

VOLUME - II

PRICE BID
SPECIFICATION

PROJECT: *Civil, structural & Architectural works, site storage & area development facilities, etc. for Turbo-blower station for 3.0 MTPA Integrated steel plant of NMDC Limited at Nagarnar, Chattishgarh*

BHARAT HEAVY ELECTRICALS LIMITED

	TENDER NO.: HY/PE&SD/E&C/NMDC-TB /Civil & Str/001 Project :: Civil, structural & Architectural works, site storage & area development facilities, etc. for Turbo-blower station for 3.0 MTPA Integrated steel plant of NMDC Limited at Nagarnar, Chattishgarh	REV00
	PRICE SCHEDULE FOR, Civil, structural & Architectural works, site storage & area development facilities, etc. for Turbo-blower station for 3.0 MTPA Integrated steel plant of NMDC Limited at Nagarnar, Chattishgarh	
	Name of the Bidder ::	Price offer no and Date :
	NOTES ::	
1	This document details the price/payment schedule format for the enquiry. No other format will be entertained and evaluated.	
2	Duly signed & stamped unpriced price schedule format shall be submitted along with Technical offer by bidder as a token of his concurrence that his price schedule is to be submitted in this format & prices shall be offered for all the items appearing in this price format .	
3	Bidder shall fill up prices of all items and submit to BHEL in separate sealed cover. All prices shall be submitted including of all taxes, (except service tax which is payable separately. Please refer, chapter: VII, Part - I of TCC for details)	
4	Total of price for all the items of "Schedule of Quantities" put together shall be considered for evaluation of the financial bid and for ascertaining the L-1 bidder. Any discount offered by the bidder on overall price or at the time of reverse auction will be uniformly applied on all the individual items for execution & billing purposes.	
5	For payment purpose, final contract value will be as per clause 2.14 of GCC	
6	All the bills will be settled from BHEL, PE&SD, -Hyderabad only.	

Name of the Work: Civil, structural & Architectural works, site storage & area development facilities, etc. for Turbo-blower station for 3.0 MTPA Integrated steel plant of NMDC Limited at Nagarnar, Chattishgarh

Tender No.: HY/PE&SD/E&C/NMDC-TB /Civil & Str/001

Schedule of Quantities

ABSTRACT OF COST

S.No.	Description	Amount(Rs.)	Remarks
1	Estimated cost for Plant Civil(Part 1)		Carry over Total of Part 1
2	Estimated cost for Land Developemt (Site Office,Storage Area,Store Building and Office Porta Cabin (Part 2)		Carry over Total of Part 2
4	Grand Total in figures= Rs.		
5	Grand Total in words = Rs.		

Name of the Work: Civil, structural & Architectural works, site storage & area development facilities, etc. for Turbo-blower station for 3.0 MTPA Integrated steel plant of NMDC Limited at Nagarnar, Chattishgarh
Tender No.: HY/PE&SD/E&C/NMDC-TB /Civil & Str/001

Schedule of Quantities

Part: 1 "Plant Civil Works"

ITEM NO.	DESCRIPTION OF ITEM	UNIT	Quantity	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
1.0	EARTH WORK					
1.1	Earth work In excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification, drawing and as directed by engineer-in-charge for the following.					
1.1.1	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500 m, spreading/levelling of disposed materials etc all complete for following depths below ground level.					
1.1.1a	Depth from ground level but not exceeding 2 m	CUM	2343.4			
1.1.1b	Depth exceeding 2 m but not exceeding 4 m	CUM	1391.8			
1.1.1c	Depth exceeding 4 m but not exceeding 6 m	CUM	770.3			
1.2	Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected materials from compulsorily excavated soil available within a lead upto 500m and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.					
1.2a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	2665.1			
1.3	Extra over ST No. 1.1.1a,1.1.1b,1.1.1c for carriage of excavated earth/selected materials for every 1 km or part thereof beyond an initial lead of 500m.	CUM	1776.7			
1.4	Supplying and filling sand upto any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	5.0			
2.0	CONCRETE WORKS					
2.1.1	Providing and placing concrete work including cost of labour, materials and equipment for handling, transportation, batching, mixing, placing, vibrating and curing, (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.					
2.1.1a	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc.(Cement will be provided free of cost)	CUM	78.0			
2.1.1b	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades. M20 Grade (Light and Heavy)(Cement will be provided free of cost)	CUM	5.0			

ITEM NO.	DESCRIPTION OF ITEM	UNIT	Quantity	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.1.2	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure , grade slab, paving, drains, under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.					
2.1.2a	M25 Grade(Cement will be provided free of cost)	CUM	450.0			
2.1.3	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in superstructure at any level above finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.					
2.1.3a	M25 Grade(Cement will be provided free of cost)	CUM	40.0			
2.1.4	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works of grade M-30 Grade in machine foundations for TG, Gas Turbine, ID/FD/PA fans, BFP, Coal mills at all elevations below/above finished floor level except TG deck and top decks supported over vibration isolation system including addition of suitable plasticizer conforming to IS 9103(latest) to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate in concrete all complete as per specification & drawing.(Cement will be provided free of cost)	CUM	600.0			
2.1.5	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 of grades mentioned below for reinforced concrete works using graded aggregate in top decks of all machine foundations supported on vibration isolation system (excluding supply and installation of vibration system) and top deck of TG foundation at all levels including addition of suitable plasticizers conforming to IS9103 to achieve a slump more than 125 mm in concrete as per manufacturers recommendation, preparation of scheme for concreting, getting it approved by engineer, labour, materials, equipment, handling, batching, transporting, mixing, pumping, placing, leveling, vibrating, compacting, curing, testing, cleaning and rendering the exposed surface with cement sand mortar to give a smooth and even surface, maintaining and submitting records of concreting, petrographic examination and potential reactivity of aggregate etc. all complete as per specification, drawing and instructions of engineer, including UPV testing as directed by engineer in charge, rectification of the defects in concreting observed by ultra-sonic pulse velocity (UPV) testing by cement/epoxy grout etc, but excluding formwork, staging, reinforcement, embedments and temperature control of concrete. Payment terms - a) After casting 75% ; b) After receipt of ultrasonic test report - 25%.					
2.1.5a	M25 grade (with 20mm nominal size graded stone aggregate)(Cement will be provided free of cost)	CUM	607.3			

ITEM NO.	DESCRIPTION OF ITEM	UNIT	Quantity	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.1.6	Dismantling concrete work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.					
2.1.6a	Plain cement concrete of all grades	CUM	1.0			
2.1.6b	Reinforced cement concrete of all grades	CUM	1.0			
2.1.7	Chipping of concrete in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions, making good the broken surface etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement .	CUM	1.0			
2.1.8	Extra over and above Item No 2.1.7 for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross sectional area of reinforcement cut.	SQCM	1.0			
2.1.9	Cutting Reinforced concrete with mechanised tools like Core drilling machine etc. for cutting pockets, holes, cores in slab, beam, column or foundation as per direction of engineer in charge.	CUDM	0.2			
3.0	FORM WORKS					
3.1	Providing, fixing and removing formwork at any elevations for all structures, as per specifications and including all labour, material, scaffoldings and centering complete including pockets etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.					
3.1.1	Fairface form work with good quality water proof ply wood of required thickness and smooth surface below finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	3000.0			
3.1.2	Fairface form work with good quality water proof ply wood of required thickness and smooth surface above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches, circular overhead tanks etc. for all heights.	SQM	100.0			
3.1.3	Fairface Formwork with good quality water proof ply wood of required thickness and smooth surface for TG superstructure (above base raft level) including preparation of scheme, designing, submission and approval of staging drawing with sufficient props, braces and ties at every tier of height of approx. 4m for all heights.	SQM	1500.0			
3.1.4	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.					
3.1.4a	Upto 150 mm depth	Each	10.0			
3.1.4b	Pockets of depths more than 150mm and upto 300 mm depth	Each	10.0			
3.1.4c	Pockets of depths more than 300mm and upto 600 mm depth	Each	100.0			
3.1.4d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	30.0			
4.0	REINFORCEMENT					

ITEM NO.	DESCRIPTION OF ITEM	UNIT	Quantity	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
4.1	Providing, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500 conforming to IS:1786 including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. (Reinforcement steel will be provided free of cost)	MT	215.0			
5.0	WATER PROOFING WORKS					
5.1	Water proofing works including all labour, material, equipment, transportation, handling, curing, sampling, testing etc at any level as per specification, drawings and as directed by engineer - in - charge.					
5.1.1	Providing and mixing water proofing compound conforming to IS:2645 in concrete or cement mortar all complete.	KG	135.0			
6.0	JOINTS AND FILLERS					
6.1	Joints & fillers including all labour, material, equipment, transportation, handling etc at any level as per specification, drawings and as directed by engineer - in - charge.					
6.1.1	Supplying & installation of bitumen impregnated fibre board conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.					
6.1.1a	20 mm wide joints.	SQM	49.9			
6.1.2	Supplying and filling in position hot applied bitumin sealing compound (Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
6.1.2a	20mmX25mm	RM	310.3			
6.1.3	Providing and fixing PVC water stops in joints conforming to IS 12200 & IS 15058 all complete for the following:					
6.1.3a	230 mm wide and 6 mm thick	RM	20.0			
7.0	MS EMBEDMENTS					
7.1	Embedments including all labour, material, equipment, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.					
7.1.1	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.(Supply of raw material, i.e. structural steel will be free of cost)	MT	3.5			
7.1.2	Fixing of embedments, inserts, pipe sleeves, angle pieces, anchor bolts of various diameters, plates of dimensions as required etc. including scaffolding, setting in position, transportation from BHEL site stores to work spot etc. all complete.	MT	9.0			
7.1.3	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete.(Supply of raw material, i.e. structural steel will be free of cost)	MT	3.5			
7.1.4	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.					
7.1.4a	MS pipes of all diameters(Supply of raw material, i.e. structural steel will be free of cost)	Quintal	11.0			

ITEM NO.	DESCRIPTION OF ITEM	UNIT	Quantity	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
7.1.4b	PVC pipes / conduits of all diameters	Quintal	11.0			
8.0	GROUTING					
8.1	Grouting including all labour, material, equipment, roughening surface, cleaning, ramming, curing etc. at any level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.					
8.1.1	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with ConbextraGP-1 or equivalent. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	3.0			
8.1.2	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing, etc. all complete with Conbextra GP-2 or equivalent. (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	1.0			
9.0	FINISHES TO CONCRETE / PLASTERED SURFACES					
9.1	Finishes, painting to concrete, plastered surfaces including all labour, material, equipment, surface preparation, scaffolding etc. at any level as per specification, drawings and as directed by engineer - in - charge.					
9.1.1	Providing and applying two or more coats of Acrylic based weather coat paint of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent and extremely durable with color fastness as per specification.	SQM	500.0			
10.0	MISCELLANEOUS WORKS					
10.1	Miscellaneous works including all labour, material, equipment etc. at any level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.					
10.1.1	Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 230 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.	CUM	5.0			
10.1.2	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust supression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	1080.0			
11.0	STRUCTURAL STEEL					
11.1	Structural steel works including all labour, material, equipments, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.					

ITEM NO.	DESCRIPTION OF ITEM	UNIT	Quantity	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
11.1.1	Supply, fabrication and erection of structural steel with mild steel rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, hand-rails etc including 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), connection design & preparation of fabrication drgs, collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20° C for welding over 20 mm and upto 40 mm & 66° C for welding over 40 mm and upto 63 mm & 110° C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete. Including appointment of a seperate agency, approved by BHEL, for review and approval of fabrication drgs, in consultation with BHEL.(Supply of raw material, i.e. structural steel will be free of cost.)	MT	170.0			
11.1.2	Extra over item no. 11.1.1 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2) and applying the following painting a) 2 coats of phenolic modified alkyd composition with zinc phosphate primer (minimum DFT 40 microns/ coat) at shop, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc all complete. b) 1 coat of high gloss phenolic alkyd modified synthetic enamel paint as intermediate coat (minimum DFT-75 microns/ coat) to be painted at shop. c) 2 coats of high gloss phenolic alkyd modified synthetic enamel paint (minimum DFT- 25 microns/ coat) as finish paint to be applied at site, keeping total of minimum dry film thickness (DFT) 205 microns including protection and cleaning, scaffolding etc. all complete as per customer specification GS-09- Painting scheme- Annexure 03, SI no 1.1	MT	170.0			
11.1.3	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel (having minimum galvanisation of 610 g/sqm) conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	5.0			
11.1.4	Extra over above item no. 11.1.1 for finishing the grating units with hot dipped galvanisation @ 610 gm/sqm over blast cleaned steel surfaces instead of painting with two coats of red oxide zinc-chromate primer all complete.	MT	5.0			

ITEM NO.	DESCRIPTION OF ITEM	UNIT	Quantity	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
11.1.5	Dismantling of steel structure, lowering of material and carriage of the dismantled material up to field fabrication shop / projects storage including temporary dismantling, cutting, re-welding, supporting, and restoring to correct position all temporarily dismantled members, re-alignment of all adjacent connected members to their correct positions (weight of such adjacent members and temporarily dismantled members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	0.5			
	Addition to, alterations in and/or modification of "Erection Marks" including cutting of parts, gauging of welds, cutting, grinding, fabrication, welding, drilling holes, straightening, removal of bends, raising to the required level, painting, transportation, return of unutilised steel pieces to the project store, temporarily dismantling, cutting, re-welding, supporting and restoring to correct position of all the temporarily dismantled members, realignment of adjacent connected members (weight of such temporarily dismantled and adjacent members not payable) etc all complete for the following:					
11.1.5a	In erected position	MT	0.5			
11.1.5b	In fabrication yard	MT	0.5			
11.1.6	Re-erection of dismantled fabricated structural steel members including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required position, aligning in position, tack welding, final welding and touch up painting including temporary dismantling and re-erection of temporarily dismantled members, cutting, rewelding, supporting and restoring to the correct position of all temporarily dismantled members, re-alignment of adjacent connected members (weight of such temporarily dismantled members and adjacent members not payable), scaffolding, staging, tools & tackles, gas cutting, welding, consumables etc all complete.	MT	1.0			
11.1.7	Supply, fabrication and fixing of GI pipe hand railing (900 mm high) of 32 mm/40 mm dia (Medium Grade) including transportation, loading/unloading, painting etc. all complete.	MT	2.0			
11.1.8	Conducting radiography test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	5.0			
11.1.9	Conducting ultrasonic test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	5.0			
11.1.10	Conducting ultrasonic test on steel plates as per ASTM-A435 or equivalent wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	SQM	10.0			
11.1.11	Conducting magnetic particle test on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete.	RM	5.0			
11.1.12	Conducting dye penetration test on welds wherever specified by the engineer including provision of necessary equipments, measuring devices, gauges etc. all complete (over and above the work already specified in the specifications.)	RM	5.0			
	Total in figures for Part 1, Rs.					
	Total in words for Part 1, Rs.					

Name of the Work: Civil, structural & Architectural works, site storage & area development facilities, etc. for Turbo-blower station for 3.0 MTPA Integrated steel plant of NMDC Limited at Nagarnar, Chattishgarh

Tender No.: HY/PE&SD/E&C/NMDC-TB /Civil & Str/001

Schedule of Quantities

Part: 2 "Land Development for site office, storage area, store building & office porta cabins"

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.1	Sub grade preparation: Cutting & disposal of grass, vegetations, bushes, trees (girth less 300mm), levelling, watering and consolidation (90% of proctor density) by means of 10-12 mt capacity power/vibro roller for sub base preparation. this will include average cutting & filling up to ± 250mm thick, grading the area with proper slope for draining out the rain water with all T&P, labours, materials, dewatering (if required) etc. complete. for development of Open Storage Yard.	SQ M	9000			
2.2	Earthwork in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500 m, spreading/levelling of disposed materials etc all complete up to 2.5 m depths below ground level, all complete as per spec and directions of the Engr.	CU M	420			
2.3	Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected materials from compulsorily excavated soil available within a lead upto 500m and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.each layer compacted so as to achieve at least 90% maximum dry density as per is-2720 (Part-VII)	CU M	252			
2.4	Providing & filling of 200 mm compacted thick granular hard murum in layers (thickness of each layer should not exceed 100mm) for preparing hard surface for storage of materials during monsoon period in the specified area as shown in indecative drawing/sketch "as monsoon yard", watering and compaction with 8-10 Ton power/vibro roller complete. rate shall include transportation, royalty, dewatering (both ground water as well as rain water) and keep the area dry till completion of all the works, labours, materials and required T&Ps etc. complete as per standard specification and	CU M	900			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.5	Disposal of surplus earth & debris beyond battery limit upto 1 Km lead including transportation, loading and unloading , dumping, stacking, levelling and dressing etc.complete as per specifications and drawings.	CU. M.	252			
2.6	Providing and laying Stone Soling 230 mm compacted thickness with 150 -200 mm thick boulder size and filling of voids with hand broken metal of size 40-60 mm, spreading & packing murrum , rolling and compaction including watering, with 8 - 10 MT capacity road roller.	CU M	198			
2.7	Providing & laying 150 mm compacted thick water bound macadam (WBM) in two layers of each 75 mm, with 40mm to 60mm metal (stone aggregate) including supplying and spreading gravel/murrum over the soling/consolidated base, compacting the same with power roller including necessary labour, watering, materings etc. complete, all as per relevant specifications and directions of BHEL engineer (rate shall be inclusive of all labour, materials etc., complete).	SQ M	788			
2.8	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as filling course at any depth below finished floor level, under and around foundations/floors, mass fill etc.	CU M	90			
2.9	Providing & laying reinforced cement concrete of M20 grade under floors, paving,plinth protection, lintels columns, beams, etc. at any depth below floor level and also at any height above floor level as per design, drawing & as per specifications & directions of BHEL engineer.	CU M	53			
2.10	Providing and fixing of Reinforcement steel including cutting, bending and binding of reinforcement using Tor steel (Fe-500) at all elevations, as per drawing and specification and as directed by BHEL engineer including cost of all materials, labour and MS binding wire of 18/20 gauge etc. all complete.	MT	5			
2.11	Providing Brick Work in CM 1:6 (1 cement & 6 coarse sand) using OPC/PPC/PSC of grade 43/53 with locally available burnt clay bricks (Min strength 50 kg/cm ²) as per drawing and specification for drains, culverts and wherever required, including cost of all materials, labour, scaffolding, at all elevations and levels, curing, raking out joints etc. all complete and as directed by BHEL engineer .	CU M	77			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.12	Providing and plastering with cement mortar 1:6 (12mm thick) over both internal and external faces of brickwork and concrete surfaces etc. of all heights including preparing the surface, raking joints, cutting grooves at joints of brick work & concrete, rounding corners, curing, cost of all materials, labour, scaffolding etc., all	SQ M	653			
2.13	Supplying & fixing in position of RCC hume pipe of NP2 wherever drain crosses the roads including aligning, levelling etc. complete as per the direction of engineer. including P.C.C. & collar joints, encasement with concrete 1:3:6, (encasing shall be paid extra under respective items of concrete), all complete as per spec & direction of the Engineer..					
a)	300mm dia	RM	75			
2.14	Providing and fixing barbed wire fencing around open storage yard as per BHEL drawing. posts shall be spaced at 3m c/c and struts at 30m centres and at all turnings with foundations, supplying and fixing gi barbed wires, 10 horizontal lines, two diagonals between posts by means of GI staples as per standard practice. the barbed wire shall conform to IS:278 and be made of two strands of galvanised twisted 2.5mm dia (12.5 gauge) steel wire with four point bars. rate quoted shall be inclusive of excavation, disposal of surplus earth, concrete (1:3:6), form work and all materials, cost of posts, barbed wires, transporting, fixing in position etc. including cost of all labour and two coats of enamel paint of approved shade with a shop coat of primer in all structural steel members etc all complete as per drgs & instructions of the engr. (Fabrication & erection of Structural steel posts shall be paid under relevant items of this SOQ)	RM	510			
2.15	Providing & filling in soak pit with brick bats 40-80mm including sand packing etc. complete, as per standard specification and instructed by BHEL engineer.	CU M	5			
2.16	Providing and laying DPC (damp proof course) 50mm thick in 1:2:4 cement concret layer using OPC grade 43/53and with 6mm down aggregate, including formwork, bitumen felt using cement with water proofing compound etc. complete	SQ M	24			
2.17	Providing and fixing of best quality country wood doors comprising of frame 95 x 70mm and 38/40mm thick flush shutters of solid core type using commercial ply including hold fasts, wind appliances, handles, tower bolts, aldrops, mortise of reputed make like Link/and applying two coats of synthetic enamel paint of approved shade & color over a coat of primer complete with all materials and as directed by BHEL engineer.	SQ M	17			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.18	Providing and fixing 24 mm thick best quality PVC doors of sintex make or approved equivalent for toilets including pvc frame of size 48mm x 40mm, all fittings, fixtures, frames, hold fast, tower bolts, aldrops etc., all complete with all materials, as per specifications and instruction of BHEL engineer.	SQ M	6			
2.19	Suppling, manufacturing and fixing in position of steel windows including frames & iron barred (guard bar of square section @ 100 mm c/c) and glazed with 4mm plain glass as per standard specifications & relevant IS code and instructions of BHEL engineer. The cost shall be inclusive of all accessories fittings, latch, hold fasts, painting with two coats of synthetic enamel paint of approved colour and shade over one coat of red oxide primer etc. all complete as per spec and directions of the engineer-in-charge.	SQ M	23			
2.20	Providing and fixing of IPS flooring 40mm thick using opc grade 43/53 with cement concrete 1:2:4 (using 12 mm down aggregates) as per standard practice in panels of size Eacht exceeding 2.0 x 2.0 sq.m by providing, fixing glass strips.including curing & cleaning.	SQ M	500			
2.21	Supplying and fixing of white glazed tiles flooring of required sizes (8.0mm thick of size 300mm x 300mm) laid over the bed of cm - 1:4 (1 cement & 4 coarse sand) using OPC/PPC/PSC of grade 43/53 for pantry room, toilet and wherever required etc. including pereparation of base, laying underbed, finishing and rounding corners and junctions, curing etc. all complete as per drawings and specifications.	SQ M	90			
2.22	Supplying and fixing of white glazed tiles in DADO of required sizes laid over the bed of cm - 1:4 (1 cement & 4 coarse sand) using OPC/PPC/PSC of grade 43/53 for pantry room, toilet and wherever required etc. including pereparation of base, laying underbed, finishing and rounding corners and junctions, curing etc. all complete as per drawings and specifications.	SQ M	38			
2.23	Providing & applying washable distemper of two or more coats over and including water thinnable priming coat with cement primer on newly plastered surface of reputed make like ASIAN/Shalimar/Nerolac make to given an even shade including preparation of surface like cleaning and brushing of walls and as per manufacturer's recommendations including cost of paint, primer, scaffolding etc., at all elevations, complete as per drgs & spec.	SQ M	645			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.24	Providing and fixing over head hydraulic door closer (heavy duty) of approved brand and size on necessary doors as directed by BHEL engineer.	Each.	3			
2.25	Providing and fixing white glazed vitreous wash basin of 55 cm x 40 cm size of approved reputed make like Hindustan/Parryware/Cera etc., including cold water pillar tap, brackets, stop cock, chromium plated bottle trap and necessary pipe connections including upvc waste pipe and trap upto the out side face of the wall, making good the damaged surface, testing etc. complete. as per drgs & spec and as directed by BHEL engineer.	Each	4			
2.26	Providing and fixing european type white glazed vitreous W.C.pan of approved reputed make like Hindustan/Parryware/Cera etc. , with UPVC seat and lid with chromium plated brass hinges and rubber buffers including UPVC vent pipe (approx. 2m. ht. with cowl) on the outside face of wall, 10 litre PVC low level flushing cistern with all fittings, pipe and stop cock, brackets for fixing cistern, 32 mm dia. UPVC flush pipe with fittings and clamps, 20 mm dia. UPVC overflow pipe, float valves, cutting and making good to the walls and floors, testing etc., all complete. as per spec & directions of the BHEL Engineer.	Each	2			
2.27	Providing and fixing in position of white glazed earthenware flat back/corner type lipped front urinals of 430mm x 260mm x 350mm / 340x460x265 mm of approved make and quality with flushing cistern, GI flush pipe and spreaders with brass unions, GI clamps, cutting of walls and making good of all damages and finishing to match the existing work etc. complete. rate quoted shall include cost of all materials and labour for carrying, laying & fixing and all other incidental charges etc. complete.	Each	2			
2.28	Providing and fixing in position of high class belgium or approved equivalent make of bevelled edge mirror of size 450mm x 550mm x 6mm with 16 mm dia & 550mm length nickel plated towel rod mounted on 6 mm thick plywood or plastic folder sheet, including cost of all materials, labour for fixing the wooden plugs with cp brass screws and washers etc. all complete. as per spec & directions of the BHEL Engineer..	Each	4			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.29	Providing and fixing in position 15 mm dia concussion push button type brass/ gun metal self closing tap of reputed make like Jaguar/ Parryware/ Hindustan including necessary socket, testing etc., all complete for urinals as per spec & direction of BHEL engineer.	Each	4			
2.30	Providing and fixing in position 15 mm dia nominal size wash down type chromium plated brass bib cocks of approved reputed make like Parryware/ Cera/ Hindustan, all complete all complete as per spec & directions of the BHEL Engineer...	Each	2			
2.31	Providing and fixing in position of 25 mm dia gate valve of approved make including all necessary fitting & fixture etc. all complete as per standard specification.	Each	2			
2.32	Providing and fixing in position 15 mm dia nominal size screw down type chromium plates brass stop cocks of approved reputed make and quality like Jaguar/ Parryware/ Hindustan including cost of jointing materials, sockets, union nut, testing, labours for carrying and fixing etc. complete as per spec & directions of the BHEL Engineer.	Each	5			
2.33	Providing and fixing in position 100mm x 50mm HCl "Nahani" trap with HCl gratings, bends, connecting pieces of CI pipe upto outside face of the wall. making good the damaged surface, testing etc complete as per drgs & specifications	Each	4			
2.34	Providing and fixing in position 150mm salt glazed stone ware gully trap with HCl gratings and CI cover of size 300x300 mm of approved make (weight Each less than 2 kg) and quality as per drgs & specifications.	Each	2			
2.35	Providing and laying with required grading & leveling in trenches medium grade (type) galvanised iron (GI) pipe having embossed ISI mark on it, of required diameter with screwed, sockets, joints, necessary galvanised iron fittings such as sockets, back nuts, elbows, bends, tees, reducers, enlargers, plugs, clamps etc. including all necessary excavation, back filling, fixing with clamps, testing etc. complete. (prior approval of sample and brand by BHEL engineer is necessary before use.)					
a)	25mm dia	RM	75			
b)	15mm dia	RM	30			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.36	Providing at working site, carrying and lowering into trenches, laying to proper alignment, level and grade, jointing with cm (1:1) and testing of joints etc. of the following size of salt glazed stoneware pipe inclusive of all necessary specials tarred hemp yarn and all jointing materials complete as per standard specifications including all necessary excavation, backfilling, disposal of surplus earth ,lead and lift as per site conditions. rate shall include cost of all materials, labour charges and incidental charges etc. complete.					
a)	100mm dia stoneware pipeline including all specials complete.	RM	15			
2.37	Providing and fixing in position of PVC overhead water tank of sintex/ Polycon/ Duracon approved make of following litre capacity with lid & provision for overflow arrangement valves, inlet and outlet etc., all complete as per drgs & spec and as directed by BHEL engineer.					
a)	500 litre capacity	Each	3			
2.38	Construction of 230mm thick burnt clay / fly ash lime brick chamber (using OPC/PPC/PSC of grade 43/53) of the following dimensions (inner dimension) with 20mm thick internal & external cement plaster of mix cm 1:5 (1 cement & 5 coarse sand) , neat cement finish, top CI – cover and connectors for sewer lines. rate shall be inclusive of all necessary excavation & filling, PCC-100 mm thick of 1:3:6 for bedding on 100mm thick oversizer soling with 80 mm metal etc., all complete as per drgs & spec and as directed by BHEL engineer.					
a)	600x450x450 with C.I cover	Each	3			
2.39	Providing and fixing chromium plated towel rod 16 mm dia. and 75cm. in length including all accessories complete. (prior approval of sample and brand by BHEL engineer is necessary before use).	Each.	1			
2.40	Providing & fixing of liquid soap dispenser at all wash basin location	Each.	4			
2.41	Providing & fixing in position of CI vent pipe of dia. 100mm (approx. ht. 3m) in septic tank. rate to include all necessary fitting & fixture, labour etc.	RM	6			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.42	Providing, fixing and removing plyboard formwork at any depth and elevation for all structures(foundations, footings, base of columns, beams, slabs, mass concrete, trenches,walls etc.) as per the specifications and including all labour, material, scaffoldings and centering complete including pockets etc. complete as per drawing, specifications and as per direction of engineer-in-charge	SQ M	375			
2.43	Providing and fixing of 1 Each. 18"x24" size stainless steel sink with all fittings like drain pipe, stop valve etc.rate to include all necessary fitting & fixture, labour etc.as approved & directed by BHEL engineer.	Each.	1			
2.44	Providing and fixing 18mm thick best quality single piece granite slab of required shape and colour for fixing ss sink for kitchen counter of pantry block cut out for sink shall be made as per the dimension.cost inclusive of making opening, polishing cut peices/drop/facia and required finishing all complete as per drgs & specifications.	SQ M	4			
2.45	Providing and making edge moulding and nosing to 18mm thick granite stone slab , counters,vanities and wherever required.including polishing to edge to give high gloss finish etc . complete as per design approved by BHEL engineer.	RM	4			
2.46	Supplying, fabricating and erecting all categories of Structural Steelwork , using approved quality electrodes of 6013 or low hydrogen 7018 for plate thickness above 20 mm, with pre-heating, packing and delivering at the stores or at site including cost of steel, necessary bolts, nuts & washers with a shop coat of approved Inorganic Red oxide primer of 45-50 micron DFT after cleaning with wire brush, including erecting to all required elevations, necessary welding after erection, all complete as per drawings and specification.	MT	5			
2.47	Two or more coats of synthetic enamel paint Asian/Berger/ICI/Nerolac or approved make made from synthetic resins and drying oil with rutile titanium dioxide and other selected pigments to give smooth, hard, durable & glossy finish to wooden and Steel surfaces complete.(For Measurement of steel works consisting of angle, channel, beams, flats etc., 18 sq. m of surface area will be taken as equivalent to 1 MT)	SQM	81			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.48	Roofing / side cladding work including all labour, material, equipment, transportation, handling, scaffolding, laps, hooks, washers, corner pieces etc. at any level as per specification, drawings and as directed by engineer - in - charge.					
a)	Designing, providing and fixing galvanised MS sheet measurement of profile sheeting shall be of the plan area of roof covered by MS trough metal decking span upto 1800mm	SQ M	174			
2.49	Supplying & installing power distribution board complete with: common board for all sheds. 1) Incoming MCB TPH 100 amps. - 1 No. 2) Outgoing MCB TPH 32 amps. -3Nos. 3) RCCB DP 25/20 amps. - 2Nos. 4) outgoing MCB SP 6 amps - 6Nos. all RCCBS, MCBS shall be MDS/INDO KOPP make. distribution boards shall be SIEMENS / MDS / INDO KOPP make with internal busbars, internal wiring, 2 nos. earthing terminals, earth connections, including glands, lugs.	Set	2			
2.50	Supplying & fixing wall mounting type lighting panels , each with : (1) Incoming MCB TPN -32 amps - 1No.. (2) RCCB DP 32 amps - 2Nos (3) MCB SP 6amps - 30 Nos. all RCCBS, MCBS shall be MDS/INDO KOPP make. lighting panel shall be SIEMENS / MDS / INDO KOPP make with internal busbars, 2 nos. earthing terminals, earth connections, including glands, lugs & wiring from main DB	Set	4			
2.51	Providing and installing wiring using 2.5 sq.mm copper conductor through PVC conduit of required size with accessories and fixtures .wiring shall be concealed type for wherever required as per instructed by BHEL engineer in PVC conduit of required size.the make of the wire shall be only from KEI / POLY CAB/HAVELLS/ FINOLEX/L & T.	Per point	54			
2.52	Providing and installing wiring for using 4.0 sq.mm copper conductor through PVC conduit of required size with accessories and fixtures .wiring shall be concealed type for wherever required as per instructed by bhel engineer in pvc conduit of required size. the make of the wire shall be only from KEI / POLY CAB/HAVELLS/ FINOLEX/L & T.	Per point	5			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.53	Providing and installing wiring for using 6.0 sq.mm copper conductor through PVC conduit of required size with accessories and fixtures .wiring shall be concealed type for whrver required as per instructed by BHEL engineer in PVC conduit of required size. the make of the wire shall be only fromKEI / POLY CAB/HAVELLS/ FINOLEX/L & T.	Per point	5			
2.54	Providing and installing wiring for using 16.0 sq.mm copper conductor through PVC conduit of required size with accessories and fixtures .wiring shall be concealed type for whrver required as per instructed by BHEL engineer in PVC conduit of required size. the make of the wire shall be only from KEI / POLY CAB/HAVELLS/ FINOLEX/L & T.	Per point	6			
2.55	Poviding and installation of plug point of 5A socket (ANCHOR or equiv.) outlet including wiring termination.	Each	5			
2.56	Poviding and installation of plug point of 15A socket (ANCHOR or equiv.) outlet including wiring termination. this includes tube light fittings.	Each	8			
2.57	Providing and fixing ordinary tubelight with frame 1x40 w with electronic choke of standard manufacturer like PHILLIPS/BAJAJ or equivalent as approved by BHEL. this includes tube light fittings etc. complete.	Each.	60			
2.58	Providing and fixing exhaust fans 12" diameter with frame of standard manufacturer like cromptan greeves or equivalent as approved by BHEL.	N0.	15			
2.59	Providing and fixing ceiling fan 48" diameter of approved company such as Cromptan Greeves or any other standard manufacturer as directed by BHEL. this includes tube light fittings etc. complete.	Each	3			
2.60	Providing and fixing calling bells (with indicator light)	Each	2			
2.61	Providing earthing pits with 2 " dia , 2 m long GI pipes with flange & GI wires with charcoal, salt and as per the standard practice for electrical connection rate shall be inclusive of all materials, labours, etc complete.	Each	4			
2.62	Supply of cables 3 -1/2 corex 35 sqmm aluminium armoured PVC insulated cable (three and half core) confirming to is 1554 (Part-I) the make of the cable shall be only from KEI / POLY CAB/HAVELLS/ FINOLEX/L & T.	RM	600			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.63	Installation of cables 3 -1/2 corex 35 sqmm aluminium armoured PVC insulated cable confirming to is 1554 (Part -I) including laying of cable below ground , excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type lugs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc. cables are to be laid from main distribution board to 415 volt AC distribution board of store bldg, porta cabins, street light pillar distribution board and industrial power point.	RM	600			
2.64	Supplying, installation & commissioning of sodium vapour lamp street light fitting 150 watt SSG-2315 IH of crompton or similar philips make, complete with one piece canopy, integral controlgear comprising of copper wound choke , ignitor , hpf capacitor, hpsv lamp and suitable for directly slipping over light mounting bracket made out of 40 mm OD pipe and suitable for lamps, control gear box cabling & termination of items supplied (to be mounted on 9 mtr pole).	Each	30			
2.65	Supply and erecting steel tubular swaged poles , 9 mtr long made of sheet steel having ultimate tensile strength 42 kg f/sq.mm confirming to bis :2713 (Part-II) complete with 300x300x6 mm thick m. s. base plate for welding at site and size as per configuration given in bis for 410 sp-28 (113 kg- pole weight) with 1.5 mtr. deep excavation, concreting in 1:4:8 ratio size 45 cms x 45 cms x 150 cms and pole plinth in 1:3:6 cement concreting having 300 mm height and 300 mm dia .including double earthing of pole with suitable arrangement, duly painted with two coats of red oxide paint and one coat of aluminium paint to be applied after erection; the length of pole below ground to be painted with two coats of black bituminus paint. the pole shall be complete with JB, fuse and minor fabrication as below : i) Drilling 20 mm dia hole at about 2.5 mtr from ground level for wire leads from junction box to light fixture . ii) Drilling 15mm dia holes at about 0.7 and at 2.5 mtr from ground level and welding 12 mm nuts for using a 12 mm G.I bolt for fastening earth conducters. iii) welding required holes for fixing pole cap of street light bracket. iv) welding diametrally 10 mm M.S. round 30 mm below pole top edge for clipping wire leads .	Each set	30			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.66	Supply of cables 2 core x 10 sqmm aluminium armoured PVC insulated cable confirming to is 1554 (Part -I). the make of the cable shall be only from KEI / POLY CAB/HAVELLS/ FINOLEX/L & T.	M	600			
2.67	Installation of cables 2 core x 10 sqmm aluminium armoured PVC insulated cable confirming to is 1554 (Part -I) including laying of cable below ground , excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type luggs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc complete. cables are to be laid from 415 volt AC power feeder pillar board to lighting poles & pole to pole	M	600			
2.68	Supply of 415 volt AC, 3 phase four wire power feeder pillar board , board shall be comprises of three number and one number aluminium bus bar for phase & neutral respectively. bus bar rating shall be 200 amps and shall be mounted on epoxy insulator of 1.1 KV grade, each bus bar shall have drilled hole for connecting incoming / out going cables, provision for earthing the panel enclosure. panel enclosure shall be made of sheet metal thichnness Not less than 1.6 mm and suitable for out door installation, hinged door with locking arragement , base frame , should have slopped canopy, duly painted with first coat with primer and two coats of synthetic enamel paint (interior with white paint and exterior with smoke grey as per is), suitable stool made out of ms structure of 1.2 meter high for mounting of panel with anchoring arragement at foundation .	Each	1			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.69	<p>Supply & installing 3 phase metering and power distribution board complete with :</p> <p>(1) Incoming SFU TPN 400 amps- 1No, (2) Outgoing SFU TPN 200 amps -1Nos. (3) Outgoing SFU TPN 100 amps -3Nos. (4) Outgoing SFU TPN 32 amps -2Nos. 3 phase electronic energy meter - BHEL /L & T / GEC make. ammeter, voltmeter and selector switches for both - AE and KAYCEE make. phase indication lamps, HRC fuses for I/C and O/G feeders, cable glands, power terminals for cables termination, cable lugs and provision for doubly earthing the panel enclosure. panel enclosure shall be made of sheet metal thickness not less than 1.6 mm and suitable for out door installation, modular construction, hinged door with locking arrangement, base frame, should have slopped caEachpy, duly painted with first coat of primer and two coats of synthetic enamel paint (interior with white paint and exterior with light grey as per shade 5, IS 630) internal power distribution to devices shall be with al busbars or copper flexible single core pvc cables of 1.1 kv grade, control wiring with 1.5 sqmm, suitable stool made out of ms structure of 1.2 meter high for mounting of panel with anchoring arrangement at foundation, suitable for bottom entry of cables.</p>	Each	1			
2.70	<p>Supply of cables 3 -1/2 corex 185 sqmm aluminium armoured PVC insulated cable (three and half core) confirming to is 1554 (Part -I) the make of the cable shall be only from KEI / POLY CAB/HAVELLS/ FINOLEX/L & T.</p>	RM	300			
2.71	<p>Installation of cables 3 -1/2 corex 185 sqmm aluminium armoured PVC insulated cable confirming to is 1554 (Part -I) including laying of cable below ground , excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type lugs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc. cables are to be laid from transformer sub station to 415 volt AC distribution board.</p>	RM	300			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.72	Supply and installation suitable electrical pump for minimum head of 10m (but Each less than 2 H.P.) of reputed manufacturer like SUGUNA/ CRI/ KIRLOSKAR/ SHAKTI/SHARP/ CROMPTON including all accessories, starter, D.B., etc. and to be connected to over head tank from water storage tank below G.L. guarrantly/warranty card to be submmitted to BHEL. suction, discharge GI pipes shall be paid seperatly under relevant items.	Each	1			
2.73	Industrial power recepticale 63A IPS 65, TPNE socket with on/off interlock with MCB	Each	10			
2.74	Design,Manufacture, supply, erection, final fitup, touchup, painting (and other associated works) of Removable/RE- Erectable Pre - Engineered, Pre-Fabricated Steel Closed Storage Shed of of size 30m (Length)X 15 m (width) X 5.25 m(height) as per attached technical Specifications (Price including Exise duty.,Value added Tax ,Freight and all other applicable taxes except service tax, all complete as per instruction and direction of Engneer In charge. Area=30x15=450 sqm.= 450x10.8=4860 sft.	LS	1			
2.75	Design,Manufacture, supply, erection, final fitup, touchup, painting (and other associated works) of Removable/RE- Erectable Pre - Engineered, Pre-Fabricated Steel Closed Storage Shed of of size 15m (Length)X 15 m (width) X 5.25 m(height) as per attached technical Specifications (Price including Exise duty.,Value added Tax ,Freight and all other applicable taxes except service tax, all complete as per instruction and direction of Engineer In charge. Area=15x15=225 sqm.= 225x10.8=2430 sft.	LS	1			

Item No.	DESCRIPTION OF WORK	Unit	QUANTITY	Rate (in Rs. in figures & words)	Amount (in Rs. in figures & words)	Remarks
2.76	Design, Manufacture, supply, erection, final fitup, touchup, painting (and other associated works) of Lift & Shift type Bunk house made With heavy steel structure with following amenities, furnitures & fixtures: Interior with insulation Insulated four walls : glass wool insulation covered with Prelam sheet inside Ceiling :glass wool insulation covered with Prelam sheet inside Flooring :18mm cement sheet Covered with 1.3mm veniel carpet Electrical works & fixtures, wire(Asian/ISI make), modular standard switches, 3 nos. standard medium tubelight, 6 nos. 6 Amp. & 1 no. 16 Amp. standard point, 2 nos. standard fan, 1 no. standard A/C point, 1 no. standard external tubelight, 4 nos. standard powder coated aluminium windows, 1 no. 6'5"x 3' standard door, safety grills for all windows, weather shed for all doors & windows, 1 no. table 5' x 2'6", 1 no. executive revolving chair, 8 nos. office chairs, 5 nos. 5'x2' engineer tables, approx. 26' running overhead wall cabinets, Internal partition for separation of room, made with glass & prelam board(approx area 85 sqft) all inclusive of transportation to work site, unloading & keeping the same at levelled designated place as per direction & instruction of engineer-in-charge.	LS	2			
	Total in figures, for Part 2, in Rs. =					
	Total in words for Part2, =					