

Bharat Heavy Electricals Limited

**High Pressure Boiler Plant
Tiruchirappalli – 620 014. India
Civil Engineering Department (Factory)**

TENDER DOCUMENT (PRICE BID)

Name of work	:	Construction of various buildings for Compressor house, Fire Station, Office Annex, stores, sub-stations, etc. in Factory complex for the Power Equipment Fabrication Plant near Sakoli, Bhandara district in Maharashtra State.
Value of work	:	Rs. 2282 Lakh plus applicable service tax
Tender Notice No.	:	CF:TN:009 / 14-15
Tender Schedule No.	:	CF:TS:024 / 14-15
Period of Contract	:	12 (Twelve) Months
Issued to	:	

SCHEDULE 'A'

LIST OF WORKS AND PRICES

NAME OF WORK:

Construction of various buildings for Compressor house, Fire Station, Office Annex, stores, sub-stations, etc. in Factory complex for the Power Equipment Fabrication Plant near Sakoli, Bhandara district in Maharashtra State.

DETAILS & QUANTITIES of each item of work shown in the **BILL OF QUANTITIES** are only approximate and the same is attached. They are given as a guide for the purpose of tendering only and are liable to variation and alteration of the Competent Authority. The work under each item as executed shall be measured and priced at the corresponding rate quoted by the contractor in the **BILL OF QUANTITIES**

Sl.No.	Description of work / supplied	Total amount of work / supplies (in figures and words)		Period of contract
		Rs.	Ps.	
1.	Construction of various buildings for Compressor house, Fire Station, Office Annex, stores, sub-stations, etc. in Factory complex, for the Power Equipment Fabrication Plant near Sakoli, Bhandara district in Maharashtra State.	22,82,00,000/-		TWELVE (12) MONTHS

ANNEXURE TO SCHEDULE A

BILL OF QUANTITIES

Sl. No.	Appx. Qty.	Description of work	TNBP No.	Rate (Both in Unit fig & Words	Amount	
					Rs.	Ps.

AS PER SEPARATE SHEETS ATTACHED CONTAINING **44** PAGES.

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**BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHIRAPPALLI- 620 014**

CIVIL ENGINEERING DEPARTMENT-FACTORY

BILL OF QUANTITIES

Name of Work: Construction of various buildings for Compressor house, Fire Station, Office Annex, stores, sub-station etc. in Factory complex for the Power Equipment Fabrication Plant near Sakoli, Bhandara district in Maharashtra State.

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
1		Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the near by low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge.			
a	5.40	Plain Cement Concrete.		Cum	
b	5.40	RCC works including stacking of steel bars.		Cum	
c	5.40	Brick work in cement mortar		Cum	

CONTRACTOR

3

ACCEPTING OFFICER

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
d	5.40	Stone rubble masonry in cement mortar		Cum	
		<u>EARTH WORK EXCAVATION</u>			
2	283.50	Hire charges for engaging earth moving machinery (Hydraulic Excavator) to attend to channeling works ,cleaning the areas including uprooting thorny plants/heavy jungles/trees etc.of all heights and leveling the areas thereafter including all debris etc., all as per instructions of Engineer-in-charge. Rate includes hire, fuel, operation charges, to and fro charges for machinery, all labour and all other incidentals etc., complete.		Hr	
3	225.00	Surface dressing of the ground including removing vegetation and inequalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m. All kinds of soil		Sqm	
4	6025.00	Conveyance of earth by mechanical means, including loading, transporting, unloading as approved by Engineer-in-charge, beyond 50 metres initial lead for all leads including all lifts involved. 0-2 KM		Cum	
5	837.90	Conveyance of Rock by mechanical means, including loading, transporting, unloading as approved by Engineer-in-charge, beyond 50 metres initial lead for all leads including all lifts involved. 0-2 KM		Cum	
6	7650.00	Supplying, conveying and stacking Good earth (measured in stacks will be reduced by 20% for Payment) at site.		Cum	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
7	4671.00	Diluting and injecting chemical emulsion (BIFLEX T.C 2.5 EC in 20 L/Equivalent) for pre-constructional anti-termite treatment and creating a continuous chemical barrier under and alround the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of building, expansion joints, over the top surface of consolidated earth, surrounding of pipes and conduits etc. complete , all as per standard specification. (Plinth area of building at ground floor only shall be measured for payment). Rate includes cost of labour, supply and conveyance of chemicals, other incidentals etc all complete		Sqm	
8	15390.00	Filling earth in layers not exceeding 20 cm. in depth, breaking clods, watering, rolling each layer with ½ tonne roller, or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up, in embankments for roads, flood banks, marginal banks, and guide banks, filling etc. All kinds of soil.		Cum	
9		Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and initial lift of 1.5 meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc.			

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
a	9657.00	All kinds of soils except rock		Cum	
b	1876.50	Ordinary rock		Cum	
c	1197.00	Hard Rock(Requiring blasting)		Cum	
d	643.50	Hard Rock(Blasting Prohibited)		Cum	
10		Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and from (-)1.5 to (-)3 meter below ground level for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc.			
a	1642.50	All kinds of soils except rock		Cum	
b	427.50	Ordinary rock		Cum	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
c	310.50	Hard Rock(Requiring blasting)		Cum	
d	166.50	Hard Rock(Blasting Prohibited)		Cum	
11		Earthwork excavation (TRENCHES) in soils given below by mechanical means (Hydraulic excavator)/manual means and depositing the excavated earth at suitable places within the initial lead of 50 meter and lift of (-)3 to (-)4.5 meter below ground level meter for foundation in building works, roads, narrow drains, sewers, bridges, pipe lines etc., sectioning the subgrade to proper level and grade, watering and consolidating the subgrade to receive concrete bed, all as per standard specifications and instructions of Engineer-in-charge. Rate also includes bailing or pumping out water during excavation due to subsoil water, rain etc.			
a	382.50	All kinds of soils except rock		Cum	
b	36.00	Ordinary rock		Cum	
c	31.50	Hard Rock(Requiring blasting)		Cum	
d	31.50	Hard Rock(Blasting Prohibited)		Cum	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
12	2853.00	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed All kinds of soil		Sqm	
13	7699.50	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil		Cum	
14	8608.50	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.		Cum	
15	894.60	Supplying and filling in plinth with river sand under floors, including watering, ramming, consolidating and dressing complete.		Cum	
		<u>CONCRETE WORK</u>			
16	9.00	Providing and laying in position plain cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)		Cum	
17	3208.50	Providing and laying in position plain cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 cement : 4 fine sand : 8 graded stone aggregate 40 mm nominal size)		Cum	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
18	745.20	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5mm nominal size).		Sqm	
19	2835.00	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 : 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)		Cum	
20	1874.70	Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete. upto (+)6.0m from FFL excluding cost of centering, shuttering, finishing and reinforcement : 1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)		Cum	
21	931.50	<p>Providing vertical drops, fins, facias etc., for 75 mm thick with 1:2:4 cement concrete using 6 mm granite stone chips for inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces, finishing, curing etc., complete. Rate includes cost of all materials and labour but excluding fabrication charges for reinforcement.</p> <p>Cement Consumption 24.76 kg/sq.m.</p>		Sq.m.	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
22	220.50	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete confirming IS 456 & 10262-2009 for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.All works upto Plinth level		Cum	
23	9.00	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete confirming IS 456 & 10262-2009 for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.All works above Plinth level upto floor V level.		Cum	
		<u>CENTERING AND SHUTTERING WORK</u>			
24		Providing Centring and shuttering including strutting, propping, assembling etc. and removal of form work. Upto a maximum height of 4.50 metre of each floor and also upto floor five level.			
a	3249.00	Foundations, footings, bases of columns, etc. for mass concrete.		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
b	1174.50	Walls (any thickness) including attached pilasters, buttermesses, plinth and string courses etc		Sqm	
c	7780.50	Suspended floors, roofs, landings, balconies and access platform.		Sqm	
d	13.50	Shelves (Cast in situ) .		Sqm	
e	10849.50	Lintels, beams, plinth beams, girders, bressumers and cantilevers.		Sqm	
f	3082.50	Columns, Pillars, Piers, Abutments, Posts and Struts .		Sqm	
g	135.00	Pockets or holes in foundations for holding down bolts.		Sqm	
25	27.00	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 4.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured). Suspended floors, roofs, landing, beams, columns and balconies (Plan area to be measured)		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
		<u>PRECAST WORK</u>			
26	342.00	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in lintels, beams and bressumers, including setting in cement mortar 1:3 (1 cement : 3 coarse sand), cost of required centering and shuttering but excluding the cost of reinforcement, with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).		Cum	
27	139.50	Providing, transporting, hoisting and fixing precast reinforced cement concrete in Cover Slab for Trenches or drains or shelves, including setting in cement mortar 1:3 (1 cement : 3 coarse sand), cost of required centering, shuttering and finishing with neat cement punning on exposed surfaces but excluding the cost of reinforcement, with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 mm nominal size).		Cum	
28	364.50	Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6mm nominal size) reinforced with 1.6 mm dia mild steel wire including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete excluding plastering of the jambs, sills and soffits upto (+) 4.5m from FFL. 50 mm thick.		Sqm	
		<u>REINFORCEMENT</u>			
29	713.70	Supplying, Straightening, cutting, bending, placing in position of MS/CTD/TMT bars and binding with MS binding wires of 18/20 gauge etc. for reinforcement of RCC works. Rate includes reinforcement steel, cover blocks, cost of binding wire , conveyance of MS/ CTD bars to site of work, labour etc. complete.		MT	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
		<u>MASONRY WORK</u>			
30	319.50	Providing Brick work with common burnt clay F.P.S. (non modular) bricks of strength not less than 50 Kg/Sqcm in foundation and plinth in: Cement Mortar 1:6 (1 cement : 6 coarse sand).		Cum	
31	3339.00	Providing Brick work with common burnt clay F.P.S. (non modular) bricks of strength not less than 50 Kg/Sqcm in Superstructure above plinth level Upto a maximum height of 4.50 metre of each floor and also upto floor five level in all shapes and sizes in : Cement mortar 1:6 (1 cement : 6 Coarse sand)		Cum	
32	90.00	Providing Brick work with common burnt clay F.P.S. (non modular) bricks of strength not less than 50 Kg/Sqcm in Superstructure above plinth level Upto a maximum height of(+) 8.00 metre from FFL in all shapes and sizes in : Cement mortar 1:6 (1 cement : 6 Coarse sand)		Cum	
33	9.00	Providing Brick work with non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894, class designation 10 average compressive strength in super structure above plinth level up to floor V level in : : Cement mortar 1:6 (1 cement : 6 coarse sand)		Cum	
34	757.80	Providing Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) upto plinth level with : Cement mortar 1:6 (1 cement : 6 coarse sand).		Cum	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
35	117.00	Providing Random rubble masonry with hard stone in superstructure above plinth level and upto floor five level, including leveling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) at window sills, ceiling level and the like. Cement mortar 1:6 (1 cement : 6 coarse sand)		Cum	
		<u>FLOORING</u>			
36	2556.00	Flooring with reinforced cement concrete of mix 1:2:4 using 20 mm nominal size hard broken granite stone jelly for thickness varying from 100 to 500 mm laid in panels not exceeding 6 x 30 m between expansion joints, including necessary vibration using needle / board / screed vibrators, all as required including necessary shuttering, painting the sides with bitumen, but excluding reinforcement and fabrication charges for reinforcement, all as per standard specifications. Cement Consumption 320 kg/Cu.m.		Cum	
37	1030.50	Providing, laying and finishing the top of floor, Kitchen platform, cupboard, window sills with the following best quality slabs of required sizes over a bed of cement slurry @ 4.40 Kg/SQM and a backing layer of cement mortar 1:4, 20 mm (average) thick, finished with flush pointing in white cement using appropriate colour pigment including rubbing and polishing, edge moulding, nosing wherever necessary etc. complete, all as per instructions of Engineer in charge and standard specifications. Granite slabs 16 to 18 mm thick, polished - of any colour and shape. Cement Consumption 13.51 kg/sq.m.		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
38	54.00	Providing and fixing White Agaria Marble Stone slab table rubbed, edges rounded and polished of size 75x50 cm deep or thereabout and 1.8 cm thick fixed in urinal partitions by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6 mm nominal size) as per direction of Engineer-in-charge and finished smooth.		Sqm	
39	99.00	Providing and fixing Marble stone flooring with 18 mm thick marble stone, as per sample of marble approved by Engineer-in-charge, over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry, including rubbing and polishing complete with : Raj Nagar plain.		Sqm	
40	1444.50	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 of approx thickness 7mm of approved make in all colours, shades except burgundy, bottle green, black of any size 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 @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.		Sqm	
41	4216.50	Providing and laying Ceramic glazed floor tiles of size of minimum 600X600 mm or thereabout of approx thickness 7mm, of 1st quality conforming to IS : 15622, of approved make, in all colours, shades,, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), including pointing the joints with white cement and matching pigments etc., complete		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
42	355.50	Providing and laying vitrified floor tiles of Size 600mmX600mm (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete.		Sqm	
43	1687.50	Providing Concrete tiles of minimum thickness 20mm on floors jointed with cement mortar 1:4 laid over a bed of 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand) and finished neat complete.(EUROCON/ DUROCON/QUALICREET/Equivalent approved brand) of any size as per Engineer in Charge Cement Consumption 12.42 kg/sq.m.		Sqm	
44	940.50	Finishing the top of all floors with 25 mm thick cement concrete (without using sand) in the proportion of one part of cement and three parts of 3 to10 mm gauge hard broken granite stone chips, finishing the surfaces smooth, rounding of corners, curing, providing borders etc., complete, all as per standard specifications. (Ellis pattern flooring) Cement Consumption 14.60 kg/sq.m.		Sqm	
45	14206.50	Floor finish with 40 mm thick granolithic flooring over the concrete base while it is wet for proper bonding, the bottom 25 mm thick consisting of one part of cement and one part of 6 mm gauge hard broken granite stone chips (the proportion being by volume) and the top 15 mm finished with hardening compound of proportion one part of hardonate (ironite or equivalent) four parts of cement and eight parts of 6 mm gauge blue granite stone chips (the proportion being by weight) including finishing and painting the sides with bitumen etc., complete, all as per standard specifications. Cement Consumption 40.00 kg/sq.m.		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
46	270.00	Stone tile (polished) work for wall lining over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sqm including pointing in white cement complete. Granite of any colour and shade		Sqm	
		<u>EXPANSION</u>			
47	5.18	Providing and filling in position bitumen mix filler of Proportion 80 kg. of hot bitumen, 1 kg. of cement and 0.25 cubicmetre of coarse sand for expansion joints.		Cum	
48	432.00	Providing and fixing in position 12mm thick bitumen impregnated fibre board conforming to IS: 1838 including cost of primer, sealing compound in expansion joints.		Sqm	
		<u>ROOFING</u>			
49	252.00	Providing false ceiling at all heights using the following ceiling tiles. The scope of work includes providing and fixing frame of grid size 600 mm x 600 mm or thereabouts using GI sections of main tees of size 24mm x 38mm x, cross tees of size 24mm x 38mm, wall angles of size 19mm x 19mm , suspended by hangers of ceiling/ stay angles / G I wires of 2mm x 2 ply of 8' length screwed with suitable bullets of size 45 to 50mmx 8mm size to RCC roof ceiling / steel trusses etc. complete. hangers and height adjustment clips if any shall also to be provided wherever light fixtures / AC grills / diffusers are flush to the ceiling frame work and the ceiling boards have to made alright accordingly. Rate to include cost of all materials involved including suitable fasteners, screws, etc., , labour charges and all other incidentals etc., Complete. All as per standard / manufacturers specifications and instructions of Engineer-in- charge. Arm Gyp- FB Ceiling tiles of Armstrong make of size 595mm x 595mm x 9mm thick or equivalent as approved by Engineer in charge		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
50	2117.00	Providing weathering course on top of roof slab with 20mm size brick jelly and pure lime (no sand) in the proportion of 32 : 12.5 to the required thickness, well beaten with wooden battens, so as to secure adequate slope, all as per standard specifications and instructions of Engineer-in-charge.		Cum	
51	4540.00	Providing and laying pressed clay tiles (as per approved pattern 20 mm nominal thickness of approved size) on roofs jointed with cement mortar 1:4 (1 cement : 4 coarse sand) mixed with 2% integral water proofing compound laid over a bed of 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand) and finished neat complete.		Sqm	
		<u>DOORS,WINDOWS AND FITTINGS</u>			
52	1.00	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length including hold fast lugs or dash fastener . Second class teak wood		Cum	
53	54.90	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 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 necessary screws		Sqm	
54	54.00	Providing and fixing fully panelled shutters for doors, windows and clerestory windows, including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws, all complete as per direction of Engineer-in-charge. Second class teak wood 35 mm thick shutters		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
55	113.00	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm) with double speed adjustment with necessary accessories and screws etc. complete.		Each	
56	42.00	Providing and fixing aluminium tower bolts ISI marked 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 : 300x10 mm		Each	
57	225.00	Providing and fixing aluminium tower bolts ISI marked 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 : 150x10 mm		Each	
58	118.00	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws etc. complete. Twin rubber stopper		Each	
59	410.40	Providing and fixing factory made UPVC door frame made of UPVC extruded sections having an overall dimension as below (tolerance ± 1 mm), with wall thickness 2.0 mm (± 0.2 mm), corners of the door frame to be Jointed with galvanized brackets and stainless steel screws, joints mitred and Plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 19mm and 1mm (± 0.1 mm) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturers specification and direction of Engineer-in-charge. Extruded section profile size 48x40 mm.		Metre	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
60	129.60	<p>Providing and fixing to existing door frames. 25mm thick PVC flush door shutters made out of a one piece Multi chamber extruded PVC section of the size of 762mm X 25mm or less as per requirement with an average wall thickness of 1mm (± 0.3mm). PVC foam end cap of size 23x10mm are provided on both vertical edges to ensure the overall thickness of 25mm. An M.S. tube having dimensions 19mm x 19mm and 1.0 mm (± 0.1mm) is inserted along the hinge side of the door. Core of the door shutter should be filled with High Density Polyurethane foam. The Top & Bottom edges of the shutter are covered with an end-cap of the size 25MM X 11MM. Door shutter shall be reinforced with special polymeric reinforcements as per manufactures' specification and direction of Engineer-in-charge to take up necessary hardware and fixtures. Stickers indicating the locations of hardware will be pasted at appropriate places.</p> <p>The shutter shall be provided with 3 nos of anodised aluminium butt hinges of size 100X75X4 mm and 2 nos of PTMT handles 125X34X24 mm (weighing not less than 23 gms) and 4 nos of PTMT Tower Bolts with 12 mm one piece rod of size 152x42x18 mm weighing not less than 60 gms with required stainless steel / aluminium screws including labour charges for fixing the shutter frame, shutter and furniture fittings in position and finished smooth with template etc. complete, all as per IS and as directed by the Engineer-in charge.</p>		Sqm	
61	168.00	<p>Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg., for doors, including cost of cutting floors , embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge. With stainless steel cover plate minimum 1.25 mm thickness.</p>		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
62	20.00	Providing and fixing aluminium round shape handle of outer dia 100mm with SS screws etc. complete as per direction of Engineer-in-charge. Powder coated minimum thickness 50 micron aluminium		Each	
63	3096.90	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For fixed portion Powder coated aluminium (minimum thickness of powder coating 50 micron).		Kg	
64	4535.10	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately). Powder coated aluminium (minimum thickness of powder coating 50 micron)		Kg	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
65	825.30	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item): With float glass panes of 5.5 mm thickness.		Sqm	
66	115.20	Providing and fixing 12 mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge. Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side		Sqm	
67	1049.40	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).		Kg	
68	670.50	Providing polyester sun control film of approved brand (GARWARE or equivalent) and shade to glazed panels in doors / windows / ventilators / partitions etc.with proper adhesive, all after removing the existing damaged film if available etc. complete. All as per instructions of Engineer in charge. Rate includes cost of all materials, scaffolding charges, labour, all other incidentals etc., complete. Non reflective Type - Premium grade and scratch resistant		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
69	342.00	Supplying and fixing of Horizontal/Vertical Venetian blinds of 100 mm wide with dual colour of approved make (Hunter Douglas make or equivalent) and shade as decided by BHEL for windows and ventilators. Rate inclusive of cost of all materials, labour for fixing and incidentals etc complete.		Sqm	
70	118.00	Providing and fixing bright finished 100 mm mortice lock with 6 levers without pair of handles of approved quality for aluminium door, with necessary screws etc complete as per direction of Engineerin- charge .		Each	
		<u>STEEL WORK</u>			
71	176.76	Supplying and transporting the raw structural steel sections to the site of work, fabrication of steel work including all materials going into the process of fabrication and forming an integral part of the steel work together with all shop welding including using low hydrogen electrode wherever necessary in built up sections, trusses and framed work, inserts Plate, frame for cover slab, rebate angle etc including applying one coat of approved primer.The scope includes carrying from stacks at erection site to erection positions and erection of fabricated steel work including all handling, conveying, assembling, hoisting, erecting in position, and site welding and or bolting, alignment of structures, all as per drawings and standard specifications . Rate includes cost of structural steel, one coat of primer, including preparation and supply of drawing office despatch list for BHEL's approval, delivery of fabricated steel work at erection site ready for erection,bolts & nuts, hire for welding tools and plants, labour etc, all charges for packing (wherever called for) handling, conveying, stacking and providing lifeline and other provisions for safety, and all other incidental charges etc., complete both for raw materials and fabricated steel works.		MT	
72	176.76	Painting (excluding priming coat) on structural steel works in roof structures, columns etc.with synthetic enamel paint of approved brand and shade, brushing to give an even shade including cleaning the surfaces of all dirt, dust and other foreign matters, scaffolding charges etc.complete. All as per standard specifications. Two Coats each coat of DFT 20 microns		MT	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
73	104.40	Supplying and fixing rolling shutters of approved make, made of required size M.S. 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 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters. 80x1.25 mm M.S. laths with 1.25 mm thick top cover		Sqm	
74	17.00	Providing and fixing ball bearing for rolling shutters.		Each	
75	73.80	Extra for providing mechanical device chain and crank operation for operating rolling shutters.		Sqm	
76	144.00	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, K11 B and K12 B 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 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 20 mm nominal size)		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
77.	54.00	<p>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, K11 B and K12 B 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.</p> <p>Fixing with carbon steel galvanised dash fastener of required dia and size</p>		Sqm	
78	42.30	Providing and fixing 5.5mm thick glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete.		Sq.m.	
79	25479.00	<p>Supplying and fixing Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete</p> <p>Hot finished welded type tubes</p>		Kg	
80	12955.50	Providing holding down bolts in M.S rounds of required sizes with nuts, washers etc. and fixing in proper level, line, alignment etc., all as per drawings and instructions of Engineer-in-charge. Rate includes cost of steel materials, bolts, nuts, washers, fabrication and machining charges, fixing, all labour etc. complete.		Kg	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
81	900.00	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 including cutting and making good the floor slab wherever necessary and fixing with approved chemical sealant as per approval of Engineer-in-charge, .		Kg	
82	2430.00	Providing and fixing stainless steel (Grade 304) Hollow tube, Plate, Channels etc for Main gate 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 with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size. Each Gate is fixed to RCC with suitable hinge arrangement and provided with a wheel to make smooth operation etc all complete as per drawing and instructions of Engineer in charge.		Kg	
83	108.00	Supplying and fixing of safety bars made up of stainless steel pipes of 304 grade 18 gauge minimum 100mm diameter hand rails 1.20 m ht with matt finish or mirror finish with horizontal bars of minimum 400mm centre to centre and vertical bars at 1.5 m centre to centre for safety purposes inside as suggested by the Engineer in Charge over any surface including bending, chamfering ,cladding, fixing with necessary beadings, Tig welding, gladding and polishing complete .		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
		<u>ALUMINIUM WORK</u>			
84	877.50	Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings , the aluminium quality as per grade 6063 T5 or T6 as per BS 1474,including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account).		Kg	
85	193.50	Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building , for all heights and all levels etc. including: (a) Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design. b) Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metallic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two Aluminium sheets (each 0.5mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc. (c) The fastening brackets of Aluminium alloy 6005 T5 / MS with Hot Dip Galvanised with serrations and serrated washers to arrest the wind load movement, fasteners, SS 316 Pins and anchor bolts of approved make in SS 316, Nylon separators to prevent bi-metallic contacts all complete		Sq.m.	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
		<p>required to perform as per specification and drawing The item includes cost of all material & labour component, the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working curtain wall with aluminium composite panel cladding, cleaning and protection of the curtain wall with aluminium composite panel cladding till the handing over of the building for occupation.</p> <p>The Contractor shall provide curtain wall with aluminium composite panel cladding, having all the performance characteristics all complete, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer-in-Charge However, for the purpose of payment, only the actual area on the external face of the curtain wall with Aluminum Composite Panel Cladding (including width of groove) shall be measured in sqm. up to two decimal places.</p>			
		<u>FINISHING</u>			
86	32224.50	<p>Plastering of 12 mm thick with cement plaster of mix : 1:5 (1 cement: 5 fine sand) on surfaces as per instructions of Engineer in Charge.</p> <p>Cement Consumption 4.47 kg/sq.m.</p>		Sqm	
87	7989.30	<p>Plastering on Exposed RCC surfaces of 6 mm thick with cement plaster of mix : 1:3 (1 cement: 3 fine sand) on surfaces as per instructions of Engineer in Charge</p> <p>Cement Consumption 3.67 kg/sq.m.</p>		Sqm	
88	10022.40	<p>White washing on surfaces using best Janathacem or equivalent material to give an even shade including cleaning, brushing of walls and preparing surfaces in accordance with standard specifications at all heights. Rate includes cost of all materials, labour etc., complete. Three coats.</p>		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
89	1431.00	Flush pointing with cement mortar 1:3 for stone slab pavement or precast slab pavement or tiling works etc., all as per standard specifications. Cement Consumption 2.35 kg/sq.m.		Sqm	
90	45.00	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)		Sqm	
91	15651.00	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade. Three coats including water thinnable priming coat with cement primer.		Sqm	
92	553.50	Distempering with 1st quality acrylic distemper (ready mixed) of approved manufacturer, of required shade and colour complete, as per manufacturer's specification. Two coats.		Sqm	
93	13497.30	Applying one coat of Exterior emulsion primer of approved brand and manufacture on wall surface.		Sqm	
94	13497.30	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade: including cleaning, preparing the surfaces, curing etc., complete. Two coats.		Sqm	
95	238.50	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade with one coat of approved primer and two coats of synthetic enamel including cleaning, preparing the surfaces, curing etc., complete		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
96	168.30	Polishing with french polish two coats including a coat of wood filler to give an even surface, including cleaning the surfaces of all dirt, dust and sand papered smooth, all as per standard specifications.		Sqm	
97	9.00	Painting with synthetic enamel paint, having VOC (Volatile Organic Compound) content less than 150 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour. Three Coats- one coat of red oxide zinc chromate priming coat (Having VOC less than 250 g/litre) of approved primer and two coats of synthetic enamel paint.		Sqm	
98	288.00	Providing and applying 2 coats of acrylic anti fungal dust resistant and anti algal exterior emulsion paint of full patty (weathercoat) or approved and equivalent make and shade to all the exterior surfaces over a coat of primer as per manufacturer's specifications including providing necessary scaffolding, curing, etc. complete. If additional coats are required to obtain uniform finish, the same shall be carried out at no extra cost and as per the directions by the Engineer in charge		Sqm	
		<u>PVC WORK</u>			
99	517.50	Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. PVC Pipe 25mm OD (6 Kg/Sqcm)		Meter	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
100	517.50	Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. PVC Pipe 32mm OD (6 Kg/Sqcm)		Meter	
101	517.50	Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete. PVC Pipe 40mm OD (6 Kg/Sqcm)		Meter	
102	553.50	Providing and fixing PVC water pipes and specials conforming to ISS on walls and floors with clamps at one metre spacings, joining with proper adhesive as suggested by manufacturers, cutting and making good the wall etc. complete PVC Pipe 50mm OD (6 Kg/Sqcm)		Meter	
103	879.30	Providing and laying PVC water pipes and specials conforming to ISS , joining with proper adhesive as suggested by manufacturers etc. complete. PVC Pipe 110mm OD (6 Kg/Sqcm)		Meter	
104	90.00	Providing and laying PVC water pipes and specials conforming to ISS in, joining with proper adhesive as suggested by manufacturers etc. complete. PVC Pipe 160mm OD (6 Kg/Sqcm)		Meter	
105	36.00	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. 50 mm nominal outer dia .Pipes.		Metre	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
106	85.50	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement ,trenching ,refilling & testing of joints complete as per direction of Engineer in Charge. 75 mm nominal outer dia .Pipes.		Metre	
107	45.00	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement ,trenching ,refilling & testing of joints complete as per direction of Engineer in Charge. 100 mm nominal outer dia .Pipes.		Metre	
		<u>ROAD WORK</u>			
108	45.00	Supplying and laying rubberized and coloured (for 5mm thick layer) inter locking paver block of 50mm thickness M25 grade in flooring / pavement to take care of vehicular movements with proper line, level, alignment etc., all as per standard specification and instruction of Engineer-in-charge. The rate included cost of material, transportation, loading, unloading at site, labour for spreading and laying of paver block etc., complete over the sand bed of required thickness which will be paid under separate item.		Sqm	
109	90.00	Supplying and laying special interlocking paver block of 65mm thickness M25 grade in flooring/Pavement to take care of vehicular movements with proper line, level, alignment etc all as per standard specification and instruction of Engineer in charge. The rate included cost of material, transportation, loading,unloading at site, labour for spreading and laying of paver block etc, complete over the sand bed of required thickness which will be paid under separate item. Cement Consumption 21.45 kg/sq.m.		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
		<u>FENCING</u>			
110	193.50	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50x50 mm including strengthening with 2 mm dia wire and alignment by means of MS flat as stiffeners, drilled with necessary holes or as the case may be and fixed with RCC / MS fencing posts or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge. Made of G.I. wire of dia 4 mm		Sqm	
		<u>SANITARY INSTALLATIONS</u>			
111	31.00	Providing and fixing White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests water closet squatting pan (Indian type W.C. pan) with 100mm suitable P or S trap, 10 litre high level white P.V.C. flushing cistern, including G.I flush pipe, 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 : .		Each	
112	17.00	Providing and fixing white vitreous china pedestal type water closet (European type) with white seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I.brackets, 40mm flush bend, overflow arrangement with specials of standard 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 white solid plastic seat and lid.		Each	
113	61.00	Providing and fixing white vitreous china flat back half urinal of size 580x380x350mm or thereabouts (Jumbo type-Parryware or equivalent) including supply and fixing of CP spreader, PVC lead connection, waste coupling, CP flange, fixing bracket set and PVC bush, etc complete. The rate is inclusive of conveyance of all the above materials to site of work, labour for carrying to spot and fixing with necessary screws etc complete. All as per standard specifications and instructions of Engineer in charge.		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
114	27.00	Providing, laying and finishing the top of counter wash basin with best quality granite slab of 18 to 20 mm thick over a bedding layer of CM 1:3, 25mm thick finished with flush pointing in white cement using appropriate colour pigment etc. Rate shall include cutting charges for the required shape, cutting oval shape holes for fixing wash basins, providing holes for fixing tap, nosing and edge polishing etc., complete and all as per standard specifications and instructions of Engineer-in-charge. Steel Grey / P.White. Cement Consumption 12.75 kg/Sq.m.		Sqm	
115	45.00	Supplying at site of work, carrying and fixing in position of White Glazed Earthen Ware Wash hand basin of oval shape of approved make and quality with necessary fixing arrangements. Rate includes cost of wash basin, 15mm C.P Brass Pillar tap, PVC flexible waste pipe, C.P brass waste coupling labour for carrying and fixing and all other incidental charges etc. complete. All as per the instructions of Engineer-in-charge.		Each	
116	39.00	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete		Each	
117	52.00	Providing and fixing C.P. brass toilet paper holder		Each	
118	86.00	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors : Sand cast iron S&S as per IS - 3989, 100mm Inlet 75mm Outlet		Each	
119	22.00	Providing and fixing anodised aluminium towel rail of length 600mm long complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
120	22.00	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet :100mm diameter		Each	
		<u>WATER SUPPLY</u>			
121		Providing and fixing G.I. Pipes and specials (Class B) complete with G.I. fittings and clamps, i/c making good the walls etc. concealed pipe, including painting with anti corrosive bitumastic paint, cutting chases and making good the wall :			
a	400.50	15 mm dia. nominal bore		Metre	
b	405.00	20 mm dia. nominal bore		Metre	
122		Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls & floors, including cutting and making good the walls & floors etc. complete. (Internal work - exposed on walls).			
a	360.00	25mm dia. nominal bore.		Metre	
b	162.00	40mm dia. nominal bore		Meter	
c	283.50	50 mm dia. nominal bore		Metre	
d	153.00	80 mm dia nominal bore.		Metre	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
e	283.50	100 mm dia nominal bore.		Metre	
123		Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings including trenching and refilling etc .			
a	184.50	40 mm dia nominal bore		Metre	
b	211.50	50 mm dia nominal bore metre		Metre	
c	333.00	80 mm dia nominal bore		Metre	
d	189.00	100 mm dia nominal bore		Metre	
e	315.00	150mm Nominal Dia		Metre	
124	168.00	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931, 15 mm nominal bore.		Each	
125	58.00	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to IS:8931: 15 mm nominal bore		Each	
126	19.00	Providing and fixing C.P brass stop cock of approved quality : 20 mm nominal bore		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
127		Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :			
a	40.00	25 mm nominal bore		Each	
b	40.00	32 mm nominal bore		Each	
c	40.00	40 mm nominal bore		Each	
d	70.00	50 mm nominal bore.		Each	
e	40.00	80 mm nominal bore.		Each	
128	40.00	Providing and fixing in position of brass wheel valve / gate valve of approved brand with C.I wheel etc. complete. (ISI marked) 100mm Nominal Dia		Each	
129	6.00	Providing and fixing 20 mm nominal bore ball valve (brass) of approved quality, High or low pressure, with plastic floats with brass rod complete:		Each	
130	11.00	Providing and fixing 25 mm nominal bore ball valve (brass) of approved quality, High or low pressure, with plastic floats with brass rod complete:		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
131		Providing and fixing gun metal non- return valve of approved quality (screwed end)			
a	35.00	Horizontal 25 mm nominal bore		Each	
b	35.00	Horizontal 32 mm nominal bore		Each	
c	24.00	Horizontal 40 mm nominal bore		Each	
d	24.00	Horizontal 50 mm nominal bore		Each	
e	24.00	Horizontal 65 mm nominal bore		Each	
f	24.00	Horizontal 80 mm nominal bore		Each	
g	24.00	Vertical 25 mm nominal bore		Each	
h	24.00	Vertical 32 mm nominal bore		Each	
i	24.00	Vertical 40 mm nominal bore		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
j	24.00	Vertical 50 mm nominal bore		Each	
k	24.00	Vertical 65 mm nominal bore		Each	
l	24.00	Vertical 80 mm nominal bore		Each	
132	10000.00	Providing and placing on terrace (at all floor levels) polyethylene water storage tank (rotational moulded), ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but with fittings and without base support for tank		Per Litre	
		<u>DRAINAGE WORK</u>			
133	3.00	Constructing brick masonry road gully chamber 45x45x77.5 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) with precast R.C.C. vertical grating complete as per standard design: With common burnt clay F.P.S. (non modular) bricks of strength not less than 50 Kg /Sqcm		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
134	90.00	Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete : Serrated with central bulb (225 mm wide, 8-11 mm thick)		Metre	
135	9.00	Refilling the column foundation pits with 150mm size soling stones / boulders in layers including supplying of soling and packing the stones in position with sufficient spalls, so as to fill the voids as completely as possible and including filling up the voids (20% by volume of soling stones / boulders) with excavated earth, watering, consolidating complying with standard specification. All as per the instruction of the Engineer-in-charge.		Cum	
136	450.00	Supplying, Conveying & Spreading of 40mm to 50mm stone aggregate in required thickness for all leads & lifts all complete as per Instructions of Engineer in Charge. Rate includes labour all other incidentals etc.		Cum	
		<u>RAINWATER HARVESTING</u>			
137	117.00	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.		Cum	
138	117.00	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge.		Cum	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
		<u>MISCELLANEOUS</u>			
139	4397.00	Supplying at site of work , hoisting and fixing in position of 0.47 to 0.50mm thick colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, North light curves, end curves, etc., as per technical specifications given below for roofing at all heights up to (+) 10.00 metres with necessary xylon coated self tapping / self drilling screws with EPDM washers at every ribs, etc., complete .All as per drawings, manufacturers specifications and instructions of Engineer-in-charge .Rate includes cost of all materials like colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, curves, etc., wherever required self tapping / self drilling screws with EPDM washers at every ribs etc., and labour charges for fixing, hire charges for tools and plants like drilling machines, providing lifeline and other provisions for safety, and all other incidental charges etc., complete. The payment will be made for the actual laid area only.		Sqm	
140	1003.50	Supplying at site of work , hoisting and fixing in position of 0.47 to 0.50mm thick colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, curves, etc., as per technical specifications given below for side sheeting at all heights up to (+) 10.00 metres with necessary xylon coated self tapping / self drilling screws with EPDM washers at every valleys etc., complete .All as per drawings, manufacturers specifications and instructions of Engineer-in-charge .Rate includes cost of all materials like colour coated Aluminium zinc alloy coated high tensile steel rib profile sheets with accessories such as ridge pieces, barge boards, curves, self tapping / self drilling screws with EPDM washers at every valleys etc., and labour charges for fixing, hire charges for tools and plants like drilling machines, providing lifeline and other provisions for safety, and all other incidental charges etc., complete. The payment will be made for the actual laid area only.		Sqm	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
141	27.00	Supplyinig at site of work, hoisting and fixing in position of 2mm thick embossed clear poly carbonate roof light sheets in specified locations and at heights up to (+) 10.00 metres with necessary xylon coated self tapping / self drilling screws with EPDM washers at every ribs etc., complete to match the profile of Aluminium Zinc alloy caoted high tensile steel roof sheets, as per instructions of Engineer-in-charge. The rate includes cost of poly carbonate sheets,self tapping / self drilling screws with EPDM washer at every ribs , and labour charges, all scaffolding charges, tools and plants and all other incidental charges etc., complete .		Sqm	
142	6840.00	Supplying and fixing Galvanised Cup type rail clamp with fittings like stud, bolt of 5.8 grade and spring washer for crane rail / BG track / gantry track etc. Rate includes conveyance, welding including consumables, labour charges etc. complete as per instructions of Engineer-in-charge.		Each	
143	8.10	Grouting the H.D bolts, underneath the base plates etc., after alignment with non-shrink high strength cementitious grout of such as Cera Grout 20/40 or Pidigrout 5M/10M or Flogrout 40/60 or Conbextra GP1/GP2 or any other equivalent grout, all as per instructions of Engineer in charge and as per standard specifications. Rate includes cost of non-shrink grout, cleaning the sleeves/pockets, tools, labour etc., complete.		Cum	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
144		Drilling of holes for the following dia. in Industrial Reinforced cement concrete floor or in machine foundation using power drilling machines in proper manner to a maximum depth of 200mm as per std. specification and fixing the anchor bolts through the holes provided in the machine with the drilled holes in the shop floor as per the instructions of Engineer-in-charge. The quoted rate shall include all labour charges for drilling holes, hire and running charges for machineries, tools and plants, loading, leading, conveyance and other incidental charges for fixing anchor bolts, cleaning the debris, etc. complete.			
a	90.00	12mm dia. x upto 200mm deep.		Each	
b	1000.00	16mm dia. x upto 200mm deep		Each	
c	90.00	20mm dia. x upto 250mm deep.		Each	
d	36.00	24mm dia. x upto 250mm deep.		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
145		Drilling of holes for the following sizes in industrial concrete floor / machine foundations using power-drilling machine, grouting and anchoring of bolts as per standard specification and instructions of Engineer-in-charge. The scope of work includes supply of chemical grout like BOSLIK or any other approved brand , grouting in to the holes before fixing the bolts using mechanical gun and anchoring the bolts at proper position, level and alignment to the satisfaction of Engineer-in-charge. The rate quoted shall include cost of chemical grout and adhesives if any, labour charges for drilling by machine, cleaning the holes, chemical grouting with machine gun, fixing the bolts, finishing the surfaces, Hire charges for drilling machines, grouting machine gun, and other tools & plants required, loading , leading and other incidental charges etc.,			
a	9.00	12mm dia. bolt with 16mm dia hole of 200mm deep.		Each	
b	9.00	16mm dia. bolt with 20mm dia hole of 200mm deep.		Each	
c	9.00	20mm dia. bolt with 24mm dia hole of 200mm deep.		Each	
d	9.00	24mm dia. bolt with 28mm dia hole of 200mm deep.		Each	
e	9.00	30mm dia. bolt with 35mm dia hole of 350mm deep		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
146	4.50	Supplying of R45 rails as per IS Specifications and fabrication, placing in position with alignment and fixing etc. complete all as per Instruction of Engineer in Charge. Rate quoted shall include cost of rails, fabrication charges, consumable materials, labour, all other incidental charges, Power required for fabrication, hire charges for machinery etc. Complete.		MT	
147	103.50	Supplying of CR80 rails as per IS Specifications and fabrication, placing in position with alignment and fixing etc. complete all as per Instruction of Engineer in Charge. Rate quoted shall include cost of rails, fabrication charges, consumable materials, labour, all other incidental charges, Power required for fabrication, hire charges for machinery etc. Complete.		MT	
148		Supplying and fixing of approved (Bosch/Hilti/Equivalent) brands of anchor bolts of the following diameter and length at site of work.			
a	90.00	12mm dia. x upto 200mm deep.		Each	
b	1098.00	16mm dia. x upto 200mm deep.		Each	
c	90.00	20mm dia. x upto 250mm deep.		Each	
d	36.00	24mm dia. x upto 250mm deep.		Each	

Sl. No.	Quantity	Description of work	Rate (both in figures and in words)	Unit	Amount
149	14.00	Supplying and fixing at site of work Stainless steel wash trough of size 5'x 1.5'x1.5 ' made of 1mm thick SS sheet (304 guage) with support 1"SS sq.pipe, , suitable SS drain pipe with SS grating 4 nos of ss flats for fixing the trough on walls all as per attached drawing. Quoated rate shall include cost of all materials, laobour charges for Cutting, Folding,Tig Welding, Grinding,Polishing and fixing at site of work etc complete.		Each	
			TOTAL		
			Applicable Service Tax		
			Grand Total		
(RUPEES ONLY)					
NOTE:-	<p>1. The rate quoted shall not include service tax. However the service tax as applicable for this contract work can be claimed from BHEL along with their monthly bills for further payment to be made to the authorities concerned. The contractor has to submit the payment challan as a documentary proof of having paid the service tax for the previous bill for which he has received the service tax payment along with the subsequent bill for which payment has to be processed. As per the recent amendment in Cenvat Credit Rules-2004, Cenvat Credit and Service Tax Credit should be availed within Six Months from the date of invoice. Hence the Service Tax should be claimed by the contractor within Four months from the date of invoice. Otherwise any claim pertaining to Service Tax will not be entertained by BHEL.</p> <p>2. The period of contract is 12 (TWELVE) months. The contractor is required to plan accordingly and complete the work in time.</p>				

SCHEDULE 'B'

1. The following materials will be issued FREE of cost to contractor at **Power Equipment Fabrication Plant near Sakoli, Bhandara district in Maharashtra State.**

Sl.No	Name of Material
01	Not Applicable

SCHEDULE 'C'

ISSUE OF TOOLS AND PLANTS TO CONTRACTORS

Sl.No.	Qty.	Particulars	Details of BHEL Crew Supplied	Hire Charges Per unit Per Day	Place of Issue	Remarks
.....Nil.....						

SCHEDULE 'D'

NOTE: All Drawings are to be signed by the Contractor as well as the officer entering into contract.

SL.No.	DRAWING NUMBER	DESCRIPTION
1		--AS SEPARATE SHEET ENCLOSED AS ANNEXURE A--

SCHEDULE 'E'

LEAD STATEMENT

Sl.No	Name of Material	Name of Source	Lead Particulars
1	NOT APPLICABLE		

C.A.....Date
(To be used in conjunction with BHE Ltd., General Conditions of Contract)

AUTHORITY TO TENDER

Tender Notice No. **CF:TN:009 / 14-15**

Office of the
DGM / CIVIL / PLANNING (F&T)
BHARAT HEAVY ELECTRICALS LIMITED
TIRUCHY – 14.

Tender Schedule No. **CF:TS:024 / 14-15**

Item rate tender for the work required,” Construction of various buildings for Compressor house, Fire Station, Office Annex, stores, sub-stations, etc. in Factory complex for the Power Equipment Fabrication Plant near Sakoli, Bhandara district in Maharashtra State..”

Messrs / Mr.
.....
.....of.....
.....

are / is hereby authorized to tender for the above work. The Tender is to be delivered at the Office of the DGM. / CIVIL / PLANNING (F&T) Bharat Heavy Electricals Limited Unit, Thiruverumbur, Tiruchirappalli – 620 014, **up to 10.00 hrs. on 07.10.2014** addressed to the DY GEN MANAGER / CIVIL / PLANNING (F&T), BHEL. Tiruverumbur, Tiruchirappalli – 620 014 superscribing the name of work as mentioned above.

Any correspondence concerning this tender should be addressed as indicated above quoting the Tender Notice, Schedule No. and other relevant particulars.

BHARAT HEAVY ELECTRICALS LIMITED DO NOT BIND THEMSELVES TO ACCEPT THE LOWEST OR ANY TENDER.

Issuing Officer with
Designation

Contract Agreement No.....

TENDER

To

The DY GEN MANAGER / CIVIL / PLANNING (F&T)
Bharat Heavy Electricals Limited
Unit :Tiruverumbur
TIRUCHIRAPPALLI – 620 014.

I / We hereby offer to carry out the **“Construction of various buildings for Compressor house, Fire Station, Office Annex, stores, sub-stations, etc. in Factory complex for the Power Equipment Fabrication Plant near Sakoli, Bhandara district in Maharashtra State.”**

I / We hereby carefully perused the following documents connected with the above noted work and agree to abide by the same.

1. Specifications (General & Particular)
2. Drawings
3. Schedule 'A', 'B', 'C', 'D' & 'E'
4. Preamble, BOQ with detailed specifications, terms and conditions, etc.
5. BHE Ltd., General & Special Conditions of Contract, Tender Notice and Instructions to Tenders attached hereto.

I / We forward herewith the sum of Rs.....as Earnest Money, which shall be refunded should this tender be rejected. I / We further agree to deposit such sum which along with the sum of Rs.....mentioned above shall make up 50% of the fully Security Deposit for this work as provided for under conditions of the BHARAT HEAVY ELECTRICALS LIMITED General Conditions of Contract.

I / We further agree to execute all the work referred to in the said documents upon the terms & conditions contained or referred therein and as detailed in Schedule 'A' and Bill of Quantities annexure thereto and to carry out such deviations as may be ordered, vide conditions 6 of the BHEL Ltd., General Conditions of Contract up to a maximum of 20% of the tendered amount of Rs.....

I / We further agree to refer all disputes, as required by condition 62 of the General conditions of Contract to the sole arbitration of an Officer, to be appointed by the General Manager, B.H.E Ltd., in his sole discretion whose decision shall be final and binding.

WITNESS

Signature of the Contractor

Date :

1.
2.

CONTRACTOR

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ACCEPTING OFFICER

GENERAL SUMMARY

1.	(a) Net Cost of works or building etc., from Schedule 'A'	Rs.
2.	Provisional sum	Rs.
	
	Total	Rs.
	

Rupees.....
.....
.....
.....

Shri..... in the
capacity of has
been duly authorized by me / us to sign the tender for and on behalf of
.....

(in block letters)

Date :

SIGNATURE OF CONTRACTOR

Witness :

Postal Address :

1.....
Address

Telephone No.

2.
Address

CONTRACTOR

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ACCEPTING OFFICER

..... alterations have been made in the

Tender Document and as evidence that these alterations were made before the execution of contract

agreement, they have been initialed by the Contractor and the

.....
.....

.....
.....

.....
.....

.....the said officer is hereby authorized to

sign and initial on my behalf the documents forming part of this contract (Number of alternation in figures and words to be given here)

The above tender is accepted by me on behalf of the Bharat Heavy Electricals Limited, Unit:

Thriuverumbur, Tiruchirappalli – 620 014. for a sum of Rs.....

.....
.....

.....at the rates as indicated in Schedule 'A'.(Bill of Quantities)

SignatureDate.....

Designation

ANNEXURE A

LIST OF DRAWINGS FOR CIVIL WORKS AT FACTORY

Sl. No	Description	Drawing Number
01	General Arrangement Of Components Stores Shed	2-TP-CEG-00601
02	Scrap Disposal Office room	2-TP-CEG-00614
03	General Arrangement Of Control Panel Room	3-TP-CEG-00901
04	Security Office	2-TP-CEG-00902
05	Security Booth(4Nos)	2-TP-CEG-00903
06	General Arrangement & Details Of Car Parking Shed	1-TP-CEG-00904
07	Fire Station	2-TP-CEG-00905
08	Material Testing Lab	1-TP-CEG-00906
09	Layout Of Plant	1-TP-CEG-01050
10	Details Of Factory Canteen Washing Area(Lean To Roof Shed)	1-TP-CEG-01164
11	Details Of Factory Canteen Boiler Room	1-TP-CEG-01165
12	Details Of Lpg Manifold Shed For Factory Canteen	1-TP-CEG-01166
13	Cylinder storage shed	1-TP-CEG-01167
14	Motor control center shed	2-TP-CEG-01168
15	Fire Fighting Equip. shed	1-TP-CEG-01169
16	Oxygen Filling station	2-TP-CEG-01170
17	LPG manifolding Shed for shops - 5 Nos	2-TP-CEG-01171
18	Vaporiser shed in LPG yard	2-TP-CEG-01172
19	Compr. shed in LPG yard	2-TP-CEG-01173
20	Factory medical Center	2-TP-CEG-01174
21	Ladies rest room/ Sanitation crew	1-TP-CEG-01175
22	Liquid Oxygen Plant control room	3-TP-CEG-01176
23	LPG Control room	3-TP-CEG-01177
24	Civil stores shed	2-TP-CEG-01179
25	Civil Office	1-TP-CEG-01181
26	Issue office	3-TP-CEG-01184
27	Compressed Air Plant	2-TP-CEG-01185
28	Stores office	2-TP-CEG-01186
29	Transport garage	2-TP-CEG-01187
30	Weigh Bridge Control room	3-TP-CEG-01191

Sl. No	Description	Drawing Number
31	Electrical mechanical repair shop	1-TP-CEG-01195
32	Canteen	1-TP-CEG-01196
33	Weigh Bridge-60T	0-TP-CEG-01199
34	Covered Stores shed	1-TP-CEG-01200
35	Shed for compact substation	2-TP-CEG-01202
36	Toilet	3-TP-CEG-01203
37	Control Room	3-TP-CEG-01204
38	Compact substation(5 Nos)	0-TP-CEG-01205
39	Furnace shed	2-TP-CEG-01206
40	Diesel generator plant	2-TP-CEG-01207
41	LPG storage yard & vapouriser	2-TP-CEG-01208
42	General arrangement of shot blasting shed	1-TP-CEG-01209
43	Main Electrical Substation	1-TP-CEG-01210
44	Layout of Project area	9-TP-CEG-01213
45	Entrance Arch Detail	2-TP-CEG-01365