

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)****Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal**

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
1	Earthwork in excavation 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 and lift upto 3.6m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil.	57925	cum	125.95	7295653.75
(b)	Ordinary rock.	4030	cum	221.05	890831.50
(c)	Hard rock(requiring blasting)	25	cum	389.80	9745.00
(d)	Hard rock(blasting prohibited)	25	cum	619.80	15495.00
2	Earthwork in excavation 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 3.6m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil.	2510	cum	166.40	417664.00
(b)	Ordinary rock.	450	cum	275.85	124132.50
(c)	Hard rock(requiring blasting)	25	cum	460.19	11504.75
(d)	Hard rock(blasting prohibited)	25	cum	656.70	16417.50
3	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials.				
(a)	All kinds of soil.	3310	cum	51.75	171292.50
(b)	Ordinary or hard rock.	50	cum	92.80	4640.00
4	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 3.0 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth including consolidating each deposited layer by ramming, watering etc. and disposing of surplus excavated soil as directed within a lead of 100m.				
(a)	All kinds of soil & Rock				
4.1	Pipes, cables etc, not exceeding 80mm dia.	10	RM	138.05	1380.50
4.2	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	10	RM	225.45	2254.50
4.3	Pipes, cables etc. exceeding 300mm dia but not exceeding 600mm	10	RM	352.00	3520.00
5	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 3.6m.	55880	cum	125.75	7026910.00
6	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing etc all complete	330	cum	810.82	267570.60
7	Supplying, filling and compacting CNS materials as per IS: 9451 at the site under floors, foundations, roads, cable trenches, drains, etc. including royalty, carriage etc. all complete, for all leads and lift with all labour, material, tools, tackles, equipments, safeguards & incidentals as necessary as per specification and direction - of - Engineer -in- charge.	250	cum	332.55	83137.50
8	Supplying, filling and compacting stone boulders, hard core of stone ballast etc mixed with sand at the site under floors, foundations, roads, cable trenches, drains, etc. in layers not exceeding 200mm thickness including royalty, carriage etc. all complete, for all leads and lift with all labour, material, tools, tackles, equipments, safeguards & incidentals as necessary as per specification and direction - of - Engineer -in- charge.	960	cum	1645.41	1579593.60
9	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.	13260	cum	98.34	1303988.40
(b)	Lead from 1Km to 2 km.	3170	cum	111.50	353455.00
(c)	Lead from 2Km to 3 km.	200	cum	124.51	24902.00
(d)	Lead from 3Km to 4 km.	100	cum	137.01	13701.00
(e)	Lead from 4Km to 5 km.	100	cum	149.17	14917.00
10	Supplying chemical emulsion in sealed containers including delivery as specified.				
(a)	Chloropyriphos emulsifiable concentrate of 20%	30	litre	157.45	4723.50
11	Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti- termite treatment (excluding the cost of chemical emulsion) :				
(a)	Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete:				
(i.)	With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration.	5	RM	16.80	84.00
(b)	Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc.				
(i.)	With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration.	5	RM	24.30	121.50

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(c)	Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 : 2 (1 cement : 2 Coarse sand) to match the existing floor :				
(i.)	With Chlorpyrifos/Lindane E.C. 20% with 1% concentration.	20	Sqm	131.90	2638.00
(d)	Treatment of existing masonry using chemical emulsion @ one litre per hole at 300 mm interval including drilling holes at 45 degree and plugging them with cement mortar 1:2 (1 cement : 2 coarse sand) to the full depth of the hole :				
(i.)	With Chlorpyrifos/Lindane E.C. 20% with 1% concentration.	10	RM	19.05	190.50
(e)	Treatment at points of contact of wood work by chemical emulsion Chlorpyrifos/ Lindane (in oil or kerosene based solution) @ 0.5 litres per hole by drilling 6 mm dia holes at downward angle of 45 degree at 150 mm centre to centre and sealing the same.	5	RM	165.48	827.40
12	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).	15	Sqm	131.90	1978.50
13	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).	40	Sqm	293.35	11734.00
14	Applying a coat of residual petroleum bitumen of penetration 80/100 of approved quality using 1.7 kg per sqm on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	40	Sqm	88.05	3522.00
15	Extra for providing and mixing water proofing material in Cement Concrete work in doses by weight of cement as per manufacturer's specification.	290	1 kg per 50 kg of cement	41.73	12101.70
16	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering:				
(a)	1:4:8 (1 cement : 4 fine sand : 8 graded stone aggregate 40 mm nominal size)	2800	cum	3919.79	10975412.00
(b)	1:3:6 (1 cement : 3 fine sand : 6 graded stone aggregate 40 mm nominal size)	10	cum	4293.77	42937.70
(c)	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	170	cum	4943.80	840446.00
17	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level :				
(a)	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	200	cum	5570.21	1114042.00
18	Providing & fixing in position M25 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. (Note:- Cement content considered in M-25 is @330 kg/cum).	100	cum	6160.32	616032.00
19	Providing and laying reinforced CC road/ pavement of design mix M-25 grade with readymixed concrete from batching plant. The readymixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per customer's technical specifications and directions of Engineer-in-charge excluding the cost of panel shuttering and reinforcement steel but including the cost of admixtures in recommended proportions (as per IS 9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability. (Note:- cement content considered in this item is 330kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).	1000	cum	6353.11	6353110.00
20	Grouting of block outs, pockets, foundations, bolts holes and underside of base plates with cement, sand aggregate (of size 6 mm and down) grout 1:1:2 with non-shrink additive/grouting compound 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.	80	cum	7705.97	616477.80
21	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for RCC work 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. - M25 grade. (Note:- Cement content considered in M-25 is @330 kg/cum).				
(i.)	All works up to plinth level	11780	cum	5887.43	69353925.40

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(ii.)	All works above plinth level to floor V level	660	cum	6691.00	4416060.00
22	Add for using extra cement in the items of design mix over and above the specified cement content therein.	9540	Quintal	533.82	5092642.80
23	Centering and shuttering including strutting, propping etc. and removal of form for :				
(a)	Foundations, footings, bases of columns, etc. for mass concrete.	8550	Sqm	184.42	1576791.00
(b)	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	6292	Sqm	369.24	2323258.08
(c)	Suspended floors, roofs, landings, balconies and access platform.	414	Sqm	413.62	171238.68
(d)	Lintels, beams, plinth beams, girders, bressumers, chajjas and cantilevers.	308	Sqm	333.23	102634.84
(e)	Columns, Pillars, Piers, Abutments, Posts and Struts.	19992	Sqm	454.41	9084564.72
(f)	Stairs excluding landings	10	Sqm	391.50	3915.00
24	Extra for additional height in centring, shuttering wherever required with adequate bracing, propping etc. including cost of deshuttering and decentring at all levels over a height of 3.5 meter for every additional height of 1 meter or part thereof (Plan area to be measured).				
(i.)	Suspended floors, roofs, landing, beams and balconies.	10	Sqm	169.97	1699.70
25	Steel reinforcement of grade Fe-500/500D TMT bars				
(a)	Including supply (To be procured from SAIL/TISCO/RINL/IISCO or Powergrid approved source) and straightening, cutting, bending, binding, (i/c cost of binding wire), placing in position, chairs & laps etc. all labour & material complete at all level and heights.	45000	Kg	49.62	2232900.00
(b)	Excluding supply but including straightening, cutting, bending, binding, (i/c cost of binding wire), placing in position, chairs & laps etc. all labour & material complete at all level and heights. (Note: Rates are also includes Unloading, storage, watch and ward etc for BHEL supplied Reinforcement).	900000	Kg	11.11	9999000.00
26	Structural steel work welded in built up sections like edge protection angles, pipes, 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.	70500	Kg	51.36	3620880.00
27	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including providing, cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	2000	Kg	60.38	120760.00
28	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 of control room building with chequered plates, stringers, treads, landings, etc., of staircases involving use of chequered plates, wherever required, all complete.	34990	Kg	56.66	1982533.40
(b)	In gratings, frames, ladders, stair railings, gates (including pipes), rails, ISMB, ISMC and similar works.	45000	Kg	78.07	3513150.00
29	Galvanised steel work for rung ladder, Handrail, edge protection angles, pipes, insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved primer all complete. (Mass of Zinc Coating= 610 gm/ sqm)	10	Kg	60.61	606.10
30	Brick work with common burnt clay F.P.S. bricks as per Technical Specification of class designation 7.5 in foundation and plinth including weep holes:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	530	cum	4524.10	2397773.00
31	Brick work with common burnt clay F.P.S. bricks as per Technical Specification of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes including weep holes :				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	410	cum	5355.29	2195668.90
32	Half brick masonry with common burnt clay F.P.S. bricks as per Technical specification of class designation 7.5 in foundations and plinth in.				
	cement mortar 1:4 (1 cement : 4 coarse sand)	30	Sqm	562.70	16881.00
33	Half brick masonry with common burnt clay F.P.S. bricks as per Technical specification of class designation 7.5 in superstructure above plinth level up to floor V level.				
	Cement mortar 1:4 (1 cement :4 coarse sand)	80	Sqm	653.36	52268.80
34	Extra for providing and placing in position 2 Nos. 6mm dia. M.S. bars at every third course of half brick masonry.	100	Sqm	48.21	4821.00
35	6mm cement plaster to ceiling of mix				
	1:3 (1 cement : 3 fine sand)	415	Sqm	138.39	57431.85
36	12mm cement plaster on the wall/ concrete surface in the mix:				
	1:6 (1 cement: 6 fine sand)	510	Sqm	154.72	78907.20

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37	12mm cement plaster finished with a floating coat of neat cement in the mix: 1:4 (1cement :4 fine sand)	3190	Sqm	203.19	648176.10
38	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 fine sand)	80	Sqm	178.47	14277.60
39	18mm cement plaster on roof in two coats with under layer 12mm thick cement plaster 1:5 (1 cement :5 coarse sand) finished with a top layer of 6mm thick 1:6 cement plaster(1cement : 6 fine sand)	750	Sqm	245.49	184117.50
40	18mm cement plaster on roof in two coats with under layer 12mm thick cement plaster 1:5 (1 cement :5 coarse sand) finished with a top layer of 6mm thick 1:3 cement plaster(1cement : 3 coarse sand)	370	Sqm	259.23	95915.10
41	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturer	20	Per bag of 50 KG cement used in mix	44.12	882.40
42	Neat cement punning	10	Sqm	39.55	395.50
43	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	460	RM	34.15	15709.00
44	Forming groove of uniform size in the top layer of plaster as per approved pattern using wooden battens, nailed to the under layer, including removal of wooden battens, repair to the edges of panels and finishing the groove complete as per specifications and direction of the Engineer-in-charge at all level & height				
(a)	25 mm wide and 25 mm deep groove	450	RM	34.63	15583.50
45	Making plinth protection of 50mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) laid over 75mm thick bed of dry brick balast 40mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth.	120	Sqm	426.82	51218.40
46	Providing and laying 75 mm thick compacted bed of dry brick aggregate of 40 mm thick nominal size including spreading,well ramming, consolidating and grouting with jamuna sand, including finishing smooth etc. complete as per direction of Engineer-in-charge.	5	Sqm	136.33	681.65
47	Providing an fixing chicken wire mesh on wall, floor & ceiling surface all complete as per drawing/specification and direction of Engineer-in charge.	1610	Sqm	40.89	65832.90
48	Forming groove of uniform size from 12X12mm and upto 25X15mm in plastered surface and joints of ceiling and wall as per approved pattern using wooden battens, nailed to the underlayer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and directions of the Engineer-in-charge.	50	RM	63.35	3167.50
49	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.	5	Sqm	335.25	1676.25
50	62 mm thick cement concrete flooring with concrete hardener topping, under layer 50 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and top layer 12mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate, 6mm nominal size) by volume, hardening compound mixed @ 2 litre per 50kg of cement or as per manufactures specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.	5	Sqm	565.28	2826.40
51	52 mm thick CC flooring with "Hardcrete" concrete hardner topping under layer 40 mm thick CC 1:2:4 (1 cement: 2 coarse sand: 4 graded 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 Hardcrete hardening compound of approved quality is mixed @ 2 liter Hardcrete hardener per 50 Kg of cement including cement slurry or as per manufacturer's specifications. This includes the cost of cement slurry, but excluding the cost of nosing of steps etc., complete.	5	Sqm	516.84	2584.20
52	Providing and fixing glass strips in joints of terrazo/ cement concrete floors 40 mm wide and 4 mm thick	5	RM	48.59	242.95
53	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with metallic concrete hardner in a same ratio as floor finished with a floating coat of neat cement. 21 mm thick	5	Sqm	328.96	1644.80

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54	Kota stone flooring, skirting and riser over 20mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match shade of the slab, including rubbing and polishing complete with base of cement mortar 1: 4 (1 cement : 4 coarse sand):				
	Minimum 25 mm thick	5	Sqm	1111.54	5557.70
55	Providing and laying polished vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS: 15622 of approved make in all colours and shades laid over 20mm thick cement mortar 1:4 (1 Cement:4 coarse sand) and jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. complete as per direction of Engineer-in charge.				
	Size of tile 60 x 60 cm	85	Sqm	990.82	84219.70
56	Providing and fixing approved quality polished vitrified tiles (thickness to be specified by the manufacturer) 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.				
	Size of tile 60 x 60 cm	5	Sqm	1010.07	5050.35
57	Providing and fixing 1st quality ceramic glazed tiles conforming to IS:15622 (thickness to be specified by manufacturer) of approved make in all colours (shades as approved by Engineer-in-Charge) in skirting, risers of steps and dados upto ceiling on wall 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.	10	Sqm	676.81	6768.10
58	Providing and laying 1st quality ceramic glazed floor tiles 300X300 mm (thickness to be specified by manufacturer) conforming to IS:15622 of approved make in colours as approved by Engineer in Charge laid on 20mm mm thick bed of cement mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with grey cement slurry @3.3kg/sqm including pointing the joints with white cement mixed with pigment of matching shade complete.	50	Sqm	616.92	30846.00
59	Providing and laying pressed clay tile (Mangalore tile), as per approved pattern, of 20mm nominal thickness of approved size on roofs jointed with cement mortar 1:4 (1 cement : 4 coarse sand) mixed with 2% integral water proofing compound, laid over a bed of 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand) and finished neat, all complete as per direction of Engineer-in-Charge.	5	Sqm	387.69	1938.45
60	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building, all complete as per the architectural drawings, with 18 mm thick stone slab over 20 mm average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand), laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
(a)	Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	5	Sqm	2560.03	12800.15
61	Providing and laying polished Granite stone 18-20mm thk in skirting and dado with 6mm thick projection from adjacent plaster including mortar ,cement slurry ,pigments, curing, grinding,moulding, granite polishing etc. all complete.	5	Sqm	3010.10	15050.50
62	Providing and fixing min. 20mm thick mirror polished, premoulded and prepolished, machine cut for column facia, kitchen platforms, vanity counters, window sills, facia and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement: 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing etc. complete at all levels and sizes				
(a)	Granite black or customer approved color	5	Sqm	2762.11	13810.55
63	Providing and fixing min. 20mm thick mirror polished, premoulded and prepolished, machine cut for column facia, kitchen platforms, vanity counters, window sills, facia and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement: 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing etc. complete at all levels and sizes				
(a)	Rajnagar plain white marble/udaipur green marble/zebra black marble	5	Sqm	1704.78	8523.90
64	Providing and fixing machine cut stone slab with table rubbed, edges/exposed corners rounded and polished on both side, of size 610x1150mm deep and min. 20 mm 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.				
(a)	Best Quality Marble/Udaipur green marble/Zebra Black Marble	5	Sqm	1619.15	8095.75
(b)	Granite Stone of approved shade.	5	Sqm	1827.60	9138.00

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65	Wall lining butch work upto 10m height with DHOLPUR stone 40 mm thick rough facing on the exposed surface with stone strips of minimum length 300 mm and required width, including embedding every tenth layer and bottom most layer in masonry or concrete after making necessary chases of size 75x75 mm and by providing layer of 75 mm thick strips i/c 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand) i/c ruled pointing in cement mortar 1:2 (1 white cement: 2 stone dust) with an admixture of pigment to match the shade of stone complete as per direction of Engineer-in-charge	5	Sqm	1536.18	7680.90
66	Providing and applying white cement based putty of average thickness 1mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth as directed by engineer-in-charge for all level and height.	510	Sqm	82.18	41911.80
67	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete at all level and height	370	Sqm	117.08	43319.60
68	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	75	Sqm	15.19	1139.25
(b)	Applying one coat of water thinnable cement primer of approved brand and manufacture on RCC/ wall surface at all level and height:	55	Sqm	36.27	1994.85
69	Finishing RCC/walls with water proofing cement paint of gray color/ approved color by customer at all levels and heights:				
(a)	New work (Two or more coats applied @ 3.84 kg/10 sqm).	100	Sqm	56.21	5621.00
70	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade:				
(a)	Two or more coats on new work	1090	Sqm	63.50	69215.00
71	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:				
(a)	Two or more coats on new work of approved brand and manufacture	1750	Sqm	74.91	131092.50
72	Painting of all steel works used for grating and supports in transformer/ reactor foundations with epoxy paint (Two or more coat) including epoxy based zinc phosphate primer (two packs) confirming to IS: 13238- 1991 as per manufacturer's specifications including preparation of surface..	170	Sqm	116.30	19771.00
73	Wall/ Ceiling painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre. of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour at all level and height.				
(a)	Two or more coats on new work	2592	Sqm	68.74	178174.08
74	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade at all level and height				
(a)	New work (two or more coats) over and including priming coat with cement primer.(Work to be carried as per relevant IS codes.)	370	Sqm	91.81	33969.70
75	Distempering with first quality acrylic washable distemper (ready mixed) of approved manufacturer and of required shade and colour complete as per manufacturer's specification at all level and height				
(a)	New work (two or more coats) over and including priming coat with cement primer.(Work to be carried as per relevant IS codes.)	10	Sqm	51.95	519.50
76	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade at all level and height.				
(a)	Two or more coats on new work.	10	Sqm	52.63	526.30
77	Painting with acid proof paint of approved brand and manufacture of required colour to give an even shade at all level and height.				
(a)	Two or more coats on new work.	10	Sqm	52.95	529.50
78	White washing with lime to give an even shade:				
(a)	Three or more coats on new work.	140	Sqm	16.97	2375.80
79	Finishing walls/ Slab with Premium Acrylic Smooth exterior paint with Silicone additives of required shade at all level and height:				
(a)	New work : (Two or more coat applied @ 1.43 ltr/10 sqm over and including primer coat of exterior primer applied @ 2.20 kg/10 sqm).	580	Sqm	89.57	51950.60

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)****Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal**

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
80	Providing & fixing 15mm thick densified tegular edged eco friendly light weight calcium silicate false ceiling tiles of approved texture spintone/ cosmos/ Hexa or equivalent of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanising @ 120 grams per sqm. including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet, spaced 1200 mm centre to centre, and cross 'T' of size 24x28 mm made out of 0.33 mm (minimum) sheet, 1200 mm long spaced between main 'T' at 600 mm centre to centre to form a grid of 1200x600 mm and secondary cross 'T' of length 600 mm and of size of 24x28 mm made of 0.33 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grid of size 600x600 mm, resting on periphery walls/ partitions on a perimeter wall angle pre-coated steel of size (24x24x300 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450 mm centre to centre with 25 mm long drywall screws @230 mm interval and laying 15 mm thick densified edges calcium silicate ceiling tiles of approved texture (Spintone/ Cosmos/ Hexa) in the grid, including, cutting/ making openings for services like diffusers, grills, light fittings, fixtures, smoke detectors, etc., whenever required. Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85x30x0.8 mm, spaced at 1200 mm centre to centre along main 'T', bottom exposed with 24 mm of all T-sections shall be pre-painted with polyester baked paint, for all heights, as per specifications, drawings and as directed by engineer-in-charge. Quoted rate shall include providing opening for illumination & fire fighting work, cost of all labours, materials & accessories etc .				
	Note: Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made from exposed frames/ opening (cutouts) having area less than 0.30 sqm. The calcium silicate ceiling tile shall have NRC value of 0.50 (minimum), light reflection > 85%, non-comustible as per B.S. 476 Part IV, 100% humidity resistance and also having thermal conductivity < 0.043 w/m 0 KC.	10	Sqm	1251.48	12514.80
81	Providing and fixing thermal insulation of ceiling (under deck insulation) with Resin Bonded Fibre glass wool conforming to IS : 8193 (Twiga Insul 1500/50mm or equivalent) density 24 kg/m3, 50 mm thick, wrapped in 200 G Virgin polythene bags fixed to Ceiling with metallic cleats (50x50x3 mm) @ 60cm and wire mesh of 12.5 mm x 24g wire and mesh, for top most ceiling of building .	10	Sqm	395.72	3957.20
82	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded builtup standard tubular and other sections of approved make conforming to IS: 733 and IS:1285, fixed with rawl plugs and screws or with fixing clips or with expansion hold fasteners including necessary filling up of gaps at junctions at top , bottom and sides with required PVC/neoprene felt, etc. Aluminium sections shall be smooth , rust free, straight, mitred and jointed mechanically wherever required including cleat angle, aluminium snap beading for glazing/panelling, CP brass/stainless steel screws, all complete as per architectural drawings and direction of Engineer-in-charge. (Glazing and panelling to be paid for separately).				
(a)	For Fixed Portion				
	Powder coated aluminium (minimum thickness of powder coating 50 micron)	200	Kg	334.55	66910.00
(b)	For shutters of doors, windows & ventilators including providing and fixing hinges/pivots and fittings wherever required including the cost of PVC/neoprene gasket required .				
	Powder coated aluminium (minimum thickness of powder coating 50 micron)	120	Kg	391.32	46958.40
83	Providing and fixing 12mm thick pre-laminated particle board flat pressed three layer or graded wood particle board conforming to IS:12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.				
(a)	Pre-laminated particle board with decorative lamination on one side and balancing lamination on other sides.	5	Sqm	720.98	3604.90
(b)	Pre-laminated particle board with decorative lamination on both sides.	5	Sqm	755.05	3775.25
84	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 4.0 mm thickness	5	Sqm	664.04	3320.20
(b)	With float glass panes of 5.5mm (minimum) thickness (weight not less than 13.75kg/sqm)	10	Sqm	886.51	8865.10
(c)	With 5.5mm (minimum) thick toughened reflective glass	20	Sqm	1581.79	31635.77
(d)	With 8mm thick toughened reflective glass	5	Sqm	1991.37	9956.84
(e)	With 10mm thick toughened reflective glass	5	Sqm	2399.88	11999.41
(f)	With 12mm thick toughened reflective glass	5	Sqm	2808.39	14041.97
85	Providing and fixing Aluminum grills of required pattern in frames of windows etc. with Aluminium flats, square or round bars etc. all complete. (Only weight of grills to be measured for payment).	10	kg	355.37	3553.70

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)

Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
86	Providing and fixing 12 mm thick frameless glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc. to be paid separately).	100	Sqm	4002.24	400224.00
87	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS 6315 marked "hardwyn" make (Model 3000) or equivalent for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M. S. sheet outer box with slide plate etc. complete as per direction of Engineer-in-charge.				
(a)	With Stainless steel cover plate	5	Each	1777.08	8885.40
88	Providing and fixing double action hydraulic floor spring of DORMA BTS 80 for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M. S. sheet outer box with slide plate etc. complete as per direction of Engineer-in-charge.				
	With Stainless steel cover plate	1	Each	1777.08	1777.08
89	Providing and fixing chromium plated brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles with necessary screws etc. complete(best make of approved quality).	10	Each	590.20	5902.00
90	Providing and fixing bright finished 100mm mortice lock with 6 levers without pair of handles for aluminium door with necessary screws etc complete (Best make of approved quality) as per direction of Engineer-in-charge.	5	Each	413.08	2065.40
91	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 16 mm	5	Each	184.35	921.75
(b)	150 X 10mm	5	Each	55.22	276.10
92	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.				
(a)	125mm	5	Each	43.86	219.30
(b)	100mm	5	Each	38.77	193.85
93	Providing and fixing IS:3564 marked aluminium die cast body tubular type universal hydraulic door closer of approved quality and make with accessories and screws complete.	5	Each	358.96	1794.80
94	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868)transparent or dyed to required colour and shade with necessary screws etc. complete.	5	Each	23.68	118.40
95	Providing and fixing circular / hexagonal cast iron or M.S. sheet box for ceiling fan clamp of internal dia 140 mm, 73 mm height, 3 mm thick rim, top and bottom lid of 1.5 mm M.S. sheet. Top surface of top lid hacked for proper bonding, top lid shall be screwed in to cast iron or M.S. box by means of 3.3 mm round headed screws, one lock at the corners. Clamps shall be made of 12 mm dia M.S. bar bend to shape as per standard drawing with overall length as 80 cm.	0	Each	115.08	0.00
96	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 etc as per T.S. (In case, area of rolling shutters exceeds 10 sqm, mechanical device chain and crank operation for operating shutters shall be provided and its cost shall be deemed to be included in the quoted price).				
(a)	80 X 1.25mm MS laths with 1.25mm thick top cover.	5	Sqm	2019.89	10099.45
97	Providing and fixing ball bearing for rolling shutters.	5	Each	329.39	1646.95
98	Extra for providing mechanical device chain and crank operation for operating shutters.				
(a)	Exceeding 10.00 sqm and upto 16.80 sqm in area.	1	Sqm	617.14	617.14
99	Providing and fixing pressed steel door frames 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.				
(a)	Profile C	5	RM	318.17	1590.85

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)

Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
100	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (whenever required) and fitting with the same with necessary accessories and stainless steel nuts & bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners, stainless steel bolts, etc., of required size, on the top of floor or side of the waist slab with suitable arrangement as per approval of Engineer-in-charge. (For payment purpose, only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.)	50	Kg	418.68	20934.00
101	Providing and fixing 2 mm thick M.S. sheet door with frame of 45x45x5 mm angle iron and 3 mm M.S. gussets plates at the junction and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
(a)	Using M.S. Angle 45x45x5 mm for diagonal braces	5	Sqm	2662.05	13310.25
102	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including applying a priming coat of approved steel primer all complete.				
(a)	Fixed to openings/ wooden frames with rawl plugs screws etc.	5	kg	104.57	522.85
103	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side/top/centre hung, with beading and all members such as F7D, F4B, K11B and K12B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment).				
(a)	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block block 15x10x10 cm of C.C.	5	kg	104.76	523.80
104	Providing and fixing ISI marked flush door shutters decorative type, core of block board construction with frame of 1st class hard wood and well matched reak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
(a)	35 mm thick including ISI marked Stainless Steel butt hinges with nessary screws.	5	Sqm	2148.42	10742.10
105	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 18 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 final painting etc all complete as per Drawing No. C/ENGG/STD/FFPH/2016/5 OF 16, R-0.	5	Sqm	5646.78	28233.90
106	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 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	5	Sqm	9035.05	45175.23
107	Providing and fixing pre-coated galvanised iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %), total coated thickness with zinc coating 120 gm per sqm as per IS:277 in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	25	Sqm	473.40	11835.00
108	Providing corrugated G.S. sheet of 0.8mm thick with zinc coating not less than 275 gm/sqm including vertical/curved surface fixed with polymer coated G, I, J or L hooks, bolts and nuts 8 mm diameter G, I Plain, bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead, including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (up to any pitch in horizontal/ vertical or curved surfaces), excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.	25	sqm	709.50	17737.50
109	Providing and fixing water closet squatting pan (Indian type WC pan) with 100mm sand cast Iron P or S trap ,10 liter low level white PVC flushing cistern with manually controlled device (handle lever) conforming to IS 7231 with all fittings and fixtures complete including cutting and making good the walls and floors wherever required:				

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)

Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
(a)	White vitreous china orissa pattern WC pan of size 580 X 480mm with integral type foot rests.	1	Each	3192.12	3192.12
110	Providing and fixing white vitreous china pedestal type water closet (European type W.C. Pan) 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 complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required;				
(a)	W.C. pan with White solid plastic seat and lid with white vitreous china flushing cistern and CP flush bend.	1	Each	4173.15	4173.15
(b)	W.C. pan with black solid plastic seat and lid with white vitreous china flushing cistern and CP flush bend.	1	Each	4153.48	4153.48
111	Extra for using coloured pedestal type W. C. pan (European type) with low level cistern of same colour instead of white vitreous china W.C. pan and cistern.	1	Each	540.81	540.81
112	Providing and fixing coloured vitreous china flat back half stall urinal of size 580x380x350 mm of approved make i.e Parryware/Hindware/ Seabird/Orient (Coral) with PVC automatic flushing cistern, with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass, including painting of fittings and cutting and making good the walls and floors wherever required :				
(a)	Single half stall urinal with 10 litre P.V.C. automatic flushing cistern	1	Each	5860.01	5860.01
(b)	Range of two half stall urinals with 10 litre P.V.C. automatic flushing cistern.	1	Each	8805.41	8805.41
113	Providing and fixing wash basin of approved colour and size with CI bracket , 15 mm C.P. brass pillar taps, close hole basin mixer 32 mm C.P. brass waste and bottle trap of standard pattern, including painting of fittings etc. as per customer Technical specification including cutting and making good the walls wherever required:				
(a)	Vitreous China wash basin size 630 x 450mm with a pair of 15mm C. P. brass pillars taps (With built in sensors)	1	Each	2068.68	2068.68
(b)	White Vitreous China Wash basin flat back size 550x400 mm with a pair of 15 mm C.P. brass pillar taps. (With built in sensors)	1	Each	1896.60	1896.60
114	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	5	Each	26.06	130.30
115	Providing and fixing 1000 x 600 x 6 mm thick beveled edge mirror of float glass (of approved quality) complete shall be fixed mounted on 12 mm thick water proof plywood backing and hardwood beading all-round and mirror fixed to the backing with 4 nos. of CP cap screws & washers, including fixing the mirror to the wall with necessary screws, plugs & washers etc. with each wash basin	1	Each	755.54	755.54
116	Providing and fixing 600 x 120 x5 mm glass shelf with edges rounded off supported on anodised aluminium angle frame with CP. Brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete.	1	Each	522.99	522.99
117	Providing and fixing toilet paper holder.				
(a)	CP brass.	1	Each	351.69	351.69
118	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with C.P. Brass screws with concealed fitting arrangement of approved quality and make.				
(a)	600 mm long and min. 25mm dia towel rail with total length of 645mm,width 78mm and effective height 88mm,weighing not less than 190gms.	1	Each	390.57	390.57
119	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 (Prayag or equivalent).	1	Each	118.78	118.78
120	Providing and fixing C.P. brass stop cock of standard design and of approved make conforming to IS:8931.				
(a)	15mm nominal bore	1	Each	521.04	521.04
121	Providing and fixing C.P. brass bib cock of approved quality conforming to IS: 8931				
(a)	15mm nominal bore	1	Each	355.11	355.11
122	Providing and fixing C.P. brass stop angle valve for basin and cistern points of approved quality conforming to IS:8931.				
(a)	15mm nominal bore	1	Each	406.21	406.21
123	Providing and fixing brass bib cock of approved quality				
(a)	15mm nominal bore	1	Each	248.49	248.49
124	Providing and fixing brass stop cock of approved quality				
(a)	15mm nominal bore	1	Each	248.49	248.49

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)****Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal**

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
125	Providing and fixing brass gate valve with CI wheel of approved quality (screwed end)				
(a)	25mm nominal bore	1	Each	365.84	365.84
(b)	40mm nominal bore	1	Each	499.15	499.15
(c)	50mm nominal bore	1	Each	639.42	639.42
(d)	80mm nominal bore	1	Each	1630.79	1630.79
126	Providing and fixing ball valve (brass) of approved quality, high or low pressure with plastic floats complete.				
(a)	25mm nominal bore	1	Each	290.94	290.94
127	Providing and fixing soil, waste and vent pipes Min. 100mm dia:				
(a)	Sand cast iron S & S pipe.	5	RM	738.92	3694.60
128	Providing and placing on terrace (at all floor levels) polyethylene water storage tank conforms to IS 12701 of approved brand and manufacture with cover and suitable locking arrangement, float valve 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	6.29	6290.00
129	Providing and fixing G.I. Pipes (medium grade) as per IS 1239 Part I & II complete with G.I. Fitting and clamps, including cutting and making good the walls etc. (exposed internal work).				
(a)	15 mm dia nominal bore.	5	RM	170.61	853.05
(b)	20 mm dia nominal bore.	5	RM	203.86	1019.30
(c)	25 mm dia nominal bore.	5	RM	225.30	1126.50
(d)	32 mm dia nominal bore.	5	RM	278.65	1393.25
(e)	40 mm dia nominal bore.	5	RM	356.26	1781.30
130	Providing and fixing G.I. Pipes complete with G.I. Fitting including trenching and refilling etc as per T.S (Exposed work).				
(a)	25 mm dia nominal bore.	10	RM	185.85	1858.50
(b)	40 mm dia nominal bore.	10	RM	267.43	2674.30
(c)	50 mm dia nominal bore.	10	RM	302.70	3027.00
(d)	80 mm dia nominal bore.	10	RM	503.61	5036.10
130	Providing and fixing G.I. Pipes (medium grade) as per IS 1239 Part I & II complete with G.I. Fitting and clamps, including cutting chases and making good the walls etc. (Concealed pipe including painting with anti corrosive bitumastic paint)				
(a)	15 mm dia nominal bore.	5	RM	268.20	1341.00
(b)	20 mm dia nominal bore.	5	RM	294.18	1470.90
131	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.				
(a)	25 to 40mm nominal bore.	5	Each	385.62	1928.10
(b)	50 to 80mm nominal bore.	5	Each	723.09	3615.45
132	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. : Internal work - Exposed on wall				
(a)	15 mm nominal Outer Dia. Pipe	5	RM	134.83	674.15
(b)	20 mm nominal Outer Dia. Pipe	5	RM	167.45	837.25
(c)	25 mm nominal Outer Dia. Pipe	5	RM	198.12	990.60
(d)	32 mm nominal Outer Dia. Pipe	5	RM	261.94	1309.70
(e)	40 mm nominal Outer Dia. Pipe	5	RM	348.42	1742.10
133	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. : Concealed work, including cutting chases and making good the walls etc.				
(a)	15 mm nominal Outer Dia. Pipe	5	RM	233.70	1168.50
(b)	20 mm nominal Outer Dia. Pipe	5	RM	266.39	1331.95
(c)	25 mm nominal Outer Dia. Pipe	5	RM	307.69	1538.45
(d)	32 mm nominal Outer Dia. Pipe	5	RM	374.80	1874.00
134	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings. This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge : External work				
(a)	20 mm nominal Outer Dia. Pipe	5	RM	136.81	684.05
(b)	25 mm nominal Outer Dia. Pipe	5	RM	173.60	868.00
(c)	32 mm nominal Outer Dia. Pipe	5	RM	223.45	1117.25
(d)	40 mm nominal Outer Dia. Pipe	5	RM	284.10	1420.50

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)

Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
135	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 testing of joints etc. complete.				
(a)	100 mm diameter.	5	RM	197.68	988.40
(b)	150 mm diameter.	5	RM	296.56	1482.80
(c)	200 mm diameter.	5	RM	381.34	1906.70
136	Providing and fixing on wall face unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion, (i) Single socketed pipes including all fittings like bends, bat clamps gratings etc.				
(a)	110 mm diameter	30	RM	211.92	6357.60
137	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion Single socketed pipes.				
(a)	110 mm bend 87.5 degree	5	Each	99.94	499.70
(b)	110 shoe plain	5	Each	87.15	435.75
138	Providing and fixing on wall face unplasticised - PVC clips of approved design to unplasticised - Rigid PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with MS screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement: 4 coarse sand) and making good the wall etc complete.				
(a)	110 mm	10	Each	175.15	1751.50
139	Providing precast cement concrete Jali 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 6 mm nominal size), reinforced with 1.6 mm dia mild steel wire, including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete, excluding plastering of jambs, sills and soffits.				
(a)	50 mm thick	5	sqm	801.57	4007.85
140	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 10 x 10 cm of 1:2:4 mix (1 cement: 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including cost of cutting holes and making good the walls etc.				
(a)	For 100mm dia pipe	5	Each	163.27	816.35
141	Providing lead caulked joints to SCI pipes and fittings of diameter				
(a)	100mm	5	Each	284.88	1424.40
142	Providing and fixing SCI trap of self cleansing design with SCI screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors: 100mm inlet and 100mm outlet.				
(a)	Sand Cast Iron S & S as per IS:3989	5	Each	956.92	4784.60
143	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 40mm, including painting of fittings and brackets, cutting and making good the walls wherever required				
(a)	510x1040 mm bowl depth 178 mm	1	Each	3290.10	3290.10
144	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.				
(a)	Inside size 90X80cm and 45cm deep including CI cover with frame (Medium 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)				
(i)	With FPS bricks with class designation 75	1	Each	7825.39	7825.39
(b)	Inside size 120X90cm and 90cm or more deep including CI cover with frame (Medium duty) 500mm internal diameter total weight of cover and frame to be not less than 116kg (weight of cover 58kg and weight of frame 58kg)				
(i)	With FPS bricks with class designation 75	1	Each	16600.00	16600.00
145	Extra for depth for manholes				
(a)	Size 90X80cm with FPS bricks of class designation 75	1	RM	5400.92	5400.92
(b)	Size 120X90cm with FPS bricks of class designation 75	1	RM	6470.02	6470.02

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)****Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal**

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
146	Constructing masonry Chamber 600x600x750mm or matching with site condition inside , in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with CI surface boc 100mm top diameter, 160mm bottom diameter and 180mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement:3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design:				
(a)	With FPS bricks of class 75	1	Each	6380.64	6380.64
147	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				
(a)	With FPS Brick class designation 75	1	Each	1462.79	1462.79
148	Constructing brick masonry road gully chamber 50 x 45 x 60cm with bricks of class designation 75 in cement mortar 1:4 (1 cement: 4 coarse sand) including 500 x 450mm pre-cast RCC horizontal grating with frame complete as per standard design				
(a)	With FPS bricks 75 class designation	1	Each	3726.97	3726.97
149	Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design :				
(a)	With 20x20 mm square bar	1	Each	250.61	250.61
150	Providing and Fixing Bottle trap fittings for Wash basis, Kitchen Sink etc.	1	Each	264.94	264.94
151	Providing and fixing PVC floor traps of self cleansing design shall be provided & fixed in position with outlet size of 75mm diameter of approved make including making connection with PVC soil/waste pipes using rubber gaskets, embedding the trap in 150 mm thick PCC 1:2:4, providing & fixing of top tile & strainer of CP or PVC on top of the trap etc.	1	Each	956.92	956.92
152	Making soak pit 2.5 m diameter 3.5 m deep with 45 x 45 cm dry brick honey comb shaft with bricks and S.W. drain pipe 100 mm diameter, 1.8 m long complete as per standard design.	1	Each	19882.96	19882.96
(a)	With common burnt clay F.P.S. (non-modular) bricks of class designation 7.5				
153	Making khurras 45x45cm with average minimum thickness of 5cm cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate of 20mm nominal size) over PVC sheet 1mX1mX400micron, finished with 12mm cement plaster 1:3 (1 cement: 3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete.	5	Each	178.17	890.85
154	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto300mm height including cleaning the surface before treatment. b)Laying brick bats with mortar using broken bricks/brick bats 25 mm to115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand)admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with waterproofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs c)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 and approved by Engineer-in-charge. d)Finishing the surface with 20 mm thick jointless cement mortar of mix1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge 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. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :				
(a)	With average thickness of 120mm and minimum thickness at khurra as 65 mm.	30	Sqm	954.20	28626.00
155	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm 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 50 metres	17200	sqm	90.10	1549720.00
156	Extra for compaction of earthwork in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (Proctor density)	3870	cum	10.70	41409.00

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)****Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal**

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
157	Suppling and stacking at site				
(a)	90 mm to 45 mm size stone aggregate	2030	cum	1278.69	2595740.70
(b)	63 mm to 45 mm size stone aggregate	1470	cum	1386.53	2038199.10
(c)	53 mm to 22.5 mm size stone aggregate	1430	cum	1475.02	2109278.60
(d)	Stone screening 13.2 mm nominal size (type A)	630	cum	1439.66	906985.80
(e)	Stone screening 11.2 mm nominal size (type B)	220	cum	1398.19	307601.80
(f)	moorum	400	cum	563.01	225204.00
158	Laying, spreading and compacting stone aggregates of specified sizes to WBM specifications in uniform thickness, hand picking, rolling with 3-wheeled road / vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening/ binding materials to fill up interstices of coarse aggregate, watering and compacting to the required density etc., all complete. (Payment will be made for compacted layers only. Stone aggregates, screenings & moorum to be paid separately.).				
(a)	Subbase with stone aggregate 90mm to 45mm including stone screening 13.2mm size and moorum/blinding material.	1510	cum	449.10	678141.00
(b)	Base course with stone aggregate 63mm to 45mm including stone screening 13.2mm size and moorum/blinding material.	1460	cum	449.10	655686.00
(c)	Base course with stone aggregate 53mm to 22.4 mm including stone screening 11.2mm size and moorum/blinding material.	1420	cum	449.10	637722.00
159	Providing and placing in position dowel bar, 16mm dia MS Rod including PVC pipe in Expansion joint as well as in transverse joint for Road work	40	RM	108.45	4338.09
160	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.				
(a)	Serrated with central bulb (230mm wide, 5mm thick)	60	RM	154.79	9287.40
(b)	Serrated with central bulb (230mm wide, 6mm thick)	170	RM	177.11	30108.70
(c)	Serrated with central bulb (230mm wide, 8-11mm thick)	60	RM	216.54	12992.40
161	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).	250	Cum	4335.95	1083987.50
162	Providing and laying 80mm thick factory made cement concrete interlocking paver block of M-40 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 20mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per drawing and the direction of Engineer-in-charge.	1120	Sqm	640.74	717628.80
163	Providing and laying 600mm wide 75mm thk PCC 1:4:8 (1 cement : 4 Fine sand : 8 graded stone aggregate 40mm nominal size) shoulder over well compacted earth on both side of road all complete as per drawing, specification and direction of Engineer-in-charge (Rate shall be inclusive of material, well compacted earth, labour, T & P etc.)	4680	Sqm	293.98	1375846.29
164	Providing and laying 600mm wide 100mm thk PCC 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) shoulder over well compacted earth on both side of road all complete as per drawing, specification and direction of Engineer-in-charge (Rate shall be inclusive of material, well compacted earth, labour, T & P etc.)	4680	Sqm	494.38	2313698.40
165	Providing and fixing in position 12mm thick bitumen impregnated fibre board conforming to IS: 1838, including the cost of primer, sealing compound in expansion joints.	10	per cm depth per 100 m	397.12	3971.20
166	Providing and laying polythene sheet of 125 microns between the PCC and RCC slab in road/ pavement works all complete as per direction of Engineer-in-Charge)	10040	sqm	12.70	127508.00
167	Providing and fixing in position pre moulded joint filler in expansion joints	1130	per cm depth per cm width per m length	1.89	2135.70
168	Providing and laying in position bitumen hot sealing compound for expansion joints etc.				
(a)	Using grade A ceiling compound	1130	per cm depth per cm width per m length	2.16	2440.80

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)

Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
169	Supplying and erection of dewatering pumps at desired location including all cable and pipe connections alongwith auto starter and necessary shed all complete as per customer's specification and instruction of engineer in charge.				
(a)	5 HP	1	Nos	38699.27	38699.27
(b)	0.5 HP	1	Nos	15672.95	15672.95
170	Providing and fixing in position in culvert/road crossing/building PVC pipes conforming to IS : 12818 including jointing with seal all complete as per drawing and specification.				
(a)	150mm diameter	40	RM	211.92	8476.80
171	Supplying & fixing galvanised foundation bolts including nut & washer (Mass of Zinc Coating= 610 gm/ sqm) of all dia & length in position with help of proper templates (to be supplied by contractor) all complete as per drawings & directions of Engr-in-Charge. Weight of the template shall not be measured for payment purpose.	500	Kg	71.20	35600.00
172	Fixing of foundation bolts in position with help of proper templates (to be supplied by contractor) including nuts and washers all complete as per drawings & directions of Engr-in-Charge. Note: 1.) Weight of the template shall not be measured for payment purpose. 2.) The Dia and Length of BHEL Supplied Foundation bolt may vary upto 80mm & 2.4 metre respectively. 3.) Rates are also includes Unloading, storage, watch and ward etc for BHEL supplied Foundation Bolt.	167580	Kg	9.20	1542230.87
173	Providing & fixing galvanised chain link fencing including all allied activities, all complete as per POWERGRID Drawing No. (C/ENGG/CVL/SYD/FENCE/2016/01 of 01) and directions of Engr-in-Charge. (The rate shall be inclusive of all the labour, materials (GI fence, Galvanised Pipe/Galvanised tubular post/galvanised Flat etc), earthwork i.e excavation, backfilling, disposal, brickwork, plaster, cement painting, CC, PCC & shuttering and erection etc all complete)	50	RM	3799.95	189997.29
174	Providing and fixing gate made of medium duty MS pipe including all allied activities, all complete as per customer's specification, drawing and direction Engineer in charge. (Rate shall be inclusive of all labour, material items like medium duty pipe, fabrication, welding, primer, painting, Al-drops, GI pipe, fitting and fixture etc.)	3000	KG	78.07	234210.00
175	Providing and laying non-pressure NP2 class (light duty) R.C.C. 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)	100 mm dia. R.C.C. pipe	5	RM	286.53	1432.65
(b)	250 mm dia. R.C.C. pipe	5	RM	429.98	2149.90
(c)	300 mm dia. R.C.C. pipe	5	RM	459.59	2297.95
176	Providing and laying Non Pressure NP-3 R.C.C. hume pipe including collars/spigot jointed with stiff mixture of cement mortar of mix 1:2 (1 cement : 2 fine sand) including testing of joints etc all complete as per drawing and specification excluding the cost of concrete, shuttering, reinforcement, brickwork, plaster on brickwork and painting.				
(a)	100mm dia	90	RM	599.99	53999.10
(b)	250mm dia	30	RM	900.38	27011.40
(c)	300mm dia	30	RM	962.38	28871.40
(d)	450mm dia	250	RM	1660.11	415027.50
177	Providing weep holes in RCC including cost of 75mm dia PVC pipes & fixing them in position etc complete as per standard specification	45	RM	135.70	6106.50
178	Providing 20mm thick expansion joint and filling the same with cement mortar of 1:4 cement sand mortar.	45	RM	36.15	1626.75
179	R R masonry with CM 1:6 in retaining wall with raised and cut pointing on exposed surface using random rough stone and bond stone including cost of all materials, leads, lift and curing etc complete as per customer drawing and specification For foundation, plinth & super structure.	90	Cum	3929.16	353624.80
180	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.				
(a)	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	5	Cum	997.05	4985.25
(b)	Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	5	Cum	615.15	3075.75
181	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	1454.55	7272.75
182	Demolishing cement mortar 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.	5	Cum	842.75	4213.75
183	Supplying and filling stone aggregate (40mm to 60mm size) over grating for transformer/reactor foundation as per specification	25	Cum	1389.23	34730.75

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)****Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal**

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
184	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, upto 90 metre depth below ground level.				
(a)	All types of soil				
(i.)	300 mm dia	5	RM	366.87	1834.35
(ii.)	350 mm dia	5	RM	401.27	2006.35
(iii.)	400 mm dia	5	RM	513.62	2568.10
(b)	Rocky strata including Boulders		RM		
(i.)	300 mm dia	20	RM	846.76	16935.20
(ii.)	350 mm dia	5	RM	886.92	4434.60
(iii.)	400 mm dia	5	RM	1026.15	5130.75
185	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC ISI make, 6 Kg/m2 well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings& accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
(i.)	100 mm nominal size dia	5	RM	246.39	1231.95
(ii.)	150 mm nominal size dia	10	RM	485.53	4855.30
(iii.)	200 mm nominal size dia	15	RM	518.17	7772.55
186	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC ISI make, 6 Kg/m2 with 25mm holes at random spacing of 200mm/ Well screen (RMS) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings& accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
(i.)	100 mm nominal size dia	5	RM	380.32	1901.60
(ii.)	150 mm nominal size dia	10	RM	449.15	4491.50
(iii.)	200 mm nominal size dia	15	RM	696.41	10446.15
187	Supplying, filling, spreading & leveling stone boulders of size 200 mm, in recharge pit/rain water harvesting/borewell, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	5	Cum	797.16	3985.80
188	Supplying, filling, spreading & leveling gravels of size range 5 mm to 20 mm, in the recharge pit/rain water harvesting/borewell, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	5	Cum	895.49	4477.45
189	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads& lifts, all complete as per direction of Engineer -in-charge.	5	Cum	895.49	4477.45
190	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer- in-charge.	5	Cum	1125.80	5629.00
191	Providing and fixing GI Pipe including bend and jointing in cable trench crossing, Vent Pipe, Rain water pipe etc				
(a)	100mm Dia	5	RM	771.64	3858.22
(b)	150mm Dia	5	RM	1220.80	6103.98
192	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 mild steel screwed and socketed/ plain ended casing pipes of required dia, conforming to IS: 4270, of reputed & approved make, including painted with outside surface with two coats of anticorrosive paint of approved brand and manufacture, including required hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer-in-charge.				
(i.)	100 mm nominal size dia having minimum wall thickness 5.00 mm	5	RM	765.41	3827.05
(ii.)	150 mm nominal size dia having minimum wall thickness 5.00 mm	5	RM	1034.19	5170.95
(iii.)	200 mm nominal size dia having minimum wall thickness 5.40 mm	5	RM	1302.85	6514.25
193	Supplying, assembling, lowering and fixing in vertical position in bore well, ERW (Electric Resistance Welded) FE 410 plain slotted (having slot of size 1.6/3.2 mm) mild steel threaded and socketed / plain bevel ended pipe (type A) of required dia, conforming to IS: 8110, of reputed and approved make, having wall thickness not less than 5.40 mm, including painted with outside surface with two coats of anticorrosive bitumastic paint of approved brand and manufacture, including hire & labour charges, fittings & accessories, all complete, for all depths, as per direction of Engineer -in-charge.				
(i.)	100 mm nominal size dia	5	RM	826.09	4130.45
(ii.)	150 mm nominal size dia	5	RM	1115.11	5575.55
(iii.)	200 mm nominal size dia	5	RM	1384.48	6922.40
194	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				
(i.)	100 mm dia	1	Each	157.54	157.54

BILL OF QUANTITY CUM PRICE SCHEDULE**Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)****Name of Work: Civil Works for 765/400kV Switchyard at Jeerat in West Bengal**

Sl. No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
(ii.)	150 mm dia	1	Each	196.88	196.88
(iii.)	200 mm dia	1	Each	216.53	216.53
195	Providing & laying in position plain cement concrete (PCC) of 1:5:10 (1 cement : 5 fine/coarse sand : 10 brick/stone aggregate) with a layer of cement slurry of mix 1:6 (1 cement : 6 Fine Sand) over PCC layer as per Technical Specification.	10485	Cum	3407.93	35732146.05
196	Supply and Erection of Submersible pump with all accessories like Sumbmersible pump, GI pipe, GI bend, Switchboard having 3 phase MCB & disconnecter, connection of Local switchboard to submersible pump including cabling, connection between AC Distribution board/BMK to Switchboard through cable (Cable for AC distribution board to Switchboard will be provided by BHEL) for followings:				
(a)	7.5HP Submersible Pump	1	Lot	35872.69	35872.69
(b)	5HP Submersible Pump	1	Lot	32285.42	32285.42
197	Antiweed treatment in switchyard area including rolling/compacted to the lines & grades using half ton roller/surface vibrator with suitable water sprinkling arrangement, surface dressing of earth to a extent of ± 200 mm & micro levelling etc as per Technical Specification.	139800	Sqm	17.52	2449296.00
198	Supplying and spreading stone in switchyard as per drawing and specification all complete over PCC excluding the cost of PCC.	139800	Sqm	156.62	21895476.00
			TOTAL		242260548.54

ANNEXURE-II

BILL OF QUANTITIES CUM PRICE SCHEDULE FOR UNDER GROUND EARTHING AND ELECTRODES , REV.00

Name of Project - 765/400 kV s/s at Jeerat

Sl. No.	Description	Unit	Quantity	Unit Rate	Total Amount (Rs.)
1	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: - excavation of trenches - laying of MS rod - welding of rods (refer Drg No. C/ENG/STD/EARTHINGS/09, SH-2&3 Rev 00 for Welding details of rods) - backfilling of soil for bringing out pig tail risers of 40 dia MS rod (approximately 1000) 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 (40 mm dia MS rod will be supplied by BHEL)	MT	325	5256.43	1708338.56
2	Fabrication & laying 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. C/ENG/STD/EARTHINGS/09, SH-4 Rev 00. - any other work necessary to complete the laying of earthmat (40 Diameter MS rod will be supplied by BHEL)	Nos.	424	1944.48	824460.91
3	Installation of Pipe Electrode(to be driven - 3.0 Mtr) as per Drg. No. C/ENG/STD/EARTHINGS/09, SH-5 Rev 00 including following works: - excavation - installing the pipe electrode with alternate layers of Coke/charcoal and salt - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work (GI Pipe, Nuts, Bolts & Washers and funnel with wire mesh will be supplied by BHEL)	Nos.	46	7202.66	331322.48
4	Installing of 40 mm diameter Rod Electrode with test pit (LM, Tower with Peak, CVT & LA) as per Drg. No. C/ENG/STD/EARTHINGS/09, SH-6 Rev 00 including following works: - excavation - installing the rod electrode - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work (40 mm dia MS rod will be supplied by BHEL)	Nos.	110	3243.97	356836.77
5	Installing of 40 mm diameter Rod Electrode without test pit/link including following works: - excavation/hammering of rod in earth - installing the rod electrode - backfilling and compaction - any other work necessary to complete the work (40 mm Diameter MS rod will be supplied by BHEL)	Nos.	10	2935.52	29355.25
	Total Amount (Rs.)				3250314
Note-	The soil investigation reports are not available, therefore the above quantities sl. no. 1 may vary by any extent at contract stage				

ANNEXURE-III

BILL OF QUANTITIES CUM PRICE SCHEDULE

Name of Project :765kV/400kV substation at Jeerat					
Name of Work: Construction of Stores					
Sl No.	Description	Unit	Qty.	Unit Rate (Rs.)	Amount (Rs.)
1	Open stores of size 3000 Sqm (as per specification enclosed).	Sqm	3000	488.00	14,64,000.00
2	Covered store of size 200 sqm (As per specification enclosed).	Nos.	3	12,63,430.00	37,90,290.00
Total Amount (Rs.)					52,54,290.00

ANNEXURE-IV

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

PRICE SCHEDULE FORMAT

SUB: EXECUTION AND HANDING OVER OF Civil Works of 765/400kV SWITCHYARD AT JEERAT IN WEST BENGAL.

(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) of subject tender.

NOTE:

1. In this annexure the tenderer shall quote a percentage above/ below/At Par the rates shown in the Bill of Quantities (Annexure-I, II & III) 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-V
(Summary of Prices)

Name of Project: 765/400kV Sub-Station, Jeerat (West Bengal)

Name of Work: Civil Works of 765/400kV SWITCHYARD AT JEERAT IN WEST BENGAL.

1 (a)	Total amount as per the rates in BOQ for Civil Works of 765/400kV yard (excluding land development, boundary wall and security room) (Annexure-I)	2422,60,548.00
1 (b)	Total amount as per the rates in BOQ for underground earthing works (Annexure-II)	32,50,314.00
1 (c)	Total amount as per the rates in BOQ for construction of stores (Annexure-III)	52,54,290.00
1	Total Amount (Annexure- I, II & III)	2507,65,152.00
2	Value of percentage above/below/at par (As indicated in Price Schedule Format, Annexure-IV) applicable to the total amount for subject work (Sl. no. 1 above)% above/below/at par
3	Total amount after consideration of percentage above/below/ at par.	