

BILL OF QUANTITY CUM PRICE SCHEDULE

Name of Project

: 220/132KV SUBSTATION EXTN AT PURNEA

Name of Work

: CIVIL WORKS FOR SWITCHYARD

S.No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
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 and lift upto 3.5m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil.	600	cum	129.35	77610.00
(b)	Ordinary rock	10	cum	197.75	1977.50
(c)	Hard rock (blasting prohibited)	10	cum	490.10	4901.00
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.	100	cum	130.80	13080.00
(b)	Ordinary rock	10	cum	212.00	2120.00
(c)	Hard rock (blasting prohibited)	5	cum	491.95	2459.75
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.	450	cum	83.80	37710.00
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				
4.1	Pipes, cables etc, not exceeding 80mm dia.	5	meter	101.40	507.00
4.2	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	5	meter	165.60	828.00
4.3	Pipes, cables etc. exceeding 300mm dia but not exceeding 600mm	5	meter	258.55	1292.75
5	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.	275	cum	82.78	22764.50
(b)	Lead upto 3 km.	20	cum	104.98	2099.60
(c)	Lead upto 5 km.	5	cum	125.92	629.60
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				

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(a)	1:2:4 (1 cement : 2coarse sand : 4 graded stone aggregate 20mm nominal size)	5	cum	4514.05	22570.25
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	1	cum	3888.20	3888.20
(c)	1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	22	cum	3593.30	79052.60
7	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for RCC structural elements including roads excluding the cost of centering, shuttering, finishing and reinforcement including admixtures in recommended proportions (as per IS 9103) to accelerate, retrard setting of concrete, improve workability without impairing strength and durability. - M25 grade reinforced cement concrete by using minimum 330kg of cement per cum of concrete.				
(a)	All works upto plinth level	180	cum	5242.15	943587.00
(b)	All works above plinth level upto floor V level	5	cum	5781.50	28907.50
8	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	350	sqm	166.90	58415.00
(b)	RCC walls at all levels (any thickness).	490	sqm	285.15	139723.50
(c)	Columns, Pillars, Piers, Posts and Struts .	550	sqm	365.60	201080.00
9	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL,TISCO, IISCO and RINL only)				
(a)	Including supply and straightening, cutting,bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	6000	kg	62.25	373500.00
10	Brickwork with F.P.S.bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	5	cum	3316.55	16582.75
11	Brickwork with F.P.S.bricks of class designation 75 in superstructure above plinth level to floor V level in all shapes and sizes in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	5	cum	3876.15	19380.75
12	Structural steelwork 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.	10000	kg	59.90	599000.00
13	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.	100	kg	67.20	6720.00
(b)	In gratings, frames, ladders, stair railings, gates (including pipes), rails, ISMB, ISMC and similar works.	4900	kg	77.90	381710.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
14	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	50	sqm	20.70	1035.00
15	Providing and laying light duty hume pipe (NP3) as per drawing and specification all complete excluding concrete and reinforcement.				
a	250mm dia	5	RM	376	1880.00
b	300mm dia	5	RM	522	2610.00
c	450mm dia	5	RM	760	3800.00
d	600mm dia	5	RM	1464	7320.00
16	Antiweed treatment in switchyard area including micro leveling, dressing etc as per Technical Specification.	200	Sqm	17.50	3500.00
17	Supplying and spreading stone in switchyard as per drawing and specification all complete but excluding micro leveling, dressing & antiweed treatment as per Technical Specification.	10	Sqm	104.5	1045.00
18	Removal, cleaning & washing of existing stone and relaying of stone in switchyard including supply of extra matching gravel but excluding micro leveling, dressing & antiweed treatment as per Technical Specification.	200	Sqm	70	14000.00
19	Supplying and erection of dewatering pumps all complete as per customer's specification.				
(a)	0.5 HP	2	Nos	16200	32400.00
20	Supplying & fixing (all dia & length) foundation bolts in position with help of proper templates including nuts, washers and template all complete as per drawings & directions of Engr-in-Charge.	2500	Kg	86.55	216375.00
21	Extra over Item above for providing galvanised bolts (Mass of zinc coating = 610gms/sqm), nuts & washer .	2500	kg	5.00	12500.00
22	Fixing (all dia & length) foundation bolts in position with help of proper templates including nuts, washers and template (to be supplied by contractor) all complete as per drawings & directions of Engr-in-Charge.	400	Kg	6.5	2600.00
23	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	8.0	Cum	5900.00	47200.00
24	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 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.	3	cum	10000.00	30000.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate (Rs)	Amount (Rs)
25	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.	250	sqm	61.25	15312.50
26	Extra for compaction of earthwork in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (Proctor density)	250	sqm	7.75	1937.50
27	Suppling and stacking at site				
(a)	90 mm to 45 mm size stone aggregate	30	cum	1010.75	30322.50
(b)	63 mm to 45 mm size stone aggregate	25	cum	1100.80	27520.00
(c)	53 mm to 22.5 mm size stone aggregate	25	cum	1190.80	29770.00
(d)	Stone screening 13.2 mm nominal size (type A)	10	cum	1338.75	13387.50
(e)	Stone screening 11.2 mm nominal size (type B)	3.5	cum	1425.85	4990.48
(f)	moorum	6	cum	624.45	3746.70
28	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.	20	cum	330.15	6603.00
(b)	Base course with stone aggregate 63mm to 45mm including stone screening 13.2mm sizeand moorum/blinding material.	20	cum	330.15	6603.00
(c)	Base course with stone aggregate 53mm to 22.4 mm including stone screening 11.2mm size and moorum/blinding material.	20	cum	330.15	6603.00
29	Dismantling of RCC Foundations including necessary excavation, stacking of steel bars and disposal of unserviceable material within the substation boundary as per direction of site-in-charge.	50	cum	1075.90	53795.00
30	Strengthening/Modification of existing reactor foundations as per technical specifications including dismantling, chipping of old concrete, scrapping, cleaning, application of necessary adhesives and straightening reinforcement from RCC including welding wherever necessary, stacking unconsumed serviceable and unserviceable material separately and disposal of unserviceable material within the substation boundary, as per the direction of Site-in charge, but excluding excavation, PCC, RCC, Reinforcement steel, Shuttering and Misc. steel etc., which shall be paid separately for the following :				
(a)	100 MVA Transformer fdn to suit 160 MVA Transformer	2	lot	20000.00	40000.00

TOTAL**3658953**