

BILL OF QUANTITY & PRICE SCHEDULE

ANNEXURE-I

Name of Project : 400KV GIS SUBSTATION AT ENNORE SEZ.

Name of Work : CIVIL WORKS OF SWITCHYARD

S.No.	Description of Item	Quantity	Unit	Rate	AMOUNT
1	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and disposal of excavated earth upto 100m, disposed earth to be levelled and neatly dressed all complete for following depth				
(a)	All kinds of soil- upto 4m depth	13000	cum	130.60	1697800
(b)	All kinds of soil- extra for additional 4m to 6m depth	100	cum	46.60	4660
2	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains (not exceeding 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and dressing of sides and ramming of bottoms, lift upto 3.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil .	3150	cum	132.10	416115
3	Filling available excavated earth (including rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 3.5m.	10300	cum	84.60	871380
4	Carriage & disposal of surplus excavated earth/rock beyond initial lead by mechanical means not necessarily all the times on pucca roads, including loading, unloading, dressing of excavated material, etc., complete as per specifications -.				
(a)	Lead upto 1 km.	2300	cum	83.60	192280
(b)	Lead upto 3 km.	1450	cum	106.00	153700
(c)	Lead upto 5 km.	200	cum	127.20	25440
5	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete.	50	cum	756.80	37840
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	Concrete grade M20 .	20	cum	4954.00	99080
(b)	Concrete grade M15 .	2480	cum	4559.20	11306816
(c)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	20	cum	4064.20	81284
(d)	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	700	cum	3629.20	2540440

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7	Extra for providing and mixing water proofing material in cement concrete work @ 1kg per 50kg of cement.	1000	per 50kg cement	35.70	35700
8	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including 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 Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
(a)	All works upto plinth level	3200	cum	5294.60	16942720
(b)	All works above plinth level upto floor V level	50	cum	5839.30	291965
9	Extra for providing richer mixes at all floor levels.				
(a)	Providing M-30 grade concrete instead of M-25 grade BMC/RMC.(Cement content in M-30 shall be min @340kg/cum)	700	cum	63.80	44660
10	Add for using extra cement in the items of design mix over and above the specified cement content therein.	600	quintal	595.70	357420.00
11	Providing, laying and compacting boulder soiling of required thickness in foundations of equipment and under the floors as per direction of Engineer-in-Charge.	400	cum	878.80	351520
12	Centering and shuttering including strutting, propping, etc., and removal of form at all heights for.				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	2500	sqm	168.60	421500
(b)	Columns, Pillars, Piers, Posts and Struts .	4600	sqm	369.30	1698780
(c)	RCC walls at all levels (any thickness).	5550	sqm	288.00	1598400
(e)	Lintels,beams,plinth beams and cantilevers.	1200	sqm	264.90	317880
13	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL,TISCO,IISCO, JINDAL STEEL and RINL only)				
(a)	Including supply, straightening, cutting and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	15000	kg	49.10	736500

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(b)	Excluding supply but including straightning, cutting, bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete incl unloading & storage. (Reinforcement steel shall be supplied by BHEL free of cost)	310000	kg	7.60	2356000
(c)	Extra over item 13(a) and 13(b) above for providing FUSION BONDED EPOXY COATING as per IS:13620 including the transportation of reinforcement steel to bidder's plant and bringing back to site and special handling during straightening, cutting, bending, placing and providing PVC coated binding wire.	325000	kg	10.00	3250000
14	Brickwork with F.P.S.bricks of class designation 75 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)	100	cum	3349.70	334970
15	12mm cement plaster of mix: 1:4 (1cement: 4 coarse sand)	400	sqm	133.40	53360
16	Structural steelwork welded in built up sections like edge protection angles, insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer all complete.	28000	kg	60.50	1694000
17	Steelwork welded in built up sections/framed work including providing ,cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc., as required.				
(a)	In gratings, rails ,mono rails, frames, ladders, stair railings, gates(including pipe) ,gantry girder(beams,channels etc) and similar works.	15000	kg	78.70	1180500
18	Providing and fixing (all dia & length) foundation bolts in position with help of proper templates including supply of templates ,nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge	54000	kg	87.40	4719600
19	Extra over Item above for providing galvanised bolts (Mass of zinc coating = 610gms/sqm), nuts & washer .	54000	kg	6.20	334800

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S.No.	Description of Item	Quantity	Unit	Rate	AMOUNT
20	Preparation and consolidation of subgrade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5cm depth, dressing to camber and consolidating with road roller including making good the undulations etc., and re-rolling the sub grade and disposal of surplus earth lead upto 50m.	2800	sqm	61.90	173320
21	Suppling and stacking at site				
(a)	90 mm to 45 mm size stone aggregate	380	cum	1020.90	387942
(b)	63 mm to 45 mm size stone aggregate	350	cum	1111.80	389130
(c)	53mm to 22.4 mm	300	cum	1202.70	360810
(d)	Stone screening 13.2 mm nominal size (type A)	225	cum	1352.10	304223
(e)	11.2 mm nominal size (Type B)	100	cum	1440.10	144010
(f)	moorum	80	cum	630.70	50456
22	Laying WBM with specified size of stone aggregates, screening and moorum/ blinding materials including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc., complete. (Payment will be made for compacted layers only).				
(a)	Subbase with stone aggregate 90mm to 45mm including stone screening 13.2mm size and moorum/blinding material.	850	cum	333.50	283475
23	Providing and fixing at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1 : 3 (1 Cement : 3 coarse sand) including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete tec. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for calculation of qty. for payment).	100	cum	5097.30	509730
24	Providing and laying non-pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	100mm dia. RCC pipe	10	RM	220.50	2205
(b)	150mm dia. RCC pipe	10	RM	257.00	2570
(c)	250mm dia. RCC pipe	20	RM	345.90	6918
(d)	300mm dia. RCC pipe	20	RM	427.10	8542
(e)	450mm dia. RCC pipe	20	RM	627.10	12542

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S.No.	Description of Item	Quantity	Unit	Rate	AMOUNT
25	Providing and laying non-pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	250mm dia. RCC pipe	20	RM	540.70	10814
(b)	300mm dia. RCC pipe	20	RM	648.80	12976
(c)	450mm dia. RCC pipe	20	RM	944.60	18892
26	Providing and placing in position suitable PVC water stops conforming to IS 12200 or equivalent for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete.				
	Serrated with central bulb(225mm wide,8-11mm thick)	65	meter	463.70	30141
27	Providing & fixing in position precast cement concrete trench covers or perforated covers wherever necessary at various elevations in all kinds of work including moulding, formwork, mixing, laying out, compacting and curing, storing, transportation, erection without damage, setting in position with cement and sand mortar, grouting etc all as per specs, drawings and directions of Engr-in-Charge but excluding the cost of reinforcement, inserts, edge angles, etc.				
	Grade of concrete shall be M25	50	cum	6468.80	323440
28	Providing and laying stone aggregate in switch yard areas in 150mm thick layer using 20-40 mm aggregates size on top and 20mm at bottom .Before laying the stone aggregates , the yard surface shall be treated with antiweed treatment all complete as per direction of Engineer in Charge. (The rate shall be inclusive of all materials ,labour,loading,unloading and surface preparation etc. required for aggregate laying and antiweed treatment)	13730	sqm	173.30	2379409
29	Supplying, fabricating and fixing angle iron posts,struts, flats of required size including bottom of post to be split and bent and top to be made Y shaped by cutting, bending and welding including drilling holes and finishing by painting with chlorinated rubber paint over suitable primer or epoxy based paint (of total DFT 250 microns) etc. all complete.(Cost of excavation, shuttering, concrete work, toe wall to be paid separately)	13750	kg	62.70	862125

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S.No.	Description of Item	Quantity	Unit	Rate	AMOUNT
30	Providing and fixing PVC coated G.I chain link fence of 8 gauge with mesh size 75x75 mm and of required ht. above the toe wall including stretching and attaching by clips at 0.5m interval or as per drg. to 3 strands of HTSS wire of 4mm dia interwoven in chain link wire mesh and attaching to the fence post with nuts and bolts all complete as per approved drawing and direction of Engineer-in-Charge. (The rate quoted against this item shall be inclusive of all items like chain link fence, clips, HTSS wire, nuts and bolts etc. all complete as per drawing).	1250	sqm	524.30	655375
31	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length (total length 90 m), having 50 nos rounds per 6 metre length, and fixing in existing angle iron 'Y' shaped placed 2.4 m or 3.00 m apart and with 3 horizontal barbed wire and 3 diagonals interwoven wires, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	645	m	271.90	175376
32	Grouting of block outs, pockets, foundations, bolts holes and underside of base plates with cement, sand aggregate (of size 6 mm and down) grout M-30 with non-shrink additive and shall be of strength not less than M30 including placing, curing, cleaning, surface preparation, testing, etc. complete with labour, materials, equipment, handling, testing, etc. all complete as per specifications, drawings and instructions of the Engineer.	10	cum	12429.00	124290
33	Providing and fixing in position 12mm thick bitumen impregnated fibre board conforming to IS:1838 including cost of primer, sealing compound in expansion joints.	100	per cm depth per 100m	434.60	43460
34	Providing and fixing in position pre moulded joint filler in expansion joints	100	per cm depth per cm width per m length	2.40	240
35	Providing and laying in position bitumen hot sealing compound for expansion joints etc.				

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S.No.	Description of Item	Quantity	Unit	Rate	AMOUNT
	Using grade A ceiling compound	100	per cm depth per cm width per m length	1.70	170
36	Providing and laying polythene sheet of 125 microns between the PCC and RCC slab all complete as per direction of Engineer-in-Charge)	2800	sqm	12.40	34720
37	Providing and laying 80mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction and of approved size and design/shape laid in required colour and pattern over and including 100mm thick compacted bed of coarse sand, filling the joints with coarse sand etc. all complete as per direction of Engineer-in- charge.	2100	sqm	542.00	1138200
38	Providing and applying two layers of residual petroleum bitumen of penetration 85/25 of approved quality using 1.7 kg per sqm on the side faces of foundations after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.(For all lifts and leads).	2950	sqm	191.90	566105
39	Filling of approved materials i/c cost of materials, labour and equipment for handling, transportation, placing and compacting as required to the required density and to the required elevations as per specification, drawings and directions of Engineer-in-Charge.				
	Broken/crushed/non crushed stone of size 40 to 60mm for placing over transformer grating.	20	cum	1111.80	22236
40	Demolishing brick work manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in- charge.				
a	In cement mortar	5	cum	572.30	2861
41	Demolishing RCC work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	10	cum	988.70	9886

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S.No.	Description of Item	Quantity	Unit	Rate	AMOUNT
42	Breaking of pile heads of exiting piles manually/ by mechanical means and preparing it in all respect for casting of the pile caps including cleaning, brushing, disposal of dismantled material up to a lead of 100 meters, as per direction of Engineer-in-charge all complete.	165	cum	810.00	133650.00
					63327349

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ANNEXURE-II

Name of Project

: 400KV GIS SUBSTATION AT ENNORE SEZ

Name of Work

: CIVIL WORKS OF GIS & CRB BUILDING

S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
1	Earthwork in excavation by mechanical means(Hydraulic excavator)/manual means over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and disposal of excavated earth upto 100m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil- upto 4m depth	3000	cum	130.60	391800
(b)	All kinds of soil- extra for additional 4m to 6m depth	100	cum	46.60	4660
2	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains (not exceeding 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and dressing of sides and ramming of bottoms, lift upto 3.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil .	750	cum	132.10	99075.00
3	Filling available excavated earth (including rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 3.5m.	1130	cum	84.60	95598.00
4	Carriage & disposal of surplus excavated earth/rock beyond initial lead by mechanical means not necessarily all the times on pucca roads, including loading, unloading, dressing of excavated material, etc., complete as per specifications -.				
(a)	Lead upto 1 km.	1500	cum	83.60	125400.00
(b)	Lead upto 3 km.	1000	cum	106.00	106000.00
(c)	Lead upto 5 km.	100	cum	127.20	12720.00
5	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete.	675	cum	756.80	510840.00
6	Supplying chemical emulsion in sealed containers including delivery as specified.				
	Chloropyriphos emulsifiable concentrate of 20%	300	litre	187.80	56340.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
7	Diluting & injecting chemical emulsion for PRE-CONSTRUCTIONAL ANTI-TERMITE treatment and creating a continuous chemical barrier under and all around the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall & floor, along the external perimeter of building, expansion joints, over the top surface of consolidated earth on which apron is to be laid, surroundings of pipes and conduits, etc complete as per specifications (Plinth area of the building at ground floor only shall be measured for payment)	2250	sqm	89.10	200475.00
8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	Concrete grade M15 .	20	cum	4559.20	91184.00
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	10	cum	4064.20	40642.00
(c)	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	300	cum	3629.20	1088760.00
9	Providing and laying damp proof course 50mm thick cement concrete 1:1.5:3 (1 Cement:1.5 coarse sand : 3 graded stone aggregate 12.5 mm nominal size) .	150	sqm	257.20	38580.00
10	Extra for providing and mixing water proofing material of zydex,sika or similar make in cement concrete work @ 1kg per 50kg of cement.	250	per 50kg cement	35.70	8925.00
11	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including 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 Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
(a)	All works upto plinth level	1200	cum	5294.60	6353520.00
(b)	All works above plinth level upto floor V level	1800	cum	5839.30	10510740.00
12	Add for using extra cement in the items of design mix over and above the specified cement content therein.	600	quintal	595.70	357420.00
13	Providing and laying M20 reinforced cement concrete in ground floor grade slab excluding the cost of centring,shuttering, finishing and reinforcement.	600	cum	5145.80	3087480.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
14	Providing ,laying and compacting 230mm thick stone base under the floors as per direction of Engineer-in-Charge.	600	cum	756.80	454080.00
15	Centering and shuttering including strutting, propping, etc., and removal of form at all heights for.				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	750	sqm	168.60	126450.00
(b)	Columns, Pillars, Piers, Abutments, Posts and Struts	3300	sqm	369.30	1218690.00
(c)	RCC walls at all levels (any thickness).	150	sqm	288.00	43200.00
(d)	Suspended floors, roofs, landings, balconies and access platform	3300	sqm	314.30	1037190.00
(e)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	3750	sqm	264.90	993375.00
(f)	Stairs (excluding landing)	300	sqm	329.60	98880.00
(g)	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof -- Suspended floors, roofs, landing, beams and balconies (Plan area to be measured)	9000	sqm	122.90	1106100.00
16	Steel reinforcement -Cold twisted bars /TMT/HCR				
(a)	Including supply, straightning, cutting and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	3000	kg	49.10	147300.00
(b)	Excluding supply but including straightning, cutting, bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete incl unloading & storage. (Reinforcement steel shall be supplied by BHEL free of cost)	252000	kg	7.60	1915200.00
17	Extra over item 16 (a) & (b) for providing FUSION BONDED EPOXY COATING as per IS:13620 including the transportation of reinforcement steel to bidder's plant and bringing back to site and special handling during straightening, cutting, bending ,placing and providing PVC coated binding wire.	255000	kg	10.00	2550000.00
18	Brickwork with Fly ash bricks of class designation 75 in foundation and plinth in:				
(a)	Cement mortar 1:5 (1 cement : 5 coarse sand)	150	cum	3446.50	516975.00
19	Brickwork with Fly ash bricks of class designation 75 in superstructure above plinth level upto V level in all shapes and sizes:				
(a)	Cement mortar 1:5 (1 cement : 5 coarse sand)	1200	cum	4011.70	4814040.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
20	Half brick masonry with Fly ash bricks of class designation 75 in foundation and plinth in:				
(a)	Cement mortar 1:4 (1 cement : 4 coarse sand)	75	sqm	421.10	31583.00
21	Half brick masonry with Fly Ash bricks of class designation 75 in superstructure above plinth upto floor V level.				
(a)	Cement mortar 1:4 (1 cement : 4 coarse sand)	150	sqm	481.60	72240.00
22	20 mm cement external (or rough side) plaster in two coats under layer 12 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished with a top layer 8 mm thick cement plaster 1:2 (1 cement : 2 fine sand).	3300	sqm	200.20	660660.00
23	12mm cement plaster internal (or even side) of the walls in the mix:				
(a)	1:3 (1cement :3coarse sand)	4200	sqm	166.10	697620.00
24	6mm cement plaster to ceiling of mix.				
(a)	1:3 (1 cement : 3 fine sand)	3000	sqm	102.00	306000.00
25	2mm thick plaster of paris punning over the plastered surfaces on wall surfaces as directed by engineer-in-charge.	10500	sqm	84.60	888300.00
26	Plaster drip course /groove in plastered surface or moulding to RCC projections:	450	meter	22.50	10125.00
27	Applying priming coat				
(a)	With zinc silicate primer of approved brand and manufacture on steel works.	450	sqm	20.90	9405.00
28	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
(a)	Granite of any colour and shade	90	sqm	3071.60	276444.00

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29	Structural steelwork welded in built up sections like edge protection angles,insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer all complete.	4500	kg	60.50	272250.00
30	Steelwork welded in built up sections/framed work including providing ,cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc., as required.				
(a)	In covering of floors/trenches inside the buildings with chequered plates, stringers, treads, landings etc of staircases involving use of chequered plates, wherever required, all complete.	15000	kg	67.90	1018500.00
(b)	In gratings, rails ,mono rails, frames, ladders, stair railings, gates(including pipe) ,gantry girder(beams,channels etc), and similar works.	48000	kg	78.70	3777600.00
31	Cement concrete flooring 1:2:4 (1cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps, etc., complete.				
(a)	50mm thick with 12.5mm nominal size stone aggregate.	150	sqm	282.90	42435.00
32	52mm thick CC flooring with concrete hardner topping under layer 40mm thick CC 1:2:4 (1cement:2 coarse sand: 4 stone aggregate 20mm nominal size) and top layer 12 mm thick Hardcrete cement hardner consisting of mix 1:2 (1 cement hardner mix: 2 stone aggregate 6mm nominal size) by volume with which hardening compound of approved quality is mixed @ 2 liter per 50 Kg of cement including cement slurry, but excluding the cost of nosing of steps etc., complete.	2700	sqm	424.70	1146690.00
33	Cement plaster skirting (upto 30cm height) with cement mortar 1:3 (1cement: 3 coarse sand) finished with a floating coat of neat cement.				
(a)	18mm thick	120	sqm	260.80	31296.00
34	Precast terrazo tiles 22 mm thick with graded marble chips of size upto 12mm laid in floors,and landings,jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles on 30mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand)				
	Light shade using white cement	150	sqm	777.00	116550.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
35	Precast terrazo tiles 22 mm thick with graded marble chips of size upto 12mm laid in skirting and risers of steps not exceeding 30 cm in height on 12mm cement plaster 1:3(1 cement :3 coarse sand),jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles of :				
	Light shade using white cement	60	sqm	976.50	58590.00
36	Marble chips skirting rubbed and polished to granolithic finish, top layer 6 mm thick with white, black, chocolate, grey, yellow or green marble chips of sizes from smallest to 4 mm nominal size, laid in cement (white or with pigment) marble powder mix 3:1 (3 cement : 1 marble powder) by weight in proportion of 4:7 (4 cement marble powder mix : 7 marble chips) by volume :				
	25 mm thick with under layer 19 mm thick in cement plaster 1:3 (1 cement : 3 coarse sand) :	90	sqm	625.90	56331.00
37	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 25mm thick in flooring/Dado. The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12mm thick bitumastic complete as per IS 9510 and IS 412 and as per specification.	225	sqm	2715.90	611078.00
38	Providing and laying 1st quality ceramic glazed tiles 300X300 mm conforming to IS:15622 of minimum thickness 7 mm of approved make and colours laid over 20 mm thick bed of Cement mortar 1:4 (1 Cement:4 coarse sand) including pointing in white cement mixed with pigment of matching shade complete.	150	sqm	772.20	115830.00
39	Providing and fixing 1st quality ceramic glazed tiles conforming to IS:15622 of minimum thickness 5 mm of approved make and colours in skirting,risers of steps and dados over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand) and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete.	190	sqm	731.50	138985.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
40	Providing and laying of minimum 7.5 mm thick pre-polished vitrified tiles conforming to IS 15622 in different sizes of approved make and colours laid over 20 mm thick bed of Cement mortar 1:4 (1 Cement:4 coarse sand) including pointing in white cement mixed with pigment of matching shade complete as per direction of Engineer-in-charge.				
(a)	Size of Tile 60X60 cm.	150	sqm	1350.50	202575.00
41	Providing and fixing pre polished vitrified tiles minimum thickness 7.5 mm of approved make and colours in skirting,risers of steps and dados over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand) and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete.	15	sqm	1352.60	20289.00
42	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.				
(a)	On steel work	450	sqm	106.60	47970.00
(b)	On concrete work	2400	sqm	109.60	263040.00
43	Providing and fixing door shutters 35 mm thick, with Pre-laminated medium density fibre board (MDF exterior grade) having one side decorative lamination and other side balancing lamination, including 11nd class teak wood lipping of 35 mm wide x12 mm thick with necessary screws and bright finished stainless steel piano hinges, complete as per direction of the Engineer-in-Charge	30	sqm	2040.10	61203.00
44	Providing and fixing pressed steel door frames confirming to IS:4351 manufactured from commercial mild steel sheet of 1.25mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50X25mm, or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with spit end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards, lock strike plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-Charge:				
	Profile C	75	RM	373.70	28028.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
45	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and Rnal painting etc all complete.	40	sqm	3807.00	152280.00
46	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
(a)	For fixed portion	1800	kg	361.90	651420.00
(b)	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)	2250	kg	410.60	923850.00
47	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions, etc., with PVC/neoprene gasket, etc., complete as per the architectural drawings and directions of Engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item).				
(a)	With float glass panes of 6 mm thickness.	30	sqm	998.00	29940.00
(b)	With float glass panes of 4 mm thickness.	300	sqm	732.60	219780.00
(c)	With frosted glass panes of 4 mm thickness.	30	sqm	732.60	21978.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
48	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office signal red color fire resistant paint and mineral wool insulation (64 kglcum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	20	sqm	6298.00	125960.00
49	Providing & fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partitions, etc, with 6mm thick toughened safety glass conforming to IS: 2553 on both sides having 12mm air gap including providing EPDM gasket, perforated aluminium spacers, dessicants, sealants (both primary & secondary sealant) etc. as per specifications, drawings & direction of Engineer-in-charge complete.	50	sqm	3361.70	168085.00
50	Providing and fixing factory made P.V.C. door frame of size 50x47 mm with a wall thickness of 5 mm, made out of extruded 5 mm rigid PVC foam sheet, mitred at corners and joined with 2 nos of 150 mm long bracket of 15x15 mm M.S. square tube, the vertical door frame profiles to be reinforced with 19x19 mm M.S. square tube of 19 gauge, EPDM rubber gasket weather seal to be provided through out the frame. The door frame to be fixed to the wall using M.S. screws of 65/100 mm size, complete as per manufacturer's specification and direction of Engineer-in-charge.	25	m	408.60	10215.00
51	Providing and fixing factory made panel PVC door shutter consisting of frame made out of M.S. tubes for styles, top & bottom rails. M. S. frame covered with 5 mm thick heat moulded PVC 'C' channel of size 30 mm thickness forming styles, top & bottom rail and 115 mm wide lock rail on both side of the panel. panelling of 5 mm thick both side PVC sheet to be fitted in the M.S. frame welded/ sealed to the styles & rails with 7 mm (5 mm + 2 mm) thick x 15 mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive. An additional 5 mm thick PVC strp of 20 mm width is to be stuck on the interior side of the 'C' channel using PVC solvent adhesive etc. complete as per direction of Engineer-in-charge, manufacturer's specification & drawing.				
(a)	30 mm thick plain PVC door shutters	25	sqm	2524.20	63105.00
(b)	30 mm thick pre laminated PVC door shutters	25	sqm	2987.60	74690.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
52	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logoembossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot andsingle piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.	16	each	1972.60	31562.00
53	Providing and fixing aluminium sliding door bolts anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc., complete.				
(a)	300 X 16mm	20	each	205.80	4116.00
(b)	250 X 16 mm	10	each	170.60	1706.00
54	Providing and fixing aluminium tower bolts anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete.				
(a)	300 X 10mm	20	each	101.40	2028.00
(b)	250 X 10 mm	10	each	87.30	873.00
55	Providing and fixing aluminium handles anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete.				
	125mm	25	each	63.10	1578.00
56	Providing and fixing IS:3564 marked aluminium die cast body tubular type universal door closer of approved quality and make with accessories and screws complete.	5	each	669.40	3347.00
57	Supplying and fixing rolling shutters of approved make, made of required size MS 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 outside locking with mechanical arrangement for operation complete including the cost of providing and fixing necessary 27.5cm long wire springs grade no. 2 and MS top cover of required thickness for rolling shutters.				
	80X1.20 mm MS laths with 1.2mm thick top cover.	40	sqm	1599.20	63968.00
58	Providing and fixing ball bearing for rolling shutters.	4	each	434.10	1736.00
59	Extra for providing mechanical device chain and crank operating rolling shutters. operation for				

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
	Exceeding 10.00 sqm and upto 16.80 sqm in the area	4	each	633.60	2534.00
60	Providing and fixing M.S. grills of required pattern in frames of windows etc. with MS flats,square or round bars etc. including priming coat with approved steel primer all complete.all complete.	4500	kg	99.20	446400.00
61	White washing with lime to give an even shade				
	New work (3 or more coats)	300	sqm	11.90	3570.00
62	Distempering with 1st quality acrylic distemper (ready mixed) of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.				
	Two or more coats on new work	3000	sqm	37.70	113100.00
63	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade :				
	Two or more coats on new work.	1000	sqm	60.90	60900.00
64	Finishing walls with water proofing cement paint of required shade :				
	New work : Two or more coats applied @3.84kg/10sqm.	3000	sqm	45.40	136200.00
65	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:				
	Two or more coats on new work.	200	sqm	54.40	10880.00
66	Painting with chlorinated rubber based acid proof paint of approved brand and manufacture of required colour to give an even shade.				
	Two or more coats on new work.	125	sqm	51.00	6375.00
67	Providing and fixing white vitreous china water closet squatting pan (Indian type W.C. pan) as per IS 2556 with 100 mm sand cast iron P or S trap, 10 litre low level P.V.C. flushing cistern (of approved make) with fittings, C.I./M.S. brackets, 32 mm diameter flush pipe with fittings and clamps, overflow arrangement with specials and mosquito proof coupling of approved municipal design including painting of fittings and brackets, cutting and making good the walls and floors wherever required.				
	Orissa pattern W.C. Pan of size 580 x 440 mm with integral type foot rests flush pipe and overflow arrangement.	2	each	2993.70	5987.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
68	Providing and fixing white vitreous china pedestal type water closet (European type W.C. Pan) as per IS 2556 with seat and lid, C.P. Brass hinges and rubber buffers, 10 litre low level flushing cistern with fittings & CI/MS brackets 40mm dia flush bend , overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design compete including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	W.C. pan with black solid plastic seat and lid with white vitreous china flushing cistern and CP flush bend.	3	each	4263.00	12789.00
69	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & postflushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	5	each	10548.00	52740.00
70	Providing and fixing granite stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.	4	each	2971.50	11886.00
71	Providing and fixing vitreous china under counter wash basin in oval shape of approved colour and size with 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings etc. cutting and making good the walls/stone wherever required:	5	each	1866.80	9334.00
72	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink 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 :				
	Kitchen sink with drain board 510x1040 mm bowl depth 250 mm	1	each	6811.00	6811.00
73	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	5	each	24.80	124.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
74	Providing and fixing 600 x 450 x6 mm bevelled edge mirror of float glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. Brass screws and washers complete.	1	each	680.80	681.00
75	Providing and fixing 1200 x 900 x6 mm bevelled edge mirror of float glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. Brass screws and washers complete.	2	each	1361.60	2723.00
76	Providing and fixing 600 x 120 x 5 mm glass shelf with edges rounded off supported on anodised aluminium angle frame with C.P. Brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete.	2	each	344.70	689.00
77	Providing and fixing 600 X 20 mm Stainless steel towel rail complete with fitting arrangement of approved quality and make.	5	each	408.10	2041.00
78	Providing and fixing PTMT liquid soap container 109mm wide.125mm high and 112mm distance from wall of standard shape with bracket of same materials with snap fittings of approved quality ,colour and make .weighing not less than 105 gm.	5	each	127.00	635.00
79	Providing and fixing toilet paper holder. CP brass.	3	each	253.50	761.00
80	Providing and fixing soil,waste and vent pipes: 100 mm dia. Sand cast iron S & S pipe.	10	RM	741.60	7416.00
81	Providing and fixing G.I. Pipes (medium grade) complete with G.I. Fitting and clamps , including cutting and making good the walls etc. (internal work).				
(a)	15 mm dia nominal bore.	25	RM	163.20	4080.00
(b)	20 mm dia nominal bore.	80	RM	189.90	15192.00
(c)	25 mm dia nominal bore.	50	RM	245.60	12280.00
(d)	32 mm dia nominal bore.	20	RM	299.50	5990.00
82	Providing and fixing G.I. Pipes (medium grade) complete with G.I. Fitting and clamps , including trenching and refilling, etc. (external work).				
(a)	15 mm dia nominal bore.	10	RM	143.70	1437.00
(b)	20 mm dia nominal bore.	50	RM	162.90	8145.00
(c)	32 mm dia nominal bore.	50	RM	251.00	12550.00
(d)	40 mm dia nominal bore.	30	RM	297.10	8913.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
83	Making connection of GI distribution branch with GI main of following sizes by providing and fixing tee, including cutting and threading the pipe etc., complete.				
	25 to 40mm nominal bore.	1	each	280.10	280.00
84	Providing and fixing C.P. brass bib cock of approved quality				
(a)	15mm nominal bore	6	each	207.70	1246.00
(b)	20mm nominal bore	2	each	268.80	538.00
85	Providing and fixing brass stop cock of approved quality				
(a)	15mm nominal bore	6	each	207.70	1246.00
(b)	20mm nominal bore	2	each	269.30	539.00
86	Providing and fixing gun metal gate valve with CI wheel of approved quality (screwed end)				
(a)	25mm nominal bore	2	each	376.70	753.00
(b)	40mm nominal bore	1	each	551.50	552.00
87	Providing and fixing ball valve (brass) of approved quality , high or low pressure with plastic floats complete.				
	25mm nominal bore	1	each	425.90	426.00
88	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testiing of joints etc. complete.				
(a)	100 mm diameter.	5	RM	151.60	758.00
(b)	150 mm diameter.	10	RM	221.20	2212.00
(c)	200 mm diameter.	10	RM	326.30	3263.00
89	Providing and fixing square-mouth S.W. Gully trap grade 'A' complete with C.I. Grating brick masonry chamber with bricks of class designation 75 and water tight C.I. Cover with frame of 300 x 300 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 standard design.:				
	100 x 100 mm size P type				
	With F.P.S bricks	1	each	1268.90	1269.00
90	Providing and placing on terrace (at all floor levels) polyethylene water storage tank of approved brand and manufacture 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. The tank should be ISI marked .	1000	per litre capacity	6.20	6200.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
91	Providing, laying and fixing Heavy duty roof water proofing treatment as per IS 1346 and clause no 18.07.00(d) of customer spec no. CE/C/P&E/EE/E/OT.No. 03/2013-14 including seven course of glass fire based felt as per IS:7193, foam concrete, cemen plater, chequered cement tiles etc. all complete and as per instruction of Engineer in Charge	2000	sqm	900.00	1800000.00
92	Providing and fixing on wall face unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.: Single socketed pipes all complete including clamps, bends etc making good the walls etc. wherever required				
(a)	110 mm diameter.	700	meter	209.00	146300.00
93	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	40	each	33.10	1324.00
94	Providing & fixing Aluminum false ceiling system comprising of 84 mm wide 12.5 mm deep closed type plain panels of approved colour, roll formed out of 0.5 mm thick corrosion resistant aluminum alloy AA 5050 fixed on roll formed carriers. Additional hangers and height adjustment clips shall be provided for return air grills, supply air diffusers, light fixtures, AC ducts etc.in approved pattern all complete including fixing ,leaving cut out etc required for completion of works as per direction of Engineer-in -Charge.	500	sqm	1177.80	588900.00
95	Providing & fixing at all heights gypsum plaster board false ceiling system including leaving cut out for return air grills, supply air diffusers, light fixtures, AC ducts etc.in approved pattern all complete as per direction of Engineer-in -Charge.	50	sqm	698.30	34915.00
96	Providing and fixing thermal insulation of ceiling (under deck insulation) with PUF material of density 36 kg/cum, 50 mm thick wherever required, all complete as per customer's specification clause no. 26.09.00	550	sqm	436.00	239800.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
97	Constructing brick masonry manhole with 75 class designation bricks in cement mortar 1:4 (1 cement: 4 coarse sand) RCC top slab with 1:2:4 mix(1 cement:2 coarse sand: 4 graded stone aggregate 20mm nominal size) foundation concrete 1:4:8 (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 mix(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.				
	Inside size 90X80cm and 45cm deep including CI cover with frame (light duty) 455X610mm internal dimensions total weight of cover and frame to be not less than 38kg (weight of cover 23kg and weight of frame 15kg)				
	With FPS bricks	1	each	7203.30	7203.00
98	Extra for depth for manholes				
	Size 90X80cm With FPS bricks	2	RM	4102.30	8205.00
99	Making soak pit 2.5m diameter 3m deep with 45X45cm dry brick honeycomb shaft with bricks of class designation 75 and SW drain pipe 100mm diameter, 1.8m long complete as per standard design and specification.				
	With FPS bricks	1	each	15380.40	15380.00
100	Providing and laying non-pressure NP2 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	150mm dia. RCC pipe	10	RM	257.00	2570.00
(b)	250mm dia. RCC pipe	20	RM	345.90	6918.00
(c)	300mm dia. RCC pipe	20	RM	427.10	8542.00
(d)	450mm dia. RCC pipe	20	RM	627.10	12542.00
101	Providing and laying non-pressure NP3 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	250mm dia. RCC pipe	10	RM	540.70	5407.00
(b)	300mm dia. RCC pipe	10	RM	648.80	6488.00
(c)	450mm dia. RCC pipe	10	RM	944.60	9446.00
102	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.				

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
	Serrated with central bulb(225mm wide,8-11mm thick)	100	meter	463.70	46370.00
103	Providing and fixing in position 75mm thick bitumen impregnated fibre board / Duraboard HD100 conforming to IS:1838 including cost of primer, sealing compound in expansion joints.	100	per cm depth per 100m	2716.30	271630.00
104	Providing and fixing sheet covering over expansion joints with iron screws as per design to match the colour/ shade of wall treatment.				
a)	Aluminium fluted strips 3.15mm thick	100	kg	361.90	36190.00
105	Providing and applying two layers of residual petroleum bitumen of penetration 85/25 of approved quality using 1.7 kg per sqm on the side faces of foundations after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.(For all lifts and leads).	1500	sqm	191.90	287850.00
106	Breaking of pile heads of exiting piles manually/ by mechanical means and preparing it in all respect for casting of the pile caps including cleaning, brushing, disposal of dismantled material up to a lead of 100 meters, as per direction of Engineer-in-charge all complete.	225	cum	810.00	182250.00
107	Providing & fixing chicken wire mesh in plaster all complete as per specification and direction of Engineer - in - charge.	100	sqm	36.80	3680.00
108	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	5	cum	988.70	4944.00
109	Demolishing brick work in cement mortar manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	5	cum	572.30	2862.00
110	Design, preperation of drawing, submission and approval from concerned authorities and construction of rain water harvesting system including all earthwork, brickwork, misc steel, gravel & boulder filling, drilling bore hole, supplying and installation of MS pipe etc. all complete as required for completion of work. Only concrete and reinforcement shall be paid seperately under respective items.	1	Lumpsum	205440.50	205441.00
					56633075

BILL OF QUANTITY & PRICE SCHEDULE

ANNEXURE-III

Name of Project

: 400KV GIS SUBSTATION AT ENNORE SEZ.

Name of Work

: PILING WORK FOR YARD AND BUILDINGS

S.No.	Description of Item	UNIT	QUANTIT Y	RATE	AMOUNT
	GROUND IMPROVEMENT WORK				
1	Mobilisation of ground improvement rigs and accessories of installing driven cast -in-situ compaction piles (applicable for Item No.2)in all types of strata /ash etc. to the project site and demobilisation of the same after completion of works etc. all complete.	Each	2	167314	334628.00
2	Providing and installing 550mm diameter and 14m deep driven cast-in -situ compaction pile by driving a suitable MS casing pipe (removable)with detachable M.S. shoe (flat/conical)at the bottom and filling inside the casing pipe in layers of 800mm using 1 sand :2 stone aggregate and each layer be well compacted by dynamic compaction method including all materials,equipments etc. all complete as per specification,drawing and as directed by the engineer-in -charge .Prior to compaction of fill at each layer,lift the casing for about 800mm from bottom and then the backfill shall be thoroughly compacted.This procedure shall be repeated for every layer till the ground level is reached for ground improvement of pond ash/soil deposit at desired location.	Each	2200	13904	30588800.00
3	Mobilisation of ground improvement rigs and accessories of installing stone columns by vibro-displacement method(dry method)using vibro float/vibro cat/any other suitable means (applicable for Item No. 4)in all types of strata /ash etc. to the project site and demobilisation of the same after completion of works etc. all complete.	Each	2	3021206	6042412.00
4	Providing and installing 550mm diameter and 14m deep stone column by vibro -displacement method(dry method) using vibro float/vibro cat/any other suitable means and filling in layers of 800mm using 1 sand :2 stone aggregate and each layer be well compacted by vibro compaction method including all materials,equipments etc. all complete as per specification,drawing and as directed by the engineer-in -charge .This procedure shall be repeated for each layer of fill till the ground level is reached for ground improvement of pond ash/soil deposit at desired location.	Each	3300	16809	55469700.00
5	Rebate on ST No 3002 for not providing 1 sand : 2 stone aggregates to a depth of 2m below ground level.	Each	2200	-1336	-2939200.00
6	Rebate on ST No 3004 for not providing 1 sand : 2 stone aggregates to a depth of 2m below ground level.	Each	3300	-1614	-5326200.00
7	Extra over Item No. 2 for driven cast in situ compaction pile of length beyond the specified length of 14m.	RM	2200	742	1632400.00
8	Extra over Item No. 4 for stone column with vibro-displacement method(dry method) of length beyond the specified length of 14m.	RM	3300	987	3257100.00
9	Rebate on Item No. 2 for driven cast in situ compaction pile of length less than the specified length of 14m.	RM	4400	-668	-2939200.00
10	Rebate over Item No. 4 for stone column with vibro-displacement method(dry method) of length less than the specified length of 14m.	RM	6600	-807	-5326200.00
	PILING WORK				
1	Mobilisation of Driven cast in situ RCC piling rigs (applicable to SI No 2) and accessories capable of installing 550mm diameter piles in all types of soil to project site and demobilisation of the same after completion of piling works etc all complete.	Each	1	9,98,294.404	998294.40

BILL OF QUANTITY & PRICE SCHEDULE

ANNEXURE-III

Name of Project

: 400KV GIS SUBSTATION AT ENNORE SEZ.

Name of Work

: PILING WORK FOR YARD AND BUILDINGS

S.No.	Description of Item	UNIT	QUANTIT Y	RATE	AMOUNT
2	Installation of driven cast-in-situ RCC vertical pile as per IS 2911 (Part 1, Sec. 1) by driving a suitable MS casing pipe (removable) having detachable MS shoe (flat/conical) at the bottom and driving using atleast 5 MT hammer for the length as specified (length to be measured from pile cut-off level to the bottom of pile)/for the desired set criteria (to be finalised during contract stage) so as to achieve the desired design load carrying capacity using cement concrete grade M30 conforming to IS:456 with 20 mm nominal size stone aggregates with a minimum cement content of 400Kg per cum of concrete including providing all materials (but excluding reinforcement steel for which measurement/payment shall be made separately), providing plasticiser wherever required, breaking pile head to cut off level and exposing pile reinforcement for embedment in pile cap, empty driving etc including providing approved MS shoe(design and drawing of MS shoe shall be submitted by bidder for approval without extra cost to BHEL/Owner) etc all complete as per specification, drawing and as directed by the engineer-in-charge for the following.				
	(i) Pile with 550 mm diameter and 20 m length below cut off level	Each	400	45169.077	18067630.80
					0.00
3	Extra over ST. No. 2503A for pile length more than the specified length of 20m below cut off level for the following.				0.00
	(i) For 550 mm diameter pile	RM	800	2,258.92	1807136.00
					0.00
4	Rebate on ST.No.2503A for pile length less than the specified length of 20m below cut off level for the following.				0.00
	(i) For 550 mm diameter pile	RM	400	-2032.3754	-812950.16
					0.00
5	Conducting routine load test on single job pile as specified in accordance with IS 2911 (Part-4) including preparation of pile head for testing, necessary excavation, providing all arrangements of loading, unloading, test Equipments / accessories, jacks, recording of results, labour, submission of test report etc but excuding the cost of installation of job pile complete as per specification, drawing and as directed by the engineer-in-charge for the following.				0.00
a	For vertical compression test by maintained load method				0.00
	(i) 550 mm diameter pile	Each	1	74,872.5231	74872.52
b	For lateral load test				0.00
	(i) 550 mm diameter pile	Each	1	37,435.7954	37435.80
c	For tension/uplift test				0.00
	(i) 550 mm diameter pile	Each	1	62,392.9924	62392.99
6	Straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500/ Fe-500D/ HCRM/ CRS confirming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer incl unloading & storage. (Reinforcement steel shall be supplied by BHEL free of cost).	kg	228000	7.6	1732800.00

BILL OF QUANTITY & PRICE SCHEDULE**ANNEXURE-III****Name of Project****: 400KV GIS SUBSTATION AT ENNORE SEZ.****Name of Work****: PILING WORK FOR YARD AND BUILDINGS**

S.No.	Description of Item	UNIT	QUANTIT Y	RATE	AMOUNT
7	Extra over SI No. 6 for providing fusion bonded epoxy coating by mechanised & qualified process including blast cleaning to white metal as per Swedish code, heating in induction heater, electrostatically spraying the epoxy powder, complete fusion to give minimum coating thickness of 200-300 microns, gradual cooling without affecting the properties of steel, testing as per ASTM 775 and IS:13620, flexibility & holiday test, proper packing, safe transportation, touchup at site, etc. complete to ensure proper resistance of FBE against corrosive environment. The bidder has to transport the steel from BHEL site store to vendor plant and bringing back to site and special handling during straightening, cutting, bending, placing and providing PVC coated binding wire.	kg	228000	10	2280000.00
				TOTAL	105041852.4

BILL OF QUANTITY & PRICE SCHEDULE

ANNEXURE-IV

Project 400kV ENNORE GIS S/S

Work: Under Ground Earthing & Electrode

Customer : TANGEDCO

S.No.	Description	Unit	Qty.	Unit Price (Rs.)	Total Price (Rs.)
	MAIN EQUIPMENT				
1	<p>Unloading, storing and laying of 40 mm dia MS Rods at a depth of 600 mm measured from the top of Finished Ground Level and bringing out risers just below gravel level near the equipment foundations as per requirement including following works:</p> <ul style="list-style-type: none"> - excavation of trenches - laying of MS rod - welding of rods (refer Drg No. PE-DG-412-509-E005 for Welding details of rods / flat) - backfilling of soil for bringing out pig tail risers of 40 dia MS rod for equipments. Risers shall be raised from the earthmat (at 600 mm depth) to 150 mm above ground level to the nearest point of the equipment. This shall include all cutting, bending, welding, fixing, application of zinc rich paint on cutting surface, etc to the main earthmesh. - any other work necessary to complete the laying of earthmat <p>(40 mm dia MS rod will be supplied by BHEL).</p>	MT	100	5,785	5,78,500
2	<p>Grounding of GIS : Unloading, storing and laying of MS Rod inside the ground slab of the GIS Building Floor (forming a mesh) and bringing out risers 300mm above FFL level near the equipment foundations and building columns as per requirement including following works:</p> <ul style="list-style-type: none"> - laying, cutting and bending - welding of rods (refer Drg No. PE-DG-412-509-E005 for Welding details of rods / flat) - Risers shall be raised from the earthing mesh of Mild Steel to 300 mm above ground level to the nearest point of the equipment. This shall include all cutting, bending, welding, fixing, application of zinc rich paint on cutting surface, etc and connecting it to the main earthmesh. - any other work necessary to complete the preparation of grounding mesh of the GIS Building (MS Rods shall be supplied by Bidder .) - any other work necessary to complete the laying of earthmat for GIS and linking it with the main Earthmat. <p>(40 mm dia MS rod will be supplied by BHEL).</p>	MT	7	5,785	40,495
3	<p>Fabrication & Installation of Auxiliary Mat of 40 mm Dia MS Rods at a depth of 300 mm from top of FGL including excavation & backfilling as per Drg No. TB-STD-316-Auxiliary mat Rev 00.</p> <ul style="list-style-type: none"> - any other work necessary to complete the laying of earthmat <p>(40 Diameter MS rod will be supplied by BHEL)</p>	Nos.	10	2,070	20,700
4	<p>Installation of Pipe Electrode to be driven - 3.0 Mtr as per reference Drg. No. TB-STD-316-Pipe Electrode Rev 00 including following works:</p> <ul style="list-style-type: none"> - excavation - installing the pipe electrode with alternate layers of Coke/charcoal and salt - backfilling and compaction - Casting the Test Pit with Cast Iron covers as per IS 3043 - any other work necessary to complete the work <p>(Prefabricated pipe electrode i.e. GI Pipe, Flat, Nuts, Bolts & Washers and funnel with wire mesh will be supplied by BHEL).</p>	nos.	36	7,860	2,82,960

BILL OF QUANTITY & PRICE SCHEDULE

ANNEXURE-IV

Project 400kV ENNORE GIS S/S

Work: Under Ground Earthing & Electrode

Customer : TANGEDCO

S.No.	Description	Unit	Qty.	Unit Price (Rs.)	Total Price (Rs.)
	MAIN EQUIPMENT				
5	Fabrication and Installing of 40 mm diameter Rod Electrode with/without test link as per Drg. No. TB-STD-316-Rod Electrode Rev 00 including following works: - Fabrication - excavation - installing the rod electrode - backfilling and compaction - Casting the Test Pit with Cast Iron covers as per IS 3043 - any other work necessary to complete the work (40 mm dia MS rod, Flat, Nuts, Bolts & Washers will be supplied by BHEL).	Nos.	20	3,492	69,840
6	Installing of pre-fabricated 40 mm diameter GI / MS Rod Electrode (3 meter long) with test link as per Drg. No. TB-STD-316-Rod Electrode Rev 00 including following works: - excavation - installing the rod electrode - backfilling and compaction - Casting the Test Pit with Cast Iron covers as per IS 3043 - any other work necessary to complete the work (Prefabricated rod electrode i.e. GI / MS rod electrode, flat, Nuts, Bolts & Washers will be supplied by BHEL).	Nos.	10	3,342	33,420
7	Fabrication & Installing of 40 mm diameter Rod Electrode (3 meter long) without test pit including following works: - excavation/hammering of rod in earth - installing the rode electrode - backfilling and compaction - any other work necessary to complete the work (40 mm dia MS rod, GI Flat will be supplied by BHEL).	Nos.	4	3,250	13,000
	Total Amount (Rs.)				10,38,915

Remark: The Individual quantity may vary upto any extend.

BILL OF QUANTITY AND PRICE SCHEDULE

ANNEXURE-V

NAME OF PROJECT :- 400KV GIS SUBSTATION AT ENNORE SEZ

NAME OF WORK :- CONSTRUCTION OF STORES

SI No.	Description	Unit	Qty.	Unit Rate (Rs.)	Amount (Rs.)
1	2 Nos. open stores of size 3000 Sqm (as per specification enclosed).	Sqm	6000 (2 X 3000)	700.00	42,00,000.00
2	Covered store of size 200 sqm (As per specification enclosed).	Nos.	1	15,50,000.00	15,50,000.00
	Total Amount (Rs.)				57,50,000.00
Notes:					
1	The quoted rate is inclusive of all materials, tools & plants etc. required for above works.				
2	Supply of 60 Nos. concrete sleepers of railway specifications for storage purpose are also included in scope of the bidder. BHEL shall not pay extra for these items and supply cost are deemed to be included in above mentioned prices.				
3	Decision of store location and execution of above items shall be taken by site incharge as per site requirement.				

ANNEXURE-VI

**TRANSMISSION BUSINESS GROUP
(SUB- CONTRACTS MANAGEMENT)
TBG - NOIDA**

PRICE SCHEDULE FORMAT

SUB: EXECUTION AND HANDING OVER OF CIVIL WORKS FOR 400KV GIS SWITCHYARD AT ENNORE IN TAMIL NADU.

(a) I/ We hereby agree to execute the above work at ----- % (in figure).....
----- (in words) Above / Below/ At Par the rates of items given in BOQ
(Annexure-I, II, III, IV & V) of subject tender.

NOTE:

1. In this annexure the tenderer shall quote a percentage above or below or at par the rates shown in the Bill of Quantities (Annexure-I, II, III, IV & V) of subject tender. The percentage quoted shall be clearly written both in words and figures In case of discrepancy in rates in figure and words, the minimum will be taken into account by BHEL.
2. The quoted percentage will apply to the individual items uniformly.

Date:

Place

Signature of tenderer

Name & Designation of authorized person(s) with seal

ANNEXURE-VII

SUMMARY OF PRICES FOR EXECUTION AND HANDING OVER OF CIVIL WORKS FOR 400KV GIS SWITCHYARD AT ENNORE IN TAMIL NADU.

Sl No.	Description	Amount (Rs.)
1 (a)	Total amount as per the rates in BOQ for civil works of switchyard (Annexure-I)	633,27,349.00
1 (b)	Total amount as per the rates in BOQ for civil works of GIS & Control Room Building (Annexure-II)	566,33,075.00
1 (c)	Total amount as per the rates in BOQ for piling work for yard & buildings (Annexure-III)	1050,41,852.40
1 (d)	Total amount as per the rates in BOQ for underground earthing works (Annexure-IV)	10,38,915.00
1 (e)	Total amount as per the rates in BOQ for construction of sores (Annexure-V)	57,50,000.00
1	Total Amount (Annexure- I, II, III, IV & V)	2317,91,191.40
2	Value of percentage above/below/at par (As indicated in Price Schedule Format, Annexure-VI) applicable to the total amount of civil work (Sl. no. 1 above)% above/below
3	Total amount after consideration of percentage above/below/ at par.	