

BILL OF QUANTITYCUM PRICE SCHEDULE

Name of Project

: 220/132KV SUB-STATION AT PUSAULI

Name of Work

: CIVIL WORKS OF YARD & BUILDINGS AT
PUSAULI AND DEHRI (EXTN.) SUBSTATION

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.	20000	cum	129.35	2587000.00
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.	2700	cum	130.80	353160.00
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.	7000	cum	83.80	586600.00
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.	5000	cum	82.78	413900.00
(b)	Lead upto 3 km.	2000	cum	104.98	209960.00
(c)	Lead upto 5 km.	500	cum	125.92	62960.00
5	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 : 2coarse sand : 4 graded stone aggregate 20mm nominal size)	200	cum	4514.05	902810.00
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size)	10	cum	3888.20	38882.00
(c)	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	6000	cum	3593.30	21559800.00
6	Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work in the proportion recommended by the manufacturer.	350	kg	35.35	12372.50
7	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete.	200	cum	749.30	149860.00
8	Supplying chemical emulsion in sealed containers including delivery as specified.				

	Chloropyriphos emulsifiable concentrate of 20%	100	litre	185.95	18595.00
9	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).	650	sqm	75.00	48750.00
10	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) .	80	sqm	254.70	20376.00
11	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.	80	sqm	96.65	7732.00
12	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 20mm nominal size)	3600	cum	5242.15	18871740.00
13	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up to floor five level, excluding cost of centering, shuttering, finishing and reinforcement:				
(a)	1:1.5:3 (1 cement:1.5 coarse sand:3 graded stone aggregate 20mm nominal size)	1780	cum	5781.50	10291070.00
14	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, etc., for mass concrete.	1850	sqm	166.90	308765.00
(b)	RCC walls at all levels (any thickness).	3330	sqm	285.15	949549.50
(c)	Suspended floors, roofs, landings, balconies, chajjas and access platforms at all levels.	1150	sqm	311.20	357880.00
(d)	Lintels, beams, plinth beams and cantilevers.	1185	sqm	262.25	310766.25
(e)	Columns, Pillars, Piers, Posts and Struts .	5000	sqm	365.60	1828000.00
(f)	Stairs	60	sqm	326.60	19596.00
15	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).				
	Suspended floors, roofs, landing, beams and balconies .	540	sqm	121.65	65691.00
16	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL,TISCO , RINL or rerollers approved by main producers only)				

(a)	Excluding supply but including straightening, cutting, bending, binding, (i/c cost of binding wire), placing in position, etc., all labour & material, complete. (See Note 1)	307000	kg	10.00	3070000.00
(b)	Including supply and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	8000	kg	55.00	440000.00
17	Brickwork with F.P.S. bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	1000	cum	3316.55	3316550.00
18	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)	270	cum	3876.15	1046560.50
19	Half brick masonry with bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	20	sqm	416.95	8339.00
20	Half brick masonry with bricks of class designation 75 in superstructure above plinth level to floor V level.				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	50	sqm	476.85	23842.50
21	Extra for providing and placing in position 2 Nos 8mm dia bars at every third course of half brick masonry (with FPS bricks)	60	sqm	63.30	3798.00
22	Providing and fixing 18mm thick mirror polished, machine cut for column facia, kitchen platforms, vanity counters 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. (over 1sqm but upto 2sqm)				
	Granite black.	10	sqm	3083.40	30834.00
23	Providing and fixing best quality marble slab polished on both sides & machine cut, exposed corners rounded etc. of size 610 x 1150mm, 20mm thick in urinal partition 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 6mm nominal size) as per direction of Engineer-in-charge and finished smooth	10	sqm	2670.75	26707.50
24	Providing and fixing chromium plated brass 100mm mortice latch and lock with 6 levers and a pair of lever handles with necessary screws etc. complete (best make of approved quality).	25	each	646.50	16162.50
25	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.				
	300 X 16mm	20	each	203.80	4076.00
26	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.				
	300 X 10mm	30	each	100.40	3012.00
	150 X 10mm	50	each	59.00	2950.00

27	Providing and fixing aluminium handles anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with necessary screws etc., complete.				
	125mm	35	each	62.50	2187.50
28	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.				
	80 X 1.25mm MS laths with 1.25mm thick top cover.	45	sqm	1840.85	82838.25
29	Providing and fixing ball bearing for rolling shutters.	15	each	429.85	6447.75
30	Providing and fixing pressed steel door frames conforming to IS: 4351, manufactured from commercial mild steel sheet of 1.60mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50X25mm, or base ties of 1.60mm 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	130	RM	370.00	48100.00
31	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side/top/centre hung, with beading and all members 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).				
	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C 1:3:6 (1 cement : 3 coarse sand :6 graded stone aggregate 20mm nominal size)	1000	kg	96.30	96300.00
32	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.	30000	kg	59.90	1797000.00
33	Providing and fixing circular/Hexagonal cast iron or MS sheet box for ceiling fan clamp of internal dia 140mm, 73mm height, top lid of 1.5mm thick MS sheet with its top surface hacked for proper bonding, top lid shall be scewed into the cast iron/ MS sheet box by means of 3.3mm dia. round headed screws, one lock at the corners. Clamp shall be made of 12mm dia MS bar bent to shape as per standard drawings.	10	each	117.45	1174.50

34	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.	8000	kg	67.20	537600.00
(b)	In gratings, frames, ladders, stair railings, gates (including pipes), rails, ISMB, ISMC and similar works.	12000	kg	77.90	934800.00
35	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.				
	40mm thick with 20mm nominal size stone aggregate.	250	sqm	280.05	70012.50
36	52mm thick CC flooring with " Hardcrete" concrete hardner topping under layer 40mm thick cement concrete 1:2:4 (1cement : 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 per 50 Kg of cement including cement slurry, but excluding the cost of nosing of steps etc., complete.	430	sqm	420.50	180815.00
37	Cement plaster skirting (upto 30cm height) with cement mortar 1:3 (1cement: 3 coarse sand) finished with a floating coat of neat cement.				
	21mm thick	25	sqm	258.20	6455.00
38	Kota stone slab flooring over 20mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of slab, including rubbing and polishing complete with base of cement mortar 1:4 (1 cement :4 coarse sand)				
	25mm thick	100	sqm	945.70	94570.00
39	Kota stone slabs 20mm thick in risers of steps, skirting, dado and pillars laid on 12mm (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 slabs, including rubbing and polishing complete.	25	sqm	954.10	23852.50
40	Precast terrazo tiles min. 22 mm thick with graded marble chips of size upto 12mm laid in floors, and landings, jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles laid over 20mm thick bed of cement mortar 1:4 (1 cement : 4 coarse sand).				
	Light shade using white cement	100	sqm	769.35	76935.00
41	Precast terrazo tiles min. 22 mm thick with graded marble chips of size upto 12mm laid in skirting and risers of steps not exceeding 30 cm in height on 12mm cement plaster 1:3(1 cement :3 coarse sand), jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles of :				

	Light shade using white cement	20	sqm	966.85	19337.00
42	Providing and fixing 1st quality ceramic glazed tiles conforming to IS:15622 (thickness to be specified by manufacture) of approved make in all colours (shades as approved by Engineer-in-Charge) 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.	70	sqm	724.25	50697.50
43	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 white cement mixed with pigment of matching shade complete.	50	sqm	764.55	38227.50
44	Providing and laying 1st quality anti skid 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 white cement mixed with pigment of matching shade complete.	20	sqm	800.00	16000.00
45	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) including grouting the joints with white cement and matching pigments etc. complete as per direction of Engineer-in charge.				
	Size of tile 50 x 50 cm	450	sqm	1337.10	601695.00
46	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.	20	sqm	1195.14	23902.80
47	Providing and fixing 20mm thick acid and or alkali resistant tiles of approved make and colour using acid and or alkali resisting mortar bedding and joints filled with acid and or alkali resisting cement as per IS : 4457 complete as per the direction of Engineer-in- Charge				
(a)	In flooring on a bed of min.20 mm thick mortar 1:4 (1appropriate cement : 4 coarse sand)	35	sqm	1075.60	37646.00
(b)	In dado / skirting on 12 mm thick mortar 1:4 (1 appropriate cement : 4 coarse sand)	55	sqm	1129.95	62147.25

48	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.	15	Each	148.75	2231.25
49	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 10mm gap for thermal expansion. (i) Single socketed pipes.				
	110mm diameter	200	RM	206.90	41380.00
50	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 10mm gap for thermal expansion. (i) Single socketed pipes.				
	110mm bend 87.5 degree	45	each	156.95	7062.75
	110mm Shoe plain	30	each	287.05	8611.50
51	Providing and fixing unplasticised - PVC pipe clips of approved design to unplasticised- PVC rain water pipes by means of 50x50x50mm hard wood plugs, screwed with MS screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4coarse sand) and making good the wall etc. complete				
	110mm	70	each	144.60	10122.00
52	15mm cement plaster on rough side of single or half brick wall of mix:				
	1:6 (1 cement:6 fine sand)	2000	sqm	130.20	260400.00
53	12mm cement plaster on even side of the walls in the mix:				
	1:6 (1cement :6fine sand)	5750	sqm	121.05	696037.50
54	2mm thick plaster of paris punning over the plastered surfaces on wall surfaces as directed by engineer-in-charge.	2300	sqm	82.80	190440.00
55	6mm cement plaster to ceiling of mix				
	1:3 (1 cement : 3 fine sand)	1000	sqm	101.00	101000.00
56	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	165	sqm	20.70	3415.50
(b)	Applying one coat of cement primer of approved brand and manufacture on wall surface:	2200	sqm	27.55	60610.00
57	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade				
	New work (two or more coats) over and including priming coat with cement primer.(Work to be carried as per relevant IS codes.)	2000	sqm	66.70	133400.00
58	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:				
	Two or more coats on new work.	245	sqm	53.85	13193.25

59	Painting with acid proof paint of approved brand and manufacture of required colour to give an even shade. Two or more coats on new work.	70	sqm	50.50	3535.00
60	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.	600.00	RM	72.15	43290.00
61	Making plinth protection of 50mm thick cement concrete 1:2:4 (1 cement : 2coarse 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.	200.00	sqm	363.25	72650.00
62	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: White vitreous china orissa pattern WC pan of size 580 X 480mm with integral type foot rests.	1	each	2964.10	2964.10
63	Providing and fixing white vitreous china pedetal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing & C. P. flush bend with fittings and C. I. brackets, 40mm flush bend, overflow arrangement with specials of standrad 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: W.C. pan with ISI marked solid plastic seat and lid	1	each	4201.05	4201.05
64	Providing and fixing clooured vitreous china flat back half stall urinal of size 580x380x350mm 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 , cutting and making good the walls and floors wherever required: Single half stall urinal with 10 litre P.V.C automatic flushing cistern of approved make.	2	each	5354.50	10709.00
65	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. cutting and making good the walls wherever required: Vitreous China counter type wash basin size 630 x 450mm with a pair of 15mm C. P. brass pillars taps	2	each	1848.35	3696.70

66	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS 13983 with C. I. brackets and stainless steel plug 40mm with provision of 2 nos. CP brass long body bib cock conforming to IS standrad and weighing not less than 650gm for CP bottle trap complete including painting of fittings and brackets, cutting and making good the wall wherver required.				
	510 x 1040 mm bowl depth 178mm with drain board	1	each	4130.15	4130.15
67	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	10	each	24.60	246.00
68	Providing and fixing 1000 x 600 x 6 mm thick bevelled 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	2	each	800.00	1600.00
69	Providing and fixing 600 x 120 x 5 mm glass shelf with edges rounded off supported on anodised aluminium angle frame with C.P. Brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc. complete.	1	each	341.25	341.25
70	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.				
	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.	2	each	415.20	830.40
71	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).	2	each	180.10	360.20
72	Providing and fixing toilet paper holder. CP brass.	2	each	250.95	501.90
73	Providing and fixing soil,waste and vent pipes: 100 mm dia. Sand cast iron S & S pipe.	20	RM	734.30	14686.00
74	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.				
	For 100 mm dia pipe	10	each	112.50	1125.00
75	Providing lead caulked joints to SCI pipes and fittings of diameter 100mm	10	each	207.85	2078.50

76	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.	2	each	801.70	1603.40
77	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. (internal work).				
(a)	15 mm dia nominal bore.	40	RM	161.60	6464.00
(b)	20 mm dia nominal bore.	20	RM	188.05	3761.00
(c)	25 mm dia nominal bore.	2	RM	243.15	486.30
78	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.	15	RM	229.10	3436.50
(b)	20 mm dia nominal bore.	10	RM	251.30	2513.00
79	Providing and fixing G.I. Pipes (medium grade) complete with G.I. Fitting and clamps , including trenching and refilling, etc. (external work).				
(a)	15 mm dia nominal bore.	5	RM	142.25	711.25
(b)	20 mm dia nominal bore.	5	RM	161.25	806.25
(c)	25 mm dia nominal bore.	5	RM	209.40	1047.00
(c)	40 mm dia nominal bore.	10	RM	294.20	2942.00
(d)	50 mm dia nominal bore.	5	RM	355.95	1779.75
(e)	80 mm dia nominal bore.	5	RM	573.40	2867.00
80	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.	2	each	277.35	554.70
81	Providing and fixing C.P. brass bib cock of approved quality conforming to IS: 8931				
	15mm nominal bore	5	each	397.50	1987.50
82	Providing and fixing C.P. brass stop angle valve for basin and cistern points of approved quality conforming to IS:8931.				
	15mm nominal bore	5	each	449.35	2246.75
83	Providing and fixing brass gate valve with CI wheel of approved quality (screwed end)				
(a)	25mm nominal bore	2	each	372.95	745.90
(b)	32mm nominal bore	2	each	450.90	901.80
84	Providing and fixing gun metal ball valve with operating lever of approved quality complete.				
	High or low pressure with plastic floats				
	15mm nominal bore	2	each	258.05	516.10
85	Providing and fixing gun metal non-return valve of approved quality complete.				
	25mm nominal bore				
	Horizontal	2	each	383.45	766.90
	Vertical	2	each	395.05	790.10

86	Providing and placing on terrace (at all floor levels) polyethylene water storage tank of approved brand and manufacture with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank. The tank should be ISI marked .	5000	per litre capacity	6.10	30500.00
87	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testiing of joints etc. complete.				
(a)	100 mm diameter.	10	RM	150.10	1501.00
(b)	150 mm diameter.	30	RM	219.05	6571.50
88	Providing, laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40mm nominal size) all round SW pipes including bed concrete as per standrad design:				
(a)	100 mm diameter.	10	RM	496.90	4969.00
(b)	150 mm diameter.	30	RM	607.70	18231.00
89	Providing and fixing square-mouth S.W. Gully trap grade 'A' complete with C.I. Grating brick masonry chamber with bricks of class designation 75 and water tight C.I. Cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as standard design.:				
	100 x 100 mm size P type				
	With F.P.S bricks	4	each	1256.35	5025.40
90	Constructing brick masonry manhole with 75 class designation bricks in cement mortar 1:4 (1 cement: 4 coarse sand) RCC top slab with 1:2:4 mix(1 cement:2 coarse sand: 4 graded stone aggregate 20mm nominal size) foundation concrete 1:4:8 (1 cement: 4 coarse sand: 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement: 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 mix(1 cement:2 coarse sand: 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design.				
	Inside size 90X80cm and 45cm deep including CI cover with frame (light duty) 455X610mm internal dimensions total weight of cover and frame to be not less than 38kg (weight of cover 23kg and weight of frame 15kg)				
	With FPS bricks	2	each	7132.00	14264.00
	Inside size 120X90cm and 90cm 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)				
	With FPS bricks	2	each	15322.95	30645.90
91	Extra for depth for manholes				
	Size 90X80cm				
	With FPS bricks 75 class designation	4	RM	4061.70	16246.80
92	Providing MS foot rests including fixing in manholes with 20x20x10cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) as per standard design				
	With 20 x 20mm square bar	15	each	277.95	4169.25

93	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				
	With FPS bricks 75 class designation	5	each	3193.50	15967.50
94	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)	3200	kg	387.60	1240320.00
(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)	720	kg	436.35	314172.00
95	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).				
	With float glass panes of 5.5mm thickness (weight not less than 13.75kg/sqm)	70	sqm	905.75	63402.50
96	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.				
	With Stainless steel cover plate	12	each	1953.10	23437.20
97	Providing and fixing 12mm thick prelaminated three layer medium density (exterior grade) particle board conforming to IS: 12823 Grade I Type II bonded with phenol formaldehyde synthetic resin of approved brand and manufacture, in panelling fixed in aluminum doors, windows shutters and partition frames with CP brass/stainless steel screws etc. complete as per architectural drawings and directions of Engineer-in-charge.				
	Pre laminated particle board with decorative lamination on both side	125	sqm	969.95	121243.75

98	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.	5635	sqm	61.25	345143.75
99	Suppling and stacking at site				
(a)	90 mm to 45 mm size stone aggregate	760	cum	1010.75	768170.00
(b)	63 mm to 45 mm size stone aggregate	760	cum	1100.80	836608.00
(c)	53mm to 22.4 mm	760	cum	1190.80	905008.00
(d)	Stone screening 13.2 mm nominal size (type A)	456	cum	1338.75	610470.00
(e)	moorum	165	cum	624.00	102960.00
100	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.	565	cum	330.15	186534.75
(b)	Base course with stone aggregate 63mm to 45mm including stone screening 13.2mm size and moorum/blinding material.	565	cum	330.15	186534.75
(c)	Base course with stone aggregate 53mm to 22.4 mm including stone screening 11.2mm size.	565	cum	330.15	186534.75
101	Providing and laying non-pressure NP2 class (light duty) RCC				
(a)	100mm dia. RCC pipe	5	RM	218.35	1091.75
(b)	150mm dia. RCC pipe	5	RM	254.50	1272.50
(c)	250mm dia. RCC pipe	5	RM	342.45	1712.25
(d)	300mm dia. RCC pipe	5	RM	422.90	2114.50
(e)	450mm dia. RCC pipe	5	RM	620.85	3104.25
102	Providing and laying non-pressure NP3 class (light duty) RCC				
(a)	250mm dia. RCC pipe	15	M	410.00	6150.00
(b)	300mm dia. RCC pipe	15	M	510.00	7650.00
(c)	450mm dia. RCC pipe	10	M	750.00	7500.00
103	Providing and laying 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 etc. as per direction of Engineer-in-charge.	220	cum	5046.80	1110296.00
104	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	140	sqm	536.65	75131.00
105	Providing and laying polythene sheet of 125 microns between the PCC and RCC slab all complete as per direction of Engineer-in-Charge)	5635	sqm	50.00	281750.00

106	Providing and fixing (all dia & length) foundation bolts in position with help of proper templates including supply of templates ,nuts and washers all complete as per specs, drawings & directions of Engr-in-Charge	20000	kg	55.00	1100000.00
107	Extra over Item above for providing galvanised bolts (Mass of zinc coating = 610gms/sqm), nuts & washer .	20000	kg	12.00	240000.00
108	Fixing (all dia & length) foundation bolts in position with help of proper templates(template to be supplied by contractor) all complete as per specs, drawings & directions of Engr-in-Charge.Bolts to be provided by BHEL free of cost.	300	kg	10.00	3000.00
109	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.	5	cum	10000.00	50000.00
110	Providing and placing in position suitable PVC water stops conforming to IS 12200 or equivalent for construction/expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete.				
	Serrated with central bulb(225mm wide,8-11mm thick)	150	meter	386.75	58012.50
111	Providing and fixing at all height false ceiling including providing and fixing of frame work made of special section power pressed from M.S sheet and galvanised in accordance with zinc coating of grade 350as per I.S: 277 and consisting of nagle cleats of size 25mm wide x 1.6mm thick with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with dash fastener 12.5mm diax40mm long with 6mm dia bolts to the angle hanger being fixed with nut and bolts to G.I channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick button wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I channel with connecting clips made out of 2.64mm diax 230mm long G.I wire at every junction including fixing the gypsum board with ceiling section and perimeter channel 0.5mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450mm centre to centre with 25mm long drivw-all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the board with recommended filler, jointing tapes, finisher and two coats of primer suitable for board as per manufactures specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels				
	suitably fixed all complete as per drawing and specification and direction of the Engineer in Charge but excluding the cost of painting with:				
	12.5mm thick tapered edge gypsum board conforming to IS:2095-Part-I	340	sqm	691.40	235076.00

112	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/m ³ , 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 .	340	sqm	431.70	146778.00
113	Providing, laying 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 proprietry water proofing compound conforming to IS:2645 and approved by Engineer-in-charge shall be applied and grouted over the RCC slab including adjoining walls upto 300mm height including cleaning the surface before treatment.				
	b) Laying plain cement concrete 1:5:10 (1cement : 5 fine sand : 10 burnt brick aggregate of 40mm nominal size) admixed with proprietry water proofing compound conforming to IS:2645 and approved by Engineer-in-charge over 20mm thick layer of cement mortar of mix 1:5 (1 cement: 5 coarse sand) admixed with water proofing 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 2.75 kg/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 mix 1:4 (1cement:4coarse sand) admixed with water proofing compound conforming to IS:2645 and approved by Engineer-in-charge and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square.				
	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:				
	With average thickness of 120 mm and minimum thickness at khurra as 65 mm	540	sqm	786.70	424818.00
114	Add or deduct plaster drip course /groove in plastered surface or moulding to RCC projections:	80	meter	22.25	1780.00
115	Making soak pit 2.5m diameter 3m deep with 45X45cm dry brick honeycomb shaft with bricks of class designation 75 and SW drain pipe 100mm diameter, 1.8m long complete as per standard design and specification.				
	With FPS bricks	1	each	15228.15	15228.15
116	Providing an fixing chicken mesh on wall surface all complete as per direction of Engineer-in charge.	200	sqm	70	14000.00

117	Providing septic tank and soak pit complete as per the drawing all complete.	2	N0	200000	400000.00
118	Providing corrugated G.S sheet roofing including vertical/curved surface fixed with polymer coated J or L hooks, bolts and nuts 8mm diameter with bitumen and 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 tp 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.				
	0.80 mm thick with zinc coating not less than 275gm/sqm	450	sqm	742.8	334260
119	Providing ridges or hips of width 60cm overall width plain G.S sheet fixed with polymer coated J or L hooks, bolts and nuts 8 mm dia G.I limpet and bitumen washers complete.				
	0.8mm thick with zinc coating not less than 275 gm/sqm	20	m	470.1	9402
120	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).				
	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C 1:3:6 (1 cement: 3 coarse sand: 6 graded stone aggregate 20mm nominal size)	50	kg	96.3	4815
121	Providing rain water harvesting as per specification and drawing all complete.	1	No	500000	500000.00
122	Providing and laying stone aggregate in switch yard areas in 100mm thick layer using 40 mm aggregates size .Before laying the stone aggregates , the yard surface shall be treated with antiweed treatment and 75mm thick base layer of cement concrete in 1:5:10 shall be provided in the area all complete as per Clause No 4.2 of Technical Specification, Section Civil , Attachment 5 (V) and direction of Engineer in Charge. (The rate shall be inclusive of all materials ,PCC,labour,loading,unloading and surface preparation etc. required for aggregate laying and antiweed treatment)	41800	sqm	355	14839000
123	Providing & fixing chain link fencing, all as per specification clause 8.0 of Technical Specification, Section Civil Attachment 5 (V) & directions of Engr-in-Charge. (The cost shall include all labour material like GI chain link fencing, fence post and angles, flats,PCC etc.)	700	Rm	2000	1400000
124	Providing and installing hand pump including boring, casing pipe, providing and placing filter and strainer, G.I pipe, valve, hand pump, washing the bore etc. all complete.	1	each	25000	25000

125	Supplying and erecting dewatering pumps				
a	3 HP	4	Nos	25000	100000
b	0.5 HP	4	Nos	15000	60000
TOTAL					102006737

Note:

- 1 For Item No : 16(a) reinforcement steel shall be supplied by BHEL **free of cost** as per norms indicated in conditions of contract. The rate quoted against Item No: 16 (a) above shall be deemed to be inclusive of cost against all activities required including transportation of material from (SAIL, TISCO, IISCO, RINL or rerollers approved by main producers) stockyard.