

BILL OF QUANTITIES AND PRICE SCHEDULEName of Project
Name of Work: 400kV GIS SUBSTATION AT WANAKBORI
: CIVIL WORKS OF 400kV GIS BUILDING,
CONTROL BUILDING AT GIS END AND
EXTENSION OF CONTROL BUILDING AT
EXISTING 400KV SWITCHYARD.

S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
1	Earthwork in excavation by mechanical means(Hydraulic excavator)/manual means over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and disposal of excavated earth upto 100m and lift upto 4m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil .	1160	cum	129.35	150046.00
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 .	680	cum	130.80	88944.00
3	Filling available excavated earth (including rock) in trenches, plinth, sides of foundations, etc., in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 100m and lift upto 3.5m.	980	cum	83.80	82124.00
4	Carriage & disposal of surplus excavated earth/rock beyond initial lead by mechanical means not necessarily all the times on pucca roads, including loading, unloading, dressing of excavated material, etc., complete as per specifications .				
(a)	Lead upto 1 km.	530	cum	82.78	43873.40
(b)	Lead upto 3 km.	290	cum	104.98	30444.20
(c)	Lead upto 5 km.	130	cum	125.92	16369.60
5	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete.	80	cum	749.30	59944.00
6	Supplying chemical emulsion in sealed containers including delivery as specified.				
	Chloropyriphos emulsifiable concentrate of 20%	540	litre	185.95	100413.00
7	Diluting & injecting chemical emulsion for PRE-CONSTRUCTIONAL ANTI-TERMITE treatment and creating a continuous chemical barrier under and all around the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall & floor, along the external perimeter of building, expansion joints, over the top surface of consolidated earth on which apron is to be laid , surroundings of pipes and conduits, etc complete as per specifications (Plinth area of the building at ground floor only shall be measured for payment)	1430	sqm	88.25	126197.50
8	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level.				
(a)	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	30	cum	4514.05	135421.50
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	60	cum	4024.00	241440.00
(c)	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	20	cum	3593.30	71866.00
9	Providing and laying damp proof course 50mm thick cement concrete 1:1.5:3 (1 Cement:1.5 coarse sand : 3 graded stone aggregate 10 mm nominal size) .	130	sqm	278.60	36218.00
10	Extra for providing and mixing water proofing material like "Plastocrete Super" or approved equivalent make in cement concrete work all complete as per specification and instruction of Engineer in Charge	1940	per 50kg cement	35.35	68579.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
11	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
(a)	All works upto plinth level	870	cum	5242.15	4560670.50
(b)	All works above plinth level upto floor V level	1370	cum	5781.50	7920655.00
12	Add for using extra cement in the items of design mix over and above the specified cement content therein.	1790	quintal	589.80	1055742.00
13	Providing and laying M20 reinforced cement concrete in ground floor grade slab excluding the cost of centring, shuttering, finishing and reinforcement.	220	cum	5094.85	1120867.00
14	Providing ,laying and compacting stone base under the floors as per direction of Engineer-in-Charge including supply of stones and preparing surface complete.	1340	cum	1495.56	2004044.44
15	Centering and shuttering including strutting, propping, etc., and removal of form at all heights for.				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	970	sqm	166.90	161893.00
(b)	Columns, Pillars, Piers, Abutments, Posts and Struts	1990	sqm	365.60	727544.00
(c)	RCC walls at all levels (any thickness).	1440	sqm	285.15	410616.00
(d)	Suspended floors, roofs, landings, balconies and access platform	2370	sqm	311.20	737544.00
(e)	Lintels, beams, plinth beams, girders, bressumers and cantilevers	4080	sqm	262.25	1069980.00
(f)	Stairs (excluding landing)	40	sqm	326.30	13052.00
(g)	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof -- Suspended floors, roofs, landing, beams and balconies (Plan area to be measured)	2200	sqm	121.65	267630.00
16	Steel reinforcement -Cold twisted bars /TMT/HCR				
(a)	Including supply, straightning, cutting and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	22500	kg	62.25	1400625.00
(b)	Excluding supply but including straightning, cutting, bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete. (Reinforcement steel shall be supplied by BHEL free of cost at site. Unloading, storing, watch& ward is in the scope of the contractor)	201000	kg	9.00	1809000.00
17	Brickwork with non modular bricks of class designation 10 in foundation and plinth in:				
(a)	Cement mortar 1:6 (1 cement : 6 coarse sand)	140	cum	3412.40	477736.00
18	Brickwork with non modular bricks of class designation 10 in superstructure above plinth level upto V level in all shapes and sizes:				
(a)	Cement mortar 1:6 (1 cement : 6 coarse sand)	830	cum	3972.00	3296760.00
19	Half brick masonry with non modular bricks of class designation 10 in foundation and plinth in:				
(a)	Cement mortar 1:4 (1 cement : 4 coarse sand)	40	sqm	416.95	16678.00
20	Half brick masonry with non modular bricks of class designation 10 in superstructure above plinth upto floor V level.				
(a)	Cement mortar 1:4 (1 cement : 4 coarse sand)	130	sqm	476.85	61990.50
21	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	130	sqm	63.30	8229.00

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22	20 mm cement external (or rough side) plaster in two coats under layer 12 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished with a top layer 8 mm thick cement plaster 1:1 (1 cement : 1 fine sand).	2940	sqm	198.25	582855.00
23	12mm cement plaster internal (or even side) of the walls in the mix:				
(a)	1:6 (1cement :3coarse sand)	3400	sqm	164.50	559300.00
24	15mm cement plaster internal (or rough side) of the walls in the mix:				
(a)	1:6 (1cement :3coarse sand)	820	sqm	164.50	134890.00
25	10mm cement plaster to ceiling of mix.				
(a)	1:4 (1 cement : 4 fine sand)	3000	sqm	121.00	363000.00
26	2mm thick plaster of paris punning over the plastered surfaces on wall surfaces as directed by engineer-in-charge.	7220	sqm	83.80	605036.00
27	Plaster drip course /groove in plastered surface or moulding to RCC projections:	320	meter	22.25	7120.00
28	Applying priming coat				
(a)	With zinc chromate primer of approved brand and manufacture on steel works.	260	sqm	20.70	5382.00
29	Painting with synthetic enamel paint of approved brand and manufacture to give	140	sqm	53.85	7539.00
30	Structural steelwork welded in built up sections like edge protection angles,insert plates with lugs & framed work including providing, cutting, hoisting, fixing in position/ embedding in concrete and applying a priming coat of approved steel primer all complete.	3830	kg	59.90	229417.00
31	Steelwork welded in built up sections/framed work including providing ,cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc., as required.				
(a)	In covering of floors/trenches inside the buildings with chequered plates, stringers, treads, landings etc of staircases involving use of chequered plates, wherever required, all complete.	8870	kg	67.20	596064.00
(b)	In gratings, rails ,mono rails, frames, ladders, stair railings, gates(including pipe) , gantry girder(beams,channels etc), grills and similar works.	6850	kg	77.90	533615.00
32	Providing and laying 50 mm thick heavy duty cement concrete in flooring with under layer cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and with nonmetallic hardener as per sepcification clause no. 2.01.06(A) of Vol. II G/3 Part XXIII including aluminium strips all complete.	1140	sqm	420.50	479370.00
33	Cement plaster skirting (upto 30cm height) with cement mortar 1:3 (1cement: 3 coarse sand) finished with a floating coat of neat cement.				
(a)	18mm thick	80	sqm	258.20	20656.00
34	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 25mm thick in flooring/Dado. The tiles shall be abrasion resistant and durable. The potassium silicate as per IS 4832, 6mm thick mortar used for setting or for under bed shall be durable strong and chemical resistant epoxy mortar including pointing etc. after laying bitumen primer as per IS 158 and 12mm thick bitumastic complete as per IS 9510 and IS 412 and as per specification.	580	sqm	2151	1247696.00
35	Providing and laying vitrified ceramic tiles of matt finish variety of Euro/Johnson or approved equal brand, complete including underbed of cement mortar 1:3 with neat cement slurry etc. all complete				
(a)	7.2 mm thick tiles of size 300x300 in flooring	70	sqm	764.55	53518.50
(b)	8 mm thick coloured glazed tiles of size 300x450x 8mm thick In skirting and dado upto specific height	150	sqm	724.25	108637.50

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
36	Providing and laying of minimum 10 mm thick pre-polished vitrified tiles conforming to IS 15622 in different sizes of Euro/Johnson or approved equal brand laid over 20 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand) including pointing in white cement mixed with pigment of matching shade complete as per direction of Engineer-in charge.				
(a)	Size of Tile 60X60 cm.	580	sqm	1337.10	775518.00
37	Providing and fixing pre polished vitrified tiles minimum thickness 10 mm of Euro/Johnson or approved equal brand 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.	40	sqm	1339.20	53568.00
38	Mirror Polished Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
	25 mm thick	110	sqm	945.70	104027.00
39	Mirror Polished Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	20	sqm	954.10	19082.00
40	Mirror Polished 20mm thick colour granite in large slab flooring as per sample approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing all complete	30	sqm	2992.00	89760.00
41	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:3 (1 cement :3 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
(a)	Granite of any colour and shade	30	sqm	3041.15	91234.50
42	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.				
(a)	On steel work	260	sqm	105.50	27430.00
43	Providing and fixing pressed steel door frames confirming to IS:4351 manufactured from commercial mild steel sheet of 1.25mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50X25mm, or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with spit end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards, lock strike plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-Charge:				
	Profile C	60	RM	370.00	22200.00
44	Providing & fixing 45mm steel door shutter made of double sheet 18G steel suitably reinforced with horizontal stiffeners and filled with mineral wool, fixtures like handles, tower bolts, Aldrops,etc., all complete as per drawing and instruction of Engineer -in-Charge.	40	sqm	5727.20	229088.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
45	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of HINDALCO or approved equal make conforming to IS: 733 and IS: 1285 (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15) including fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
(a)	For fixed portion	1110	kg	358.30	397713.00
(b)	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately)	2580	kg	406.50	1048770.00
46	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions, etc., with PVC/neoprene gasket, etc., complete as per the architectural drawings and directions of Engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item).				
(a)	With float glass panes of 6 mm thickness.	280	sqm	988.09	276665.45
(c)	With frosted glass panes of 4 mm thickness.	15	sqm	725.35	10880.25
47	Providing and fixing fire proof door with panic devices as per IS:3614 (part-I & part-II) and manufacturer design with minimum fire rating of 2 hours and double cover plated type with mineral wool insulation all complete as per direction of Engineer-in-Charge.	10	sqm	12470.63	124706.31
48	Providing & fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partitions, etc, with 6mm thick toughened safety glass conforming to IS: 2553. Inner glass shall be clear glass and outer glass shall be tinted heat reflecting with 10mm air gap including providing EPDM gasket, perforated aluminium spacers, dessicants, sealants (both primary & secondary sealant) etc. as per specifications, drawings & direction of Engineer-in-charge complete.	90	sqm	3328.40	299556.00
49	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logoembossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.	40	each	1953.10	78124.00
50	Providing and fixing aluminium sliding door bolts anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc., complete.				
(a)	300 X 16mm	20	each	203.80	4076.00
(b)	250 X 16 mm	20	each	168.95	3379.00
51	Providing and fixing aluminium tower bolts anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete.				
(a)	300 X 10mm	50	each	100.40	5020.00
(b)	250 X 10 mm	80	each	86.45	6916.00
52					
55	Providing and fixing aluminium handles anodised (anodic coating not less than grade AC 15 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete.				
	125mm	40	each	62.50	2500.00

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53	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg a), with double speed adjustment with necessary accessories and screws etc. complete.	5	each	981.75	4908.75
54	Supplying and fixing rolling shutters of approved make, made of required size MS laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with mechanical arrangement for operation complete including the cost of providing and fixing necessary 27.5cm long wire springs grade no. 2 and MS top cover of required thickness for rolling shutters.				
	80X1.20 mm MS laths with 1.2mm thick top cover.	40	sqm	1583.40	63336.00
55	Providing and fixing ball bearing for rolling shutters.	5	each	429.85	2149.25
56	Extra for providing mechanical device chain and crank operating rolling shutters. operation for	20	sqm	627.35	12547.00
57	Providing and fixing M.S. grills of required pattern in frames of windows etc. with MS flats, square or round bars etc. including priming coat with approved steel primer all complete.all complete.	120	kg	98.20	11784.00
58	Distemping with 1st quality acrylic distemper (ready mixed) of Asian Paint/ICI/Berger or equivalent approved brand of required shade and colour complete, as per manufacturer's specification.				
	Two or more coats on new work	3670	sqm	37.35	137074.50
59	Wall painting with acrylic emulsion paint of Asian Paint/ICI/Berger or equivalent approved brand and manufacture to give an even shade :				
	Two or more coats on new work.	2450	sqm	60.25	147612.50
60	Finishing walls with exterior grade Acrylic emulsion paint of Asian Paint/ICI/Berger make & required shade :				
	Two or more coats on new work	2900	sqm	67.50	195750.00
61	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:				
	Two or more coats on new work.	50	sqm	53.85	2692.50
62	Finishing walls/ceiling with Deckguard S coating of Fosroc make in two coats over one coat of Deckguard Primer as per manufacturer guidelines min DFT 150microns	450	sqm	108.55	48847.50
63	Extra for providing acid resistant resin based epoxy coating over above	450	sqm	50.50	22725.00
64	Providing and fixing white vitreous china water closet squatting pan (Indian type W.C. pan) as per IS 2556 with 100 mm sand cast iron P or S trap, 10 litre low level P.V.C. flushing cistern (of approved make) with fittings, C.I./M.S. brackets, 32 mm diameter flush pipe with fittings and clamps, overflow arrangement with specials and mosquito proof coupling of approved municipal design including painting of fittings and brackets, cutting and making good the walls and floors wherever required.				
	Orissa pattern W.C. Pan of Hindware Cat: 20042 with integral type foot rests flush pipe and overflow arrangement.	3	each	2964.10	8892.30
65	Providing and fixing white vitreous china pedestal type water closet (European type W.C. Pan) as per IS 2556 with seat and lid, C.P. Brass hinges and rubber buffers, 10 litre low level flushing cistern with fittings & CI/MS brackets 40mm dia flush bend , overflow arrangement including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	W.C. pan with Seat Cover Cistern with Lid (With Fittings) Complete Set (Hindware Cat No. 20050 (S-19/S-22) Cist.:21033	3	each	11970.00	35910.00

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66	Providing and fixing WC Hand shower (Health Faucet) (Jaquar No. 573) with 8mm Dia 1.2 Meter Long Flexible Tube and Wall Hook including fittings, cutting and making good the walls and floors wherever required:	2	each	1500.00	3000.00
67	Providing and fixing glazed vitreous china flat back urinal basin (Hindware Cat. no. 60002) with photo voltaic control flushing cistern (Hindware Code: 500963) complete, including fittings, painting of fittings and brackets, cutting and making good the walls and floors wherever required:	4	each	8212.00	32848.00
68	Providing and fixing granite stone slab with table rubbed, edges rounded and polished, of size 75x50 cm deep and 1.8 cm thick, fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.	3	sqm	2942.05	8826.15
69	Providing and fixing glazed vitreous china wash basin (Hindware Cat No. 10045 (63x50) make and Jaquar basin mixer (JaquarNo. 5167 Florentine), 32 mm waste coupling (Jaquar No. 709), CP Bottle trap (Jaquar No. 769) including painting of fittings etc. cutting and making good the walls/stone wherever required:	7	each	9160.00	64120.00
70	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS : 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	Kitchen sink with drain board 510x1040 mm bowl depth 250 mm alongwith Sink Mixer with Regular Swinging Spout (Wall Mounted Model) with Connecting Legs & Wall Flanges	1	each	6743.55	6743.55
72	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	11	each	24.60	270.60
73	Providing and fixing CP Shower rose (Jaquar No. 491) with shower arm (Jaquar No. 477) and CP wall mixture (Jaquar No. 5273) with provision of shower including fittings, painting of fittings and brackets, cutting and making good the walls and floors wherever required:	1	each	5425.00	5425.00
74	Providing and fixing 600 x 450 x6 mm bevelled edge mirror of float glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. Brass screws and washers complete.	3	each	674.05	2022.15
75	Providing and fixing 1200 x 900 x6 mm bevelled edge mirror of float glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. Brass screws and washers complete.	3	each	2696.20	8088.60
76	Providing and fixing glass shelf 600mm Long (Jaquar no. 1171) with edges rounded off supported on anodised aluminium angle frame with C.P. Brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete.	3	each	1100.00	3300.00
77	Providing and fixing CP Toilet paper holder (Jaquar no. 1151) complete fixed with 40 mm long screws, rawl plugs etc. complete.	3	each	575.00	1725.00
78	Providing and fixing 600 mm long Stainless steel towel rail (Jaquar no. 1111) complete with fitting arrangement of approved quality and make.	3	each	875.00	2625.00
79	Providing and fixing CP wall mounted soap tray (Jaquar no. 1131) complete with fitting arrangement of approved quality and make.	3	each	525.00	1575.00

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80	Providing and fixing G.I. Pipes of heavy duty of approved make complete with G.I. Fitting and clamps , including cutting and making good the walls etc. (internal work).				
(a)	15 mm dia nominal bore.	70	RM	161.60	11312.00
(b)	20 mm dia nominal bore.	15	RM	188.05	2820.75
(c)	25 mm dia nominal bore.	10	RM	243.15	2431.50
(d)	32 mm dia nominal bore.	10	RM	296.50	2965.00
81	Providing and fixing G.I. Pipes (medium grade) of approved make complete with G.I. Fitting and clamps , including trenching and refilling, etc. (external work).				
(a)	15 mm dia nominal bore.	15	RM	142.25	2133.75
(b)	20 mm dia nominal bore.	55	RM	161.25	8868.75
(c)	32 mm dia nominal bore.	55	RM	248.55	13670.25
(d)	40 mm dia nominal bore.	30	RM	294.20	8826.00
82	Making connection of GI distribution branch with GI main of following sizes by providing and fixing tee, including cutting and threading the pipe etc., complete.				
	25 to 40mm nominal bore.	3	each	277.35	832.05
83	Providing and fixing C.P. brass Bib Cock (Straight Line Model) withall Flange Jaquar No. 5047 of approved quality	9	each	1100.00	9900.00
84	Providing and fixing CP angular stop cock (Jaquar model no. 5053, Florentine category)	24	each	1000.00	24000.00
85	Providing and fixing gun metal gate valve with CI wheel of approved quality (screwed end)				
(a)	25mm nominal bore	1	each	372.95	372.95
(b)	40mm nominal bore	1	each	546.05	546.05
86	Providing and placing on terrace (at all floor levels) polyethylene water storage tank of Sintex or approved brand and manufacture with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank. The tank should be ISI marked .	1100	per litre capacity	6.10	6710.00
87	Providing and fixing ball valve (brass) of approved quality , high or low pressure with plastic floats complete.				
	25mm nominal bore	1	each	421.65	421.65
88	Providing, laying and fixing roof water proofing treatment water proof treatment comprising of one coat of water proof chemicals of rubberized modified bituminous emulsion similar to EMUFAL TE of TEXSA or approved equivalent and 1.5 mm thick Self adhesive water proof membrane similar to Texself H.D of TEXSA or approved followed by 25 mm thick cement concrete 1:2:4 with 0.56 dia. chicken wire mesh. Top of protective layer shall be covered with extruded high density 50mm polystyrene insulation. top layer shall be 25 mm thick cement concrete 1:2:4 with 0.56 dia. chicken wire mesh in panels of maximum size 1.2Mx1.2M. Joints shall be sealed with polysulphide sealant. Walk way where required shall be provided over roof surface for maintenance purpose and shall be with minimum 20 mm thick pressed pre cast concrete tiles on 15 mm thick Cement: Sand (1:4) mortar. Minimum 20% area of the roof shall be considered for walk way, all complete and as per instruction of Engineer in Charge	1430	sqm	600	858000.00
89	Providing and fixing on wall face unplasticised - Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.: Single socketed pipes all complete including clamps, bends etc making good the walls etc. wherever required				
(a)	110 mm diameter.	125	meter	206.90	25862.50
(a)	150 mm diameter.	290	meter	282.14	81819.55

BILL OF QUANTITIES AND PRICE SCHEDULE

Name of Project
Name of Work

: 400kV GIS SUBSTATION AT WANAKBORI
: CIVIL WORKS OF 400kV GIS BUILDING,
CONTROL BUILDING AT GIS END AND
EXTENSION OF CONTROL BUILDING AT
EXISTING 400KV SWITCHYARD.

S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
90	Providing and fixing on wall face unplasticised - PVC moulded fittings/accessories for PVC rain water pipes Coupler / PVC Clips / Tee / Bend / Shoe etc	150	each	203.79	30567.86
91	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	45	each	32.75	1473.75
92	Providing & fixing Aluminum false ceiling system comprising of 84 mm wide 12.5 mm deep closed type plain panels of approved colour, roll formed out of 0.5 mm thick corrosion resistant aluminum alloy AA 5050 fixed on roll formed carriers. Additional hangers and height adjustment clips shall be provided for return air grills, supply air diffusers, light fixtures, AC ducts etc.in approved pattern all complete including fixing ,leaving cut out etc required for completion of works as per direction of Engineer-in -Charge. Luxalon of HunterDouglas Make	690	sqm	1198.31	826833.90
93	Providing and fixing Resin Bonded glass wool insulation minimum 50 mm thick in aluminium foil backing shall be provided over false ceiling for thermal and acoustical insulation. The density of glass wool shall be 32 kg/cu.m (minimum) and shall conform to IS 8183. Maximum value shall be 1.0 W/sq.m/deg.C	690	sqm	226.10	156009.00
94	Providing and fixing thermal insulation of ceiling (under deck insulation) Underdeck insulation minimum 50 mm thick High density polystyrene blocks 30kg/CuM density Providing and Installing under deck insulation using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed to ceiling with metallic cleats (50x50x3 mm) @ 60 cm at various elevations with rawl plugs including clips .all complete as per customer's specification and direction of engineer-in charge.	690	sqm	431.70	297873.00
95	Providing and fixing soil, waste and vent pipes: 100 mm dia. PVC Pipe (Finolex/Supreme make)	15	RM	734.30	11014.50
96	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :				
(a)	100mm diameter	20	metre	150.10	3002.00
(b)	150mm diameter	240	metre	219.05	52572.00
97	Dismantling of old S.W. pipes including breaking of joints and bed concrete stacking of useful materials near the site within 50 m lead and disposal of unserviceable materials into municipal dumps :				
(a)	200 mm diameter	220	metre	28.70	6314.00
98	Providing and fixing square-mouth S.W. Gully trap grade 'A' complete with C.I. Grating brick masonry chamber with bricks of class designation 75 and water tight C.I. Cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as standard design.: 100 x 100 mm size P type With F.P.S bricks	3	each	1256.35	3769.05
99	Constructing brick masonry manhole with class A bricks in cement mortar 1:4 and RCC top slab with 1:2:4 mix over PCC 1:4:8 including 12mm thick 1:3 plaster neat cement punning and making channels in cement concrete complete as per standard design.				
	Inside size 90X80cm and 45cm deep including CI cover with frame (light duty) 455X610mm internal dimensions total weight of cover and frame to be not less than 38kg (weight of cover 23kg and weight of frame 15kg) With FPS bricks	10	each	7132.00	71320.00
100	Extra for depth for manholes Size 90X80cm With FPS bricks	10	RM	4061.70	40617.00

BILL OF QUANTITIES AND PRICE SCHEDULEName of Project
Name of Work: 400kV GIS SUBSTATION AT WANAKBORI
: CIVIL WORKS OF 400kV GIS BUILDING,
CONTROL BUILDING AT GIS END AND
EXTENSION OF CONTROL BUILDING AT
EXISTING 400KV SWITCHYARD.

S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	AMOUNT
101	Making soak pit 2.5m diameter 3m deep with 45X45cm dry brick honeycomb shaft with bricks of class 10 and SW drain pipe 100mm diameter, 1.8m long complete as per standard design and specification.				
	With FPS bricks	1	each	15228.15	15228.15
102	Providing and laying non-pressure NP2 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	150mm dia. RCC pipe	11	RM	254.50	2799.50
(b)	250mm dia. RCC pipe	11	RM	342.45	3766.95
(c)	300mm dia. RCC pipe	11	RM	422.90	4651.90
(d)	450mm dia. RCC pipe	11	RM	620.85	6829.35
103	Providing and laying non-pressure NP3 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc., complete.				
(a)	450mm dia. RCC pipe	15	RM	1905.15	28577.25
(b)	600 mm dia RCC pipes.	10	RM	2490.15	24901.50
104	Providing and placing in position suitable PVC water stops conforming to IS 12200 for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete.				
	Serrated with central bulb(225mm wide,8-11mm thick)	100	meter	459.15	45915.00
105	Providing and applying polysulphide based sealant conforming to IS:12118 in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for required size grooves.	495	per cm depth per cm width per meter	1.67	826.65
106	Providing and fixing in position ShaliTex Expansion Joint Filler Board, including cost of primer, sealing compound in expansion joints.	925	per cm depth per meter	4.30	3977.50
107	Providing and fixing sheet covering over expansion joints with iron screws as per design. Aluminium fluted strips 3.15 mm thick. 150 mm wide	95	metre	312.35	29673.25
108	Providing and applying two layers of residual petroleum bitumen of penetration 85/25 of approved quality using 1.7 kg per sqm on the side faces of foundations after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.(For all lifts and leads).	1540	sqm	190.00	292600.00
109	Providing and laying plinth protection with plain cement concrete 1:2:4 (100THK) with top smooth finish over an under bed of 75 mm thick dry aggregate well compacted & grouted with sand.	275	sqm	338.75	93156.25
110	Providing & fixing chicken wire mesh in plaster all complete as per specification and direction of Engineer - in - charge.	1305	sqm	37.44	48855.09
111	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.	70	cum	978.95	68526.50
112	Demolishing brick work in cement mortar manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	30	cum	566.60	16998.00
				TOTAL	41662386

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

**PRICE SCHEDULE FORMAT
(ANNEXURE-A)**

**SUB: EXECUTION AND HANDING OVER OF CIVIL WORKS OF 400KV
GIS BUILDING, CONTROL ROOM BUILDING AT GIS END &
EXTENSION OF CONTROL ROOM BUILDING AT EXISTING
400KV SWITCHYARD AT WANAKBORI IN GUJARAT**

- (a) I/ We hereby agree to execute the above work at ----- % (in figure)
----- (in words) Above/ Below the rates of items given in BOQ for
civil works (Annexure-I) of subject tender.

NOTE:

1. The tenderer shall quote a percentage above or below, the rates shown in the Bill of Quantities (Annexure-I). 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