

**BILL OF QUANTITY****Name of Project** : 765/400KV SUB-STATION AT RAICHUR**Name of Work** : CIVIL WORKS FOR BUILDINGS

S.No.	Description of Item	Quantity	Unit	Unit Rate(Rs)	Amount(Rs)
<b>1</b>	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.				
<b>(a)</b>	All kinds of soil.	1700	cum	129.35	219895.00
<b>2</b>	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.				
<b>(a)</b>	All kinds of soil.	200	cum	130.80	26160.00
<b>3</b>	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.	800	cum	83.80	67040.00
<b>4</b>	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.				
<b>(a)</b>	All kinds of soil				
<b>4.1</b>	Pipes, cables etc, not exceeding 80mm dia.	20	meter	101.40	2028.00
<b>4.2</b>	Pipes, cables etc. exceeding 80mm dia. but not exceeding 300 mm dia.	20	meter	165.60	3312.00
<b>4.3</b>	Pipes, cables etc. exceeding 300mm dia but not exceeding 600mm	20	meter	258.55	5171.00
<b>5</b>	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 -.				
<b>(a)</b>	Lead upto 1 km.	600	cum	82.78	49668.00
<b>(b)</b>	Lead upto 3 km.	200	cum	104.98	20996.00
<b>(c)</b>	Lead upto 5 km.	50	cum	125.92	6296.00

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 : 2 coarse sand : 4 graded stone aggregate 20mm nominal size)	20	cum	4514.05	90281.00
(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)	200	cum	3593.30	718660.00
7	Extra for providing and mixing water proofing material 'Impermo' or equivalent in cement concrete work in the proportion recommended by the manufacturer.	330	kg	35.35	11665.50
8	Supplying and filling in plinth with Jamuna/local sand under floors including watering, ramming, consolidating and dressing complete.	100	cum	749.30	74930.00
9	Supplying chemical emulsion in sealed containers including delivery as specified.				
	Chloropyriphos emulsifiable concentrate of 20%	100	litre	185.95	18595.00
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).	900	sqm	75.00	67500.00
11	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) .	75	sqm	254.70	19102.50
12	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.	75	sqm	96.65	7248.75
13	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for RCC structural elements including roads excluding the cost of centering, shuttering, finishing and reinforcement including admixtures in recommended proportions (as per IS 9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability. - <b>M25 grade</b> reinforced cement concrete by using minimum 330kg of cement per cum of concrete.				
(a)	All works upto plinth level	600	cum	5242.15	3145290.00
(b)	All works above plinth level upto floor V level	575	cum	5781.50	3324362.50

<b>14</b>	Centering and shuttering including strutting, propping, etc., and removal of form for:				
<b>(a)</b>	Foundations, footings, bases of columns, etc., for mass concrete.	450	sqm	166.90	75105.00
<b>(b)</b>	RCC walls at all levels (any thickness).	950	sqm	285.15	270892.50
<b>(c)</b>	Suspended floors, roofs, landings, balconies, chajjas and access platforms at all levels.	1450	sqm	311.20	451240.00
<b>(d)</b>	Lintels, beams, plinth beams and cantilevers.	2000	sqm	262.25	524500.00
<b>(e)</b>	Columns, Pillars, Piers, Posts and Struts .	750	sqm	365.60	274200.00
<b>(f)</b>	Stairs	150	sqm	326.60	48990.00
<b>15</b>	Extra for additional height in centring ,shuttering wherever required with adequate bracing ,propping etc. including cost of deshuttering and decentering 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 .	475	sqm	121.65	57783.75
<b>16</b>	Steel reinforcement -Cold twisted bars /TMT- Fe 500 (To be procured from SAIL, TISCO, IISCO and RINL only)				
<b>(a)</b>	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)	127000	kg	10.00	1270000.00
<b>17</b>	Brickwork with F.P.S.bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	75	cum	3316.55	248741.25
<b>18</b>	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)	555	cum	3876.15	2151263.25
<b>19</b>	Half brick masonry with bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	80	sqm	416.95	33356.00
<b>20</b>	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)	280	sqm	476.85	133518.00
<b>21</b>	Extra for providing and placing in position 2 Nos 8mm dia bars at every third course of half brick masonry (with FPS bricks)	360	sqm	63.30	22788.00
<b>22</b>	Marbel work gang saw cut (polished and machine cut) of thickness 18mm for staire case in cement mortar 1:3 (1 cement : 3 coarse sand) including pointing with white cement mortar 1:2 (1 white cement : 2 marble dust ) with an admixture of pigment to match the marble shade.				
	Raj Nagar Plain white marble/Udaipur green marble/ Zebra black marble.	80	sqm	2222.90	177832.00

<b>23</b>	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
<b>24</b>	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 : 2coarse sand : 4 graded stone aggregate 6mm nominal size) as per direction of Engineer-in-charge and finished smooth				
		10	sqm	2670.75	26707.50
<b>25</b>	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).				
		55	each	646.50	35557.50
<b>26</b>	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	80	each	203.80	16304.00
<b>27</b>	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	95	each	100.40	9538.00
	150 X 10mm	150	each	59.00	8850.00
<b>28</b>	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	250	each	62.50	15625.00
<b>29</b>	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.	25	sqm	1840.85	46021.25
<b>30</b>	Providing and fixing ball bearing for rolling shutters.				
		8	each	429.85	3438.80

<b>31</b>	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	150	RM	370.00	55500.00
<b>32</b>	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
<b>33</b>	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.	4000	kg	59.90	239600.00
<b>34</b>	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.	40	each	117.45	4698.00
<b>35</b>	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.				
<b>(a)</b>	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.	5300	kg	67.20	356160.00
<b>(b)</b>	In gratings, frames, ladders, stair railings, gates (including pipes), rails, ISMB, ISMC and similar works.	5000	kg	77.90	389500.00

36	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.	150	sqm	280.05	42007.50
37	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.	125	sqm	420.50	52562.50
38	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
39	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	300	sqm	769.35	230805.00
40	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
41	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.	825	sqm	724.25	597506.25

42	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
43	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.	30	sqm	800.00	24000.00
44	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 60 x 60 cm	555	sqm	1337.10	742090.50
45	Providing and laying antiskid 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 60 x 60 cm	5	sqm	1400.00	7000.00
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.	70	sqm	1195.14	83659.80
47	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.	50	Each	148.75	7437.50

<b>48</b>	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	325	RM	206.90	67242.50
<b>49</b>	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	85	each	156.95	13340.75
	110mm Shoe plain	50	each	287.05	14352.50
<b>50</b>	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	160	each	144.60	23136.00
<b>51</b>	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 cement plaster(1cement : 6 fine sand)	3000	sqm	182.90	548700.00
<b>52</b>	12mm cement plaster on even side of the walls in the mix: 1:6 (1cement :6coarse sand)	3000	sqm	121.05	363150.00
<b>53</b>	2mm thick plaster of paris punning over the plastered surfaces on wall surfaces as directed by engineer-in-charge.	3800	sqm	82.80	314640.00
<b>54</b>	6mm cement plaster to ceiling of mix 1:3 (1 cement : 3 fine sand)	1575	sqm	101.00	159075.00
<b>55</b>	Applying priming coat				
(a)	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/ steel works.	255	sqm	20.70	5278.50
(b)	Applying one coat of cement primer of approved brand and manufacture on wall surface:	1400	sqm	27.55	38570.00
<b>56</b>	Distemping 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.)	2250	sqm	66.70	150075.00
<b>57</b>	Distemping with first quality acrylic washable distemper (ready mixed) of approved manufacturer and of required shade and colour complete as per manufacturer's specification				
	New work (two or more coats)	485	sqm	37.35	18114.75

58	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade.				
	Two or more coats on new work.	1675	sqm	60.25	100918.75
59	Finishing walls with Acrylic exterior flat paint of required shade over an under coat of suitable primer on new cement plaster surface:				
	New work : (Two or more coat).	1800	sqm	67.50	121500.00
60	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:				
	Two or more coats on new work.	145	sqm	53.85	7808.25
61	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
62	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.	850.00	RM	72.15	61327.50
63	Making plinth protection of 50mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) laid over 75mm thick bed of dry brick balast 40mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth.	355.00	sqm	363.25	128953.75
64	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.	4	each	2964.10	11856.40
65	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	5	each	4201.05	21005.25
66	Extra for using coloured pedestal type W. C. pan (European type) with low level cistern of same colour instead of white vitreous china W.C. pan and cistern.	5	each	1173.10	5865.50

67	Providing and fixing coloured 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.	8	each	5354.50	42836.00
68	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	9	each	1848.35	16635.15
	Vitreous China Flat back wash basin size 550 x 400mm with a pair of 15mm C. P. brass pillars taps	2	each	1679.95	3359.90
69	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 standard and weighing not less than 650gm for CP bottle trap complete including painting of fittings and brackets, cutting and making good the wall wherever required.				
	460 x 915 mm bowl depth 178mm with drain board	2	each	4130.15	8260.30
70	Providing and fixing 100 mm sand cast iron grating for gully, floor or Nahani trap.	25	each	24.60	615.00
71	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	10	each	800.00	8000.00
72	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.	5	each	341.25	1706.25
73	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.	9	each	415.20	3736.80

74	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).	14	each	180.10	2521.40
75	Providing and fixing toilet paper holder. CP brass.	10	each	250.95	2509.50
76	Providing and fixing soil, waste and vent pipes: 100 mm dia. Sand cast iron S & S pipe.	70	RM	734.30	51401.00
77	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	30	each	112.50	3375.00
78	Providing lead caulked joints to SCI pipes and fittings of diameter 100mm	30	each	207.85	6235.50
79	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.	3	each	801.70	2405.10
80	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. (b) 20 mm dia nominal bore. (c) 25 mm dia nominal bore.	40 20 50	RM RM RM	161.60 188.05 243.15	6464.00 3761.00 12157.50
81	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. (b) 20 mm dia nominal bore.	15 10	RM RM	229.10 251.30	3436.50 2513.00
82	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. (b) 20 mm dia nominal bore. (c) 25 mm dia nominal bore. (c) 40 mm dia nominal bore.	10 10 50 100	RM RM RM RM	142.25 161.25 209.40 294.20	1422.50 1612.50 10470.00 29420.00

(d)	50 mm dia nominal bore.	200	RM	355.95	71190.00
(e)	80 mm dia nominal bore.	100	RM	573.40	57340.00
83	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.	5	each	277.35	1386.75
84	Providing and fixing C.P. brass bib cock of approved quality conforming to IS: 8931				
	15mm nominal bore	10	each	397.50	3975.00
85	Providing and fixing C.P. brass stop angle valve for basin and cistern points of approved quality conforming to IS:8931.				
	15mm nominal bore	10	each	449.35	4493.50
86	Providing and fixing brass gate valve with CI wheel of approved quality (screwed end)				
(a)	25mm nominal bore	5	each	372.95	1864.75
(b)	32mm nominal bore	3	each	450.90	1352.70
87	Providing and fixing gun metal ball valve with operating lever of approved quality complete.				
	High or low pressure with plastic floats				
	15mm nominal bore	3	each	258.05	774.15
88	Providing and fixing gun metal non-return valve of approved quality complete.				
	25mm nominal bore				
	Horizontal	3	each	383.45	1150.35
	Vertical	3	each	395.05	1185.15
89	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
90	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.	200	RM	219.05	43810.00
91	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.	200	RM	607.70	121540.00

<b>92</b>	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
<b>93</b>	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
<b>94</b>	Extra for depth for manholes				
	Size 90X80cm				
	With FPS bricks 75 class designation	6	RM	4061.70	24370.20
<b>95</b>	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	4	each	277.95	1111.80
<b>96</b>	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

<b>97</b>	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).				
<b>(a)</b>	For fixed portion				
	Powder coated aluminium (minimum thickness of powder coating 50 micron)	3270	kg	387.60	1267452.00
<b>(b)</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)	2440	kg	436.35	1064694.00
<b>98</b>	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)	230	sqm	905.75	208322.50
<b>99</b>	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	15	each	1953.10	29296.50
<b>100</b>	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
<b>101</b>	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 propriety 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 propriety 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	350	sqm	786.70	275345.00
<b>102</b>	Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6mm nominal size) reinforced with 1.6mm dia mild steel wire including centering and shuttering, roughning, cleaning, fixing and finishing in cement mortar 1:3 (1 cement : 3 fine sand) etc. complete				
	50mm thick	20	sqm	598.15	11963.00
<b>103</b>	Add or deduct plaster drip course /groove in plastered surface or moulding to RCC projections:	250	meter	22.25	5562.50

<b>104</b>	Providing & fixing 15mm thick approximately 600 x 600mm Mineral fibre board panel along with false ceiling and making cut-outs for electrical fixtures, AC diffusers, openable access etc complete as per drawings with silhouette profile system with 15mm wide flange incorporating 6mm central recess white/black main runners at 1200mm centre to centre and not greater than 600mm from the adjacent wall. The cross tees shall be provided to make a module of approximately 600mm x 600mm by fitting 600mm long cross tees centrally placed between 1200mm long cross tees. Cross tees also have 15mm wide flange incorporating 6mm central recess white/black. The module formed above shall be anchored to the slab with channels or angles , suspenders as per manufacturer's specification.	600	sqm	745.00	447000.00
<b>105</b>	Providing and laying Tiles/Paver block as per <b>clause 10 point no. 56</b> of Customer/Employer specification. Rate shall be inclusive of cost of Tiles/paver block, cement mortar 1:4 (1 cement : 4 coarse sand), PCC 1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) including supplying, laying etc. all complete.	150	sqm	870.00	130500.00
<b>106</b>	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.	1	each	15228.15	15228.15
	With FPS bricks				
<b>107</b>	Providing and fixing on roof Mangalore tile of 20mm nominal thickness and of approved size on 20mm thick 1:4 (1 cement: 4 coarse sand ) mortar, all complete as per direction of Engineer-in-Charge.	280	sqm	210	58800.00
<b>108</b>	Providing an fixing chicken mesh on wall surface all complete as per direction of Engineer-in charge.	1470	sqm	70	102900.00
<b>109</b>	Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per drawing and approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.)	500	kg	558	279000.00
<b>110</b>	40mm thick fine dressed stone flooring over 20mm (average) thick base of cement mortar 1:5 (1 cement : 5 coarse sand) with joints finished flush.	375	sqm	500	187500.00
	Dholpur stone				
<b>111</b>	Providing and fixing nozzles with complete assembly of required dia. as per drawing and specification all complete				
<b>a</b>	100 NB	2	No.	1500	3000.00
<b>b</b>	50 NB	2	No.	1000	2000.00
<b>c</b>	80 NB	4	No.	1200	4800.00

d	25 NB	6	No.	600	3600.00
f	300 NB	2	No.	2000	4000.00
112	Providing septic tank and soak pit complete as per the drawing all complete.	2	N0	200000	400000.00
113	Providing rain water harvesting as per specification and drawing all complete.	1	No	500000	500000.00
114	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) admixed with 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 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :				
	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	200	sqm	786.7	157340.00
TOTAL					24964279

**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.