

**BILL OF QUANTITIES.**

Tender Ref No.T7D1Q13632

Ann.I to Volume-II of NIT

Name of the Work: **Civil, Structural & Architectural works for Six (6) Nos. Sewage Treatment Plant for Raipur Development Authority, Raipur Chhattisgarh.**

Item. NO.	PROJECT: STP, RDA, RAIPUR, CHHATTISGARH  DESCRIPTION	UNIT	STP-1	STP-2	STP-3	STP-4	STP-5	STP-6	Grand Total of all STP's	Remarks
			TOTAL QTY (7.40 MLD)	TOTAL QTY (4.33 MLD)	TOTAL QTY (7.05 MLD)	TOTAL QTY (1.79 MLD)	TOTAL QTY (0.872 MLD)	TOTAL QTY (3.98 MLD)	Quantity	
A	B	C	D	E	F	G	H	I	J	K
1	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including disposal of excavated stuff upto 1.5 m lift and lead upto 50m (at least 5m away from the excavated area), including dressing and leveling of pits. <b>In all types of soils.</b>	Cum	6877.37	5130.95	6533.49	2716.65	2070.43	4663.43	27,992.32	
2	Extra for every additional lift of 1.5 m or part thereof. <b>All types of soils</b>	Cum	6480.24	4834.92	6156.23	2560.51	1951.29	4394.47	26,377.66	
3	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including disposal of excavated stuff upto 1.5 m lift and lead upto 50m (at least 5m away from the excavated area), including dressing and leveling of pits. <b>In ordinary rocks.</b>	Cum	18.05	13.54	17.15	7.22	6.32	12.63	74.91	
4	Extra for every additional lift of 1.5 m or part thereof. <b>Ordinary or hard rocks</b>	Cum	72.2	54.15	68.59	28.88	22.56	49.64	296.02	
5	Filling from available excavated stuff (Excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20cm in depth consolidating each deposited layer by ramming and watering with a lead upto 50 M. and lift upto 1.5 M.	Cum	451.27	336.65	428.71	178.71	136.28	305.96	1,837.58	
6	Carriage by mechanical transport upto 5 km lead: Earth	Cum	180.51	135.39	162.45	90.25	90.25	135.39	794.24	
7	Supplying and filling CNS upto any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted using vibratory roller so as to achieve at least 95% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	Cum	4720.29	3521.71	4484.72	1864.65	1421.5	3200.41	19,213.28	
8	Earth work in filling upto any depth below/ above ground level for grading to proper grade and level in layers not exceeding 250 mm loose thickness with excavated earth and compacted as specified including sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, teting, all lead and lifts etc all complete as per specification, drawing and as directed by the engineer for the following. Each layer compacted so as to achieve at least 85% maximum dry density as per IS-2720 (Part-VII)	Cum	1444.07	1077.64	1371.87	570.4	435.03	979.26	5,878.27	
9	Providing and laying nominal mix plain cement concrete with crushed stone aggregate using concrete mixer in all works upto plinth level excluding cost of form work. <b>1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size).</b>	Cum	36.1	27.08	34.3	14.44	11.73	25.27	148.92	
10	Providing and laying nominal mix plain cement concrete with crushed stone aggregate using concrete mixer in all works upto plinth level excluding cost of form work. <b>1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size).</b>	Cum	27.08	20.76	26.17	10.83	9.02	18.95	112.81	
11	Providing and laying nominal mix plain cement concrete with crushed stone aggregate using concrete mixer in all works upto plinth level excluding cost of form work. <b>1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40mm nominal size).</b>	Cum	72.2	54.15	68.59	28.88	22.56	49.64	296.02	
12	Providing and laying nominal mix plain reinforced cement concrete with crushed stone aggregate using concrete mixer in all works upto plinth level excluding cost of form work. <b>1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size).</b>	Cum	45.13	34.3	43.32	18.05	14.44	30.69	185.93	
13	Providing and laying design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump, in all works <b>upto plinth level</b> excluding cost of form work. <b>M-25 Grade.</b>	cum	252.71	188.64	240.07	100.18	76.72	171.49	1,029.81	
14	Providing and laying design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump, in all works <b>above plinth level</b> excluding cost of form work. <b>M-25 Grade.</b>	cum	288.82	215.7	274.37	114.63	87.55	195.85	1,176.92	
15	Providing and laying M-25 Grade design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump for <b>precast PCC/ RCC work</b> including form work, hoisting and fixing in Cement Mortar. 1:2 (1 Cement : 2 coarse sand) and finishing with cement plaster in Cement Mortar 1:3 (1 Cement : 3 coarse sand) but excluding reinforcement.	cum	18.05	13.54	17.15	7.22	6.32	12.63	74.91	
16	Providing and laying <b>M30 Grade</b> design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump(excluding cost of form work.): <b>in all works upto plinth level</b>	cum	1137.2	848.39	1080.34	449.47	342.96	771.67	4,630.03	

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17	Providing and laying M30 Grade design mix reinforced cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump(excluding cost of form work); <b>in all works above plinth level</b>	cum	487.37	363.72	463	193.14	147.11	331.23	1,985.57	
18	Demolishing R.C.C. work including stacking of steel bars and disposal of unserviceable material within 50 metre lead.	cum	13.54	10.83	13.54	5.41	5.41	9.93	58.66	
19	Extra over Sl. No. 20 for cutting reinforcement bars in R.C.C. or R.B work. (Crosssectional area of RCC/RB work to be measured)	sqm	18.05	20.76	26.17	10.83	9.93	18.95	104.69	
20	Providing and laying nominal mix plain cement concrete with crushed stone aggregate using concrete mixer in all works upto plinth level excluding cost of form work. <b>1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20mm nominal size).</b>	cum	180.51	135.39	171.49	71.3	55.06	122.74	736.49	
21	Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for: <b>Foundations, footings, bases of columns plinth beam, curtain wall in any shape and size and all type of wall below plinth level.</b>	sqm	361.02	269.86	342.96	142.6	109.2	245.5	1,471.14	
22	Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for: <b>Wall of any thickness including attached pilasters, buttresses etc. in superstructure.</b>	sqm	3610.16	2693.18	3429.66	1426.01	1086.66	2447.69	14,693.36	
23	Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for: <b>Suspended floors, roofs, access platform, balconies (plain surfaces) and shelves (cast in situ)</b>	sqm	1353.81	1009.94	1286.12	535.21	407.95	917.88	5,510.91	
24	Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for: <b>Beams, lintels, cantilevers &amp; walls</b>	sqm	361.02	269.86	342.96	142.6	109.2	245.5	1,471.14	
25	Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for: <b>Columns, Pillars, Piers and likes- rectangular or square in shape</b>	sqm	361.02	269.86	342.96	142.6	109.2	245.5	1,471.14	
26	Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for: <b>Stair cases of all types excluding spiral and folded plate type, including risers and landings</b>	sqm	180.51	135.39	171.49	71.3	55.06	122.74	736.49	
27	Providing and placing in position reinforcement for R.C.C. work including straightening, cutting, bending, binding etc. complete as per drawings including cost of binding wire in foundation and plinth all complete: <b>Thermo-Mechanically treated bars FE 500D</b>	Kg	254516.59	189869.38	241790.76	100534.05	76609.49	172562.25	1,035,882.52	
28	Providing and laying integral cement based water proofing treatment on roofs, balconies, terraces etc with average thickness of 120mm and minimum thickness at khurra as 65 mm, consisting of following operations including surface preparation: i) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement mixed with water proofing compound conforming to IS. 2645 over the RCC slab including adjoining walls upto 300mm height. ii) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) mixed with water proofing compound conforming to IS : 2645 over 20 m thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) mixed with water proofing compound conforming to IS : 2645 to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs. iii) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645. iv) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) mixed with water proofing compound conforming to IS : 2645 including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3mm deep. v) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. <b>All above operations to be done in order</b>	sqm	361.02	269.86	342.96	142.6	109.2	245.5	1,471.14	
29	Providing and fixing in position impregnated fibre board conforming to IS:1838 in expansion joints, including cost of primer, sealing compound all complete. <b>25mm thick</b>	SQM	18.05	13.54	17.15	7.22	6.32	12.63	74.91	
30	Providing and filling in position, blown bitumen in expansion joints per cm depth and per cm width.	meter	90.52	68.13	85.65	36.01	28.23	61.38	369.92	

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A	B	C	D	E	F	G	H	I	J	K
31	Providing and placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete : <b>Serrated with central bulb (225mm wide &amp; 11mm thick)</b>	meter	451.61	335.79	428.25	179.09	136.26	305.96	1,836.96	
32	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	Kg	8750	7220	9020	3610	2710	6320	37,630.00	
33	Fixing of embedments, inserts, pipe sleeves, angle pieces, anchor bolts of various diameters, plates of dimensions as required etc. including scaffolding, setting in position, transportation from BHEL site stores to work spot etc. all complete.	Kg	450	910	910	910	910	910	5,000.00	
34	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade I of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffener plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete.	Kg	450	910	910	910	910	910	5,000.00	
35	Supplying, fabricating, erecting and installing PVC pipes / conduits of all diameters items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete. ( 1 quintal = 100 Kg)	Quintal	9.02	7.22	9.02	3.61	3.61	6.32	38.80	
36	Providing and fixing Dash fastener (for fixing door/ window frames) on C.C. / R.C.C./ Brick masonry surface backing including drilling necessary holes and the cost of bolt etc complete.		0	0	0	0	0	0		
a	Dash fastener 6x75mm	each	224	224	224	224	224	224	1,344.00	
b	Dash fastener 10x75mm	each	224	224	224	224	224	224	1,344.00	
c	Dash fastener 12x100mm	each	224	224	224	224	224	224	1,344.00	
37	Providing and fixing expandable fasteners of specified size with necessary plastic sleeves and galvanized M.S screws including drilling holes in masonry work /CC/ R.C.C by drilling machine and making good etc complete.		0	0	0	0	0	0		
a	32 mm long	each	224	224	224	224	224	224	1,344.00	
b	40 mm long	each	224	224	224	224	224	224	1,344.00	
c	50 mm long	each	224	224	224	224	224	224	1,344.00	
38	Providing post water proofing treatment against dampness & Seepage in walls of basement, plinth, super structure (horizontal or vertical) consisting of following operations: i) Removing loose material and cleaning the surface. ii) Drilling 20mm dia holes in walls/ floor in zigzag manner spacing not more than 150 mm center to center. iii) Injecting polymer based high strength water proofing compound of approved brand & make, admixed with cement in the ratio as specified by manufacturer, in holes by pressure pump. iv) Plugging holes with polymer compound admixed with cement. v) Providing and laying of bonding slurry prepared by mixing of cement with approved make and brand acrylic polymer (as per IS 13435 Part-3) in two layers (totaling up-to 3mm thick) by brush. Second layer to be laid after 4 hours of first layer. vi) Providing and laying 15mm thick cement plaster in cement mortar 1:4 (1 cement : 4 coarse sand) and finishing the surface with neat cement admixed with integral water proofing compound (IS: 2645) as per manufacturers recommendations.	SQM	45.13	34.3	43.32	18.05	14.44	30.69	185.93	
39	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with <b>ConbextraGP-1 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	0.91	0.91	0.91	0.91	0.91	0.91	5.46	
40	Providing wood work in frames of doors, windows, clerestory windows and other frames wrought framed and fixed in position. <b>Teak wood</b>	CUM	1.8	1.8	1.8	0.91	0.91	1.8	9.02	
41	Providing and fixing flush door shutters, conforming to IS : 2202 (Part-I), decorative type core of block board construction with frame of first class hard wood and well matched teak ply veneering with vertical grains or cross bands and face veneers on both faces of shutters excluding hinges. <b>35 mm. thick (single leaf)</b>	sqm	79.25	59.57	75.81	31.59	24.37	54.15	324.74	
42	Extra for providing vision panel not exceeding 0.10 sqm in all type of flush shutters (excluding cost of glass) <b>Rectangular or square</b>	each	2	2	2	1	1	2	10.00	
43	Providing and fixing bright finished brass tower bolts (barrel type) with brass polished MS screws complete.		0	0	0	0	0	0	-	

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a	250x10mm	each	8	8	8	4	4	7	39.00	
b	150x10mm	each	18	14	18	8	7	12	77.00	
44	Providing and fixing brass door latch with brass polished MS screws complete:		0	0	0	0	0	0		
a	300x16x5 mm	each	8	8	8	4	4	7	39.00	
b	250x16x5 mm	each	18	14	18	8	7	12	77.00	
45	Providing and fixing of bright finished brass mortise latch and lock 100x65mm with six levers and a pair of lever handles with brass polished MS screws etc. complete.	each	18	14	17	8	7	12	76.00	
46	Providing and fixing special quality bright finished brass cupboard or wardrobe locks with four levers including necessary screws etc. complete (best make of approved quality) : 40 mm	each	8	8	9	4	4	7	40.00	
47	Providing and fixing antique/ SS finished brass handles with antique/ SS polished MS screw complete:		0	0	0	0	0	0		
a	125 mm	each	18	13	18	8	7	12	76.00	
b	100 mm	each	8	7	8	4	4	7	38.00	
c	75 mm	each	8	7	8	4	4	7	38.00	
48	Providing and fixing bright finished brass hanging door stopper with necessary brass finished MS steel screws complete.	each	17	13	17	8	6	12	73.00	
49	Providing and fixing aluminium work for doors, windows, ventilators and partitions made out of extruded aluminium standard sections (main section with minimum 1.5mm thickness) conforming to IS: 733, IS: 1285 mitred and jointed mechanically including aluminium cleats, neoprene weather stripping gasket beveled edge beading, screws duly fixed in wall/floor with fixing clips or hold fasteners or bolts and nuts as required aluminium sections shall be anodized transparent or dyed to approved shade according to IS: 1868, minimum anodic coating shall be of grade AC-15. (Glazing to be paid for separately):		0	0	0	0	0	0		
a	For fixed portion	kg	270.76	171.49	216.61	90.25	72.2	153.43	974.74	
b	For shutter of doors, windows & ventilators including providing and making provision for fixing of fitting wherever required including the cost of PVC/neoprene gasket required (Fittings shall be paid for separately).	kg	270.76	202.17	257.22	107.4	82.13	184.12	1,103.80	
50	Providing and fixing 12mm thick pre-laminated particle board flat pressed with decorative lamination and balancing lamination on specified sides exterior Grade - I MDF Board 12 mm thick conforming to IS:14587, including fixed in aluminium doors, windows shutters and partition frames with C.P. brass/ stainless steel screws etc. complete. With decorative lamination on both side	sqm	36.1	27.08	34.3	14.44	11.73	25.27	148.92	
51	Providing and fixing IS: 3564 marked aluminium die cast body tubular type universal hydraulic door closer with necessary accessories and screws etc complete.	each	8	8	9	4	4	5	38.00	
52	Providing and fixing IS: 3564 marked aluminium extruded section body tubular type universal hydraulic door closer with double speed adjustment with necessary accessories and screws etc complete.	each	8	8	9	4	4	5	38.00	
53	Supplying and fixing rolling shutter of approved makes made of M.S. laths interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and out side locking with push and pull arrangement complete but excluding the cost of top cover and spring. <b>80x1.25mm M.S. Laths</b>	sqm	10.83	8.13	10.83	4.52	3.61	8.13	46.05	
54	Providing and fixing 27.5cm long wire spring for rolling shutters.	each	4	3	4	2	2	3	18.00	
55	Providing and fixing M.S. sheet top cover for rolling shutter <b>1.25mm thick</b>	sqm	10	8	10	4	4	8	44.00	
56	Providing and fixing ball bearing for rolling shutters.	each	22	22	22	22	22	22	132.00	
57	Providing and fixing mechanical device chain and crank operation for operating rolling shutters	set	15	15	15	15	15	15	90.00	
58	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete. (Cost of aluminium snap beading shall be paid in basic item): <b>With float glass panes of 6 mm thickness</b>	sqm	90.25	67.69	85.74	36.1	27.98	61.38	369.14	
59	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete. (Cost of aluminium snap beading shall be paid in basic item): <b>With float glass panes of 6 mm thickness</b>	sqm	45.13	34.3	43.32	18.05	14.44	30.69	185.93	

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60	Providing and fixing factory made PVC door shutters of specified thickness made of styles and rails of a UPVC hollow section of specified size 59x24 mm and wall thickness 2 mm ± 0.2 mm with inbuilt edging on both sides. The styles and rails mitred and joined at the corners by means of M.S. galvanised/ plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. <b>24 mm thick door shutters with styles and rails of size 59x24 mm</b>	sqm	18.05	13.54	17.15	7.22	6.32	12.63	74.91	
61	Providing and fixing factory made UPVC door frame made of UPVC profile section having an overall dimension as below (tolerance ± 1mm) with wall thickness 2.0mm ± 0.2mm, corners of the door frame to be jointed with galvanized brackets and stainless steel screws, joints mitred and plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19mm and 1mm ± 0.1mm wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturers specification and direction of Engineer-in-charge <b>Extruded section Profile size 48x40 mm.</b>	meter	8.76	7.79	8.76	3.89	3.89	6.81	39.90	
62	Brick work with modular well burnt clay bricks of crushing strength not less than 35 kg/sqcm and water absorption not more than 20% in foundation and plinth in: <b>Cement Mortar 1:4 (1 Cement : 4 Coarse Sand)</b>	cum	218.18	45.13	207.59	86.64	65.88	148.02	771.44	
63	Extra for brick work in superstructure above plinth level for every floor or part thereof in addition to rate for foundation and plinth:	cum	458.49	208.49	435.93	181.41	138.09	311.38	1,733.79	
64	Half brick thick honey comb brick work with modular well burnt clay bricks of crushing strength not less than 35 kg/sqcm and water absorption not more than 20% upto plinth level. <b>Cement Mortar 1:4 (1 cement : 4 coarse sand)</b>	sqm	162.45	121.85	154.34	64.99	49.64	111.01	664.28	
65	Extra for half brick thick honey comb brick work in superstructure above plinth level for every story or part thereof in addition to rate for upto plinth level:	sqm	162.45	121.85	154.34	64.99	49.64	111.01	664.28	
66	Dismantling bricks laid flat or on edge (each layer), or cement concrete tiles in flooring or over roofs in cement/lime mortar including stacking of serviceable material and disposal of unserviceable material within 50 metre lead.	sqm	1.8	1.8	1.8	0.91	0.91	1.8	9.02	
67	Providing and laying damp proof course (upto 50mm thick) with plain cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded crushed stone aggregate 20mm nominal size) including form work.	cum	23.47	17.15	21.67	9.02	7.22	15.34	93.87	
68	Providing and mixing water proofing material in PCC/ RCC work in the proportion recommended by the manufacturer.	kg	45.13	45.13	45.13	45.13	45.13	45.13	270.78	
69	Applying a coat of hot bitumen VG-10 using @ 1.7kg/ sqm on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	sqm	36.1	27.08	34.3	14.44	11.73	25.27	148.92	
70	Providing 20mm thick plaster with Water proofing compound conforming to IS 2645 in two layers(13mm+7mm) outside the building/boundary wall in cement mortar 1:4 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	sqm	2083.97	580.33	1980.18	824.02	628.17	1413.38	7,510.05	
71	Providing and making 12mm thick cement plaster of mix in Cement Mortar 1:4 (1 cement : 4 fine sand)	sqm	1353.81	880.18	1286.12	535.21	407.95	917.88	5,381.15	
72	Providing and making 6mm thick cement plaster of mix: <b>In Cement mortar 1:4 (1 cement : 4 fine sand)</b>	sqm	541.52	404.34	514.45	213.9	163.36	367.33	2,204.90	
73	White washing with lime to give an even shade. <b>On new work (Three or more coats)</b>	sqm	1353.81	1009.94	1286.12	535.21	407.95	917.88	5,510.91	
74	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade : New work (two or more coats) over and including water thinnable priming coat with cement primer	sqm	451.27	336.65	428.71	178.71	136.28	305.96	1,837.58	
75	Distempering with acrylic washable distemper to give an even shade. <b>On new work (Two or more coats)</b>	sqm	451.27	336.65	428.71	178.71	136.28	305.96	1,837.58	
76	Painting on new work (two or more coats) to give an even shade with: <b>Black anti-corrosive bitumastic paint</b>	sqm	3610.16	2693.18	3429.66	1426.01	1086.66	2447.69	14,693.36	
77	Finishing walls with water proofing cement paint of required shade to give an even shade. <b>On new work (Two or more coats applied @ 3.84 kg/10 sqm)</b>	sqm	3610.16	2693.18	3429.66	1426.01	1086.66	2447.69	14,693.36	
78	Painting exterior surface with ACRYLIC SMOOTH exterior paint of required shade as per manufacturer's specifications to give protective and decorative finish including cleaning washing of surface etc. complete with: <b>On new work (Two or more coats applied @ 1.43 ltr/ 10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm)</b>	sqm	451.27	336.65	428.71	178.71	136.28	305.96	1,837.58	

**BILL OF QUANTITIES.**

Tender Ref No.T7D1Q13632

Ann.I to Volume-II of NIT

Name of the Work: Civil, Structural & Architectural works for Six (6) Nos. Sewage Treatment Plant for Raipur Development Authority, Raipur Chhattisgarh.

Item. NO.	PROJECT: STP, RDA, RAIPUR, CHHATTISGARH  DESCRIPTION	UNIT	STP-1	STP-2	STP-3	STP-4	STP-5	STP-6	Grand Total of all STP's	Remarks
			TOTAL QTY (7.40 MLD)	TOTAL QTY (4.33 MLD)	TOTAL QTY (7.05 MLD)	TOTAL QTY (1.79 MLD)	TOTAL QTY (0.872 MLD)	TOTAL QTY (3.98 MLD)	Quantity	
A	B	C	D	E	F	G	H	I	J	K
79	52 mm thick cement concrete flooring with under layer of 40mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and top layer of 12 mm thick cement metallic hardener concrete mix 1:2 (1 cement hardener mix : 2 stone aggregate of 6 mm size by volume) with metallic hardening compound of approved quality mixed with cement in ratio of 4:1 (4 cement : 1 metallic floor hardening compound by weight) including finishing etc.	sqm	361.02	269.86	342.96	142.6	109.2	245.5	1,471.14	
80	25 mm thick KOTA stone slab flooring over 20mm (Average) thick base of cement mortar 1:4 laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including grinding rubbing and polishing etc. complete (Area of slab to be over 0.20 sqm and upto 0.50 sqm)	sqm	45.13	34.3	43.32	18.05	14.44	30.69	185.93	
81	Providing and laying rectified ceramic glazed floor tiles of size 300x300mm and above conforming to IS : 15622 of approved make, colour, shade laid on 20 mm thick Cement Mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with white cement mixed with matching pigment etc., complete : <b>Size 300x300mm</b>	sqm	180.51	135.39	171.49	71.3	55.06	122.74	736.49	
82	Providing and laying vitrified floor tiles with soluble salt printing, of size 600x600mm with water absorption less than 0.5% and conforming to IS : 15622 of approved make (MARBONITE), laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc. complete.	SQM	45.13	34.3	43.32	18.05	14.44	30.69	185.93	
83	15mm thick Granite work (machine cut, table rubbed & mirror polished) for kitchen platform, vanity counters, window sills and similar locations of required size laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) including joints treated with white cement mixed with matching pigment including rubbing and polishing to edge moulding to give high gloss finish.		0	0	0	0	0	0		
84	Granite stone grey/pink	sqm	9.02	7.22	9.02	3.61	3.61	6.32	38.80	
85	Providing and fixing ceramic glazed wall tiles conforming to IS : 15622 of approved make, colours, shades and size on wall and dados over 12mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with matching pigment complete. : <b>Size upto 200x300mm</b>	sqm	45.13	34.3	43.32	18.05	14.44	30.69	185.93	
86	False flooring will be fire resisting floating floor made in galvanized steel frame 600 mm x 600 mm supported on adjustable jack arrangement, tiled by 35 mm thick fire resistant teakwood particle board finished on top with antistatic type Formica/Vinyl of matching colour with adjacent environment with 3 mm thick hard PVC lipping along all four sides. 24 gauge GI sheet is to be provided on the other side of particle board. Height of false floor shall be 600mm	sqm	72.2	54.15	68.59	28.88	22.56	49.64	296.02	
87	Providing and laying 25 mm thick plain mosaic tiles of approved shade set in cement mortar or lime mortar to give an overall thickness of 50 mm.	sqm	18.05	13.54	17.15	7.22	6.32	12.63	74.91	
88	Providing and laying 25 mm thick chequered mosaic tiles of approved shade set in cement mortar or lime mortar to give an overall thickness of 50 mm.	sqm	18.05	13.54	17.15	7.22	6.32	12.63	74.91	
89	Providing and fixing 2mm thick semi transparent polycarbonate profile roofing sheet of approved make and colour to make any normal roofing / covering and fixing as per manufacture specification at spacing not more than 1.2 m centre to centre with EPDM gasket and silicon sealant fixed with self drilling stainless steel screws all complete as per direction of Engineer-in-Charge.	sqm	270.76	202.17	257.22	107.4	82.13	184.12	1,103.80	
90	Providing and fixing at all height false ceiling consisting of frame work "W" / "U" / "L" sections made of G.I. sheet with zinc coating of grade 120 consisting of angle cleats of size 25mm wide x 1.6mm thick with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with dash fastener 12.5mm dia x 40mm long with 6mm dia bolts to the angle hangers of 25x25x0.55mm of required length, and other end of angle hanger being fixed with nut and bolts to G.I. channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick button wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I. channel with connecting clips made out of 2.64mm dia x 230mm long G.I. wire at every junction including fixing the gypsum board with ceiling section and perimeter channels 0.55mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450mm centre to centre with 25mm long drive-all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the board with recommended filler, jointing tapes, finisher and two coats of primer suitable for board as per manufactures specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed including providing and fixing 12.5 mm thick tapered edge gypsum board conforming to IS: 2095- Part-I all complete as per drawing and specification and direction of the Engineer in Charge but excluding the cost of painting.	sqm	36.1	27.08	34.3	14.44	11.73	25.27	148.92	

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Item. NO.	PROJECT: STP, RDA, RAIPUR, CHHATTISGARH  DESCRIPTION	UNIT	STP-1	STP-2	STP-3	STP-4	STP-5	STP-6	Grand Total of all STP's	Remarks
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A	B	C	D	E	F	G	H	I	J	K
91	Providing & Laying Double Flanged (PN10 Screwed) Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 100mm dia Ductile iron double flanged	meter	36.01	58.4	36.01	40.88	44.77	44.77	260.84	
92	Providing & Laying Double Flanged (PN10 Screwed) Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 150mm dia Ductile iron double flanged	meter	32.12	0	32.12	8.76	27.25	0	100.25	
93	Providing & Laying Double Flanged (PN10 Screwed) Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 200mm dia Ductile iron double flanged	meter	0	9.73	0	27.25	0	9.73	46.71	
94	Providing & Laying Double Flanged (PN10 Screwed) Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 250mm dia Ductile iron double flanged	meter	9.73	0	9.73	0	0	0	19.46	
95	Providing & Laying Double Flanged (PN10 Screwed) Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 300mm dia Ductile iron double flanged	meter	0	53.53	0	0	0	45.75	99.28	
96	Providing & Laying Double Flanged (PN10 Screwed) Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 350mm dia Ductile iron double flanged	meter	36.01	0	58.4	0	0	0	94.41	
97	Providing & Laying Socket & Spigot End Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 100mm dia Ductile Iron class K-9 Pipes	meter	131.4	230.67	131.4	152.81	157.67	171.3	975.25	
98	Providing & Laying Socket & Spigot End Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 150mm dia Ductile Iron class K-9 Pipes	meter	117.77	0	117.77	27.25	94.41	0	357.20	
99	Providing & Laying Socket & Spigot End Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 200mm dia Ductile Iron class K-9 Pipes	meter	0	27.25	0	94.41	0	27.25	148.91	
100	Providing & Laying Socket & Spigot End Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 250mm dia Ductile Iron class K-9 Pipes	meter	36.01	0	36.01	0	0	0	72.02	
101	Providing & Laying Socket & Spigot End Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 300mm dia Ductile Iron class K-9 Pipes	meter	0	207.31	0	0	0	167.41	374.72	
102	Providing & Laying Socket & Spigot End Centrifugally Spun Ductile Iron Pipes Of Class K-9 Conforming To IS-8329 350mm dia Ductile Iron class K-9 Pipes	meter	130.42	0	220.94	0	0	0	351.36	
103	Providing & laying the ductile iron specials including elbows, tees, tapers, reducers, expanders, flanged spigots, flanges, caps etc. for various pipe sizes as per IS-9523 and as per approved drawings									
a	For STP-1	lot	1	0	0	0	0	0	1.00	
b	For STP-2	lot	0	1	0	0	0	0	1.00	
c	For STP-3	lot	0	0	1	0	0	0	1.00	
d	For STP-4	lot	0	0	0	1	0	0	1.00	
e	For STP-5	lot	0	0	0	0	1	0	1.00	
f	For STP-6	lot	0	0	0	0	0	1	1.00	
104	Providing & laying of PPFRP/HDPE 300mm pipe	meter	18.49	40.88	36.01	0	0	0	95.38	
105	Providing & laying of PPFRP/HDPE 250mm pipe	meter	13.63	0	0	0	0	0	13.63	
106	Providing & laying of PPFRP/HDPE 200mm pipe	meter	0	0	0	22.39	0	40.88	63.27	
107	Providing & laying of PPFRP/HDPE 150mm pipe	meter	0	0	0	27.25	27.25	0	54.50	
108	Providing & laying of PPFRP/HDPE 100mm pipe	meter	0	0	0	0	18.49	0	18.49	
109	Providing & laying of PPFRP/HDPE pipe fittings upto 300mm size including elbows, reducers, tees, reducing tees, couplings & HDPE to metal transition fittings required for completing the piping system erection as per approved drawings									
a	For STP-1	lot	1	0	0	0	0	0	1.00	
b	For STP-2	lot	0	1	0	0	0	0	1.00	
c	For STP-3	lot	0	0	1	0	0	0	1.00	
d	For STP-4	lot	0	0	0	1	0	0	1.00	
e	For STP-5	lot	0	0	0	0	1	0	1.00	
f	For STP-6	lot	0	0	0	0	0	1	1.00	
110	Providing of Structural steel material including ISA angles, ISMC channels, ISMB beams and IS2062 GRE250(FE410W) plates ( 1 quintal = 100 Kg)	Quintal	7.67	7	7	7	7	7	42.67	
111	Providing & fixing of Anchor fastners.Hilti bolts : HST M12	nos	22	21	22	21	22	21	129.00	
112	Providing & fixing of Anchor fastners.Hilti bolts : HST M16	nos	22	21	22	21	22	21	129.00	
113	Providing & fixing of Anchor fastners.Hilti bolts : HST M20	nos	22	21	22	21	22	21	129.00	

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Item. NO.	PROJECT: STP, RDA, RAIPUR, CHHATTISGARH  DESCRIPTION	UNIT	STP-1	STP-2	STP-3	STP-4	STP-5	STP-6	Grand Total of all STP's	Remarks
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A	B	C	D	E	F	G	H	I	J	K
114	Providing & fixing of Anchor fastners.Hilti bolts : HST M24	nos	22	21	22	21	22	21	129.00	
115	Providing & laying of Flexible metallic hoses up to sizes 150 NB along with hose clips and accessories	nos	90	90	90	90	90	90	540.00	
116	Providing and fixing on wall face or under floor UV stabilized Unplasticised Rigid PVC pipes (single socketed) having 3.2mm wall thickness conforming to IS : 13592 (4kg/sqcm) including required couplers, jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion etc complete. <b>110 mm dia pipe.</b>	RM	223.86	168.38	214.13	89.54	68.13	152.81	916.85	
117	Providing and injecting Epoxy injection grout in concrete/RCC work of approved make in proportion recommended by the manufacturer into cracks/honey-comb area of concrete/ masonry by suitable gun/pump at required pressure including cutting of nipples after curing etc. complete as per directions of Engineer-in- Charge. (The payment shall be made on the basis of actual weight of approved grout injected.)	kg	45.13	34.3	43.32	18.05	14.44	30.69	185.93	
118	Supplying and laying ISI marked double wall HDPE pipe (IS 14930 Part II) having corrugation on the outer wall and plan surface on inner wall in ground below road, path etc at a depth not less than 40 cm and upto 90 cm including excavation, dismantling of road if required and refilling the trench with excavated material, ramming and making the surface good etc. as required. <b>90 mm outer dia</b>	RM	8.76	7.79	8.76	3.89	3.89	6.81	39.90	
119	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. (but without charcoal or coke and salt ) as required.	set	4	4	4	4	4	4	24.00	
120	Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal and salt as required.	set	14	14	14	14	14	14	84.00	
121	Providing and fixing brass/ gun metal gate valve with C.I. wheel of approved quality (screwed end): <b>80 mm nominal bore</b>	each	4	4	4	2	2	4	20.00	
122	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete. <b>25 mm nominal bore</b>	each	4	4	4	2	2	4	20.00	
123	Providing and fixing gun metal non- return valve (horizontal type) of approved quality (screwed end) : <b>80 mm nominal bore</b>	each	4	4	4	2	2	4	20.00	
124	Supplying and spreading hard stone aggregate 25mm size in out door switch yards/transformer as per direction of Engineer-in-charge.	cum	4	4	4	2	2	4	20.00	
125	Providing & fixing UV stabilized fibreglass reinforced plastic (FRP) sheet roofing upto any pitch including fixing with polymer coated 'J' or 'L' hooks, bolts & nuts 8mm dia. G.I plain/bitumen washers complete but excluding the cost of purlins, rafters, trusses etc. The sheets shall be manufactured out of 2400 TEX panel rovings incorporating minimum 0.3% Ultra-violet stabiliser in resin system under approximately 2400 psi and hot cured. They shall be of uniform pigmentation and thickness without air pockets and shall conform to IS 10192 and IS 12866.The sheets shall be opaque or translucent, clear or pigmented, textured or smooth as specified. <b>2mm thick corrugated (2.5" or 4.2" or 6") or step-down (2"or 3"or 6") as specified.</b>	sqm	9.02	7.22	9.02	3.61	3.61	6.32	38.80	
126	Providing and Filling below foundations/floor with random rubble stone chipping in layers including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	cum	458.97	342.96	436.83	181.41	138.99	311.38	1,870.54	
127	Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (heavy duty) 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100kg)	each	8	8	8	4	4	7	39.00	
128	Compacting Original Ground supporting sub-grade Loosening of the ground upto a level of 500 mm below the subgrade level , watered, graded and compacted in layers	cum	541.52	223.83	382.68	121.85	43.32	216.61	1,529.81	
129	Supplying & laying WBM in 150mm consolidated (with 80 mm metal and murrum casing)	sqm	1083.05	446.75	764.45	243.24	86.87	433.22	3,057.58	
130	Supplying & laying WBM in 100mm consolidated (with 40 mm gravel and murrum casing)	sqm	1083.05	446.75	764.45	243.24	86.87	433.22	3,057.58	
131	Tack coat Providing and applying tack coat with bitumen emulsion (RS-1, grade conforming to IS:8887) using emulsion pressure distributor on the prepared bituminous/granular surface cleaned with mechanical broom and as per clause 503. Granular surfaces treated with primes @ 0.30 kg /Sqm	sqm	6047.03	6047.03	6047.03	6047.03	6047.03	6047.03	36,282.18	
132	Dense Bituminous Macadam (Providing and laying dense bituminous macadam with minimum 40-60 TPH capacity HMP using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5% by weight of total mix of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No.505 complete in all respects.) for Grading-I (37.5 mm nominal size, bitumen content 4.0%)	cum	81.23	33.39	57.77	18.05	6.32	32.49	229.25	

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A	B	C	D	E	F	G	H	I	J	K
133	Supplying & laying 40mm thick AC carpet (6.25% bitumen content).	sqm	1083.05	446.75	764.45	243.24	86.87	433.22	3,057.58	
134	Supply and fixing of 30thk FRP grating including all fixtures supported on RCC/steel members	sqm	13.54	10.83	13.54	5.41	4.52	9.93	57.77	
135	Providing & laying precast interlocking concrete blocks of minimum compressive strength of 300 kg/sq.cm and approved size, shape/ pattern over coarse sand bed of thickness upto 40 mm and joints thick filled with fine sand including leveling with surface vibrator, tamping and sweeping etc. complete as per IRC-SP-63-2004. 80mm thick Polymer coated coloured precast interlock concrete blocks	sqm	108.31	81.23	102.89	43.32	33.39	74.01	443.15	
136	Supply and fixing of PVC encapsulated rungs in concrete/brickwork at all levels etc all complete as per drawings/directions of site incharge	kg	90.25	67.69	85.74	36.1	27.98	61.38	369.14	
137	Conducting electrical Resistivity Test (ERT) by Wenners method as indicated in IS: 1892 in all ERT locations, as per IS: 3043 at the location shown in the drawing or as instructed by the Engineer, to study the resistivity characteristics of soil at different depths up to 10m from existing ground level all including detailed report by agency conducting the test.	nos	4	4	4	4	4	4	24.00	
138	Supplying and laying 50 micron thick polyethylene sheet below floor slabs	sqm	180.51	135.39	171.49	71.3	55.06	122.74	736.49	
139	Supplying and erecting chain link mesh fencing for electric sub-station switch yard / transformer yard of 2.5 m approx. height from ground level using angle iron size 50 X 50 X 6 mm erected in C.C. foundation 15 X 15 X 40 cm deep at every 2 metre fitted with flat iron support of size 25 X 6 mm on top, bottom and mid way and chain link mesh 50 x 50 mm aperture and 4 mm dia G.I. hard wire securing and screwing with 2mm dia G.I. wire, G.I. staples, G.I.U-nails or steel pins to the angle iron at every distance of 30 cms, by iron studs complete duly painted with one coats of red oxide and two coats of approved colour paint. (Area of fencing i.e. height x length is to be measured)	sqm	173.29	119.13	164.26	69.49	54.15	119.13	699.45	
140	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of red oxide zinc chromate primer. <b>In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.</b>	Kg	902.54	902.54	902.54	902.54	902.54	902.54	5,415.24	
141	19.5 Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge. <b>EXTERNAL WORK 20 mm nominal outer dia .Pipes.</b>	meter	17.52	13.63	17.52	7.79	6.81	12.65	75.92	
142	Providing and fixing concealed in wall G.I. pipes medium class complete with G.I. fittings and clamps, including painting with anti corrosive bitumastic paint, cutting chases, making good the walls etc. and testing of joints complete: <b>15 mm dia. nominal bore</b>	meter	53.53	40.88	51.58	21.41	17.52	36.99	221.91	
143	Providing and fixing concealed in wall G.I. pipes medium class complete with G.I. fittings and clamps, including painting with anti corrosive bitumastic paint, cutting chases, making good the walls etc. and testing of joints complete: <b>20 mm dia. nominal bore</b>	meter	53.53	40.88	51.58	21.41	17.52	36.99	221.91	
144	Providing and laying in trenches G.I. pipes medium class complete with G.I. fittings including excavation of trenches, refilling the same and testing of joints complete: <b>20 mm dia. nominal bore</b>	meter	89.54	68.13	85.65	36.01	27.25	61.32	367.90	
145	Providing and laying in trenches G.I. pipes medium class complete with G.I. fittings including excavation of trenches, refilling the same and testing of joints complete: <b>25 mm dia. nominal bore</b>	meter	89.54	68.13	85.65	36.01	27.25	61.32	367.90	
146	Providing and laying in trenches G.I. pipes medium class complete with G.I. fittings including excavation of trenches, refilling the same and testing of joints complete: <b>50 mm dia. nominal bore</b>	meter	89.54	68.13	85.65	36.01	27.25	61.32	367.90	
147	Providing and fixing on wall surface G.I. pipes medium class complete with G.I. fittings and clamps, including cutting, making good the walls etc. and testing of joints complete: <b>20 mm dia. nominal bore</b>	meter	36.01	27.25	34.07	14.6	11.68	25.31	148.92	
148	Providing and fixing on wall surface G.I. pipes medium class complete with G.I. fittings and clamps, including cutting, making good the walls etc. and testing of joints complete: <b>25 mm dia. nominal bore</b>	meter	36.01	27.25	34.07	14.6	11.68	25.31	148.92	
149	Providing and fixing on wall surface G.I. pipes medium class complete with G.I. fittings and clamps, including cutting, making good the walls etc. and testing of joints complete: <b>50 mm dia. nominal bore</b>	meter	36.01	27.25	34.07	14.6	11.68	25.31	148.92	

**BILL OF QUANTITIES.**

Tender Ref No.T7D1Q13632

Ann.I to Volume-II of NIT

Name of the Work: Civil, Structural & Architectural works for Six (6) Nos. Sewage Treatment Plant for Raipur Development Authority, Raipur Chhattisgarh.

Item. NO.	PROJECT: STP, RDA, RAIPUR, CHHATTISGARH  DESCRIPTION	UNIT	STP-1	STP-2	STP-3	STP-4	STP-5	STP-6	Grand Total of all STP's	Remarks
			TOTAL QTY (7.40 MLD)	TOTAL QTY (4.33 MLD)	TOTAL QTY (7.05 MLD)	TOTAL QTY (1.79 MLD)	TOTAL QTY (0.872 MLD)	TOTAL QTY (3.98 MLD)	Quantity	
A	B	C	D	E	F	G	H	I	J	K
150	Providing and fixing 15 mm nominal bore Brass bib/stop cock of approved quality: <b>Bib cock (250 grams)</b>	Nos	8	8	8	4	4	6	38.00	
151	Providing and fixing 15 mm nominal bore Brass bib/stop cock of approved quality: <b>Stop cock (350 grams)</b>	Nos	8	8	8	4	4	6	38.00	
152	Providing and fixing on wall face UV stabilized Unplasticised - PVC moulded fittings/ accessories having 3.2mm wall thickness for Rigid PVC pipes conforming to IS : 13592 (heavy) jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion. <b>Nahani tran 110x75mm</b>	Nos	17	13	17	7	6	12	72.00	
153	Providing and fixing 15 mm nominal bore C.P. brass fittings of approved make and conforming to IS:8931 including C.P. brass extension if required: <b>Towel rail (600mm long x 20mm dia) + Towel ring (150 mm dia)</b>	Nos	8	8	8	4	4	6	38.00	
154	Providing and fixing sand cast iron S&S pipe as per IS: 1729 for soil, waste and vent pipes: <b>100 mm dia, metre</b>	meter	89.54	67.16	85.65	36.01	27.25	61.32	366.93	
155	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. : <b>For 100 mm dia pipe</b>	each	8	8	8	8	8	8	48.00	
156	Providing and fixing sand cast iron S&S bend with access door of required degree as per IS : 1729, insertion rubber washer 3 mm thick, bolts and nuts: <b>100 mm dia</b>	each	8	8	8	8	8	8	48.00	
157	Providing and fixing sand cast iron S&S plain bend of required degree as per IS : 1729: <b>100 mm dia</b>	each	8	8	8	8	8	8	48.00	
158	Providing and fixing sand cast iron S&S heel rest sanitary bend as per IS : 1729: <b>100 mm dia</b>	each	8	8	8	8	8	8	48.00	
159	Providing and fixing sand cast iron S&S double equal junction with access door of required degree as per IS : 1729, insertion rubber washer 3 mm thick, bolts and nuts: <b>100x100x100x100mm</b>	each	8	8	8	8	8	8	48.00	
160	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink with drain board as per IS 13983 with C.I. brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required : <b>1040x510 mm bowl size 460x410x200 mm</b>	Nos	2	2	2	1	1	2	10.00	
161	Providing and fixing stainless steel AISI-304(18/8) wash basin with C.I. brackets, 32 mm C.P. brass waste of standard pattern, including painting of brackets, cutting and making good the walls wherever required : <b>Size 510x410 mm</b>	Nos	6	4	7	4	3	4	28.00	
162	Providing and fixing 600x450 mm beveled edge 4mm mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	Nos	6	4	7	4	3	4	28.00	
163	Providing and fixing vitreous china water closet (European type W.C. pan) with white ISI marked plastic seat and lid, 10 litre low level white P.V.C. flushing cistern (same colour), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : <b>White pedestal type</b>	Nos	6	4	7	4	3	4	28.00	
164	Providing and fixing white vitreous china urinal basin with waste fitting as per IS : 2556, and other couplings in C.P. brass complete: <b>Flat back half stall urinal of size 460x380x250mm</b>	Nos	6	4	7	4	3	4	28.00	
165	Providing and fixing 15 mm nominal bore C.P. brass fittings of approved make and conforming to IS:8931 including C.P. brass extension if required: <b>Toilet paper holder</b>	Nos	6	4	7	4	3	5	29.00	
166	Providing and constructing brick masonry road gully chamber 50x45x60 cm with well burnt modular clay bricks crushing strength not less than 35kg/cm <sup>2</sup> in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm precast R.C.C. horizontal grating with frame complete as per standard design.	Nos	17	13	16	6	6	12	70.00	
167	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI : 12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank	Ltr	4512.71	4512.71	4512.71	4512.71	4512.71	4512.71	27,076.26	
168	Making 50mm thick plinth protection of plain cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded crushed stone aggregate 20mm nominal size) over 75mm bed of dry brick ballast 40mm nominal size well rammed and consolidated and grouted with sand including finishing the top smooth.	sqm	166.06	124.55	157.95	65.88	50.54	112.82	677.80	
169	Providing and fixing on wall face or under floor UV stabilized Unplasticised Rigid PVC pipes (single socketed) having 3.2mm wall thickness conforming to IS : 13592 (4kg/sqcm) including required couplers, jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion etc complete. <b>150 mm dia pipe.</b>	meter	72.02	53.53	68.13	28.23	22.39	49.64	293.94	

**BILL OF QUANTITIES.**

Tender Ref No.T7D1Q13632

Ann.I to Volume-II of NIT

Name of the Work: Civil, Structural & Architectural works for Six (6) Nos. Sewage Treatment Plant for Raipur Development Authority, Raipur Chhattisgarh.

Item. NO.	PROJECT: STP, RDA, RAIPUR, CHHATTISGARH  DESCRIPTION	UNIT	STP-1	STP-2	STP-3	STP-4	STP-5	STP-6	Grand Total of all STP's	Remarks
			TOTAL QTY (7.40 MLD)	TOTAL QTY (4.33 MLD)	TOTAL QTY (7.05 MLD)	TOTAL QTY (1.79 MLD)	TOTAL QTY (0.872 MLD)	TOTAL QTY (3.98 MLD)	Quantity	
A	B	C	D	E	F	G	H	I	J	K
170	Constructing brick masonry manhole with well burnt modular clay bricks crushing strength not less than 35kg/cm2 in cement mortar 1:4 ( 1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation in cement concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3(1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design : <b>Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :</b>	Nos	7	6	7	3	3	4	30.00	
171	Extra for depth for manholes: <b>Size 90x80 cm</b>	meter	8.76	6.81	8.76	3.89	3.89	6.81	38.92	
172	Constructing brick masonry manhole with well burnt modular clay bricks crushing strength not less than 35kg/cm2 in cement mortar 1:4 ( 1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation in cement concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design : <b>Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg) :</b>	Nos	4	3	4	2	2	3	18.00	
173	Extra for depth for manholes: <b>Size 120x90 cm</b>	meter	2.92	2.92	2.92	1.95	1.95	2.92	15.58	
174	Constructing brick masonry manhole with well burnt modular clay bricks crushing strength not less than 35kg/cm2 in cement mortar 1:4 ( 1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation in cement concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design : <b>Inside size 120x90 cm and 90 cm deep including C.I. cover with frame (heavy duty) 560 mm internal diameter, total weight of cover and frame to be not less than 208 kg (weight of cover 108 kg and weight of frame 100 kg) :</b>	Nos	4	3	4	2	2	3	18.00	
175	Providing and constructing extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91m and upto 1.67m	meter	2.92	2.92	3.89	1.95	1.95	2.92	16.55	
176	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug 40mm C.P brass waste and 40mm C.P. brass trap with necessary C.P. brass unions complete including painting of brackets, cutting and making good the wall wherever required : <b>Size 600x450x200mm</b>	Nos	2.92	2.92	3.89	1.95	1.95	2.92	16.55	
177	Providing and laying Reinforced Cement Concrete pipe NP 3 / prestressed concrete pipe. (Laying Reinforced cement concrete pipe NP3 /prestressed concrete pipe for culverts including fixing collar with cement mortar 1:2 but excluding bedding below pipes, excavation, protection works, backfilling, concrete and masonry works in head walls and parapets .)		0	0	0	0	0	0		
a	450 mm dia	meter	44.77	34.07	42.83	17.52	14.6	30.17	183.96	
b	600 mm dia	meter	360.12	269.6	342.6	142.1	109.01	245.27	1,468.70	
178	Providing and fixing 15mm thick Granite (machine cut, table rubbed & mirror polished on both sides) for partition curtain in toilets or similar locations of required size in wall with cement mortar 1:4 (1 cement : 4 coarse sand) including cutting chase in wall and joint with wall treated with white cement mixed with matching pigment including rubbing and polishing to edge moulding to give high gloss finish. <b>Granite stone black</b>	Sqm	4.52	3.61	4.52	1.8	1.8	3.61	19.86	
179	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating brick masonry chamber with well burnt modular clay bricks crushing strength not less than 35kg/cm2, water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :		0	0	0	0	0	0		
a	100x100 mm size P type	each	2	2	2	1	1	2	10.00	
b	150 x 100 mm size P type.	each	2	2	2	1	1	2	10.00	
c	180x150 mm size P type	each	2	2	2	1	1	2	10.00	

**BILL OF QUANTITIES.**

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Item. NO.	PROJECT: STP, RDA, RAIPUR, CHHATTISGARH  DESCRIPTION	UNIT	STP-1	STP-2	STP-3	STP-4	STP-5	STP-6	Grand Total of all STP's	Remarks
			TOTAL QTY (7.40 MLD)	TOTAL QTY (4.33 MLD)	TOTAL QTY (7.05 MLD)	TOTAL QTY (1.79 MLD)	TOTAL QTY (0.872 MLD)	TOTAL QTY (3.98 MLD)	Quantity	
A	B	C	D	E	F	G	H	I	J	K
180	Providing and fixing M.S. structural work fabricated from standard sections, (MS rounds, angles, channels etc.) including cutting to size, drilling welding including cost of steel fasteners, clamp in RCC structural members as directed, including two coat of enamel painting over one coat of red oxide primer complete.	kg	22563.53	8821.21	21435.36	8912.6	6791.62	15298.08	83,822.40	
181	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of red oxide zinc chromate primer. <b>In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.</b>	Kg	450	910	910	910	910	910	5,000.00	
182	Providing and fixing approved pipe hand rail by welding to iron railing including applying a priming coat of red oxide zinc chromate primer. <b>E.R.W. pipe &amp;</b> Painting G.I. pipes and fittings with synthetic enamel white paint over a red oxide zinc chromate priming coat, both of approved quality for new work. <b>32 mm diameter pipe.</b>	kg	6769.06	5049.71	6430.6	2674.23	2037.93	4589.42	27,550.95	
183	Trenching in ordinary soil upto a depth of 60cm including removal and stacking of serviceable materials and then disposing of by spreading and neatly leveling with in a lead of 50m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	cum	541.52	404.34	102.89	213.9	163.36	367.33	1,793.34	
184	Uprooting weeds from the trenched area after 10 to 15 days of its flooding with water including disposal of uprooted vegetation.	sqm	451.27	361.02	90.25	180.51	180.51	361.02	1,624.58	
185	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately) :		0	0	0	0	0	0		
a	Holes 1.2 m dia and 1.2 m deep	each	8	8	2	4	4	7	33.00	
b	Holes 60 cm dia, and 60 cm deep	each	8	8	2	4	4	7	33.00	
186	Grassing with 'Doob' grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for mowing including supplying good earth if needed (the good earth shall be paid for separately). <b>In rows 5 cm apart in either direction.</b>	sqm	180.51	180.51	90.25	90.25	90.25	180.51	812.28	
187	Providing and planting following herbs in garden including preparation of soil, base plantation, providing and spreading different fertilizers, soil and sand: <b>Carnet grass (well developed)</b>	sqm	180.51	180.51	90.25	90.25	90.25	180.51	812.28	
188	Edging with modular well burnt clay bricks of crushing strength not less than 25kg/ sqcm laid dry length wise including excavation, refilling, consolidating with hand packing and spreading neatly surplus earth within a lead of 50 m :	meter	360.12	269.6	69.1	142.1	109.01	245.27	1,195.20	
189	Providing and planting following herbs in garden including preparation of soil, base plantation, providing and spreading different fertilizers, soil and sand:		0	0	0	0	0	0		
a	Hedges like Alife, Dorenta, Tikoma etc	each	360	270	69	142	109	245	1,195.00	
b	Hibiscus (Flower)/ Rose	each	45	34	8	17	15	31	150.00	
190	Providing and mixing water proofing material in PCC/ RCC work in the proportion recommended by the manufacturer.	kg	22094.2	16484.91	20989.5	8739.31	6665.27	14999.33	89,972.52	
191	Half brick circular tree guard in modular well burnt clay bricks of crushing strength not less than 25kg/ sqcm, internal diameter 1.25 metre and height 1.2 metre above ground and 0.20 m below ground bottom two courses laid dry and top three courses in cement mortar 1:6 (1 cement : 6 fine sand) and the intermediate courses being in dry honey comb masonry as per design complete.	each	8	5	5	4	4	6	32.00	
192	Supplying and stacking at site well decayed cow dung manure from approved source, including loading, unloading and carriage upto 5 km (manure measured in stacks will be reduced by 8% for payment).	cum	9.02	4.52	4.52	3.61	3.61	7.22	32.50	
193	Providing and fixing form work including centring, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for: <b>Window sills, anchor blocks, string course, bends, copings, bed plates and like.</b>	sqm	27.08	27.08	27.08	22.56	22.56	27.08	153.44	