 ML, Sewage discharge standard after treatment, PH - 5.5-9.0, BOD5 - Less than 20 Mg/L, S. Solids - Less than 20 Mg/L, COD - Less than 50 Mg/L, Coliform – traces .				
1	Supply, installation, testing & commissioning of Stainless Steel Perforated, 6mm perforated Bar Screen with suitable lifting arrangement with brackets in the sreen sump of (size 800 mm x 2500mm depth approx), SS-304	1.00	Nos		
2	Supply, installation, testing & commissioning of electronic type level indicator, instrumentation and controller for automatic operation of the system with high/low level alarm complete with auxillary NO/NC contacts. Contractor shall ensure submission of detailed GA drawings (Plan & Section), P & I diagram, schematic diagram for the above mentioned component and additional component if so required for the complete working of the STP.	2.00	Nos		

3	Supply, installation, testing & commissioning of non clogging type Mono block centrifugal sewage transfer pumps capable of handling solids upto 10 mm having C.I casing & Bronze impeller complete with all accessories, motor of required capacity, Pressure gauge on delivery line with isolation cock, level controller (with wiring) to control the level of sump automatically. Capacity 4-5 M3/hr each , 1 set = 2 Nos.(1 working + 1 standby) . Head-10-12 Mts, Power-1.0 Hp, Inlet/outlet Size-40 x 40 mm, Phase-3 Phase, RPM-2700, Make-KIRLOSKAR/CG/LUBI/TEXMO	1.00	SET		
4	Supply, installation, testing & commissioning of non clogging type Mono-block centrifugal sludge transfer pumps capable of handling solids upto 10 mm having C.I casing & Bronze impeller complete with all accessories, motor of required capacity, Pressure gauge on delivery line with isolation cock, level controller (with wiring) to control the level of sump automatically. Capacity 4-5M3/hr each , 1 set = 2 Nos.(1 working + 1 standby) . Head-10-12 Mts, Power-0.5 Hp, Inlet/outlet Size-40 x 40 mm, Phase-3 Phase, RPM-2700, Make- KIRLOSKAR/CG/LUBI/TEXMO	1.00	SET		
5	Twin lobe type rotary air blowers with 1450 rpm suitable motor (1W + 15b) capable of delivering 35 cum/hr (2 nos.) of free air at 0.3 kg/cm ² driven through "V" belt or directly coupled through flexible coupling to a TEFC motor of suitable 1 HP Suitable for 415 ± 10% volts, 3 phase, 50 cycles A/C supply. complete with silencers, filters ,NRV,SV and divert valves, Vibration pads etc complete with all accessories 1set=2 Nos (1 working + 1 standby) , Make-A1 /EVEREST / AIRVAK /AKASH, Motor Make SIEMENS/CROMPTON/KIRLOSKAR	1.00	SET		
6	Supplying, installing, testing and commissioning, of fine bubble diffuser along with membrane of silicone membranes, PVC support pipe(10 ksc pressure rating), PVC fitting, nylon rope braided hose with all accessories to make it retrievable & to provide clog-free oxygen for Aeration Tanks.	12.00	Nos		
7	MBBR Media Module as per std specification and detailed drawing and technical spec, quantity required as designed (approx 3.0-m3 each) with support rest etc for the proposed MBBR directed by engineer in charge at site. Make-- COOLDECK/MM AQUA/WELCOME MARKETING	3.00	Cum		
8	Hexagonal Tube settler with MSEP rack support and open able bracket /MH and support frame for clarifier unit of size 750 mm long and with end locking arrangement ,the inclination of 51' is required ,end lock sud have the surface locking arrangement in rack etc (media min approx 3 m3) with all fittings and fixtures as required for clarifier as directed by engineer in charge at site. Make - COOLDECK/MM AQUA/WELCOME MARKETING	3.00	Cum		
9	Piping (heavy class) in MS/GI/SS/UPVC/HDPE as per the approval of the consultants, to be designed for suitable and corrosion resistance complete or as directed by engineer in charge at site. MS PIPE MAKE -JINDAL/TATA, UPVC PIPE AND FITTINGS -- SUPREME/ASHIRBAD/FINOLEX	1.00	Lot		
TERTIARY TREATMENT PLANT					
10	Supplying, installing, testing and commissioning of horizontal single/multistage centrifugal filter feed pump complete ,impeller CI casing . Each pump shall have TEFC 2900 RPM three phase electric motor. The pump shall have cast iron head, base plate SS Shaft/ Impeller/ Intermediate chamber. Pump shall be provided with mechanical seal. The pump shall be suitable for auto/ manual operation. of capacity 4-5 M3/hr @ 35 MWC.(1 W + 1 St by) MONO-BLOCK PUMP, 1 set = 2 Nos.(1 working + 1 standby) . Head-30-35 Mts, Power-1.0 Hp, Inlet/outlet Size-40 x 40 mm, Phase-3 Phase, RPM-2900, Make- KIRLOSKAR/CG/LUBI/TEXMO	1.00	SET		
11	Providing, fixing, testing & commissioning of FRP Tertiary filtration plant MULTI GRADE FILTER (suitable for 3.5 Kg/Sqcm working pressure) complete with initial charge with Gravels/pebbles/sand /silix media , Multiport valves with built in frontal pipe work with back wash system, pressure gauge at inlet, outlet and back wash (each with isolation cock), valves, fittings associated works. Pr Vessel MOC – FRP COMPOSITE VESSEL, Pr Vessel dia/hos – 350 X 1625, Back Wash Period-12 Hrs., Operating Pressure-3 Kg. per sq.cm, Test Pressure-7.5 Kg. Sq.cm., Capacity 3 m3/Hr, Make- STARLITE/PENTAIR/AQUANOMICS.	1.00	Nos		

12	Providing, fixing, testing & commissioning of FRP water filtration plant ACTIVATED CARBON FILTER (suitable for 3.5 Kg/Sqcm working pressure) complete with initial charge with Gravels/pebbles/Activated carbon , Multiport valves with built in frontal pipe work with back wash system, pressure gauge at inlet, outlet and back wash (each with isolation cock), valves, fittings associated works. Pr Vessel MOC – FRP COMPOSITE VESSEL, Pr Vessel dia/hos – 350 X 1625, Back Wash Period-12 Hrs, Operating Pressure-3 Kg. per sq.cm, Test Pressure-7.5 Kg. Sq.cm, Capacity 3 m3/Hr, Make- STARLITE/PENTAIR/AQUANOMICS	1.00	Nos		
13	Supply, installation, testing & commissioning of Hypochloride dosing system for tertiary water treatment with 100 L . HDPE/PVC tank with lid etc. Capacity of the dosing Pump - 0-4 LPH, Pressure- 4 Kg/cm2, Stroke per minute-55, Make- KANAKDHARA/MILTON ROY/E-DOSE	1.00	Nos		
14	ELECTRICAL INSTALLATION FOR STP				
	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 (in accordance to specification) with earthing from panel to each motor /STP Motor Control Centre.				
	Incoming Distribution panel with bus bar etc as std required, MCC for GWTP as described above,CABLE & CABLE TRAYS,Supplying & laying of following 1100 volt grade PVC sheathed aluminum/copper conductor armoured cables as per specification in existing trenches, cable trays, ducts over bed of sand, clamped to wall with suitable clamps, saddles fixing bolts including connecting testing and commissioning. as site suitable quantities as per site., 4 core 4 sq. mm copper cable, 8SWG Copper wire, Make- L&T/SIEMENS/ABB	1.00	SET		
15	A. COMPLETE COMMISSIONING OF SEWAGE TREATMENT PLANT WITH UREA, DAP, COW DUNG, BIO-CULTURE, MAN POWER ALONG-WITH TOOLS AND TACKLES FOR 20 DAYS. B. 1 YEAR MAINTAINANCE SERVICE AND REPLACEMENT WARRANTY(BUT EXCLUDES MAN-POWER,CONSUMABLES ,ELECTRICAL ETC) C. INLET AND OUTLET PARAMETERS TEST REPORT AFTER SUCCESFUL COMMISSIONING FROM POLLUTION BOARD APPROVED LABORATORY.	1.00	SET		
	TOTAL - (A+B)				
	Total amount quoted by the bidder				
	Total amount quoted by the bidder in words				

Approved 22 Nos item only

Signature of Bidder



Divisional Forest Officer
Puri Wildlife Division, Puri