

Bharat Heavy Electricals Limited
High Pressure Boiler Plant
Tiruchirappalli – 620 014. India
Civil Engineering Department (Factory)

TENDER DOCUMENT (PRICE BID)

Name of work : Construction and expansion of shop floors/Office floors, machine foundations, sumps, underground & Over Head tanks, Cable trenches, RCC & Steel framed structure, Storage sheds, Furnace foundation, Chimney foundation and other infrastructure works in Annex building, Building 50 and other areas in BHEL, Tiruchirappalli.

Value of work : **Rs.45.53 Lakhs + Applicable GST**

Tender Schedule No. : **CF:TS:008/19-20**

Period of Contract : **6 (Six) Months**

EMD : **Rs 91,060/-**

Issued to :

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

SCHEDULE - A

Name of Work: Construction and expansion of shop floors/Office floors, machine foundations, sumps, underground & Over Head tanks, Cable trenches, RCC & Steel framed structure, Storage sheds, Furnace foundation, Chimney foundation and other infrastructure works in Annex building, Building 50 and other areas in BHEL, Tiruchirappalli.

I / We _____ have read the condition of tender attached hereto and agree to abide by such conditions. I/We offer to execute the works in **T.S No. CF:TS:008/19-20 for a period of 06 (Six) month** at the percentage below / at par / above the rates contained in Bill of Quantities appended **below from Page 03**.

I / We further agree to sign an Agreement Bond to abide by the General Conditions of Contract and to carryout all works according to the specifications for materials and works of Bharat Heavy Electricals Limited, Tiruchirapalli-620 014. In case of acceptance of the tender by the BHEL, I/We bind myself/ourselves to execute the contract documents within 7 days after notice that my/our tender has been accepted and this contract has been awarded to me/us and thus failing which I/We shall have no objection to the forfeiture of the Earnest Money amount to **Rs.91,060/-** lodged with Bharat Heavy Electricals Limited, Tiruchirapalli-620 014.

I / We further agree to include all tools & plants and consumables required for the work in my / our scope but required power and water will be provided at one point by BHEL at free of cost and based on this, we have quoted our percentage.

Note: Details & Quantities of each item of work shown in the BILL OF QUANTITIES are only approximate and the same is appended below. 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 overall percentage quoted by the contractor **Below (100-X) % / At par (100%) / Above (100+X) %** of the rates provided in Bill of Quantities appended below from **Page 03**

Sl. No.	Approx. Value of work	Common single percentage rate, Below (100-X) % / At par (100%) / Above (100+X) % to be quoted with respect to the BHEL estimate total provided in Bill of Quantities appended below from Page 03	
		In Figures	In Words
1.	Rs. 45.53 Lakhs (Excluding GST) = 100%		

CONTRACTOR

2

ACCEPTING OFFICER

Note: BHEL estimate total 100% is given below. Contractor has to quote Common single percentage, Below (100-X) % / At par (100%) / Above (100+X) %, with respect to the estimate total in Bill of Quantities below, at page 2 both in figures and in words.

BHEL / TRICHY-620 014 , CIVIL ENGINEERING DEPARTMENT-FACTORY

BILL OF QUANTITIES

Name of work :. Construction and expansion of shop floors/Office floors, machine foundations, sumps, underground & Over Head tanks, Cable trenches, RCC & Steel framed structure, Storage sheds, Furnace foundation, Chimney foundation and other infrastructure works in Annex building, Building 50 and other areas in BHEL, Tiruchirappalli.

ITEM NO.	DESCRIPTION	QTY	Units	BHEL Rate (Rs)	Amount (Rs)
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 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. All kinds of soil except rock	530.000	M3	125.80	66,674.00
20	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. Ordinary rock	20.000	M3	201.70	4,034.00
30	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. Hard rock (requiring blasting)	20.000	M3	363.55	7,271.00
40	Supply and filling with river sand in foundation, plinth, under floor etc. including watering, ramming, consolidating and dressing complete.	10.000	M3	502.95	5,029.50
50	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50 m and lift up to 1.5 m etc. complete.	130.000	M3	78.90	10,257.00

CONTRACTOR

3

ACCEPTING OFFICER

60	Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works upto plinth level. Rate excludes cost of centring and shuttering. 1:4:8 with graded stone aggregate 40 mm nominal size.	52.000	M3	1,908.50	99,242.00
70	Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement.1:1.5:3 with graded stone aggregate 20 mm nominal size - All works upto plinth level.	20.000	M3	2,164.35	43,287.00
80	Providing and laying in position specified grade of reinforced cement concrete including vibration charges, curing etc. complete but excluding cost of centring, shuttering, finishing and reinforcement.1:1.5:3 with graded stone aggregate 20 mm nominal size - Above plinth to floor five level.	70.000	M3	2,775.10	1,94,257.00
90	Straightening, cutting, bending, placing in position of MS/CTD bars and binding with MS binding wires of 18/20 gauge etc. for reinforcement of RCC works. Rate includes cover blocks, cost of binding wire , conveyance of MS/CTD bars from BHEL stores to site of work, labour etc. complete. MS/CTD bars will be supplied by BHEL at Stores at free of cost.	15.000	MT	7,439.40	1,11,591.00
100	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. Foundations, footings, bases of columns, equipment foundations, precast slabs, kerbs etc. for mass concrete.	280.000	M2	167.30	46,844.00
110	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. Walls (any thickness) including attached pilasters, plinth, stairs, chimney, shafts and string courses etc.	50.000	M2	291.65	14,582.50
120	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. Suspended floors, roofs, landings, balconies, access platform and sunshades.	600.000	M2	323.65	1,94,190.00
130	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. Lintels, beams, plinth beams, girders, bressumers and cantilevers	150.000	M2	253.50	38,025.00
140	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. Pockets or holes in foundations for holding down bolts.	45.000	M2	679.25	30,566.25

CONTRACTOR

4

ACCEPTING OFFICER

150	Providing and laying in position machine batched, machine mixed and machine vibrated design mix of reinforced cement concrete of specified grade for structural elements using 10 to 20 mm hard broken granite stone jelly, excluding cost of centring, shuttering, finishing and reinforcement but including admixtures in recommended proportions (as per IS:9103) to accelerate, retard setting of concrete, improve workability without impairing strength and durability, all as per directions of Engineer-in-charge. M-25 Grade reinforced cement concrete. All work in foundation, basement and upto Floor V level.	125.000	M3	2,737.05	3,42,131.25
160	Providing, hoisting and fixing upto floor V level plain cement concrete elements like slabs etc. of 25 to 150 mm thick of required sizes in mix 1:2:4 using 10 to 20 mm size hard broken granite stone jelly. Rate includes centring, shuttering and finishing with neat cement punning on exposed surfaces but excluding pointing.	25.000	M3	5,228.55	1,30,713.75
170	Random rubble masonry in foundation and basement in the mix given below including simultaneous flush pointing, all as per standard specifications. Cement mortar 1:5	20.000	M3	1,775.55	35,511.00
180	Brick work with modular bricks (second class table moulded chamber bricks) of class designation 50/75 in foundation and plinth in: Cement mortar 1:5	155.000	M3	3,894.45	6,03,639.75
190	Providing and fixing factory made P.V.C. door frame of size 50x47 mm with a wall thickness of 5 mm, made out of extruded 5 mm rigid PVC foam sheet, mitred at corners and joined with 2 Nos. of 150 mm long brackets of 15x15 mm M.S. square tube, the vertical door frame profiles to be reinforced with 19x19 mm M.S. square tube of 19 gauge, EPDM rubber gasket weather seal to be provided through out the frame. The door frame to be fixed to the wall using M.S. screws of 65/100 mm size, complete as per manufacturer's specification and direction of Engineer-in-Charge.	10.000	RM	409.25	4,092.50
200	Providing and fixing factory made 30 mm thick door shutter made of solid PVC foam profile. The styles and rails shall be of size 75 mm x 30 mm having wall thickness 5 mm. The styles, top and bottom rails shall have one side wall thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power. The styles and rails shall be reinforced with M.S. tubes of size 33 mm x 17 mm x 1 mm, painted with primer, all four corners of reinforcement to be welded or sealed. Solid PVC extruded bidding (push fit type) will be set inside the styles and the rails with a cavity, to receive single piece extruded 5 mm PVC sheet as panel. The styles and rails will be mitred cut and joint with the help of PVC solvent cement and self driven self tapping screws. Single piece extruded solid PVC lock rail of size 100 mm x 30 mm with wall thickness 5 mm and 15 mm integrally extruded in the middle of the lock rail and fixed with styles with the help of PVC solvent cement and self driven self tapping screws of size 100 mm x 8 mm complete as per manufacturer's specifications and direction of Engineer-in-charge. Non decorative finish.	5.000	M2	2,482.30	12,411.50

CONTRACTOR

5

ACCEPTING OFFICER

210	Collection from BHEL stores and transporting the raw structural steel sections to the contractor's site fabrication shop, 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, all as per drawings and standard specifications. Rate includes delivery of fabricated steel work at erection site ready for erection, including preparation and supply of drawing office despatch list for BHEL's approval, all charges for packing (wherever called for) handling, conveying, stacking and all other incidental charges both for raw materials and fabricated steel works. Rate excludes raw structural steel sections which will be supplied by BHEL at stores at free of cost.	10.000	MT	12,371.75	1,23,717.50
220	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 bolts and nuts, hire for welding tools and plants, labour etc., but excluding cost of fabricated components. If required, power will be given free of cost by BHEL. Weight of fasteners will not be accounted for payment.	10.000	MT	6,667.90	66,679.00
230	Fabrication and fixing in position of M.S frames for cable trench cover slabs in required sizes using M.S angles, plates, flats etc., which will be supplied by BHEL at Stores at free of cost, all as per drawings and instructions of Engineer-in-charge. Rate includes conveyance of raw materials from BHEL stores to contractors fabrication shop, fabrication charges including cutting, welding, preparing and supplying DODL's for BHEL's approval, supply of fabricated frames at site of work, fixing in proper position etc., complete.	2.000	MT	7,550.25	15,100.50
240	Conveying from BHEL stores to site of work cutting to size and fixing in position of 75 x 75 x 6 mm or other size M.S angles in required lengths for forming the rebates in cable trench (for fixing the cable trench cover slabs) including welding in position of dowel bars to the angles and embedding the angle iron frame in the flooring concrete in proper line and level, all as per drawings and instructions of Engineer-in-charge. Rate includes loading, unloading, handling, welding and other incidental charges, preparing and supplying of DODL's for approval etc. complete, but excluding cost of M.S angles and dowel bars which will be supplied by BHEL at Stores at free of cost.	3.000	MT	8,041.55	24,124.65
250	Fabrication and fixing in position of M.S inserts out of M.S plates, flats, rounds, angles etc., including necessary lugs made of rounds or flats, sizing and cutting to required lengths, threading, bolting and welding as required and placing the same in position in both plain and reinforced cement concrete members, including adjusting the shuttering if necessary, tying and holding to correct level and line. Rate includes cost of all materials, labour etc., complete but excluding raw steel sections which will be supplied by BHEL at Stores at free of cost.	1000.000	KG	28.20	28,200.00

CONTRACTOR

6

ACCEPTING OFFICER

260	Providing holding down bolts 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. Bolts including nuts and washers etc. complete in all sizes and lengths.	200.000	KG	85.15	17,030.00
270	Flooring with reinforced cement concrete of mix 1:2:4 using 40 mm and down graded 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 fabrication charges for reinforcement, all as per standard specifications.	25.000	M3	1,942.05	48,551.25
280	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.	300.000	M2	425.15	1,27,545.00

CONTRACTOR

7

ACCEPTING OFFICER

290	<p>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 in note below for roofing at all heights 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.</p> <p>Note: (1)The Aluminium zinc alloy coated high tensile steel sheets and specials shall be 0.47 to 0.50mm thick (TCT) (Aluminium around 55%, Zinc around 43%) alloy coated high tensile steel (Yield strength 550 MPA) colour coated rib profile sheets as per ASTM A792M, coating standard as per AS 1397-1933 Conforming to AZM 150 (Min Coating mass of 150 gsm) having cover width of 1000 plus or minus 10mm and over all width of 1060mm of any length to suit site conditions (2) About 90% area of the Aluminium zinc alloy coated high tensile steel sheets shall be colour coated with Light Blue RAL 5012 and 10% of the covered area is of with white. All ridge pieces and barge boards are of white.</p> <p>(3) The Aluminium zinc alloy coated high tensile steel sheets shall be Pre-Primed with a Primer of 5µm and finished with a final paint coat of 17-20 µm on top surface. A single backing coat of 7-10µm should be applied on reverse side</p>	100.000	M2	559.80	55,980.00
-----	---	---------	----	--------	-----------

300	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 in note below for side sheeting at all heights 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.Note: (1)The Aluminium zinc alloy coated high tensile steel sheets and specials shall be 0.47 to 0.50mm thick (TCT) (Aluminium around 55%, Zinc around 43%) alloy coated high tensile steel (Yield strength 550 MPA) colour coated rib profile sheets as per ASTM A792M, coating standard as per AS 1397-1933 Conforming to AZM 150 (Min Coating mass of 150 gsm) having cover width of 1000 plus or minus 10mm and over all width of 1060mm of any length to suit site conditions (2) About 90% area of the Aluminium zinc alloy coated high tensile steel sheets shall be colour coated with Light Blue RAL 5012 and 10% of the covered area is of with white. All ridge pieces and barge boards are of white.(3) The Aluminium zinc alloy coated high tensile steel sheets shall be Pre-Primed with a Primer of 5µm and finished with a final paint coat of 17-20 µm on top surface. A single backing coat of 7-10µm should be applied on reverse side	50.000	M2	585.60	29,280.00
310	Supplying roof extractors (Turbo Air Ventilators) of dia 600mm or thereabouts, fixing in position on AC / Aluminium zinc alloy coated high tensile steel sheet roofs at all heights with necessary screws,, bolts etc., and finishing to match with existing roof. Rate to include cost of all labour charges for fixing the roof extractors with necessary cutting of sheets to the required size ,drilling to suit the screws/ bolts, and finishing to match the existing profile including cost of roof extractors / ventilators. All as per manufacturers specifications and as directed by the Engineer in charge	4.000	EACH	8,800.00	35,200.00
320	Providing weathering course on top of roof slab with 20 mm 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.	20.000	M3	3,061.05	61,221.00
330	Providing weathering course on top of roof slab with one course of split tiles or pressed flat tiles of 17 to 20 mm thick and of approved brand and size, set in cement mortar 1:3 with an admixture of crude oil at 10% by weight of cement, 12 mm thick bedding layer including pointing the tiles with the same oiled mortar etc., complete, all as per standard specifications.	200.000	M2	373.30	74,660.00
340	Plastering with cement mortar as per standard specifications. In Cement mortar 1:5, 12mm thick	1000.000	M2	92.95	92,950.00

CONTRACTOR

9

ACCEPTING OFFICER

350	Plastering with cement mortar as per standard specifications. In Cement mortar 1:5, 15mm thick	700.000	M2	106.90	74,830.00
360	Damp proof course with cement mortar 1:3, 20 mm thick mixed with an admixture of crude oil at 5 % by weight of cement, all labour etc. complete as per standard specifications.	25.000	M2	149.35	3,733.75
370	Ceiling plastering with cement mortar 1:3, 6mm thick as per standard specifications.	250.000	M2	82.10	20,525.00
380	White washing on surfaces using best shell lime to give an even shade including cleaning, brushing of walls and preparing surfaces in accordance with standard specifications. Rate includes cost of all materials, labour etc., complete. Two coats	250.000	M2	5.95	1,487.50
390	Painting one priming coat with approved primer over structural steel works in roof structures, columns etc., including preparing the surfaces by thoroughly cleaning oil, grease, dirt and other foreign matters and scoured with wire brushes, fine steel wool scrapers and sand paper, all as per standard specifications. Red oxide primer	10.000	MT	562.35	5,623.50
400	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	10.000	MT	1,580.50	15,805.00
410	Painting with exterior emulsion paint (ACE or any other equivalent and approved brand) of approved shade on surfaces to give an even shade including preparing the surfaces, removal of dirt, thorough cleaning by watering etc., all as per standard specifications. Rate includes cost of necessary plaster of paris and putty wherever required, labour and all incidentals etc. complete. Three coats (One coat of Primer of approved brand with two coats of Paint)	1700.000	M2	74.80	1,27,160.00
420	Providing and fixing G.I pipes and specials (B - Class) of approved brand with G.I fittings and clamps on walls and floors, including cutting and making good the walls and floors etc. complete. (Internal work - exposed on walls) 25 mm dia nominal bore.	50.000	RM	239.65	11,982.50
430	Providing and laying PVC water pipes and specials conforming to ISS in trenches, joining with proper adhesive as suggested by manufacturers etc. complete. (External work) Earth work excavation for trenches and refilling will be paid separately. PVC Pipe 160 mm OD (6 kg/Sq.cm)	150.000	RM	594.70	89,205.00
440	Providing and fixing in position of Indian type white glazed earthenware water closet pan of approved brand with suitable P or S trap including a pair of white glazed foot rest etc. complete. 580 mm size	1.000	EA	1,112.35	1,112.35
450	Providing and fixing in position of white glazed earthenware urinal of approved brand with teakwood plugs and screws/clamps, including standard PVC flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, cutting of floor and walls and making good all damages and finishing to match with the existing work etc., complete. Flat back half stall urinal of size 580x380x350 mm	3.000	EA	2,606.70	7,820.10

CONTRACTOR

10

ACCEPTING OFFICER

460	Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 0.90 and upto 1.20 m depth (Rectangular)	5.000	EA	6,589.65	32,948.25
470	Supply and fixing C.I cover with frame for manholes/gully traps. 500 mm dia C.I cover (Medium duty) Total weight of cover and frame to be not less than 116 K.G (Weight of cover 58 K.G and weight of frame 58 K.G)	5.000	EA	5,309.70	26,548.50
480	Providing and fixing in position of white glazed earthen ware wash hand basin of oval shape size 540 mm x 460 mm or thereabouts of approved make and quality (Parry ware or equivalent) with 32 mm CP Waste coupling and necessary fixing arrangements. Rate includes cost of wash basin, waste coupling, labour for fixing and all other incidental charges, etc., complete. All as per standard specifications and instructions of Engineer in charge	2.000	EA	2,066.00	4,132.00
490	Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc. complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-3" open -6.3 mm thick 230-240g/sqft	70.000	M2	1,993.60	1,39,552.00
500	Manufacturing, supplying and fixing in position of Powder coated aluminium single leaved/double leaved glazed door of overall size 1.00 x 2.10m with suitable frame work as per the following specification and instructions of Engineer- in- charge. The alround vertical and horizontal outer frame shall be with 4" x 1 3/4" x 1.60 mm (unit wt. 1.312 kg/m)sections and for door shutter the bottom member shall be with 3 3/4" x 1 3/4" x 1.70 mm thick (unit wt. 1.312 kg/m) shutter top and verticals shall be of size 1 3/4" x 1 3/4" x 1.52 mm (unit wt. 0.885 kg/m) thick and shutter divider shall be 2 nos of of 1 3/4" x 1 3/4" x 1.70 mm (unit wt. 0.885 kg/m) with necessary beadings and rubber gaskets as per standard specifications. The upper panel of 120 cm shall be with 5 mm thick plain glass and lower panel of 90cm shall be with 9 mm thick interior grade ISI marked (IS:12823) three layered melamine faced prelaminate (both side) particle board . Door shall be provided with 2 Nos. of 300 mm long anodized aluminium handle, One No. of ISI marked heavy duty door closer of approved brand, One No. 200 mm long anodized aluminium tower bolt, suitable lock (4 lever), required top and bottom pivots, all as per specification of Engineer in charge. Rate includes cost of all materials, labour and other incidentals etc., complete	25.000	M2	3,507.75	87,693.75

510	Supplying and fixing in position of aluminium ventilator using Powder coated aluminium section of size 2 ½" x 1 ½" and 1.28 mm thick (0.754 kg/m) for frames conforming to IS: 1948 of latest edition. The fixed and louvered glass panels shall be 5mm thick frosted glass panes. The ventilator should have required No. of louvers fitted properly in aluminium frame work having arrangement to close / open. The rate quoted shall include cost of all materials, labour, fixing charges, locking arrangements etc. all as per standard specifications, drawing and code of practice and instruction of Engineer-in-charge.	1.000	M2	4,017.65	4,017.65
520	Providing and fixing powder coated aluminium two track sliding windows of approved colours aluminium sections of size 60 x 28 x 1.20 mm (wt 0.656 kg / m) for outer frame , 38 x 17 x 1.20 mm (0.41 kg / m) for shutter box and 38 x 17 x 1.20 mm (0.44 kg/m) for inter lock 4 mm thick plain glass for panes, PVC wheels, U rubber, screws, locking arrangements etc. complete, all as per instructions of Engineer-in-charge.	70.000	M2	2,968.60	2,07,802.00
530	Grouting the H.D bolts, underneath the base plates etc., after alignment with wet cement grout (1:1), all as per standard specifications. Rate includes cleaning the sleeves/pockets, tools and plants required for the work etc., complete except cement which will be supplied by BHEL at stores at free of cost.	3.000	M3	16,000.65	48,001.95
540	Conveyance of earth, sand, gravel, rough stone, broken stone, brick bats (debris) etc. by contractor's own lorry including loading, leading, unloading, stacking or spreading, all as per instructions of Engineer-in-charge. Payment for conveyance of earth will be made based on pit measurement and for other items based on stack measurements. Beyond 2 Km but upto 3 Km	405.000	M3	130.25	52,751.25
550	Providing and fixing in position 100 mm dia C.P brass shower rose (tilting type) of approved brand with 15 or 20 mm dia inlet.	1.000	EA	67.65	67.65
560	Providing and fixing in position of following of approved brand (ISI marked) 15mm nominal C.P brass stop cock (concealed)	2.000	EA	585.95	1,171.90
570	Providing and fixing in position 15 mm nominal bore C.P brass angle valve for basin mixer and geyser points of approved brand (ISI marked)	2.000	EA	479.85	959.70
580	Providing and fixing in position of 100 x 75 mm Nahani trap with PVC grating, all as per standard specifications.	2.000	EA	182.70	365.40
590	Providing and fixing in position of 150 mm SW gully trap with HCl grating, all as per standard specifications.	1.000	EA	288.75	288.75
600	Providing and fixing in position of 25 mm nominal bore C.P half turn flush valve of approved brand (ISI marked) in pipe lines.	2.000	EA	1,017.50	2,035.00
610	Providing and fixing in position of Indian type white glazed earthenware water closet pan of approved brand with suitable P or S trap including a pair of white glazed foot rest etc. complete. 580 mm size	1.000	EA	1,112.35	1,112.35

CONTRACTOR

12

ACCEPTING OFFICER

620	Providing and fixing in position of pedestal type water closet (European type W.C pan) 400 mm high of approved brand with seat and lid, C.P brass hinges and rubber buffers, 10 litre PVC low level flushing cistern with fittings and painted C.I / M.S brackets with 15 mm PVC connection, 32/40 mm PVC flush bend with fittings and clamps, over flow arrangement with specials and mosquito proof coupling including painting of fittings and brackets, cutting and making good the walls and floors wherever required etc. complete. White glazed (white seat and lid)	1.000	EA	4,530.05	4,530.05
630	Providing and fixing in position of white glazed earthenware urinal of approved brand with teakwood plugs and screws/clamps, including standard PVC flush pipe and C.P. brass spreaders with brass unions and G.I clamps complete, cutting of floor and walls and making good all damages and finishing to match with the existing work etc., complete. Flat back half stall urinal of size 580x380x350 mm	3.000	EA	2,606.70	7,820.10
640	Providing rectangular/circular manhole as per Drawing for the following depths. Rate includes earth work excavation in all soils (except hard rock requiring blasting) including soft disintegrated rock, watering and ramming of foundation bed, providing cement concrete 1:4:8 in foundation, including necessary slope and forming channels smoothly finished in C.M 1:2, brick work in C.M 1:5 for arch ring, etc., using standard approved bricks, plastering in cement mortar 1:4 for side walls (outside and inside), cement concrete 1:2:4 using 12 to 20 mm HBGS jelly for manhole cover fixing, providing and fixing C.I steps for ladder rungs, etc., complete. Rate includes an initial lead of 10 m and all lifts for excavation and other charges etc., complete, but excludes cost of manhole cover and frame. Above 0.90 and upto 1.20 m depth (Rectangular)	5.000	EA	6,589.65	32,948.25
650	Supply and fixing C.I cover with frame for manholes/gully traps. 500 mm dia C.I cover (Medium duty) Total weight of cover and frame to be not less than 116 K.G (Weight of cover 58 K.G and weight of frame 58 K.G)	5.000	EA	5,309.70	26,548.50
660	Providing and fixing in position of white glazed earthen ware wash hand basin of oval shape size 540 mm x 460 mm or thereabouts of approved make and quality (Parry ware or equivalent) with 32 mm CP Waste coupling and necessary fixing arrangements. Rate includes cost of wash basin, waste coupling, labour for fixing and all other incidental charges, etc., complete. All as per standard specifications and instructions of Engineer in charge	2.000	EA	2,066.00	4,132.00

CONTRACTOR

13

ACCEPTING OFFICER

670	<p>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 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 be 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</p>	50.000	M2	1,246.05	62,302.50
680	<p>Providing Powder coated aluminium alloy grills of following and fixing in proper position in windows/ventilators/balconies/partitions/fences/racks etc. with necessary appropriate type, material, brand and quality screws as per manufacturers recommendation etc. complete, all as per the instructions of Engineer-in-charge. Aluminium Grill 12x4-3" open -6.3 mm thick 230-240g/sqft</p>	70.000	M2	1,993.60	1,39,552.00
690	<p>Manufacturing, supplying and fixing in position of Powder coated aluminium single leaved/double leaved glazed door of overall size 1.00 x 2.10m with suitable frame work as per the following specification and instructions of Engineer- in- charge. The around vertical and horizontal outer frame shall be with 4" x 1 3/4" x 1.60 mm (unit wt. 1.312 kg/m)sections and for door shutter the bottom member shall be with 3 3/4" x 1 3/4" x 1.70 mm thick (unit wt. 1.312 kg/m) shutter top and verticals shall be of size 1 3/4" x 1 3/4" x 1.52 mm (unit wt. 0.885 kg/m) thick and shutter divider shall be 2 nos of of 1 3/4" x 1 3/4" x 1.70 mm (unit wt. 0.885 kg/m) with necessary beadings and rubber gaskets as per standard specifications. The upper panel of 120 cm shall be with 5 mm thick plain glass and lower panel of 90cm shall be with 9 mm thick interior grade ISI marked (IS:12823) three layered melamine faced pre-laminated (both side) particle board . Door shall be provided with 2 Nos. of 300 mm long anodized aluminium handle, One No. of ISI marked heavy duty door closer of approved brand, One No. 200 mm long anodized aluminium tower bolt, suitable lock (4 lever), required top and bottom pivots, all as per specification of Engineer in charge. Rate includes cost of all materials, labour and other incidentals etc., complete</p>	25.000	M2	3,507.75	87,693.75

700	Supplying and fixing in position of aluminium ventilator using Powder coated aluminium section of size 2 ½" x 1 ½" and 1.28 mm thick (0.754 kg/m) for frames conforming to IS: 1948 of latest edition. The fixed and louvered glass panels shall be 5mm thick frosted glass panes. The ventilator should have required No. of louvers fitted properly in aluminium frame work having arrangement to close / open. The rate quoted shall include cost of all materials, labour, fixing charges, locking arrangements etc. all as per standard specifications, drawing and code of practice and instruction of Engineer-in-charge.	1.000	M2	4,017.65	4,017.65
710	Providing and fixing powder coated aluminium two track sliding windows of approved colours aluminium sections of size 60 x 28 x 1.20 mm (wt 0.656 kg / m) for outer frame , 38 x 17 x 1.20 mm (0.41 kg / m) for shutter box and 38 x 17 x 1.20 mm (0.44 kg/m) for inter lock 4 mm thick plain glass for panes, PVC wheels, U rubber, screws, locking arrangements etc. complete, all as per instructions of Engineer-in-charge.	70.000	M2	2,968.60	2,07,802.00
720	Providing and fixing in position of pedestal type water closet (European type W.C pan) 400 mm high of approved brand with seat and lid, C.P brass hinges and rubber buffers, 10 litre PVC low level flushing cistern with fittings and painted C.I / M.S brackets with 15 mm PVC connection, 32/40 mm PVC flush bend with fittings and clamps, over flow arrangement with specials and mosquito proof coupling including painting of fittings and brackets, cutting and making good the walls and floors wherever required etc. complete. White glazed (white seat and lid)	1.000	EA	4,530.05	4,530.05
730	Grouting the H.D bolts, underneath the base plates etc., after alignment with wet cement grout (1:1), all as per standard specifications. Rate includes cleaning the sleeves/pockets, tools and plants required for the work etc., complete except cement which will be supplied by BHEL at stores at free of cost.	3.000	M3	16,000.65	48,001.95
740	Grouting the H.D bolts, underneath the base plates etc., after alignment with non-shrink high strength cementitious grout of such as Tec. Grout 40 or Pidigrout 10M or Flogrout 60 or Conbextra 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.	2.000	M3	53,487.40	1,06,974.80
750	Conveyance of earth, sand, gravel, rough stone, broken stone, brick bats (debris) etc. by contractor's own lorry including loading, leading, unloading, stacking or spreading, all as per instructions of Engineer-in-charge. Payment for conveyance of earth will be made based on pit measurement and for other items based on stack measurements. Beyond 2 Km but upto 3 Km	405.000	M3	130.25	52,751.25
	Total =				45,52,926.55
	BHEL estimate total (100%) =				Rs. 45.53 Lakhs

Mentioned rates excludes GST%

CONTRACTOR

15

ACCEPTING OFFICER