

ANNEXURE-I

BILL OF QUANTITY-CUM-PRICE SCHEDULE

Name of Project

: 132kV Substation at Manipur

Name of Work

: CONSTRUCTION OF CONTROL ROOM BUILDING

S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
1	Earthwork in excavation over areas (exceeding 30cm in depth 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and disposal of excavated earth upto 100m and lift upto 3.5m, disposed earth to be levelled and neatly dressed.				
(a)	All kinds of soil.	650	cum	101.85	66202.5
(b)	ordinary rock.	20	cum	152.6	3052
2	Earthwork in excavation in foundation trenches or drains (not exceeding 1.5m in width as well as 10sqm on plan) including dewatering as necessary of rain water/subsoil seepage water and dressing of sides and ramming of bottoms, lift upto 3.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 100m.				
(a)	All kinds of soil.	570	cum	103.40	58938.00
(b)	ordinary rock.	15	cum	162.65	1551.00
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.	186	cum	45.70	8500.2
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.	2	cum	70.45	140.9
4.2	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	1	cum	115.05	115.05

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
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.	39	cum	49.42	1927.38
6	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	5	cum	3257.45	16287.25
(b)	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size	5	cum	2791.05	13955.25
(c)	1:4:8(1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	20	cum	2449.00	48980
7	Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work in the proportion recommended by the manufacturer.	350	kg	27.45	9607.50
8	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete.	77	cum	301.50	23215.50
9	Supplying chemical emulsion in sealed containers including delivery as specified.				
	Chloropyriphos emulsifiable concentrate of 20%	60	litre	174.30	10458.00
10	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)	578	sqm	50.00	28875.00
11	Providing and laying damp proof course 40mm thick cement concrete 1:1.5:3 (1 Cement:1.5 coarse sand : 3 graded stone aggregate 12.5 mm nominal size) .	10	sqm	144.15	1441.50

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
12	Applying coat of residual petroleum bitumen of penetration 85/100 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.	10	sqm	58.60	586.00
13	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for RCC structural elements 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				
(a)	All works (rafts, columns & plinth beams, walls. Columns, beams suspended floors lintels etc) upto V level.	300	cum	4147.40	1244220.00
14	Centering and shuttering including strutting, propping, etc., and removal of form for:				
(a)	Foundations, footings, bases of columns, plinth beam etc., for mass concrete.	150	sqm	119.25	17887.50
(b)	Columns, Pillars, Piers, Abutments, Posts and Struts	292	sqm	238.40	69612.80
(c)	RCC walls at all levels (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	50	sqm	180.40	9020.00
(d)	Suspended floors, roofs, landings, balconies and access platform.	225	sqm	187.35	42153.75
(e)	Lintels, beams, and cantilevers.	200	sqm	162.65	32530.00
15	Steel reinforcement -Cold twisted bars /TMT				
(a)	Including supply and bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete.	5000	kg	42.70	213500.00
(b)	Excluding supply but including bending, binding (i/c cost of binding wire), placing in position, etc., all labour & material, complete. (See Note No:1)	25000	kg	6.50	162500.00
16	Brickwork with F.P.S.bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	255	cum	2121.75	541046.25
17	Brickwork with F.P.S bricks of class designation 75 in superstructure above plinth level upto V level in all shapes and sizes:Cement mortar 1:6 (1 cement : 6 coarse sand)	44	cum	2357.40	103725.60
18	Half brick masonry with bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	100	sqm	270.35	27035.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
19	Half brick masonry with F.P.S bricks of class designation 75 in superstructure above plinth level upto V level .	100	sqm	302.80	30280.00
20	Extra for providing and placing in position 2 Nos 8mm dia bars at every third course of half brick masonry (with FPS bricks)	100	sqm	47.80	4780.00
21	Providing and fixing 20mm 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.	4	sqm	2543.65	10174.60
22	Providing and fixing ISI marked flush door shutters decorative type ,core of block board construction with frame of Ist class hard wood and well matched reak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
	35 mm thick including ISI marked Stainless Steel butt hinges with nessary screws.	15	sqm	1473.50	22102.50
23	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	15	each	158.50	2377.50
24	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	71.45	2143.50
25	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	15	each	48.80	732.00
26	Providing and fixing IS:3564 marked aluminium die cast body tubular type universal door closer of approved quality and make with accessories and screws complete.	1.00	each	610.60	610.60

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
27	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 push and pull 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 1.20mm MS laths with 1.20mm thick top cover.	16.00	sqm	1208.45	19335.20
28	Providing and fixing ball bearing for rolling shutters.	2	each	356.50	713.00
29	Providing & fixing 45mm steel door made of double sheet 18G steel suitably reinforced and filled with mineral wool, including frame, etc., all complete as per customer's specification.	5	sqm	600.00	3000.00
30	Providing and fixing factory made door shutters 30mm thick made of prelaminated flat pressed three layer particle board IS:12823 marked exterior grade (Grade I Type II) having one side decorative lamination of approved shade including II class teak wood lipping of 25mm wide X 12mm thick size with necessary screws and black enamelled M.S. butt hinges complete as per direction of the Engineer-in-charge.	5	sqm	878.45	4392.25
31	Providing and fixing steel glazed doors, windows and ventilators of standard rolled steel sections, joints mitred and welded with 15X3mm lugs 10cm long, embedded in cement concrete blocks 15X10X10cm of 1:3:6 (1 cement : 3 coarse sand : 6 graditng except necessary hinges or pivots as required.ed stone aggregate 20mm nominal size) or with wooden plugs and screws or rawl plugs and screws or with fixing clips or with bolts and nuts as required, including providing and fixing of glass panes with glazing clips and special metal sash putty of approved make complete including applying a priming coat of approved steel primer, excluding the cost of metal beading and other fitting except necessary hinges or pivots as required.				
(a)	Fixed	10	sqm	776.90	7769.00
(b)	Openable	30	sqm	1065.75	31972.50

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
32	Providing and fixing pressed steel door frames manufactured from commercial mild steel sheet of 1.25mm thickness including hinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50X25mm, or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with spit end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards, lock strike plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-Charge:				
	Profile C	15	RM	190.80	2862.00
33	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.	1410	kg	24.30	34263.00
34	Steelwork welded in built up sections/framed work including 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.	1400	kg	46.35	64890.00
(b)	In gratings, frames, ladders, similar works.	150	kg	51.20	7680.00
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.	50	sqm	192.95	9647.50
36	52mm thick CC flooring with " Hardcrete" concrete hardner topping under layer 40mm thick CC 1:2:4 (1cement:2 coarse sand: 4 stone aggregate 20mm nominal size) and top layer 12 mm thick Hardcrete cement hardner consisting of mix 1:2 (1 cement hardner mix: 2 stone aggregate 6mm nominal size) by volume with which Hradcrete 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.	770	sqm	286.55	220643.50

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
37	Cement plaster skirting (upto 30cm height) with cement mortar 1:3 (1cement: 3 coarse sand) finished with a floating coat of neat cement.				
	18mm thick	25	sqm	168.50	4212.50
38	Precast terrazo tiles 22 mm thick with graded marble chips of size upto 12mm laid in floors,and landings,jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles on 20mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand)				
	Light shade using white cement	150	sqm	607.80	91170.00
39	Precast terrazo tiles 22 mm thick with graded marble chips of size upto 12mm laid in skirting and risers of steps not exceeding 30 cm in height on 12mm cement plaster 1:3(1 cement :3 coarse sand),jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles of :				
	Light shade using white cement	50	sqm	665.75	33287.50
40	Providing & fixing chemical resistant (Acid & Alkali) Tiles as per IS 4457 of minimum thickness 20mm 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.	45	sqm	2484.00	111780.00
41	Providing and fixing 1st quality ceramic glazed tiles conforming to IS:13753 of minimum thickness 5 mm of approved make and colours in skirting,risers of steps and dados over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand) and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete.	42	sqm	556.60	23377.20
42	Providing and laying 1st quality ceramic glazed tiles 300X300 mm (thickness to be specified by manufacturer) conforming to IS:13755 of minimum thickness 7 mm of approved make and colours laid over 20 mm thick bed of Cement mortar 1:4 (1 Cement:4 coarse sand) including pointing in white cement mixed with pigment of matching shade complete.	42	sqm	598.65	25143.30

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
43	Providing and laying in floors heavy duty matt finish ceramic tiles of 10mm thickness without warpage of approved make and colour laid in 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand) including grouting the joints with white cement and matching pigment, etc., complete.	16	sqm	550.00	8800.00
44	Providing and laying of 7 mm minimum thick pre-polished vitrified tiles 600X600 mm of approved make and colours laid over 20 mm thick bed of Cement mortar 1:4 (1 Cement:4 coarse sand) including pointing in white cement mixed with pigment of matching shade complete as per direction of Engineer-in charge.	369	sqm	1448.55	534514.95
45	Providing and fixing pre polished vitrified tiles minimum thickness 7 mm of approved make and colours in skirting,risers of steps and dados over 12 mm thick bed of Cement mortar 1:3 (1 Cement:3 coarse sand) and jointing with grey cement slurry @3.3 kg/sqm including pointing in white cement mixed with pigment of matching shade complete.	50	sqm	1214.00	60700.00
46	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	108.00	1620.00
47	18mm cement plaster on external face of walls in two coats with under layer 12mm thick cement plaster 1:5 (1 cement :5 coarse sand) finished with a top layer of 6mm thick 1:6(1cement:6 fine sand)	1026	sqm	111.15	114039.90
48	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement : 6 coarse sand)	770	sqm	78.55	60483.50
49	12mm cement plaster on even side of the walls in the mix: 1:6 (1cement :6coarse sand)	770	sqm	72.70	55979.00
50	2mm thick plaster of paris punning over the plastered surfaces on wall surfaces as directed by engineer-in-charge.	500	sqm	47.20	23600.00
51	6mm cement plaster to ceiling of mix 1:3 (1 cement : 3 fine sand)	690	sqm	62.15	42883.50

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
52	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	5	sqm	12.65	63.25
(b)	Applying one coat of cement primer of approved brand and manufacture on wall surface:	10	sqm	17.20	172.00
53	Whitewashing with lime to give an even shade				
	New work (3 or more coats)	364	sqm	6.75	2457.00
54	Distempering with oil bound washable distemper of approved brand and manufacture two or more coats over and including priming coat with cement primer.(work to be carried as per relavant IS codes)	1265	sqm	41.55	52560.75
55	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade.				
	Two or more coats on new work.	95	sqm	10.05	954.75
56	Finishing walls with water proofing cement paint required shade :				
	New work : Two or more coat applied.	513	sqm	30.80	15800.40
57	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:				
	Two or more coats on new work.	15	sqm	33.25	498.75
58	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.	128	sqm	32.40	4147.20
59	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.	2000.00	RM	13.30	26600.00
60	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm bed of dry brick ballast 40mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth.	85.00	sqm	222.65	18925.25

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
61	Providing and fixing white vitreous china water closet squatting pan (Indian type W.C. pan) 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 fitting s and clamps, overflow arrangement with specials and mosquito proof coupling of approved municipal design including painting of fittings and brackets, cutting and making good the walls and floors wherever required.				
	Orissa pattern W.C. Pan of size 580 x 440 mm with integral type foot rests flush pipe and overflow arrangement.	1	each	2304.65	2304.65
62	Providing and fixing white vitreous china pedestal type water closet (European type W.C. Pan) with seat and lid, C.P. Brass hinges and rubber buffers, 10 litre low level flushing cistern with fittings & CI/MS brackets 40mm dia flush bend , overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design compete including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
	W.C. pan with black solid plastic seat and lid with white vitreous china flushing cistern and CP flush bend.	1	each	3253.95	3253.95
63	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430 x260x 350 mm and 340 x 410 x 265 mm sizes respectively with automatic flushing cistern with C.I./ M.S brackets standard flush pipe and C.P. brass spreaders with brass unions and G.I. clamps complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required:				
	One urinal basin with 5 litre P.V.C automatic flushing cistern of approved make.	1	each	2018.70	2018.70
64	Providing and fixing vitreous china under counter wash basin in oval shape of approved colour and size with 15 mm C.P. Brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings etc. cutting and making good the walls wherever required:	2	each	1176.00	2352.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
65	Providing and fixing white vitreous china laboratory sink with C.I. Brackets CP brass chain and rubber plug 40 mm CP brass waste and 40mm CP brass trap with necessary brass unions complete including painting of fittings and brackets, cutting and making good the walls wherever required.				
	Size 600 X 450 X 200 mm	1	each	2149.95	2149.95
66	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	2	each	16.45	32.90
67	Providing and fixing 600 x 450 x5.5 mm bevelled edge mirror of float glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. Brass screws and washers complete.	1	each	493.65	493.65
68	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	218.80	218.80
69	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 towel rail with total length of 645mm,width 78mm and effective height 88mm,weing not less than 190gms.	1	each	329.50	329.50
70	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	329.30	658.60
71	Providing and fixing toilet paper holder.				
	CP brass.	1	each	147.10	147.10
72	Providing and fixing soil, waste and vent pipes:				
	100 mm dia.				
	Sand cast iron S & S pipe.	15	RM	451.00	6765.00

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73	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	65.35	653.50
74	Providing lead caulked joints to SCI pipes and fittings of diameter				
	100mm	5	each	82.25	411.25
75	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.	1	each	544.30	544.30
76	Providing and fixing G.I. Pipes complete with G.I. Fitting and clamps , including cutting and making good the walls etc. (internal work).				
(a)	15 mm dia nominal bore.	10	RM	105.85	1058.50
(b)	20 mm dia nominal bore.	10	RM	133.85	1338.50
(c)	25 mm dia nominal bore.	10	RM	179.65	1796.50
77	Providing and fixing G.I. Pipes complete with G.I. Fitting and clamps , including trenching and refilling, etc. (external work).				
(a)	15 mm dia nominal bore.	20	RM	94.05	1881.00
(b)	20 mm dia nominal bore.	20	RM	116.60	2332.00
©	40 mm dia nominal bore.	20	RM	156.85	3137.00
78	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.				
	20 to 40mm nominal bore.	1	each	166.05	166.05
79	Providing and fixing brass bib cock of approved quality				
	15mm nominal bore	2	each	207.00	414.00
80	Providing and fixing brass stop cock of approved quality				
	15mm nominal bore	2	each	262.55	525.10
81	Providing and fixing gun metal gate valve with CI wheel of approved quality (screwed end)				
(a)	25mm nominal bore	1	each	285.50	285.50
(b)	32mm nominal bore	1	each	358.00	358.00

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82	Providing and fixing ball valve brass of approved quality complete.				
	High or low pressure with plastic floats				
	15mm nominal bore	1	each	228.35	228.35
83	Providing and placing on terrace (at all floor levels) polyethylene water storage tank of approved brand and manufacture with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank. The tank should be ISI marked .	1000	per litre capacity	5.25	5250.00
84	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:3 (1 cement : 3 fine sand) including testiing of joints etc. complete.				
(a)	100 mm diameter.	5	RM	105.90	529.50
(b)	150 mm diameter.	5	RM	151.65	758.25
(c)	200 mm diameter	5	RM	247.15	1235.75
85	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	935.15	2805.45
86	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	5383.70	10767.40

ANNEXURE-I

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: 132kV Substation at Manipur
: CONSTRUCTION OF CONTROL ROOM BUILDING

S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
87	Extra for depth for manholes				
	Size 90X80cm				
	With FPS bricks	1	RM	2651.00	2651.00
88	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.				
	With FPS bricks	1	each	9938.65	9938.65
89	Providing and fixing anodised 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, anodised transparent or dyed to required shade according to IS: 1868. (Minimum anodic coating of grade AC 15), fixed with rawl plugs and screws or with fixing clips or with expansion 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	300	kg	290.45	87135.00
(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	700	kg	310.45	217315.00
					0.00
90	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 glass panes of 5.5mm thickness.	25	sqm	673.55	16838.75
91	Providing and fixing double action hydraulic floor spring of approved brand and manufacture (conforming to IS:6315) for aluminium door including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece MS sheet outer box with slide plate etc., complete as per the directions of Engineer-in-charge. (SS cover plate.)	12	each	1733.50	20802.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
92	Providing, laying and fixing roof water proofing treatment using two successive liquid coatings of high solid content urethane pre-polymers to form elastomeric membrane having overall dry film thickness of minimum 1.5mm subject to minimum 750gm/sqm/coat application rate including primer coat consisting of polyurethane or any other equivalent material , finishing coats and surface finish complete laid over cement plaster (1:6) grading on screed concrete (cement plaster and screed paid seperately) mix all complete including all labour, material, equipment, handling, scaffolding, transporting, testing etc. complete as per drawing, specification and instructions of the engineer	770	sqm	500.00	385000.00
93	Providing & fixing in position precast cement concrete trench covers, coping, roof units, fascia, RCC grills, etc., 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, and of following grade:				
	M25	15	cum	6000.00	90000.00
94	Providing & fixing M.S fan clamp type I of 16mm dia MS bar bent to shape with hooked ends in R.C.C slabs during laying including painting the exposed portion of loop,all as per standard design complete.	12	each	40.15	481.80
95	Providing and fixing M.S. grills of required pattern in frames of windows etc. with MS flats,square or round bars etc. all complete.	200	kg	59.25	11850.00
96	Add or deduct plaster drip course /groove in plastered surface or moulding to RCC projections:	50	meter	11.95	597.50
97	Providing & fixing 0.5mm thick precoated Al-Lineal false ceiling in approved pattern all complete including fixing ,leaving cut out etc required for completion of works as per direction of Engineer-in -Charge.	336	sqm	800.00	268800.00

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S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
98	Painting with chemical resistant epoxy paint (two or more coats) at all locations prepared and applied as per manufacture's specifications including appropriate priming coat, preparation of surface etc. complete.	50	sqm	75.25	3762.50
99	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 .	336	sqm	310.10	104193.60
			--		
				Sub-Total	5827769.78
Note:					
1	<i>Reinforcement steel shall be supplied by BHEL free of cost as per norms indicated in conditions of contract. The rate quoted against Item No: 15(b) above shall be deemed to be inclusive of cost against all activities required including transportation of material from nearest SAIL stockyard.</i>				